

THE ROLE OF MARINE RESOURCES IN THE MEDIEVAL ECONOMY OF
VESTFIRÐIR, ICELAND

by

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Volume I

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of
the requirements for the degree of Doctor of Philosophy, The City University of New
York

2010

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Graduate Faculty in Anthropology in satisfaction of the
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Abstract

THE ROLE OF MARINE RESOURCES IN THE MEDIEVAL ECONOMY OF VESTFIRÐIR, ICELAND

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Vestfirðir became a stagnant and backwater region of Iceland following the social and political changes in the 17th century that crippled the Icelandic economy. For the next two hundred years people in Vestfirðir struggled to survive but at the end of the 19th century the regional economy began to recover and living standards in the region improved. However, these impoverished years in the history of Vestfirðir have always influenced the historical view of the region. Both scholars and laymen alike believed Vestfirðir to have been consistently poor from the beginning of the settlement to the present day. Archaeological and historical data now contradict these ideas and suggest that through most of its history the region based its income primarily on marine resources and supplied the remainder of Iceland with marine products not readily available elsewhere. Vestfirðir was settled at the same time as other regions of Iceland and soon after settlement the region developed a specialized fishing industry, focusing on the production of skreið (dried fish) for both Icelandic and European markets. In the Medieval and early modern periods Vestfirðir gained wealth from trade with foreigners which made it one of the richest regions of Iceland. The work presented here contradicts the idea of a stagnant and unchanging society and gives a new perspective of a diverse and flexible society, built around the marine resources, which were the key to the success of the settlement in Vestfirðir.

Acknowledgments

This work would never have been possible if it had not been for the assistance of many people and institutions. I would like to thank my family, especially my mother and daughter, without their understanding and help the following pages would never have been written. I would also like to thank the US National Science Foundation for their generous doctoral improvement grant (Office of Polar Programs Arctic Social Sciences # 0322308), the Institute of Archaeology in Iceland, the Natural History Institute of Vestfirðir, National Museum of Greenland, SILA in Copenhagen and Fornminnissavn Foroya for fruitful collaboration on various archaeological projects. Professor Thomas H. McGovern receives special thanks for all the support and friendship throughout the years, for inspiring me with his dedication to archaeology and helping me gaining excavation experience in different countries. I also thank other members of my dissertation committee, Professor Sophia Perdikaris, Dr. Gavin Lucas, and Dr. Astrid Ogilvie, for their advice and comments during the writing of the text.

December, 2009

Bolungarvík, Iceland

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Introduction.

During the past twenty years Icelandic archaeology has developed rapidly after a long period of stagnation. For the most of the 20th century, archaeology in Iceland was mainly influenced by cultural historical theory, with history as the foundation for research. New trends in world archaeological theory in the period from 1960 – 1980 did not have great influence on Icelandic archaeology, however, and it was not until the late 1980's that changes began to occur in the country.

The driving force behind these changes was the new national monument laws (þjóðminjalög 88/1989), which opened up, and facilitated archaeological research in the country. These laws made it easier for independent archaeologists and companies to practice archaeology, instead of archaeological research being dominated and dictated by one institution, The National Museum, as it had been before. These laws also made it easier for foreign scholars to practice archaeology in the country in collaboration with Icelandic archaeologists.

In the following years research more than doubled, and the number of foreign scholars working in Iceland steadily increased. The quality of research also improved, with increased surveying of archaeological sites, and new approaches in excavation methods. At the present time, Icelandic archaeology is probably among the best from a methodological standpoint, but method has developed too rapidly for other elements of archaeological research to follow.

This dissertatin research has been long in the making as it was done alongside other archaeological research projects. It has to be admitted that it is very time-consuming to do a full-time PhD, and at the same time pursue a full-time career in archaeology. The first

seeds for this work were sown in January 1995 when I took a job as a teacher in a small town in Vestfirðir called Bolungarvík. I had only planned to keep this job until the spring, but I eventually stayed on, and continued teaching until 1998. During my first week in Bolungarvík, the worst storm in decades, with a heavy snowfall, hit Vestfirðir. All roads closed and many houses were completely covered in snow. I had only stayed five days into the storm, when a large avalanche hit the small town of Súðavík, and 15 people lost their lives. The following winter heavy snowfall in October also caused an avalanche which claimed 15 more lives in the small town of Flateyri. In a single year 30 people had perished in Vestfirðir because of natural disasters, which was devastating for a region with only about 5000 inhabitants. To put this into perspective the loss of lives in these two natural disasters would equal about 5000 people in a city like New York perishing in a single natural disaster. The sentiment in Iceland following these disasters was negative towards Vestfirðir. It seemed like Icelanders living outside the region considered Vestfirðir an inhospitable place and they wondered why anyone wanted to live there.

These disasters made me also wonder about this region and why it was settled in the first place. Like other Icelanders, I seemed to focus on the negative side of the picture, but as I grew more interested in the settlement and its development, I began to see things differently. This eventually led to the idea of attempting to understand what had made people settle in Vestfirðir in the first place, and what factors had contributed to the development of the settlement, periodic ups and down, and the key to the success of this society on the fringe of human habitation.

The main theme of this work is the role of marine resources in the economy and the settlement patterns of the Vestfirðir region, especially two areas; Norður Ísafjarðarsýsla

and Strandasýsla. The primary aim is to gain a better understanding of the overall marine economy versus the agricultural economy, and its importance for the society of the region. An important secondary theme is also discussed in this dissertation, which may not seem relevant at first glance, but is nevertheless one of the key issues in Icelandic archaeology. This theme is the interaction between archaeology and history in Iceland and how the latter has, throughout the history of archaeology dictated the course of archaeological work. This interaction is of great importance for this work as the existing historical data for the economy date primarily to the 18th – 20th centuries; however, but these data are almost entirely on agriculture. Historical data for fishing and other marine resources are very few for all periods in the sources and therefore this work has to rely both on archaeological and historical data. Thus, the research presented here strives to keep a balance between the historical and archaeological sources. The archaeological data are viewed as a primary source, and the historical as secondary, but nevertheless important when it comes to interpreting the past.

The first chapter forms a general introduction to Vestfirðir: the history of archaeological research; the environment; modern settlement history; and the potentials of fishery research in the area. The discussion of these topics are set within the context of the interaction between archaeology and history in general.

The second chapter is a statistical analysis of the *Jarðabók* of Árni Magnússon and Páll Vídalín from the early-18th century. The historical sources suggest that the economy of Iceland was based primarily on animal husbandry and fishing from the beginning of the settlement until the late 19th century, but the sources do not clearly show the proportion between the two, nor if it was the same for all regions of Iceland. The aim of

the analysis is to attempt to identify the underlying economic factors in Vestfirðir in the early 18th century.

In the third chapter, the statistical analysis will be set in its wider archaeological/historical context. This chapter discusses the life of farmers in the early 18th century with the focus on what economic strategies were available for them at this time. 18th century life was the result of various changes from earlier periods, but cannot simply be projected back in time as a mirror of earlier society. However, Icelandic history is relatively short, and the country was settled and inhabited by the same culture throughout its history. This makes it probable that certain elements in the society remained constant through all periods, and therefore identifiable in the archaeological/historical record.

The fourth chapter discusses the archaeological research for this project, both surveys and excavations. The aim of the chapter is to gain understanding of the settlement patterns, i.e. age of the settlement, the main factors influencing the settlement, such as farms and cottages, etc., but especially fishing sites and their placement in the landscape. Part of the archaeological work focuses on the archaeology of fishing sites in an attempt to put them into a wider economic perspective, i.e. its nature and role in society and its importance for the Vestfirðir region in general.

The fifth and last chapter addresses the question of the possibility of a different economic base for the Vestfirðir region, and if more emphasis should perhaps be laid on other elements of economy than agriculture. In this chapter the other topics in the previous chapters are put together to create a picture of the settlement of Vestfirðir with the marine resources as the key element of the society throughout its history.

Chapter one.

Until the past decade the Vestfirðir peninsula (Vestfirðir) was little known archaeologically, and few researchers focused upon what was once regarded as a marginal and isolated part of Iceland (maps 1 and 3). Until the 1990s most archaeology in the West Fjords was limited to small-scale rescue work and sporadic site survey. This was mainly due to the cultural historical approach of the 19th and early 20th centuries, when the emphasis was on sites and areas that were thought to be of a cultural importance or had an association with the Saga literature. This left Vestfirðir more or less undisturbed by 19th and early 20th century excavations that inevitably did not follow modern standards of Icelandic archaeology in their recovery and recording methods. Unlike parts of the more agricultural south, Vestfirðir was also largely spared the widespread impact of farm-mound flattening by bulldozers in the mid-20th century that has erased structures and sometimes entire sites from many districts. While Vestfirðir lack the multiple volcanic tephra that aid chronology in the southern and eastern quarters of Iceland, the undisturbed archaeological record allows what may be a unique opportunity in Iceland to investigate relatively intact archaeological landscapes and multiple sites of different time periods and functions. Research carried out since 1990 has dramatically changed our understanding of Vestfirðir, and modern interdisciplinary archaeology and environmental sciences are now beginning to make fuller use of this unique set of cultural landscapes and seascapes. This doctoral thesis presents some of this new research and places it in the wider context of Icelandic and North Atlantic archaeology. Before presenting the results of this new work, it may be helpful to provide

a brief overview of the background of Icelandic archaeological research and how it has been shaped by both external and internal forces.

The cultural historical approach in Icelandic archaeology came into being in the late 19th century and developed at a time when Iceland as a whole based its income on agriculture and other resources were used primarily for subsistence. It was also a period when Icelanders were struggling for independence and therefore focus was on the time period after AD 1264, when Iceland became a part of the Norwegian kingdom. This period was viewed as a period of foreign oppression and increasing poverty. Icelanders looked back to the period before 1264 (sometimes called the Commonwealth period; AD 930-1264), when the country was free and independent and focused all their research on this period. The Icelandic nation needed an identity and therefore they looked back to the heroic past in order to justify its right to gain independence. The rediscovered Saga literature played a major role in 19th century national identity formation and much early archaeological research in Iceland was perhaps inevitably seen as primarily providing material “proof” of the Saga accounts.

At the birth of the Icelandic national identity in the late 19th to early 20th century, the research focus was on the remote, mythical past and the Sagas were thought to tell the absolute truth. In the wake of this Saga-oriented research, a research dogma was created that embraced the absolute historical truth and whereby archaeology was used only as a tool to prove the historical veracity of the Sagas (Friðriksson, A. 1994). This dogma has remained consistent in archaeological research in Iceland from the beginning, and it is not until fairly recently that archaeologists have attempted to question this use of archaeology and begun using archaeological methodology in a different way (Einarson, B., 1995,

Þorsteinsson, B., 1970, Þorsteinsson, B., and Jónsson, B., 1991, Durrenberger, E. P., and Pálsson, G., 1989, Sigurjónsson, A., 1975, Gunnarsson, G., 1987).

From a theoretical perspective, Icelandic archaeology has for a long time been focused on a cultural historical approach and in many aspects it still is in transition from this phase in world archaeology. In the context of the cultural historical approach in Icelandic archaeology lie the Sagas and the rich written sources of Icelandic history, which may be seen as both an aid and a hindrance to the development of an independent archaeological perspective on Iceland's past. This giant historical colossus kept archaeology from developing on its own terms as archaeologists were themselves brought up in this dogma, and often found it impossible to distinguish between the historical "truth" and interpretations in archaeology. Archaeologists everywhere who work in historical periods have had to grapple with the very different nature of historical documents and archaeological data sets, and successful integration is not easy anywhere. The distinguished and highly experienced UK archaeologist Chris Morris once noted in a public lecture (NABO 1994 Glasgow) that much archaeology of the Dark Ages in Britain could be more accurately described as "text-hindered" rather than "text-aided" as excavators regularly imposed interpretations drawn from a fragmentary and often contradictory written record on their archaeological evidence. Archaeological and paleoecological data sets are inevitably proxy (not direct) evidence of past human behavior, and usually appear rather dry and uninformative when compared with the colorful (if sometimes highly questionable) accounts of the Icelandic past provided by the rich literary record. However, while it is unlikely that any more undiscovered Sagas will be found in future years (and source criticism over time actually tends to reduce the

number of written sources seen as reliable) every field season sees new archaeological discoveries, and the pace of Icelandic archaeological research has increased exponentially since the mid-20th century. This provides archaeologists with an increasingly significant role in explaining Iceland's past but also requires some re-thinking by archaeologists of their own approaches to explanation. The importance of understanding the archaeological data as the primary data of the archaeologist and the historical data as a secondary source is of a great importance. As archeologists working within a historical archaeological framework the written sources should be used as a supplement to the archaeology not the other way around.

In recent decades archaeology in Iceland has participated in the broad development of archaeological method and theory in the North Atlantic, including the processual “new archaeology” of the 1970's and the associated expansion of multi-disciplinary techniques (in zooarchaeology, archaeobotany, geoarchaeology) and the influence of environmental and cultural-evolutionary paradigms now (since the late 1980s) facing re-evaluation by post-processual critique. The end of the 20th century also saw an internationalization of Icelandic archaeology, as many Icelanders participated in archaeological projects abroad, and foreign archaeologists and paleoecologists increasingly worked in Iceland in collaboration with Icelandic archaeologists. In this century, Iceland has attracted international interest as a productive place to look at long term human-landscape interactions and multiple projects have taken place under the theoretical labels of “Historical Ecology” or (most recently) “Human Ecodynamics”. Jared Diamond's popular work *Collapse* (2005) prominently features Viking Age- Medieval Iceland as one of his case studies, and most of his account is based on recent archaeology rather than the

Saga stories. At present, Iceland has a high international profile archaeologically, and serves as a training ground for students from both North America and Europe.

However, problems remain in Icelandic archaeological interpretation. The method of excavations has progressed but this rapid progress has also resulted in theoretical problems. It can in some way be said that while method has developed, theory in Icelandic archaeology has lagged behind. Some Icelandic archaeologists still use the archaeological data as a means to establish a “when” and “where” for their data (Kristjánsdóttir, S., 2004), some use their data in the grand theory making in the style of the processual archaeology (Friðriksson, A., 2004, Friðriksson, A and Vésteinsson, O., 1995), and others have tried to interpret their work from a post-processual perspective (Einarsson, B., 1995). In general Icelandic archaeologists are uncertain about their theoretical position and move between theoretical approaches in their work without much consistency.

In archaeological surveys in modern-day Iceland, pure archaeological methods are rarely used as elsewhere in the world. It is rare to see systematic surveying of regions in Iceland, such as transect walking, sample surveying a certain area, or any of the other methods used by archaeologists in other countries. The reason is simply that the historical sources are used in archaeological survey as the primary tool and archaeology is then used to locate the sites found in the written sources. This method is generally used and accepted in Iceland and it seems that most archaeologists do not question the validity of this approach. (Einarsson, B., 2002, Hreiðarsdóttir, E. Ó., et al., 1998, Lárusdóttir, B. et al., 2001, Lárusdóttir, B., 2007). There are some problems with this approach as it accepts the absolute historical truth as the base for archaeological work and will eventually fail to

create believable archaeological data sets. This has resulted in the creation of “archaeological data” that shows the cultural landscape of the 19th and early 20th century, and at the same time missing a large percentage of archaeology within any given region. The bottom line is that the cultural landscape of the 19th and 20th century can only be used for the recreation of earlier landscapes, and especially landscapes of the early settlements, with criticism, and it is important that the archaeologist is aware of the problems. The reasons behind this creation of 19th and 20th century cultural landscapes lies primarily in the use of the 19th and 20th century historical written sources as prior to the actual field survey. Field maps, farm registries, place-name registries, etc., are used to create a foundation on which the survey is based. By using this approach without the archaeology as the starting point one eventually falls back to the cultural historical approach in archaeology.

The limited archaeological work in the Northwest of Iceland should be beneficial for present and future work in the area as neither methodology nor theory have been developed to any extent in the region. It is, however, apparent that the fundamental problem in the research history and research future of Vestfirðir is twofold. First, the lingering culture historical legacy developed by the 18th and 19th century scholars could create a research agenda based on the assumption that Vestfirðir had always been poor, and the area would have been the least favorable place to settle during the settlement period. This would eventually lead any research into the wrong direction. Second, the tendency to begin archaeological work on the culturally important sites of the region, may create a wrong picture of the settlement in Vestfirðir and its development. The Vestfirðir region should be researched with new theoretical approaches, with archeology

at the forefront, and the research focus should be on what makes the area different, not similar, to other regions. This approach in archaeology is not unique to Iceland, and most countries have focused their attention on culturally important sites but archaeologists have a tendency to continue to focus on outdated methods and theories. From the beginning, both Iceland and Greenland developed on a similar research trajectory as often the same individuals were working in both places. In the late 19th century Daniel Bruun surveyed a large number of sites in south Greenland and various different places in Iceland. (Bruun, D., 1895, 1897, 1987.). In the 20s and 30s large-scale excavations were begun both in Greenland and Iceland, and in most cases these excavations were carried out by the same people (Nørlund, P., 1924, 1934, 1967, 1972, Roussel, A., 1934, 1941). In both countries, the excavators focused their attentions on sites that were thought to be the most culturally important, such as Ikigaat (Herjólfssnes), Qassiarsuk (Brattahlíð) and Igaliku (Garðar) in Greenland, and Skálholt and Þjórsárdalur in Iceland. The focus was only on the large sites and the settlement era of both countries. Later periods, and the smaller farms, received little or no attention.

Even with a new methodology, and international multidisciplinary work, archaeologists continue to focus their attention on settlement sites and sites of cultural importance (Lucas, G., 2005, Sveinbjarnardóttir, G., 2003, Traustadóttir, R., 2006) failing to see that these sites were categorized as important during a different period, when Icelanders needed an identity to justify their existence. The research base still remains with one foot in the 19th century ideas of dominant agriculture and the economic unity of the whole country. There is a need for Icelandic research ideas to grow out of the 19th century and become fully modernized. However, archaeologists are not all to blame for this research

continuity in modern times as funding bodies more than often dictate where the archaeological focus should be. The reason for this is primarily because there is no governmental research agenda, which should set research standards. The funding bodies work mostly on their own, without proper archaeological consultation, resulting in grants being given to research projects that they think are important.

Even though remnants of the cultural historical approach are still evident in Icelandic archaeology, new and exciting research with different theoretical backgrounds has emerged during recent decades. During the late 1990s and the first years of the 21st century, the settlement of Iceland as it was represented in the *Íslendingabók* and *Landnámabók* was questioned by Icelandic and foreign archaeologists (Friðriksson, A., 1994, Einarsson, B., 1995, Vésteinsson, O., 1995.). Subsequent research in the northeast of Iceland at Hofstaðir and neighboring sites suggested that the nature of the settlement of the region was somewhat different than represented in the *Landnámabók*. However, the general settlement as represented in the historical sources has not been disputed, only its nature and development (Vésteinsson, O., 1996, 2002).

Further research in other regions, using primarily archaeological surveys, suggested different patterns of settlement than seen from the *Landnámabók*. This lead many scholars to conclude that the settlement period should be categorized as pre-historic both, because the oldest written sources about the settlement date to the 12th and 13th centuries, and because of the different settlement pattern emerging from the survey data (Vésteinsson, O., 1995). From a methodological standpoint, the collection of this data must be criticized as it was based on a cultural historical approach and the survey was first and foremost done from the historical sources. These sources were primarily from

19th and 20th century describing farm boundaries, place-names and archaeological sites on Icelandic farms. In this case, the farm boundaries of the late 19th century were used to create a pattern of settlement in the first hundred years of settlement (Lárusdóttir, B., 2003, 2005). This type of analogy is well known in Icelandic research in the past and has more than often proved to be problematic as it assumes that Icelandic society was stagnant and unchanging. The archaeological research of the past decades has actually shown that the society was diverse and flowing, and to take some elements from the late 19th century and move it so far across time in an attempt to recreate older systems, must be done with utmost caution. However, it has to be remembered that the historical written sources often give valid information for archaeological research, and certain structural elements in the landscape survive over long periods of time. Recent studies in Iceland have demonstrated that the study of landscape has increased our understanding of Iceland's past and how the past generations formed and re-formed the cultural landscape (Aldred, O., 2005, 2007, 2008).

It is not the intention of the above paragraphs to be overly critical of the research of Icelandic archaeologists, but to point out that Icelandic archaeologists, author included, often find it difficult to distinguish between the two sets of data, historical and archaeological, how they can best be used to represent events in the past and how they support each other. Thus they often fall into the trap of using the historical data as the primary source, while the archaeological should be considered first and foremost. There seems to be a strong tradition in Icelandic archaeology not to allow archaeological data to stand in the forefront and generate its own interpretations of the past. Patterns seen in the Early Modern period are all too often projected uncritically backwards into the Medieval

and Viking periods, making it more rather than less difficult to see actual changes through time.

Archaeology, especially historical archaeology, has for a long time been viewed by some scholars as a supporting science and that archaeology is “an expensive way of discovering what we already know” (a quote normally attributed to the historian Peter Sawyer). Archaeology was used for a long period of time as a method of proving, more seldom to disprove, history, and it was not until the 1960s and 70s that archaeologists began to challenge this historical use of archaeology. The criticism of this use of archaeology came mainly from archaeologists who worked in the pre-historic periods. Since the late 1970s, archaeology had been developing as a separate science, and becoming more and more independent of history. This newly-gained freedom was the result of the influence from the natural sciences on archaeology. However, archaeologists strived for a long time to free themselves completely of history, and throughout the 1970s and early 80s, archaeologists working in the historical periods struggled to free themselves from history, and examine and interpret their sites without relying on the written sources (Einarsson, B., 1995, Ólason, G., 1996, 2000, Kristjánsdóttir, S., 2000).

In Iceland there is no pre-historic archaeology and anyone who wants to study Icelandic history through archaeology has to deal with a large volume of historical sources dating back to the earliest settlement of the country. It is therefore understandable that Icelandic archaeology was from its beginning heavily influenced by history and historical research. From the earliest times Icelandic archaeologists never questioned the validity of the historical sources they were using but used archaeology to prove the accuracy of the sources.

The interpretation of the general history of Iceland has rarely been questioned, and for a long time the historical writings of the 12th century were thought to describe actual events (Kålund, P.E.K., 1984, Vigfússon, S. 1884, 1892., Þórðarsson, M., 1936, Ólsen, B.M., 1885, Jónsson, B., 1900). It was not until the late part of the 20th century that historians began re-examining earlier work on Icelandic history especially the earliest period. Today scholars have suggested that the period before 1200 is in fact a pre-historic period because the history of the period from 900-1100 was not written until the 13th century. Both historical and archaeological research into this period has shown that many of the Sagas are actually describing buildings and outhouses as they were in the 13th century and not as they were during the earliest period (Gestsson, G. 1959). The most recent contribution of Icelandic archaeology to the history of Iceland is that it has shown that the first settlement of the country was more complicated than described in the *Landnámabók*. The way that archaeologists have in the past chosen sites for excavation also reflects the influence of the historical sources on archaeology in Iceland. This is fortunately changing as archaeologists are beginning to design their research, not only on the written sources, but also on other factors, such as environmental changes, settlement patterns, etc. that are equally important for archaeological research in Iceland.

To categorize the period between AD 900 and 1200 as a pre-historic period is both misleading and gives a wrong impression of how Icelandic archaeologist actually interpret this period. If the period 900 – 1200 is to be categorized as a pre-historic period, then later written sources should not be used in the interpretation of the archaeological data. The term suggests no historical sources, and therefore the archaeological data should only be used in the interpretation of sites excavated. However, even those

archaeologists who have labeled this period pre-historic tend to fall back to later historical sources when it suits their theories and ideas (Vésteinsson, O., 1995, Einarsson, B., 1995, Bayock, J., 2004).

It has become clear in the past 10 years that, with the appearance of foreign scholars and increasing multidisciplinary work in Icelandic archaeology, the field of archaeology has taken gigantic steps forward. A field that was not so long ago considered to belong to Icelandic archaeologists exclusively is now open to all foreign researchers, and at the same time the number of practicing Icelandic archaeologists has increased dramatically, with significant increases in funding support for archaeology in the country. This change has caused gigantic steps forward as Icelandic archaeology is influenced by different research ideas and approaches. The foreign influence on research in Iceland has clearly shown new things that Icelandic archaeologists had not even considered, i.a. the impact of humans on the pre-landnám pristine environment in the 10th century, the development of soil and soil erosion. It has also shown different economic sources based in different regions, changes in domestic animal stocks over time, resource management, etc (Dugmore, A. *et al.*, 1992, 2007a, 2007c, Buckland, P., *et al.*, 1991, McGovern, T.H. *et al.* 2001). These cooperative multidisciplinary works have been a great benefit for all Icelandic archaeologists, but perhaps even more importantly, Icelandic archaeologists have become ready to move beyond a focus on single sites. A major shift in the past decade has been away from site-focused excavations towards investigations on the larger scale of the multi-site landscape. As in other parts of the world, archaeologists now are regularly working on the regional scale. Instead of simply providing material evidence from single sites for Saga descriptions of past Icelandic life, Icelandic archaeologists now

have the wider objective of connecting sites to each other, and to changes in the environment around them. This change of perspective and agenda has given them an opportunity to distance themselves from the cultural historical approach, but the generation working in the field today are still haunted by the past. Icelandic archaeologists are often not even aware of the fact that they are using two theoretical approaches in their research, one belonging to the cultural historical theory, and the other based on modern theoretical approaches. It is probably up to the next generation of archaeologists to create the theoretical background needed for Icelandic archaeology. This thesis is thus presented as both a contribution to knowledge in a previously little-researched area, and as a personal attempt to apply a fresh theoretical and methodological perspective to the combination of documentary and archaeological data to better understanding the Icelandic past on a regional scale.

The preparation for this doctoral research began in 1996, and, at the time, it became painfully clear that little had been done in archaeological research in Vestfirðir, and that much of the work that had been done suffered from the widespread over-reliance upon later documentary sources. All research into fishing had been on the written sources, and especially the periods after 1700. Most of the foregoing research projects have never attempted to look at the Vestfirðir from a different perspective but all based their research aims on similar factors as elsewhere, with agriculture as the underlying economic theme. However, one research project had been done in the area that did not have agriculture as its underlying theme but had focused its effort at understanding other aspects of the economy. This research generated data that contradicted the generally accepted view of the Vestfirðir economy and raised a new set of questions. Even though this project must

be categorized as minor research, with only a few test-trenches in three different sites in Strandasýsla, it was the prelude to what was to come, though not recognized at the time (Krivogorskaya, Y., et al., 2005, Amundsen, C., et al. 2004).

One of the key issues at the onset of this research was where to begin, as the Vestfirðir peninsula was a black hole in Icelandic archaeological research (Map 2). Little knowledge existed about location of fishing-, settlement-, or any other types of sites that were relevant to this project. Furthermore, little or no data existed concerning the economy of the region older than the 18th century. It became clear that any research design in the area had to begin from scratch. Therefore, I decided to use the 18th and 19th centuries as a starting point, primarily because it was expected that most of the archaeological sites surveyed would date to the 18th and 19th centuries.

This statement may sound directly contradictory to what was written above as I have warned against the use of the written sources in Icelandic archaeology, and effectively imposing the 18th-19th centuries upon earlier periods better understood through archaeology. However, any landscape-based study has to begin somewhere, and there is no question that the early modern documentary sources can provide a working baseline for a regional investigation far more rapidly than a season-by-season accumulation of archaeological field data. In this study, both the written sources and the archaeological data will be used as two different data sets and the early modern documentary sources will be used as an initial point of departure rather than as direct evidence for the Medieval period or Viking age. The society and economy of the 18th century is the result of earlier changes, political decisions and other factors that influence human society. It was hoped that by researching the economy of the 18th century, as it appears in the written sources, it

would be possible to detect the main underlying factors in the Vestfirðir economy and how it differs from other regions. It was expected that the main economic factors of any region would remain the same, even though political decisions and other factors had forced a region to adopt a different economy.

However, it was clear from the very beginning that 18th century written sources had to be used with caution to explain earlier economic systems. The difference between the economic data from the 18th century used in this work, and historical writings of the period, is that the economic data (mainly drawn from the *Jarðabók* census) is numerical, and therefore less biased than other historical writings of the period. Therefore, the numerical data were used, and it was hoped that the results of the analysis would create an understanding of the economy of the region in the 18th century. Understanding the base for the economy in Vestfirðir at the beginning of the 18th century allowed for the creation of hypotheses that could be tested with archaeological methods.

One of the most important archaeological studies missing in Vestfirðir was a systematic survey of areas to get a clearer picture of archaeological sites, i.e. number, condition, types, etc. In general terms, there was no overview over archaeological sites in Vestfirðir, and no core research had ever been done in the area.

Core research, such as archaeological surveys, is one of the main parts of any archaeological project and without it excavations will only be partially successful. Sites excavated without a general survey of their surroundings will fail in understanding the relationship between the site and the surrounding landscape and archaeology, and therefore archaeological data from such a site will only be useful in interpreting the site itself, not its relationship with the region it is in.

Large parts of this research are dedicated to archaeological survey, and the bulk of the data came from surveys that were done in the period 1996 – 2004. The aim of the surveys was primarily to built up knowledge concerning the past and earlier society of Vestfirðir, without being too influenced by the written sources. The survey of the region was both to understand the connection with the landscape, and also the development of the settlement, both with regard to fishing and other economic activities. It was the idea of this researcher that excavations on any site in Vestfirðir, without systematical surveys in the region, would fail in producing data that could throw new light on the society and its development throughout time. Only a combination of survey and excavation would generate enough data to produce any significant results. The survey was designed around the concepts of landscape/seascape and economy but also as a tool to locate sites for excavation.

1.1 The Research Area

The study areas of this research are located on the east and west of the peninsula. The main focus is on all districts in Ísafjarðarsýsla, located on the north and west of the peninsula and Strandasýsla on the north and east. (Maps 3 and 4).

The agricultural society in Iceland had reached its population limit in the later part of the 19th century. In most districts the number of farms had reached their maximum limit, and the possibilities for the poor and landless to acquire land and start a family were none. Population had increased so much in the 19th century that agriculture alone could not sustain the growing population. Natural and technological factors determined the limits of farm growth in Iceland, and by the middle of the 19th century these limits had been reached. Around 1880 the results of this became apparent as people began

emigrating to America in search of better living standards. At the same time began the movement from the countryside to the coast, and this steadily increased to the end of the 19th century (Gunnlaugsson, G.Á, 1997).

During the early part of the 20th century, the fishing industry and Icelandic society itself was transformed with the introduction of motorboats into the fishing industry. This transformed the society overnight as it was now possible to reach further out to previously untouched fishing grounds, and fishing was much safer than before. New possibilities for poor farmers were opened, and they abandoned their farms and flocked to the shoreline to take part in the growing fishing industry. The result of this change was felt all over the country, farms were abandoned and everywhere along the shoreline, fishing villages were formed. The first two decades of the 20th century saw Iceland being transformed from an agricultural society into a fishing society (Pálsson, G., 1991).

The change from agriculture to fishing was nowhere in Iceland more dramatic than in Vestfirðir. The Northwest had been the poorest part of the country from the early 17th century when the general economy shifted towards agriculture as agricultural land was always much less than anywhere else (Bárðarson, J., 1940, Lárusson, Ó., 1952).

Traditional Icelandic agriculture is based on animal husbandry and pastoralism. All Icelandic farms raised cattle and sheep for dairy production, and it seems like farms in Iceland did not partake in cereal production, except for maybe in the first hundred years of settlement. For many regions, agriculture was the main income for farms but it is evident that not all regions focused in equal measures on agriculture. Some regions even focused more on other resources, making agriculture secondary in farm economy.

Fishing in general developed mainly in the area from the southwest to the northwest of Iceland, and this part of the country remained the main fishing area throughout the history of Iceland (Map 11). The underlying reasons are many, but the most important ones are that the main spawning grounds for cod are to the southwest of the country, and the cod moves clockwise around Iceland, from south- to northwest and then towards the east (Vilhjálmsón, H., 1997) In general, the harbor conditions are better in this area than elsewhere, making the development of fishing and fishing communities optimal (Olavius, O., 1964).

The main reason why fishing became so important for the Vestfirðir region is that the area is not as suitable for agriculture than other regions, but ideal for fishing, with short distances to rich fishing grounds, and good sites for fishing stations, as well as very good harbours. Harbour conditions are generally poor in the south and southwest of Iceland, except for few places such as around the Snæfells- and Reykjanes peninsulas. The whole of the south coast has almost no good harbours, due to large sandy areas that have proven treacherous for many ships throughout the centuries. The east part of Iceland has similar fjord systems as the Northwest, but the fishing grounds are fairly far off shore in comparison with the Northwest. The north coast is similar to the east, but these areas offer very favourable agricultural conditions.

Modern Settlement History.

The Vestfirðir peninsula is connected with the main part of Iceland by a narrow strip of land (Map 3). The whole peninsula is divided into three main counties (Sýsla), Barðastrandasýsla in the south, Ísafjarðarsýsla in the west and north, and Strandasýsla in

the east and north (Map 4). These main counties are further divided into smaller units called *hreppur*.

In 1845 there were 290 farms registered in Ísafjarðarsýsla and 109 in Strandasýsla (Johnsen, J., 1847) (Map 13). Today only 10% of these farms are occupied. The modern abandonment of farms in the Northwest can be divided into two main phases. The first phase occurred during the late 19th to early 20th century when the rising fishing industry was the main reason for people to abandon their farms and move to the fishing villages. The second phase occurred between 1960 and 1980 when cattle and sheep farming went into decline which also caused farmers to move to the towns and villages, both within and outside the region.

From 1985-2002 the Northwest has also seen people moving from the fishing villages to the capital, Reykjavík. The reason for this last movement is that most of the fishing villages in the Northwest have lost their fishing quota to large fishing companies stationed outside the districts (Durrenberger, E. P., Pálsson, G., 1989). Furthermore, these large companies not only acquired the quota, but they also no longer landed their fish in the local fish factories in Vestfirðir. The fish was either processed onboard their factory ships, or in their own fish factories situated elsewhere. The loss of quota caused a near complete destruction of the fishing industry in Vestfirðir. The populations of fishing villages has been, and still is, steadily declining. In the fishing village of Bolungarvík in 1980 there were about 1500 people and 75% lived on fishing. In 1999 the population count was 1000 with only 20% living on fishing (Hagstofa Ríkisins).

The loss of quota forced many fishing companies in the area into bankruptcy, and the communities lost their larger fishing ships. The people in Vestfirðir tried to respond to

this by building a fleet of small fishing boats which did not require a quota, and could fish when and as much as they could. In 2001, the Icelandic government passed a law (*Stjórnartíðindi* 2001) which gave smaller boats a quota and restricting their fishing to certain dates. This last act was a crippling blow for the already declining fishing industry in the Northwest as the small boats now have to compete with the larger fishing boats. The Northwest of Iceland has no other natural resources other than fish, and is not considered suitable for other industries. Every year the population declines, and it is estimated that in 10-20 years the area could very well be abandoned.

Topography and demography

The landscape, as well as the people of the Northwest of Iceland have always been considered different to the rest of the country. The Vestfirðir peninsula is older in geological terms than other parts of Iceland. There are no active volcanoes in the area, and the landscape is very different from the geologically younger centre of the country. The main landscape features are fjords and high mountains, with narrow strips of land between the mountains and the sea. The fjords in the Northwest were formed at the end of the last Ice Age as the glaciers retreated (Stephen, J. R., et al., 2007, Bárðason, H.J., 1996).

The climate is also somewhat different than in other parts of the country. The average temperature in winter is about -5°C and 10°C in the summer, compared to 0°C in winter and 12°C in summer in the south part of Iceland. In mid-October the sun disappears behind the mountains, and does not appear again until late January. It usually begins to snow in October, and the winter snow does not completely end until late May or early June (www.vedur.is).

The average sea temperature around the peninsula is 4°C. The Gulf Stream circles around Iceland from the south, and goes north along the west coast and turns to the east, north of the Vestfirðir peninsula. This combination of the warm currents of the Gulf Stream and the colder of the Arctic currents have created numerous and rich fishing grounds around the peninsula. During winter the sea ice frequently appears around the Northwest peninsula. The sea ice often connects with land, making fishing difficult and at times impossible (Ogilvie, A.E.J. and Jónsdóttir, I. 2000, Ogilvie, 2008, Doner, L., 2002).

The settlement in the region developed along the coastline (Map 13). These coastal farms could only maintain agriculture for their own needs. Very few areas exist in the region which could sustain sheep and cattle farming on a large scale. These areas are mainly in valleys that extend from the coast to the interior. The economies of coastal farms were primarily a subsistence economy, a mixture of sheep and cattle farming and fishing. The sheep and cattle farming could not, as in other parts of the country, maintain the farms, so each farmer had to use other resources to make a living (Lárusson, Ó., 1952).

The people of Vestfirðir were usually considered a different breed than elsewhere in Iceland. Between 1752 and 1757 two Icelanders travelled around the country, recording what they thought interesting. They described the people of the Northwest in some detail.

“Breiðfirðingar, including Dalamenn, Barðstrendinga and Eyjamenn¹ are good farmers, especially those who focus mainly on agriculture and therefore are more engaged in sheep raising than fishing. Those who live further north, all the way to Horn, are more focused on fishing, which they do from spring until autumn. During

¹ Dalamenn live just south of the Vestfirðir peninsula. Barðstrendingar are the people living on the southern part of the peninsula and Eyjamenn are those who live on the islands in Breiðafjörður fjord.

winter they stay in one place. They are by nature not as happy compared to the first mentioned and are not interested in anything except fishing ... People living on the north coast of Arnarfjörður are fairly rich and strong and if angered are quick to fight back. Önfirðingar grow beards and dress according to ancient customs. The people of the Northwest, especially Breiðfirðingar and Arnfirðingar like storytelling and especially natural sciences, and know more about plants, stones and animals than people in other parts of the country.” (Ólafsson, E 1981).

This reference and others (*Sóknarlýsing Vestfjarða* II., Olavius, Ó., 1965) show clearly that in the 18th century farmers in the Northwest neglected agriculture and wanted primarily to fish. These farmers worked in their fields only as much as necessary and spent most of their time fishing. The general lack of understanding of the main economy in Vestfirðir is a fundamental factor in the development of the society in the Northwest. In the 15th – 19th centuries the Danish government failed to understand that the Vestfirðir peninsula was different and was primarily suitable for fishing and not agriculture. The general lack of interest in fishing and marine resources within the society also played an important part in the development of the society during this period. In the late 20th century the Icelandic government also failed to understand that without the fishing industry the peninsula could not thrive and sustain itself.

In the 19th century, there were 51 farms occupied in Árneshreppur and Kaldrananeshreppur, but today only a handful are occupied (Map 14). Both districts based their income on a mixture of sheep and cattle farming, fishing and hunting. The farms in the region are small and poor and are mostly located on the coast. Few valleys extend inland from the coastline where farms are situated along rivers. In the region there

were a few fishing stations but most of them were small, and mainly for the needs of the farmers in the region. Similar patterns can be seen on the west part of the peninsula in Ísafjarðarsýsla, however, larger fishing stations can be located in this area.

From the historical sources we get an impression of a fixed system behind the fishing industry in Iceland in the 19th century. This system will be discussed in detail in later chapters but I will give a short description of it here. The fishing in the 19th century was based on fishing stations, i.e. small seasonal settlements that were built on the shore close to the fishing grounds. These fishing stations were called “Ver” (pl) and were of three types; mixed station (*blandað ver*), fishing station (*Verstöð*) and Outlying station (*Útver*). A fourth type also existed, home base (*heimver*) but this type can hardly be categorized as a fishing station, as all farms on the shore in the Vestfirðir peninsula had a home base, which was rarely used by anyone else except the farmer himself (Kristjánsson, L., 1981). The three first-mentioned types seem to have been primarily used for commercial fishing, targeting a certain type of a marine resource.

In the district of Bolungarvík there were 20 farms occupied in the 19th century and today only 6 are occupied (Map 15). The district of Bolungarvík is today the northernmost occupied area in Iceland. The district consists of three small valleys Tungudalur, Syðridalur and Skálavík. The three valleys could sustain a fair number of cattle, and agriculture is more favourable than elsewhere in the Northwest. However, farmers in the region also had to rely more on a mixture of farming and fishing. Two fishing stations developed in Skálavík and Bolungarvík, and the one in Bolungarvík is the oldest documented fishing station in Iceland. According to the written sources the station

was established in the 10th century (Ísl.sög. I, 118) and was occupied until the late 19th century when it developed into a fishing village.

In the district of Mýrahreppur in Dýrafjörður, 30 farms were occupied in the 19th century, and many are today abandoned (Map 16). In the district agriculture is more suitable than elsewhere and larger farms can be found there. There are two fishing stations in the district, and in the 18th and 19th century they were primarily used by the local farmers. The economy of the farms in this area was more based on sheep and cattle farming, and fishing was only as a mean of extra income for the farms.

1.2 Potential for early fisheries research in Vestfirðir

In most places in Iceland fishing stations developed into villages in the late 19th and early 20th centuries. As these villages developed all remains of the earlier fishing sites were destroyed. The largest and most important fishing stations elsewhere in the country, like the Vestmanneyjar, Arnarstapi and others, developed into fishing villages, making it impossible to examine any of the earlier remains. In Vestfirðir, however, not all major fishing sites became villages. Many of them were abandoned in the early part of the 20th century and never touched by modern technology. This makes the Northwest of Iceland unique, as it is nearly the only possible place to find major fishing stations intact that date back to the 14th century, and even earlier. The Northwest is probably the only place where the development of fishing sites and communities can be studied in any detail (Map 2).

In the past decade archaeological research in Iceland has been examining the development of farms, and the settlement of the country before the 19th and 20th century transformation. This research has always been hindered by the change in the landscape due to the agricultural revolution in the 20th century. Between 1940 and 1960 bulldozers

and tractors were introduced into Icelandic society, and farmers used them to increase the size of their fields, and often in that process remains of earlier structures were destroyed. Fields were enlarged and drained, and the landscape around farms was completely transformed.

This agricultural revolution only reached into Vestfirðir on a limited scale. The abandonment of farms had already begun long before the introduction of modern agricultural equipment, and as the revolution began large areas had already been abandoned. Whole fjords and valleys had been deserted, and the fields of the farms in these fjords and valleys had never been touched by modern agriculture. This gives any scholar, interested in settlement patterns and Icelandic society before the agricultural revolution, a time machine into the 19th century, providing a unique chance to examine the development of Icelandic society over the past two hundred years, unhindered by modern changes.

In recent years the policy of the Icelandic government towards fishing has come under increasing criticism. Especially the governmental fishing research institute, *Hafrannsóknarstofnun Íslands*, has been heavily criticized. The main criticism is regarding their theories of maintaining fish species, and methods of preventing over-fishing. It has been pointed out that these theories are only based on data collected during the last 60 years, and more data are needed that reach further back in time to come up with any valid theories on fish management. Some scholars go even further and say that the methods applied by the research institute even *cause* over fishing and the depletion of fish species.

There is a tendency to view over-fishing as a modern phenomenon primarily caused by humans and their use of larger ships and larger fishing equipment. The general view of Icelandic scholars on this subject has been the same, i.e. that the depletion of fishing grounds did not become a problem until the 20th century. There are however references in historical sources about the depletion of fishing grounds in the 17th and 18th centuries that previously were rich in fish (Á.M, VII). Even though large-scale fishing is the largest factor in the depletion of fish species in the world oceans today; it is, however, highly unlikely that humans alone caused depletion of fishing grounds at earlier times, as their methods of fishing and technology did not have the capacity to do so.

During the past twenty years the question of modern fishing and over-fishing has become a serious issue for many countries around the North Atlantic. Some of the questions are focusing on resource management and, more importantly, if we are in truth managing our marine resources appropriately. The complaint from fishermen and scholars alike centres around the lack of large-scale, i.e. long-term, data giving a reliable idea about the size and condition of fish species around the North Atlantic. Archaeology can play a fundamental role in the creation and maintenance of modern resource management for fish species as it can supply researchers with the missing data. In this case, zooarchaeological data from various sites in the North Atlantic region can, without a doubt, give concrete results about fish size, species hunted, fish-catch over time, etc. General survey and excavation on fishing sites can also give ideas about location of fishing sites, and thus make it possible to locate old fishing grounds and recreate the pattern of fishing at earlier times. Set against the palaeoclimatic proxy data collected from the Greenland ice cores, and deep sea cores around Iceland and Greenland, the

archaeological data can actually create the missing long-term data, and give us an understanding of the environmental effects on fish migration, fishing grounds, and fish size as well as the effects of humans on fish species.

The migration of fish species in the sea is still not well enough researched, and is little understood. It is not certain that fishing grounds in Iceland were depleted, as is mentioned in the sources, but that fish species changed their migration patterns and spawning grounds. Other factors may be more important in these changes than human over-fishing (Jónsson, J., 1996). Changes in sea temperatures and currents probably play a more crucial role than previously thought, causing the fish to move to new areas. This interaction between nature and fish species in the past has little been researched in Iceland but there is a need to do so (Ogilvie, A.E.J. and Jónsdóttir, I. 2000).

Many of the fishing stations in the Northwest of Iceland are intact, giving a unique opportunity to understand the stations in relation to Icelandic society. It is possible, by systematically researching fishing stations in the Northwest, to create a chronology for each fishing site, and thus establish when, and for how long, each station was in use. The location of fishing stations was always as close to the fishing grounds as possible, and if for some reason the fish disappeared, or the fishing grounds were depleted, the station was moved to another location. In nature the fishing stations, in comparison to the static farms, were dynamic and were frequently moved.

The location of many 19th century fishing grounds in the Northwest of Iceland is fairly well known. By comparing and contrasting the 19th century fishing sites with the location of fishing station at earlier times, it is possible to create a model that shows the changes in fishing grounds over time, even as far back as the settlement period. A model

of this kind will without a doubt be a very valuable addition to modern data, increasing our understanding of the fishing industry in general, i.e. migration patterns of fish species.

In the past 10 years the Northwest of Iceland has become the focus of environmental scientists, studying past environmental changes. Core samples have both been extracted from lake and seafloor sediments in the area, which have thrown new light on environmental changes during the early Holocene (Doner, L., 2002). The high resolution of these samples have shown changes in the environment on a decadal scale, and sometimes even on an annual scale. These core samples have also shown fluctuation in temperatures during the historical period in Iceland AD 900-1900 (Dugmore, A., *et al.*, 2007a). These fluctuations affected the farming and fishing conditions for the people who lived in the Northwest, and even the whole country. In order to understand how Icelandic society reacted to changes in the environment it is important to compare these samples to the historical and archaeological data. Changes in the environment always affected the society in Vestfirðir more than elsewhere in Iceland, and therefore it is an ideal place to collect data for comparison with the environmental data. Such a study would, without a doubt, increase our understanding of how past societies reacted to changes in the environment and make it possible for us to predict how modern society will react to similar changes.

1.3 Archaeological Research in the Area

The Vestfirðir peninsula has generally been under-researched, and scholars have shown limited interest in the area. The main reason for this could be because Vestfirðir is very remote and difficult to access. Many of the potential research sites can only be

reached from the sea, and the period for research is very short – from June to the end of August.

Archaeological research in Iceland began in the later part of the 19th century, when a group of individuals interested in preserving and researching cultural sites established the Icelandic Archaeological society (*Hið Íslenska fornleifafélag*). The society funded archaeological expeditions into all parts of the country. Few attempts had been made in recording and collecting information on important archaeological sites before the establishment of the society. The first attempts had been made in the early part of the 19th century by the Danish Royal archaeological Committee, and later by the Icelandic Literary Society. Throughout this early period little information was collected on archaeological sites in the Northwest, and by 1930 few sites had been placed on the list of protected sites. In the beginning of the 20th century the Icelandic Archaeological Society ceased to fund archaeological research, and for the next 60 years no research was carried out in the Northwest area.

In the beginning, archaeological interest was primarily focused on historically important sites. The antiquarians Kristian Kålund, Sigurður Vigfússon and Brynjólfur Jónsson recorded and described sites that they thought appeared in the Sagas. In the Northwest they examined the remains of parliament sites in Þorskafjörður and Dýrafjörður, recorded old roads, burial sites, temples and compared place names and landscapes with the descriptions in the Sagas. Sigurður Vigfússon excavated a few sites in the Northwest among them, Flókatóftir by Brjánslæk, and the burial of Vésteinn. He also excavated structures at Valseyri in Dýrafjörður, which he considered to be the remains of the Valseyrar parliament site (Map 5). These excavations and others became

the foundation for the list of protected sites in the Northwest area (Vigfússon, S., 1884, 1892. Þórðarsson, M., 1936, Ólsen, B.M., 1885, Jónsson, B., 1900, Bruun, D., 1928, Bruun, D., Jónson, F., 1909, Kålund, K., 1870, 1877-1822).

From the beginning of archaeological research in Iceland the focus has always been the settlement period (874-950) and especially church sites or sites that could be interpreted as pagan cult places (Roussel, Aage, 1941). In all parts of the country focus has been put on longhouses dating from the 10th century, and to date 20 such structures have been excavated. These houses have provided scholars with a good picture of the houses of the first settlers of the country. The oldest buildings that have been excavated in Iceland are similar to Viking Age buildings excavated in Scandinavia, elongated structures with arched main walls. Pit houses have often been found in close vicinity of these longhouses and also other outhouses.

Two such buildings have been excavated in the whole of Northwest. In 1977 and 1978 a longhouse was excavated at Eyri (Hrafsneyri) in Arnarfjörður (Map 5). This longhouse is one of the smallest excavated in Iceland, 13,4 meters long and 5,4 meters wide, with a fireplace in the centre and a small building connected to the main longhouse. The walls of this building were made of turf but badly damaged by the Hrafnseyri river which runs close by. Close to the longhouse other buildings were found, two small pit houses and remains of two other buildings, which probably were smithies. Samples collected at the site dated to the settlement period (Ólafsson, G., 1980).

From 2003 to 2005 a longhouse was excavated at Vatnsfjörður in Ísafjarðardjúp (Map 7). This longhouse was approximately 16 meters long and 5 meters wide. The building was free standing and had a central hearth. The walls were made of turf but were

damaged by field flattening. So far few buildings have been located in the vicinity and one of them is probably remains of a smithy, but more buildings may still be located in the area. The longhouse was dated to the early 10th century with C14 (Edvardsson, R., 2005).

The remains of the Vatnsfjörður and Eyri farms are the only ones dating to the settlement period that have been excavated in the Northwest of Iceland. Both longhouses are identical to buildings from the 10th century that have been excavated in other parts of the country. To get a consistent picture of Northwestern house building, other houses need to be excavated. Too few buildings from later periods have been excavated in the Northwest and therefore, little is known about the development of house building in the area.

Burials are one of the most common type of archaeological site and are to be found in every region of Iceland. Many written sources exist about burials, and the accidental discoveries of human bones, pagan burials, etc. In the middle of the 18th century, Jón Ólafsson from Grunnavík collected written sources about 20 such sites, and in the beginning of the 19th century the Royal Danish Archaeological Committee received reports from parish priests on 700 such sites all over the country. Of the total 700 sites 50-60 were recorded in the Northwest. Most of these reports were based on little or no archaeological research. These reports were in many cases based on the Sagas and were only to explain strange names of hills and landscape features. Few sites have actually been examined to see if they are actually burials dated to the settlement period (Ólafsson, Jón, 1753, Eldjárn, K., 2002).

In Vestfirðir Iceland 35 burials have been found, and most of them had been disturbed. It is impossible to say how many of them are actual pagan burials and it is quite possible that many of these burials, especially those found by the sea and which do not have grave goods, are graves of foreign sailors. The few pagan burial sites located in Vestfirðir reflect the archaeological research activity in the area. The burial finds in Vestfirðir are all random and no attempts have been made to systematically locate pagan burials in the region until recently (Eldjárn, K., 2002, Friðriksson, A., 2000b).

In 1990 a team of archaeologists and students from the City University of New York excavated a fishing station at a place called Akurvík in the district of Árneshreppur. During the same season the excavation was extended to two other sites in the vicinity, Gjögur and Finnbogastaðir (Map 5). In the two latter cases the excavation was primarily focused on farm middens, mostly dating to the 18th century (Perdikaris, S., et al., 2004, Amundsen, C., et al. 2004, Edvardsson, R., et al. 2004, Krivogorskaya, Y., et al. 2005).

In 1994 the National Museum of Iceland surveyed an area in the south of the Vestfirðir peninsula in the district of Rauðasandur. Five farms were surveyed but the survey was primarily aimed at surveying the fishing station Breiðavíkurver. This station is mentioned in 18th century sources and was in use until the 20th century (Ólafsson, G. 1994).

In 1996 an archaeological survey project was undertaken in the district of Bolungarvík. During the following three seasons each of the 20 farms in the district were systematically surveyed and 309 archaeological sites were located (Map 17). Four fishing stations were recorded in the area, Skálavík, Kálfadalur, Ós and Bolungarvík (Map 18). The fishing stations at Bolungarvík, Ós and Kálfadalur have completely disappeared but

the station at Skálavík is intact. At Skálavík 12 structures were recorded: fishing booths, winch platforms and other structures relating to the fishing industry (Edvardsson, R., 1998). According to the sources the station was used in the early 18th century by local farmers but the sources mention that it had been used by people outside the district in the centuries before (Á.M., VII)

In 1999 a similar project was begun in the district of Kaldrananes. In 2002 499 archaeological sites had been surveyed on 26 farms (Edvardsson, R., 2002) (Map 19). Four fishing stations were recorded in the area, Skreflur, Saruatún, Búðarvogur and Drangsnes (Map 20). Drangsnes has disappeared because a village has been built on top of it. Skreflur was in use until the mid 20th century. It is mentioned in 18th century sources but it is unknown how long before the 18th century it was occupied. The station at Sauratún appears in one source from the 15th century (D.I.XV) and according to 18th century sources it was no longer in use (Á.M.VII). Búðarvogur is in use in the 18th century but for how long before that is unknown. On all sites, except Drangsnes, remains of fishing booths and other structures were recorded.

In 1999 a survey project was undertaken in the remote part of the Northwest, Hornstrandir (Map 8). The main aim of this project was to look at all types of archaeological sites, record their conditions and to look for potential research sites. This area of the Northwest was the first to be abandoned and large parts of it were abandoned before the Second World War. There are no roads in the area so sites have to be reached on foot or by boat. Due to the difficulties of access the survey was limited to a small area. Three farms and one fishing station were surveyed.

The general condition of archaeological sites in the extreme northwest is good; most sites have not yet been touched by modern technology. Farm mounds remain intact, and in only few cases have houses been built on top of them. The greatest danger to archaeological sites in the area is the development of summer houses, which in some cases threaten sites.

The fishing station at the farm Slétta (Map 21) was surveyed and 12 fishing structures were recorded. According to the sources this station was in use in the early 18th century and remained in use until the late 19th century. It is, however, unknown for how long before the 18th century the station was in use (Á.M.VII).

In 2002 an archaeological survey in the district of Árneshreppur was begun, and it was finished in 2004 (Map 22). Other survey projects in the Northwest have been done in connection with road construction, and some of these surveys were in areas where farms have been abandoned for several years. So far about 4000 sites have been surveyed with archaeological methods, and it is estimated that this number will more than double as survey continues.

The archaeological surveys have generated data on many potential research sites. They have also created data on settlement patterns of the districts that were surveyed, and how the settlement developed throughout the centuries.

1.5 The Importance of Archaeological research in Vestfirðir

Most Icelandic scholars have neglected the study of fishing and fisheries, concentrating more on farms and the agricultural society. Emphasis has always been on settlement period sites and large important cultural sites, like the church farms at Reykholt and Skálholt. In general, most farms that have been excavated in Iceland are the

richer and larger agricultural farms. The growing bulk of archaeological data in Iceland is primarily data on the structures, and the society of the upper classes of Iceland. Therefore, the archaeological data in Iceland only reflects the society and lives of the upper classes, not the general public and the very poor settlement farms that were abandoned at an early time. These latter ones were primarily examined and excavated due to their easy accessibility, not having the need to deal with later disturbing structures or continued settlement on the site. These richer farms can, in no way, give a true picture of the life on an ordinary Icelandic farm. The present picture of the development of Icelandic society is primarily based on the richer farms and cannot give us a comprehensive picture of the society in general.

The history of the Northwest is mostly based on the few written sources that exist as archaeological research in the Northwest is still in its early stages. Scholars have tried to create theories on the development of the society in the Northwest and they have concluded that the Northwest was in no way different from the rest of Iceland. It is, however, difficult to create theories on the history and the development of the society in Vestfirðir because there is not sufficient data to support new ideas. It has been theorized that the reason behind the few pagan burials found in Vestfirðir is because the people who settled the area came from different areas than the other settlers of Iceland or that they had different burial customs (Einarsson, B., 1995). However, it is more likely that this only reflects the research activity in the area and that more burials will be found once the area is systematically researched.

Archaeological surveying in Vestfirðir has shown that there are some regional differences between the area and other parts of Iceland. These differences are primarily

between the agricultural and marine regions but insufficient data have been collected to understand these differences and therefore it is important to continue surveying in the area.

There is a general need to understand more fully the development of fishing during the period between 900-1550, and especially the fishing communities themselves. It is likely that the societies in Vestfirðir based their income on fishing to a greater extent than other communities in Iceland. A study of the structure of fishing communities and management of fishing and how human decisions and environmental factors affected fishing and the fishing communities in Iceland will create a better understanding of how the poorer classes in Iceland both lived and worked.

It also of a great importance to begin archaeological research into the period 1200 – 1500 as during this period Vestfirðir was a rich region and nearly all of the wealthiest families in Iceland resided in the area at this time. Many scholars in the past have pondered about why these families became so rich and most have concluded that the source of wealth was in agriculture and ownership of land (Sigrjónsson, A, 1975). However, it is possible that trade and marine resources played a greater role in the creation of wealth in Vestfirðir during this period.

The system behind the fishing industry

Fishing in the 18th and the 19th centuries has often been viewed as a model for fishing from the beginning of the settlement of Iceland with the idea that fishing remained relatively unchanged throughout the period and that in the 18th and 19th centuries, Icelandic society was but a mere reflection of what it had been earlier. Famines, natural disasters, mismanagement of resources and restricted trade had caused widespread

poverty (Þorsteinsson, B., 1981, Vasey, D.E., 2001, Simpson, I.A., et al., 2001, Ólafsdóttir, R., Jón Júlíusson, 2000, Ogilvie, A.E.J., 1997, 2008, Júlíusson, Á.D., 1996). The organization of the fishing industry slowly developed from the settlement period, and in the late Middle Ages fishing had become very important to the Icelandic economy. Increased fishing was the result of increased trading with foreigners, and the opening of markets in Europe. This increase began to contest and threaten the organization of the agricultural society. Poor people began moving to the shoreline where fishing could support them both as subsistence and trading. This competition between agriculture and fishing endangered the very fabric of Icelandic society in such a way that it would have caused dramatic social and political changes in Iceland if it had been allowed to develop unhindered. As a result of social and environmental factors, the elite and ruling government was under pressure to increase fishing. However, they fought against any changes by strangling trade with foreigners and barring the movement of people to the shoreline. The organization and structure of fishing in the 18th and 19th centuries was the result of previous social conflicts and political decisions and cannot be used indiscriminately as a model for fishing at earlier periods.

There are many questions that past research into the society in Vestfirðir have not been able to answer. It is unknown what the structure and type of society was like in the Northwest of Iceland before 1300. The main income for farms in Iceland was based on agriculture, but some of the Sagas suggest that it may have been somewhat different in the Northwest. The Saga of Þorgils and Haflíði (Sturl.Sag. I., Thorson, Ö., 1988) suggest that there were primarily fishing stations that served the richer agricultural regions

outside the Northwest, in contrast to the later periods when the society seems to have been equally based on agriculture and fishing.

“Þat var sagt eitt vár, at hann keypti sér skip ok færi á Strandir norðr. Hann var maðr mikill ok beinstórr, skarpvaxinn, svartr ok óséligr. Hann kemr niðr á Ströndum norðr, þar sem heitir í Ávík, til þess bónda, er Hneitir hér. Hann var skilgóðr bóndi ok vinsæll. Kona hans hét Björg. Þau áttu tvá sonu, Steinþór ok Finnboga. Rannveig ok Hergerðr vóru dætr þeira. Hneitir var þingmaðr Hafliða ok annaðist reka hans” ...

“Hann svarar, kvað þat vænst, at hann færi norðr á Strandir ok aflaði þar fjár, sagði þat margra manna siðvenju.” (Sturl.Saga I.) (It was said one spring, that he should buy a ship and go north to Strandir. He was a tall man and big-boned, gaunt and bony, dark and ugly. He comes to Strandir to the place that is called Ávík, to the farmer named Hneitir. He was a trustworthy and popular farmer. His wife was called Björg. They had two sons, Steinþór and Finnbogi. Rannveig and Hergerður were their daughters. Hneitir was the liegeman of Hafliði and took care of his driftwood, ... He answers, that he thought it best that he would travel north to Strandir to make money and he said it was the custom of many men. Transl.auth.)

The written sources suggest that in the 13th and 14th centuries the Northwest increased its political importance. This could at least partially be connected to marine resources as it was the only abundant resource that the Northwest possessed as compared to other regions in Iceland. This abundant resource was also the only commodity that could be traded to both internal and foreign markets. The rich agricultural regions depended upon the regions of the Northwest for labor and trade of marine resources for extra income (Sturl.Saga.I-II, Þorleifsson, B., 1981).

Scholars in Iceland generally believe that fishing for a foreign market began in the early 14th century. The written sources suggest that this might also have happened earlier in Iceland. Fishing for a market in the 15th and 16th centuries was primarily in the hands of foreigners. It is unknown in what quantity Icelanders fished for a market prior to the 15th century and whether they did it themselves or it was in the hands of foreigners as at later periods (Þorleifsson, B., 1970).

The archaeological evidence suggests an increase in fishing in Iceland in the mid 13th century. The excavations at Akurvík in Strandasýsla showed that the site was occupied in the period from c.a. AD 1100 – 1500 and the zooarchaeological data showed a clear increase in fishing from the period 1200 and onwards (McGovern, T.H. 1998). This increase influenced the fishing industry and affected the social structure of the Northwest.

Scholars have generally believed that the system behind the fishing industry from 1300-1700 was relatively the same as it was in the 18th and 19th centuries (Jóhannesson, Þ. 1965, Kristjánsson, L. 1980). Fishing stations and boats were mainly manned by farmhands who came from different regions during the fishing seasons. There is, however, a possibility that there was a class of professional fishermen and even some other system behind the fishing industry.

The picture we have of the fishermen of earlier times come from various 19th and 20th century sources and much ethnographic work has been done on the fishing industry at this time. Early modern fishing seems to have been a difficult task and mainly in the hands of farmhands, who were sent to fishing stations during the fishing season. These farmhands frequently had to walk long distances to the fishing stations carrying their supplies and gear. They would stay in booths during the season, and at the end of it they

would bring back to the farm the catch of the season. It seems that at the time most of the catch was used on the farm, and only a portion of it was sold. In the early modern period the King also owned large fishing stations and the King's portion was mostly sent to foreign markets. The picture of early modern fishing, as it appears in the written sources and ethnographic work, is painted with hardship, poverty, stagnation and slavery (Durrenberger, E. Paul, Pálsson, Gísli, 1989)

Foreign fishermen appeared around Iceland in the 14th century, and whalers two centuries later (Einarsson, T., 1987, Þorleifsson, B., 1970). There is no doubt that the appearance of foreign sailors influenced the society both economically and socially. Early fishing communities have never been researched in detail in Iceland and there is a question how the society formed around the large fishing stations/villages. Increasing inequality within the society from the mid 13th to 15th century caused an increase in poverty and the poorer people to move to the shore in the hope for a better life as agriculture could not sustain them.

Scholars have theorised that Icelandic society had ceased to develop in the 18th and 19th centuries due to its social and political situation at the time, and that this situation is the most important factor in the social and industrial revolution that occurred in the late 19th century. It is, therefore, of great importance for modern Iceland to understand the events that lead to the stagnation in the 18th and 19th centuries (Hastrup, Kirsten, 1985,).

It is generally thought that the fishing industry played an insignificant role in Icelandic economy – except for a brief period during the settlement of the country – until the 14th century when foreign demand for fish products caused widespread changes in labour and social structures, especially in the western part of the country. The written

sources, however, do not give conclusive ideas about these changes in the 14th century, and in fact little is known about how important fishing was for the Icelandic economy in the period from 900-1300.

There is a very limited understanding of the social effects that an increase in fishing caused in Iceland and of the interaction between fishing and agriculture, even though abundant written sources exist regarding the export of fish and foreign fishing in Iceland during the period between 1300 and 1700.

The regional differences have also never been examined between the social structure and daily life in different regions. Regions that on one hand based their income primarily on marine resources, and those on the other hand that based their income on agriculture. It would be of great interest and importance to compare the written sources and archaeological evidence from the period 1700-1900.

Vestfirðir is, without a doubt, a key area in this respect. The peninsula was on the fringe, politically speaking, prior to the 13th century, but seems to have begun to play an increasing political role after 1300. This increase may directly be connected with the increase in fishing after 1300.

In the world today there is an increasing need for appropriate resource-management strategies, especially in fishing. Many countries around the world are faced with the depletion of fishing grounds and the ruin of their fishing industry. The factors behind the depletion of fishing grounds have primarily been blamed on over-fishing and bad resource management in the 20th century. In recent years scholars have suggested that environmental changes also play their part in the depletion of fishing grounds. However, the existing data on fishing only go back as far as 100 years, and there is a growing need

to understand the changes in the fishing industry and the management of fishing grounds at earlier times. The understanding of the management strategies of earlier society, where they failed or succeeded, will help us in managing our own resources.

1.6 The Written Sources

Any archaeological research into the past in Iceland cannot be done without using the abundance of historical documents that exist from the 12th century to the present day. However, it is important to stress here again that the written sources must never play the primary role in any archaeological research. This dissertation uses archaeological fieldwork but in addition, a variety of written sources, both original documents, and works by historians and other scholars. In this chapter I will give a brief description of the most important historical documents that are used in this dissertation.

The earliest written sources on fishing date to the 13th century. These sources describe events that took place at least 200-300 years earlier. More than likely, these early sources reflect the society that produced them rather than the one they are supposed to be describing. There are no written sources from the 10th and 11th centuries referring to fishing or fishing stations in Iceland, and all data on fishing from this early period comes primarily from archaeological sources. However, it is important not to omit the 13th century sources in the study of fishing in Iceland as they may provide important clues regarding fishing in the earlier periods as they were written closer to that period than we are today.

Landnámabók, “The Book of Settlements”, gives the names of all important settlers of Iceland and where they settled. It rarely mentions fishing and only once does it refer to a fishing station of any kind. Þuríður sundafyllir is mentioned as the settler of Bolungarvík

in Vestfirðir, who established a fishing station on her settlement. The Icelandic Sagas also refer to fishing and fishing sites on a number of occasions. For instance, the above-mentioned fishing station in Bolungarvík can be found in *Fóstbræðra Saga* (Ísl.sög. V., 249). Fishing is mentioned in a majority of the Sagas and it is very clear from these sources that fishing was considered by the 13th century Saga authors to have been an important part of the early Viking/Medieval farm economy. These references, however, only mention fishing sites when they are important to the plot of the story and there is little or nothing that can help in understanding the fishing industry in detail at this early period.

Sturlunga Saga was written in the 13th century and describes events contemporary to that period. In general it discusses the struggle for power between certain families in Iceland. One part of the story is about a feud between two chieftains, Þorgils and Haflíði, and it is in this source that the first real clues appear regarding the role of fishing in the Medieval economy. It is quite clear from this story that marine products were an important part of the farm economy and the means for extra income for chieftains. It may also indicate a possibility for poorer individuals to be a part of the fishing industry and to earn income for themselves (Sturl.Saga I., 17).

Only one Saga suggests the exportation of dried fish prior to the 13th century and it is therefore likely that fish was not exported on a large scale. This is more than likely due to the fact that ocean-going vessels were small, and large quantities of fish were needed to make the export of dried fish products worthwhile. However, the export of marine products prior to the 13th century cannot be completely discarded.

“Ok nú leiðist honum þessi athöfn. Nú kaupir hann sér skreið ok ferr útan ok tókst vel til ok verður gott til fjár ok svá til mannheilla. Þessa iðn hefir hann nú fyrir stafni nökkura hrið, ok svá kemr hans ráði, at hann á einn knörrinn ok mestan hluta áhafnarinnar. Er hann nú í kaupferðum ok gerist stórauðigr maðr og ágætr...” (He now gets bored with this occupation. He now buys dried fish and travels abroad and is successful, makes money and favors. He continues this occupation for some time and is so successful in business that he owns one trading ship (Knörr) and most of its equipment and cargo hold. He continues his trading ventures and becomes extremely rich and noble” (Transl. Author). (Ísl.Sög. VII., 307)

The number of references to fishing and fishing stations in the written record increases after AD 1300. The most important sources from this period are the *Diplomatarium Islandicum*, which are both private and public documents written mainly in the period from the 13th to 17th centuries, Annals, which describe important events in the history of Iceland in a chronological order from the 12th to the 17th century and *Alþingisbækur* (Parliament records) which list the proceedings of the Icelandic parliament, laws and sentences passed, and are an important source for the late Medieval and early modern period.

These sources often give important information about fishing and trade but in the case of fishing station they mostly refer to tolls that each fisherman was supposed to pay for fishing at a particular station, and neither discusses the structure of the fishing industry nor provides any idea of which species of fish were caught at the stations in question. This fact makes it nearly impossible to understand from the written sources the role fishing played in the economy of Iceland. However, it is quite clear from these sources

that *skreið* (dried fish) becomes one of the major export items sometime in the 13th century and remained so, at least until the 15th century. In the period between AD 1200 and 1400, prices for *skreið* increased steadily and became the most valuable export item (DI.VI., 16). The number of merchant ships similarly increased at this period and reached its peak in the period between AD 1340-1347, when a total of 12 merchant ships sailed to Iceland annually to trade (DI.II, 497).

“ Þetta sumar lágu við skip í Hafnarfirði frá Englandi. Fór Vigfús bóndi Ívarsson burt á því einu til Englands, og hafði með sér eigi minna en LX lesta skreiðar og mikið brennt silfur; reyfaði eitt af þessum við nokkurri skreið, bæði á Rosmhvalnesi og í Vestmannaeyjum.” (This summer 6 English ships landed in Hafnafjörður. The farmer Vigfús sailed with one to England and took with him no less than 60 tonnes of dried fish and a lot of burned silver, one of these 6 ships bought some dried fish both at Rosmhvalnesi and in the Vestmannaeyjum.”) (Nýi Annáll).

The written source that is probably the most important for this dissertation is the *Jarðabók Árna Magnússonar og Páls Vídalíns* from the early 18th century (registry of Árni Magnússon and Páll Vídalín), which is unique as it is the first and only document that gives a consistent list of all farms in Iceland. This document will not be discussed in detail here as the two next chapters are more or less dedicated to the land registry of Árni Magnússon and Páll Vídalín.

Chapter 2

In this chapter the land registry of Árni Magnússon and Páll Vídalín will be analyzed with statistical methods. The main aim of this analysis is to detect what was the economic base for Vestfirðir in the early 18th century. The hypothesis is that this base is determined by the environmental setting of any region. The economic base does not change unless the region goes through catastrophic environmental changes, when the existing base is destroyed, and the region is forced to adapt to a new one. An example of this can be a complete depletion of a fishing ground or a complete loss of farmland, and in either case a region would be forced to create a new economic base. The written sources suggest that Iceland did not go through any such catastrophic changes, however the economy of the country was frequently affected by the environment, damaging farmland or fishing grounds. It is therefore probable that the main economic base of all regions in the country remained unchanged from the settlement of the country. This gives an excellent opportunity to analyze the numerical data in the registry to gain understanding of the main income of farms in the early 18th century.

The written sources suggest that most of the economic systems for farms had changed little from its original creation in the 11th – 12th centuries (D.I. I-XII, Á.M. VII.). These systems include farm value, rent of land and the tenant system. Some changes had occurred but, in general, farms were valued the same as they had been earlier. In 1458 the farm Seljaland in Skutulsfjörður was valued 12 hundred (D.I.V.) and in the registry of Árni Magnússon it still had the same value (Á.M. VII). Similarly the farms Kinnarstaðir, Kollabúðir, Galtará, Hjallar and Eyri, all in the south part of the Vestfirðir, all were valued the same in 1446 (D.I., IV) as they were valued in the registries of 1706 and 1850

(Á.M.VI., Johnsen, J., 1850). This suggests a certain stability in the value system of farms from 1400 – 1850. However, even though the value system may have remained stable throughout the history of Iceland it is not certain if the value itself remained stable. This particular instability is probably seen, for example, in the missing value of church farms, and resources may have been taken from certain farms, for example, driftwood, devaluing the farm without actually changing the value system.

2.1 The Land registry of Árni Magnússon and Páll Vídalín

In 1702 the Icelandic-born Árni Magnússon came to Iceland with orders from the Danish king to conduct and supervise the writing of a land registry. Árni Magnússon was at the time, a professor of Danish Antiquities at the University of Copenhagen. Árni spent most of his adult life in Copenhagen, and is most well-known for his collection of Medieval Icelandic manuscripts. He and another Icelandic Páll Vídalín were supposed to collect information on every farm in Iceland and also to have the population counted. The idea behind this census and land registry was to get better information on the population and farms for tax purposes. At the end of 1703 the whole population had been counted but it took several years to finish the land registry and it was not until 1712 that it was complete.

The land registry of Árni Magnússon and Páll Vídalín is probably the only document that can be used to create a clear picture of farm economy in Iceland in the early 18th century, and possibly earlier periods. The reason for this is that the registry includes raw data, i.e. total number of domestic animals, farm value and other economic values for every farm in Iceland making it possible to analyze the data with statistical methods. The advantage that the land registry data has over other sources is that it probably is less

influenced by the writers and the persons who submitted the data, i.e. the farmers. Still it has to be kept in mind that farmers probably did not always tell the whole story, especially when it came to describing the productiveness of their farms and access to other resources. In spite of this there is no reason to doubt the general accuracy of the numerical values for the total number of domestic animals. For one thing the animal data clearly shows major contrasts between parts of the island, and within districts the variation tracks farm size and wealth reasonably well. (Gunnarsson, G., 1983).

For the purpose of this dissertation the whole data from two counties will be used, Ísafjarðarsýsla and Strandasýsla, which are both situated on the Vestfirðir peninsula (Map 2). Excluded from the analysis is the county of Barðastrandarsýsla. It was considered sufficient to include just these two northern districts of Vestfirðir in the statistical analysis as it was expected that the addition of Barðastrandarsýsla would not change the overall conclusion of the analysis. However, future works plans the complete analysis of the registry data for the whole country.

For comparison, two agricultural districts from among the most productive agricultural regions in Iceland will also be analyzed. These are Eyjafjallasveit in south Iceland, and Mývatnssveit in the northeast part.

The entire Vestfirðir area was divided into three main counties (*sýslur*), Barðastrandarsýsla, Ísafjarðarsýsla and Strandasýsla. Each “sýsla” was then divided into smaller districts called “hreppur.” Each “sýsla” had different number of “hreppur” all depending on the size and shape of the larger district (Map 12).

A database was created for the analysis of the data in the land registry and so far 587 farms have been entered into the database. All farms in Ísafjarðarsýsla and Strandasýsla

have been entered but only a few smaller districts or communes (*hreppar*) in the north and south of Iceland. Ísafjarðarsýsla had 14 smaller districts (*hreppur*) and Strandasýsla 6. In all, there were 553 farms in the two larger districts, including outlying and abandoned farms.

The data for the Ísafjarðarsýsla were collected for the period from spring to autumn 1710, and for Strandasýsla in the spring and autumn 1706, and spring 1709 and 1710. In 1707-1709 a smallpox epidemic hit Vestfirðir resulting in a population loss and the abandonment of farms. The data from two districts in Strandasýsla, Trékyllisvíkurhreppur (modern day Árneshreppur) and Kaldrananeshreppur reflect the society before the epidemic, and the remaining four from around and after the epidemic. The data from Ísafjarðarsýsla reflect the society after the epidemic.

It is clear when the census from 1703 for the county of Ísafjörður is compared to the data in the land registry that a large portion of the population in the district had vanished. Many farms that had large families in 1703 are deserted in 1710. The same cannot be seen in the district of Strandasýsla. The land register for Strandasýsla gives the number of people living on farms in 1706, where the same register does not give the number for Ísafjarðar district in 1710. This gives a unique opportunity to compare the census in 1703 to the population count given in the land registry for Strandasýsla which was collected a year before the epidemic hit the region.

2.2 Previous Analysis of the *Jarðabók* Data

Recently scholars have pointed out the importance of the *Jarðabók* for regression analysis and its possibilities for building a model for the economy of Iceland. In their paper Kevin P. Smith and Jeffrey R. Parson discuss their analysis of the 1702-1712

Jarðabók and a 1695 land register for the district of Fljótisdalur in the North of Iceland. They used the assessed economic value (cow value+tax value) against the size of the actual herd that a farm actually maintained. In their conclusion they suggest that a positive relationship existed between herd sizes and the economic value of farms in coastal North Iceland (Smith, K.P.,1995). The main difficulty with their analysis is that they do not give any detail of either their data or their analysis. Nowhere in their paper do they mention the confidence level of their regression which is crucial for the interpretation of the data. By using an assessed economic value (cow value+tax value) without fully understanding what both values stand for they are adding two economic values from different economic periods. The cow value (*kúgildi*) is the actual number of cows that a tenant was supposed to leave behind and the *Jarðabók* shows clearly that this number is flexible and the owner takes and adds to the number of *kúgildi* according to the circumstances. The tax value (*jarðardýrleiki*) is how much the farm is worth and the taxation is only a percentage of this amount. The original tax value or farm value (*Jarðardýrleiki*), as it is recorded in the Árni Magnússon *Jarðabók*, was probably estimated sometime between 1100-1300, based on the economy of the farms at that time and, according to the sources, has not changed over time. The cow values (*kúgildi*), on the other hand, only reflect the economy of late 16th and early 17th centuries because it probably was much higher in the 10th and 11th centuries. It is highly likely that there is little relationship between the cow value and the farm value in 1700, mainly because the latter was estimated when cows were the main part of the economy.

The use of all domestic animals in their regression model also creates another set of problems, especially on a small scale. Not all domestic animals have the same importance

when it comes to the percentage of tax and no one species explains all the variance. Some animals may have played an insignificant, or even no part, in the taxation of farms. If all domestic animals are regressed against farm values it will create co-linearity as they are actually measuring the same types of data only in different portions. It is therefore important to identify groups of domestic animals that are the most important for the economy of farms in each hreppur before applying a regression model.

It is important to understand that herd size and the composition of livestock on farms in the 18th century is probably not the same as it was at earlier periods. The value system was based on early Medieval assessments, which was based on different herd sizes and even domestic animals that are not present in the 18th century. However, each county could only sustain a certain number of any given domestic animals, due to environmental constraints. If something forced a farmer to cut down the number of his cows, he could possibly increase the number of sheep, or if an animal disappeared from the domestic stock, such as pigs, he could also possibly increase the number of animals relative to the number of animals from the group he has cut down. The composition of domestic animals on a farm can change, without changing the actual value of the farm.

2.3 Types of data in *Jarðabók*

The land registry lists the name of each farm in the order that they were recorded. It also lists the owner, private, church or king, and gives the name of the tenant. Furthermore, it lists farm value, rent, cattle that come with the farm, number of domestic animals, sometimes the number of people, benefits, size and condition of home fields and other information relevant to the taxation of individual farms.

Farm value (*Jarðardýrleiki*): The value of the farm is given in hundreds of *landaurum*, which is an old monetary system dating back to the 10th and 11th centuries. The original value was hundreds of silver or how much the property was worth in cash. When the original value was estimated it probably included all animals, benefits, size of fields and other resources that the farm had. One hundred was equal to 120 *alin* (ell) of wool which was the price of one cow. The price of one cow was equal to six sheep (Map 23).

Rent of land (*Landskuld*): How much the tenant was supposed to pay the owner measured either in *alin* (ell), *vætt* (fish) or money. One *vætt* of fish was equal to 20 *alin* of wool. In the database all rent of land has been transformed into the measurement of fish (*vætt*). *Alin* is a length measurement and one *alin* is about 60 cm in length and *vætt* is a weight measurement, usually 1 *vætt* measured 30 kg.

Cow value (*Leigukúgildi*): The number of cows that come with the farm. If the tenant moved to another farm he was supposed to leave a certain number of cows for the next tenant. This value is not the actual number of cows on a certain farm.

Domestic animals (*Kvikfé*): Domestic animals in Iceland were cows, heifers, bulls, calves, milk ewes, wethers, lambs, horses, work horses and in few cases goats and hens. The registry also gives the estimated maximum number of animals that each farm could hold. Pigs had originally been a part of the domestic animals in the early periods of Icelandic history but vanish from the archaeological record around AD 1500.

Benefits (*Hlunnindi*): Benefits were of different types, all depending on the location of farms. All farms had to have access to turf for building houses. The most important benefits in Vestfirðir were stranding (whale and ship stranding) and driftwood. However,

it was rare that the driftwood and stranding belonged to the farms in Vestfirðir in the 18th century, they usually belonged to the Church or the King.

Other information: The land registry also gives information on fishing stations, on roads (if any), whether the environment was causing changes in the landscape and various other (Á.M. VII).

2.4 Ísafjarðar- and Strandasýslur

A database was constructed to include all the data in the registry of Árni Magnússon and Páll Vídalín. The database was divided into three main sections;

- 1) Identification number. The position of the farm in x/y coordinates and other location data.
- 2) Name and value of the farm. In this section other monetary information is also to be found, such as rent, cow values, etc.
- 3) Number of domestic animals. This includes all animals, Sheep, cattle, horses, goats, etc.
- 4) All benefits listed in the registry.
- 5) Other information. This includes information, such as, if a fishing station was on the farm, if it was occupied at the time of the registry, etc.

It was hoped that the analysis of the data would answer a set of questions. First and foremost, the understanding of the value of each farm, i.e. which of the other variables have the largest effect on farm value, thus identifying the most important resource for income of farm economy in the early 18th century. It was hoped that it would create a better understanding of the economy of early 18th century society which will lay the foundation for understanding the society and economy of earlier periods. Further questions addressed by the analysis were to understand the economy of Vestfirðir, for example: Where were the most important agricultural regions?; What was the main domestic animal?; Is there a significant difference in herd sizes between district?; Is there

a difference between agricultural income between districts, i.e. wool production, dairy production?; How important were the marine resources in the economy of Vestfirðir?

The main reason for the creation of the database was to facilitate analysis of the data, and to understand the interaction between different variables in the data. First I set out to identify the main subsistence group from the data for the domestic animals. For this purpose I used principal component analysis. Principal component analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. The principal component analysis will group together the most important animals for the economy within each district “hreppur.” This will allow us to see whether the same animals are important in each district, or if there are differences between the districts.

The second stage of this analysis is to use multivariate regression analysis to understand the relationship between the variables in the database. It is expected for example, when the actual number of cows is regressed with cow values, that the number of cows on farms only explains a small portion of the cow value as the relationship between *kúgildi* and number of cattle had changed by the 18th century.

Before examining the data on a small scale it is important to understand it on a larger, regional, scale. All data for domestic animals in Ísafjarðar- and Strandasýsla were examined with principal component and multivariate regression analysis. In all following models the confidence level was set to 95%.

Table 1. shows the number of domestic animals in Ísafjörður and Strandasýslu districts in the period between 1706-1712. It is clear that the agriculture of the district is based on cattle and sheep farming (Map 24).

Cows	Winter old cow	Heifers	Calves	Young bulls	Milk ewes	Wether	Lambs	Horses	Work horse	Filly	Stallion
1416	22	85	35	124	11530	9783	5868	529	327	86	44

Table 1. The total number of domestic animals in the Northwest of Iceland in 1712.

The total value of all farms in the two districts was 3647 hundreds. However all the major church farms in the region do not have a value attached to them so the total value of all farms is probably somewhat higher.

Domestic Animals (Búfé)

The whole data set for Ísafjarðar- and Strandasýsla was analyzed with principal component analysis before applying it to the data for individual districts. The Eigen values for the first component explained the variance in all domestic animal categories and it explained about 38%. The first two components together explain 47% of the variance and the three first components explain about 56% of the data (Appendix 3.1).

The loadings for component 1 that are grouped together and which are the most important are cows (0.905), milk ewes (.897), wethers (.877). The principal component analysis has identified the most important group for subsistence in Ísafjarðar- and Strandasýsla. According to these results, farms in the Ísfjarðar- and Strandasýsla mainly based their agricultural economy on cattle and sheep raising. It also shows cows as more important than milk ewes and wethers as the loading (.905) is highest for cows.

The two districts were analyzed separately with principal component analysis. In both cases the Eigen values for the first component explained about 35-39% of the data. The loadings for component 1 for Ísafjarðarsýsla show that the most important animals were cows (.918), milk ewes (.922) and wethers (.903) (Appendix 3.2). In Strandasýsla the most important animals were milk ewes (.914), cows (.847) and wethers (.796)

(Appendix 3.3). There is a clear difference between the two districts. Ísafjarðarsýsla is more oriented towards cattle farming than Strandasýsla which shows more tendencies towards sheep farming.

The difference between the two districts can easily be explained in geographical terms. Ísafjarðarsýsla on the whole has more areas that are suited for cattle farming than Strandasýsla, especially in the south of the Ísafjarðar districts where most of the larger farms were located. The Strandasýsla district is ill-suited for cattle raising but ideal for sheep raising. The main geographical difference is that there are larger valleys and more lowlands in Ísafjarðarsýsla than in Strandasýsla.

The second stage of this analysis is to use multivariate regression analysis to understand the relationship between the variables. All domestic animal groups were regressed with farm values in order to see how much percentage of the farm value can be explained by the main subsistence animals in the two districts. The multivariate regression analysis estimates the linear relationship between a dependent variable and one or more independent variables or covariates. In all following models the confidence level was set to 95%.

In all models the dependant variable is farm value and the independent variables are all domestic animals on farms in Ísafjarðar- and Strandasýsla. The first model has an R-square of .336 and both the F-test and T-test showed a significance level of .0 (Appendix 3.4). This shows that all domestic animals in these two districts explain about 34% of the variance in farm value and the F-test shows that the model fits the data nicely. This model uses the stepwise method and it excluded all animals except cows and milk ewes. All other animals show a significance level higher than .0 and there is probably

some co-linearity between the variables as they are probably measuring the same. We can estimate from this analysis that about 35 – 40% of the farm value for farms in Ísafjarðarsýsla was measured from the number of domestic animals each farm could maintain.

The second model shows the multivariate regression for farm value and cow value (*leigukúgildi*) in both Ísafjarðar- and Strandasýsla. The R-square is .339 and both F- and T- tests show a significance of .000. This suggests that in the early 18th century there is still some relationship between the farm value and cow value but it was probably higher in earlier periods (Appendix 3.4).

The third model shows the same kind of analysis for the farms in Ísafjarðarsýsla alone. The model has an R-square of .367 and both the F-tests and T-tests have a significance level of .000. All domestic animals in Ísafjarðarsýsla explain about 37% of the variance in farm value. The stepwise method excluded all animals except cows and wethers which suggests that the agricultural economy in Ísafjarðarsýsla was more towards cattle raising. The presence of wethers in the model, and not milk ewes may suggest that in Ísafjarðarsýsla there was a significant wool production (Appendix 3.5).

The fourth model shows the multivariate regression for Strandasýsla. The model has an R-square of .282 and both F- and T-tests have a significance level of .000. This shows that about 28% of the variance in farm value comes from domestic animals in this district. In this model all animals except milk ewes are excluded which suggests that farms in Strandasýsla mainly based their agriculture on sheep farming for milk production. In both cases the economy of the region was based less than 40% on agriculture (Appendix 3.6).

Benefits (Hlunnindi)

Another source of income for land owners and farmers in Iceland came from various benefits that farms had access to in Iceland. These benefits were of different types such as; driftwood, stranding (both whale- and ship-stranding), eggs, trout and salmon fishing etc. Benefits varied from region to region, and some were mainly of subsistence use while others could be traded both internally and abroad. The subsistence benefits were, for example, angelica, seaweed, eggs, and seals. Benefits that could be sold and traded were driftwood, stranding, shark liver oil and fish, both salt and freshwater species. One of the most important benefits for the farms on the south coast of Iceland, especially the southeast came from ship stranding. During bad storms large cargo vessels frequently ran aground on the sandy beaches along the south coast, and gave farmers access to both wood for ship- and house-building and foreign commodities.

Most of the benefits in the Northwest of Iceland were of a subsistence nature and would not have been traded, but used to feed the local households. There were, however, few benefits that farmers had access to that were abundant in the Northwest and could easily be sold or traded.

The most important benefit for land owners in the Northwest came from both stranding and driftwood. Driftwood was extremely important for the Medieval society of Iceland as it could be used as fuel, ship- and house building material. Very few regions in Iceland had access to driftwood on the same scale as the Northwest. (Eggertsson, Ó., 1994, 1995)

The largest driftwood areas are on the northeastern and on the eastern part of the peninsula (Strandasýsla). Driftwood is very rarely found in Breiðafjörður and on the

western part of Vestfirðir. The reason for this is that a current circulates around Iceland in a clockwise direction and all driftwood comes from the north and is caught in the current and travels in a clockwise direction, i.e. towards the east. Most of the wood comes from the rivers in Russia that run into the Arctic Sea, but some of it comes from rivers in Alaska. The driftwood moves towards the North Pole where it gets caught in the ice and circulates the pole for 5 – 6 years. Then it is released from the ice and moves towards the south along the eastern shore of Greenland and towards Iceland (Eggertsson, Ó., 1994, Johansen, S., 1999).

Driftwood increased on the shores of Iceland in the 20th century as a result of the development of large-scale timber and paper factories in Russia and Alaska. Wood was floated downstream to the factories, and occasionally logs would be lost. These logs floated to the sea where they eventually got stuck in the arctic ice. Prior to the 20th century all driftwood in Iceland was natural driftwood, i.e. trees that had collapsed into rivers because of erosion and other factors. It has been estimated that in the 20th century 40% of all driftwood was natural and 60% was from the timber industry. Today the driftwood from the timber industry is disappearing because of a new method of transporting the logs on rivers. They are no longer floated down stream but transported on large barges to the factories (Eggertsson, Ó., 1995).

Whale stranding was important in the Icelandic economy of the settlement period and Middle ages as strandings are frequently mentioned in the written sources (*Skarðsárannall*, 1400-1640). This has led scholars to speculate if whale stranding was the most important economic resource for the Vestfirðir peninsula, and even more important than fishing (Þorláksson, Helgi, 2003). However, the nature of whale

strandings would appear too haphazard for a farmer to rely on it as a key part of the farm economy. Whale strandings are too irregular in modern times and probably were the same in the past, even though strandings may have been more frequent before 1550 due to the increased whaling in the early modern period. The frequency of citations for whale strandings in the sources can probably be explained simply by the fact that whale strandings were so rare that they were thought to be important news. Furthermore, no archaeological excavations have generated any evidence to support that whale strandings were of a great importance for farm economy in Iceland.

Both the historical and archaeological evidence suggests that whaling for commercial purposes began in the waters around Iceland in the early 17th century. Commercial whalers targeted mostly two species of whale, right- and humpback whales. The reasons for this was that these species produce the largest quantities of blubber and they float once they have been killed (Tuck, J. 2005). The archaeological evidence suggests that these foreign whalers built shore stations in the Strandasýsla area, where they constructed tryworks for producing oil. The whalers abandoned these stations in the late 17th early 18th centuries probably because they had invented a method of producing oil onboard their ships and did not need the shore stations anymore. The only excavated whaling station so far at Strákatangi in Strandasýsla shows no occupation after it was abandoned by the foreign whalers. This suggests that the method of producing oil from whales on a large scale was mostly unknown to Icelanders, or they would probably have continued using the tryworks at Strákatanga for oil production (Edvardsson, Ragnar, 2006, 2007, Paulsen Caroline et al. 2008).

The importance of these benefits for Icelanders may be best understood by examining the development of the Church from its establishment around AD 1000 to the Reformation which can be dated in Iceland to AD 1550. The Church succeeded in gaining access to driftwood and stranding in the Northwest either by acquiring farmland that was rich in these two benefits, or by getting a portion of anything that drifted ashore (D.IX, *Rekaskrá Helgafellsklausturs*). Similarly the Church received tolls from the fishing stations in the Northwest, and in some cases owned fishing stations (D.I.,VIII). It is quite clear from the written sources that the Church understood the importance of gaining access to these benefits because it gave them wood for building churches, shark liver oil for fuel, fish for feeding priests and students at the ecclesiastical schools, and also for trading.

In the land registry of Árni Magnússon the benefits are not given in numerical values but only lists the benefits each farm had. In order to be able to analyze these data with statistical methods it was important to give them numerical values. Each benefit was changed to dichotomies (0,1), 0 if a farm did not have a certain benefit and 1 if it had, creating a dummy variable. The variables in this regression are:

Y= Farm value (*Jarðardýrleiki*)

X1= benefits (*Hlunnidi*) 1 = Farm has a benefit, 0 = farm does not have it.

X2= Cows (*kýr*).

X1 and X2 were multiplied together creating an intercept dummy variable. The variables were then regressed using multivariate regression and the confidence level was set to 95%.

In the models for most of the benefits, trout, salmon, angelica etc. the multivariate regression showed an R-square from .010 – .035 showing that most benefits only explained about 1 – 4% of the variance in Y (Farm value) (Appendix 3.7).

The regression model for stranding in both districts, Ísafjarðarsýsla and Strandasýsla, had an R-square of .106 and both the F- and T-tests had a significance level of .000. This suggests that in the Northwest about 10% of farm value was estimated from stranding (Appendix 3.8). In the model for driftwood the R-square was .046 and both F- and T-test had a significance level of .000. Thus about 5% of farm value was measured from driftwood (Appendix 3.9). The low estimate of driftwood for these may be explained by the fact that, at this time, most farms in the Northwest did not own the driftwood that washed ashore on the farms they occupied. However, it is interesting to see that together, stranding and driftwood explain about 15% of variance in farm value, which suggests that 15% of income for farms in Vestfirðir came from these two benefits.

In the next models each of the two large districts was analyzed separately using the multivariate regression. As before, the Y variable was farm value, X1 each benefit, and X2 the intercept variable.

The first model for Ísafjarðarsýsla shows the multivariate regression for driftwood. The R-square is .027 and both F- and T-test show a significance of .003 which suggests that the model fits the data. This indicates that driftwood only measured about 3% of farm value in Ísafjarðarsýsla (Appendix 3.10).

The second model shows the analysis for stranding. The R-square is .102 and both F- and T-tests show a significance level of .000. This suggests that stranding measured about

10% of income and together driftwood and stranding played an important role in the economy of Ísfjarðarsýsla (Appendix 3.11).

Together, stranding and driftwood answer for about 13% of farm income and domestic animals for about 37%. Together they answer for about 50% of the total income and with other benefits they were about 60% of the total income.

The first model for Strandasýsla shows the multivariate regression for stranding. The R-square .158 and both F- and T-test have a significance level of .000. This shows that the model fits the data and about 16% of income for farms in Strandasýsla came from stranding (Appendix 3.12).

The second model for Strandasýsla shows the analysis for driftwood. This model has an R-square of .197 and both F- and T-tests have a significance level of .000. This suggests that about 20% of income for farms in Strandasýsla came from driftwood (Appendix 3.13).

It is interesting that together, stranding and driftwood answer for about 36% of income for farms, while the domestic animals only answer to about 28% of farm income. Other benefits on farms in Strandasýsla were only about 10% of income and together stranding, driftwood, domestic animals and other benefits were 74% of the total income. The remaining 26% most likely came from fishing.

The reason why driftwood is less important in Ísafjarðarsýsla is easily explained by environmental factors. Most parts of Ísafjarðarsýsla would not receive any driftwood as the wood moves towards the east once it reaches the shores north of Vestfirðir and travels

along the north coast into Húnaflói. This simply means that the bulk of the driftwood would reach land along the eastern coast of the Vestfirðir peninsula.

Fishing

As with driftwood and stranding, no numerical values are given to fishing in the land registry, but only lists if the farm had access to fishing or not. In order to be able to analyze these data with statistical methods it was important to give them numerical values. The fishing was changed to dichotomies (0,1), 0 if a farm did not have fishing and 1 if it had, creating a dummy variable (see above). It is important to point out that this analysis does not include the fishing stations, but only the subsistence fishing (*heimræði*).

The regression model for fishing in both districts, Ísafjarðarsýsla and Strandasýsla, had an R-square of .177 and both the F- and T-tests had a significance level of .000. This suggests that in the Northwest about 18% of farm value was estimated from fishing (Appendix 3.14). The second model shows fishing in Ísafjarðarsýsla and gives an R-square of .176 and both F- and T-tests have a significance level of .000. This suggests that about 18% of income for farms in Ísafjarðarsýsla came from fishing (Appendix 3.15). The third model shows fishing in Strandasýsla and gives an R-square of .170 and both F- and T-tests have a significance level of .000, suggesting a similar portion of income, 17%, came from fishing in Strandasýsla as in Ísafjarðarsýsla (Appendix 3.16).

Ísafjarðar-, Strand.	%	Ísafjarðarsýsla	%	Strandasýsla	%
Fishing	18	Fishing	18	Fishing	17
Stranding	10	Stranding	10	Stranding	16

Driftwood	5	Driftwood	3	Driftwood	20
Agriculture	34	Agriculture	37	Agriculture	28
Other resources	4	Other resources	4	Other resources	4
Total	71	Total	72	Total	85

Table 2. Proportion of each economic unit for the two main districts in Vestfirðir.

From these models a picture of the economy of the Northwest emerges, and they firmly support the idea that farm value was estimated from all the resources that a farm had access to, and agriculture was not the most important source of income for districts in the region. It seems that it was even less in Strandasýsla than Ísafjarðarsýsla as the domestic animals were for subsistence, and the main income came from other sources. In Strandasýsla 53% came from marine resources and 28% came from agriculture. In Ísafjarðarsýsla 31% came from marine resources and 37% from agriculture. The evidence clearly suggests that on the Vestfirðir peninsula 30 – 50 % of the farm value was estimated from other resources than agriculture and the main resources were fishing, stranding and driftwood. In the early 18th century in both districts, Ísafjarðar- and Strandasýsla, marine resources (33%) were at least equally important as agriculture (34%) in the economy of farms. These models shows that in Ísafjarðar- and Strandasýsla about 71% of the farm value is estimated from all resources a farm had access to, when other resources, such as angelica, trout, etc., are added to the total number. In Ísafjarðarsýsla alone it is a total of 72% and in Strandasýsla 85%, this leaves about 15 – 28% of the farm value un-accounted for (Map 24).

The missing units may not have anything to do with the economic income of a farm but instead are reflecting the perceived cultural values of the people, making assessments about how much a farm is worth. At the same time, the missing units may also reflect slight changes in the value system from its original creation, i.e. economic units that have disappeared such as pigs, etc.

In the following sections of this chapter I will look at each “hreppur” individually to see if there are any differences between income and what resource was most important. It is expected that certain districts, especially in the south of Ísafjarðarsýsla will show higher percentages for domestic animals than others.

It is, however, important to point out that the numerical analyses used in the following chapter works best with large datasets, i.e. more than 20 variables. In some of the following models the numerical variables are less than 20 and therefore are not as reliable as other with more variables.

2.5 Hreppar in Ísafjarðarsýsla and Strandasýsla

All counties in Iceland were divided into smaller units which were called “hreppur”. These smaller units probably came into existence in the 10th century, but little is known about the role of the “hreppur” until the 12th century. It is likely that behind the creation of the *hreppar*(pl.) lies the need for cooperation between farmers, especially in gathering of sheep in the autumn etc., and during times of famines and disasters.

If a farmer lost $\frac{1}{4}$ of his cattle from a disease, other farmers in his district were supposed to pay him half of what he lost. Some of the houses on a farm were also insured for fire, and farmers in the district had to help in paying for the damage. No farmer got paid more than 3 times if a certain house was burnt (Björn Þorsteinsson, 1966).

The supposed lowest number of farmers for a *hreppur* was 20 farmers. There was no maximum number but the optimal number for one district was probably somewhere between 20 and 30. In the 18th century this had changed, and in some places districts could be found that numbered less than 20 farms. The number of farms within a district does not correspond to the actual number of farmers as many farms had double, sometimes triple households. In the district of Súðavík 18 farmers on 13 farms were registered in the 18th century (Árni Magnússon, VII. 1940).

Eyjafjallasveit and Mývatn

It was not thought enough to analyze only data from Vestfirðir and therefore two other districts were selected for comparison. It was decided to use districts that had little or no marine component in their income. The districts selected were; Eyjafjallasveit in the county of Rángárvallarsýsla in South Iceland, and Mývatn in Þingeyjarsýsla in the Northeast of Iceland. Rángárvallarsýsla and Þingeyjarsýsla are well-known agricultural areas, and the Mývatn district had extra income from the resources around the lake Mývatn. It was expected that the analysis for both Rángárvallarsýsla and Mývatn would show similar results as the main agricultural areas in Vestfirðir.

Eyjafjallasveit had 34 farms registered in the early 18th century, of which 8 were outlying farms. Of the total number of farms, 5 were owned by the King, and 6 were owned by the Church.

The factor analysis grouped together in the first component the most important domestic animal group in Eyjafjallasveit. The loadings for component 1 that are grouped together and which are the most important are cows (.925). This suggests that the economy of Eyjafjallasveit based their income on cattle farming and farmers were

primarily focusing on milk production. This fits nicely with the historical data which shows that Rangárvallarsýsla in general based its economy on cattle farming (Appendix 3.17).

The second model has an R-square of .681 and the F- and T-test both have a significance level of .000. This shows that the x variable, domestic animals, explains about 68% of the variance in the y variable, farm value. The F- test shows that the model fits the data. It is clear from the analysis that agriculture played the most important part in the economy of the Eyjafjarðar district. This is not surprising as the area had little access to the sea and no fishing stations were recorded in the area (Appendix 3.18).

The district of Mývatn had 27 farms in the early 18th century, 6 farms were outlying farms, and of the total number 5 were abandoned.

The factor analysis grouped together in the first component the most important domestic animal group in Mývatn. The loadings for component 1 that are grouped together and which are the most important are milk ewes (.959), wethers (.952), cows (.919) and lambs (.908). This suggests that the economy of Mývatn based their income on a mix of sheep and cattle farming (Appendix 3.19).

The second model has an R-square of .698 and the F- and T-test both have a significance level of .000. This shows that the x variable, domestic animals, explains about 69% of the variance in the y variable, farm value. The F- test shows that the model fits the data. It is clear from the analysis that agriculture played the most important part in the economy of the Eyjafjarðar district (Appendix 3.20).

Analysis of these two agricultural districts shows clearly that agriculture accounted for about 70% of income for farms in these districts and it shows a similar value as the districts in Vestfirðir that had better access to agricultural land, such as Arnfjarðarsveit, Dýrafjörður and Mýrapiðingsókn.

Arnfjarðarströnd district

Arnfjarðarströnd is the southernmost district in the county of Ísafjörður. The district on the whole is fairly suited for agriculture both for sheep and cattle. In the early 18th century there were 37 farmers on 25 farms in the district and all farms were occupied. Most farmers had access to fishing but mainly for subsistence, however there are no *útver* (Fishing station) in the district but only a few *blandað ver* (Mixed base). All the mixed bases were situated on farms that were at the entrance into the Arnarfjörður fjord, and it is recorded that the farms deeper in the fjord can no longer fish from their farms as the fishing grounds in the fjords have been depleted (Ogilvie, A.E.J., 1997, 2001).

As before, factor analysis and multivariate regression analysis was used on the data from Arnfjarðarströnd. The first model shows the factor analysis for all domestic animals and the second model shows the analysis for all domestic animals of the region. All benefits showed no relationship with the farm value, and therefore they were excluded from the analysis. It is not surprising that neither stranding nor driftwood were important for the economy of the district as it was extremely rare that anything washed up on the shores in the district.

The factor analysis grouped together in the first component the most important domestic animal group. The loadings for component 1 that are grouped together and which are the most important are milk ewes (.947), wethers (.915) and lambs (.941). This

suggests that the economy of Arnfjarðar district based their income on sheep farming and farmers were primarily focusing on milk production (Appendix 3.21).

The second model has an R-square of .727 and the F- and T-test both have a significance level of .000. This shows that the x variable, domestic animals, explains about 73% of the variance in the y variable, farm value. The F- test shows that the model fits the data. It is clear from the analysis that agriculture played the most important part in the economy of the Arnfjarðar district (Appendix 3.22).

Most farms in the area have a *heimræði* (home base) however very few farmers own boats except for those who live on farms situated at the entrance to the Arnarfjord. This suggests that fishing did not play a major part in the economy as a whole. On 25 farms there are only 8 boats in total and all boats are on 5 farms. No *útver* (fishing stations) are in the district and there are only a few boats from farms outside the district.

The third model has an R-square of .190 and the F- and T-test both have a significance level of .029. This shows that the x variable, fishing, explains about 19% of the variance in the y variable, farm value. The F- and T test shows that the model fits the data. The analysis shows that about 19% of income for farms in the Arnfjarðarströnd district came from fishing (3.23).

The explanation why fishing was not very important for the farmers in the district is probably due to either the depletion of fishing grounds within the fjord itself or that the targeted species had moved too far away for it to be economically feasible for farmers to fish. Some farmers in the district probably moved to *útver* in other districts during the fishing season.

The economy in the early 18th century in the Arnfjord district is clearly based on agricultural subsistence. The main focus is on the raising of sheep primarily for milk and wool production. Most of these products were for domestic use but any surplus would have been traded for other necessities.

Dýrafjörður district

The next district north of the Arnfjarðar district is the district of Dýrafjörður. In the early 18th century there were 39 farmers on 27 farms. Five of the farms were outlying farms and of them two had been abandoned since the disease that struck in 1709.

The Dýrafjörður district is a good agricultural region with deep valleys that are well suited for sheep and cattle farming. The western part of it, however, has limited land for agriculture and in this part of the district large fishing stations developed. Five large fishing stations were in the region in the 18th century and similar to the district of Arnarfjörður fishing deep in the fjord of Dýrafjörður was no longer possible.

Of the 27 farms in the district, 10 farms had boats and the total number of boats in all was 17 boats. In the district 3 farms had a *blandað ver* and 2 had *útver*. There were 17 fishing boats in these *útver* and *blandað ver*. In the early 18th century there were 11 boats that came from elsewhere and it is also recorded that before 1700 the total number of boats that came from outside the district had been much higher, up to 36 boats.

The principal components analysis shows that the first component explains about 51% of the variance and the loadings for the first component show that milk ewes (.946) and cows (.940) were the most important domestic animals. The Dýrafjörður district is similar to the Arnfjörður, focusing on milk production (3.24).

The multivariate regression for Dýrafjörður excludes all animals except milk ewes. The R-square is .662 and both F- and T-tests show a significance of .000. This shows that 66% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important income for farmers in the Dýrafjörður district (Appendix 3.25).

All benefits for the Dýrafjörður district, except stranding, do not seem to have affected the farm value. The model for stranding has an R-square of .224 and the F- and T-tests show a significance of .013 suggesting that the data fits the model to some degree. In the case of the Dýrafjörður district the main income came from agriculture but also from stranding and probably fishing (Appendix 3.26).

Fishing for the Dýrafjörður district seems to have played an important role in farm economy. The model for stranding has an R-square of .502 and the F- and T-tests show a significance of .000 suggesting that the data fits the model. In the Dýrafjörður district about 50% of the farm value was estimated from fishing (Appendix 3.27).

In the early 18th century the Dýrafjörður district was focusing its income on a mix of fishing and agriculture, which had sheep as its primary source of income. Most farms have a home base and few have a mixed base or a fishing station. The fishing stations in the district still attracted a fair number of fishermen during the fishing season. It is interesting to note that the number of boats stationed at the fishing stations in 1703 was more than half the total number of boats at earlier periods.

Mýrarþingsókn district

North of Dýrafjörður is the district of Mýrabingsókn. In the early 18th century there were 53 farmers on 40 farms and of them 7 were outlying farms. Of the total number of farms in the district 6 were abandoned, most of them because of the 1709 epidemic.

Similar to the Dýrafjörður district Mýrabingsókn was well suited for cattle and sheep raising with deep valleys and pasture lands. Three large fishing stations were in the districts and one of them was one of the largest fishing stations in the Ísafjarðarsýsla. Only 12 farms have a *heimræði* (home base) and 3 *blandað ver* (mixed base) were recorded in the district. Very few farmers own boats and the total number of boats in the district were 8.

On the 3 mixed bases there were 22 boats that came from elsewhere, with 18 boats on the large mixed base fishing station at Fjallaskagi. As with the Dýrafjarðarstönd district the total number of boats had been higher at earlier periods. Prior to 1700 there were 33 boats stationed at the mixed bases during the fishing seasons.

The principal component analysis identifies in the first component, cows (.921), milk ewes (.937) and wethers (.925) as the most important domestic animals. The Eigen values show that the first component explains about 47% of the data (Appendix 3.28).

The multivariate regression for Mýrabingsókn excludes all animals except cows. The R-square is .667 and both F- and T-tests show a significance of .000. This shows that 67% of the variance in the y variable is explained with the x variable, suggesting that cattle farming was the most important income for farmers in the Dýrafjörður district (Appendix 3.29).

The regression analysis for stranding has an R-square of .108 and the F- and T-tests show a significance of .039 (Appendix 3.30). The regression analysis for fishing has an R-square of .196 and the F- and T-tests show a significance of .004. As in the case of the Dýrafjörður district the main income in Mýrabingsókn came from agriculture but also from stranding and fishing (Appendix 3.31).

The similarity between the three districts, Arnfjarðar-, Dýrafjörður- and Mýrabingsókn is clear. In the early 18th century, all districts were focusing on milk production with the emphasis on sheep and cattle farming. This suggests that at the time the farmers were engaged in subsistence farming, and also focusing on the production of stock fish, shark liver oil and wool which could be sold at markets, with the exception of farmers in the Dýrafjörður district. These districts were primarily agricultural districts but a significant portion of their income still came from fishing.

Önundarfjörður district

In the 18th century the Önundarfjörður district had 57 farmers on 30 farms. Of the total number 4 were abandoned. The church owned 8 farms in the district and the king owned 1. The rest of the farms were privately owned. Six farms were outlying farms.

The Önundarfjörður district is geographically well suited for agriculture with good land for pasture. In the 18th century two *Útver* (fishing stations) were located in the area. The total number of boats fishing from the fishing stations in the early 18th century were 18 boats and according to the Jarðabók all these boats were owned by farmers in the district and no boats came from farms outside the district (Á.M.VII). As with the other districts more boats had been stationed at the *Útver* at earlier times. The total number of boats prior to the 18th century registry was 19 boats.

The principal component analysis identifies in the first component, cows (.933), milk ewes (.964) and wethers (.913) as the most important domestic animals. The Eigen values show that the first component explains about 51% of the data. This clearly suggests that the main domestic animals in the early 18th century were milk ewes (Appendix 3.32).

The multivariate regression for Önundarfjörður excludes all animals except milk ewes. The R-square is .315 and both F- and T-tests show a significance of .000. This shows that only 32% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important part of the agriculture for farmers in the Önundarfjörður district (Appendix 3.33).

However, it seems that agriculture was the most important part of the farm economy in the Önundarfjörður district even though only 32% came from agriculture. It is therefore highly likely that most of the remaining 68% other resources. From the registry we can see that a significant portion of farmers owned boats which were stationed at the Útver at Kálfeyri and Hvannakrar.

The multivariate regression for fishing in Önundarfjörður has an R-square of .101 and both F- and T-tests show a significance of .046. This shows that only about 10% of the variance in the y variable is explained with the x variable, suggesting fishing was not an important part of the economy for farmers in the Önundarfjörður district (Appendix 3.34).

Together, agriculture, fishing and other resources only explain about 50% of the farm value. This is a little surprising as it was expected, based on actual number of domestic animals, that agriculture would be a lot higher than 32% for the income of farms in the district.

The regression analysis was repeated, excluding all Church-owned farms that did not give a value. In this analysis the R-square was .538 and both F- and T-tests show a significance of .000. This model suggests that fishing, agriculture and other resources combined explain about 64% of the value for farms in the district, which is closer to what was expected.

Súgandafjörður district

The Súgandafjörður district had 19 farmers on 14 farms in the 18th century. Of the total number only 1 was abandoned. The church owned 4 farms and the remainder were privately owned. Two farms were outlying farms.

The Súgandafjörður district is one of the smallest on the Vestfirðir peninsula. The district is ill-suited for agriculture as all the farms are clustered around a narrow and deep fjord. High mountains loom above the fjord with very little land between the mountains and the sea that can be used for fields and pastures.

The fjord is close to rich fishing grounds that could easily be reached from the farms in the mouth of the fjord. However, only 5 farms had a *heimræði* and 1 farm had a *blandað ver*. The *blandað ver* is not in use at the time of the land registry but had been in use at earlier periods. In the early 18th century few farms, only 4 of 14, owned boats and no farmers went outside the district for fishing.

The principal component analysis identifies in the first component, cows (.963), milk ewes (.947) and lambs (.969) as the most important domestic animals. The Eigen values show that the first component explains about 62% of the data. This clearly suggests that

the main domestic animals in the early 18th century were milk ewes and lambs (Appendix 3.35).

The multivariate regression for Ségandafjörður excludes all animals except milk ewes. The R-square is .764 and both F- and T-tests show a significance of .000. This shows that 76% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important part of the agriculture for farmers in the Ségandafjörður district (Appendix 3.36).

The multivariate regression for fishing in Ségandafjörður has an R-square .384 and both F- and T-tests show a significance of .018. This shows that 38% of the variance in the y variable is explained with the x variable, suggesting that fishing was an important portion of the economy for farmers in the Ségandafjörður district (Appendix 3.37).

It seems from the analysis that value of farms in Ségandafjörður was based about 60% on agriculture and 40% on fishing. Ségandafjörður did not have rich agricultural land but had both access to rich fishing grounds and good boat landings but did not focus more on fishing than the analysis indicates. The reason may be that roads to potential markets, where the farmers could sell their fish products, were closed because of snow during most part of the year, and therefore would only be used when necessary. However, it has to be kept in mind that this type of analysis only works with large numerical datasets and the Ségandafjörður district only had 18 farms that could be regressed.

Bolungarvík

The district of Bolungarvík is situated in the mouth of Ísafjarðardjúp which is the largest fjord in Iceland. The geography of the district is dominated by three valleys and

all were fairly suited for agriculture. In the early 18th century there were 24 farms in the district and 8 of them were outlying farms. All farms in the district were privately owned and 12 were owned by same family which lived at the main farm Hóll.

Three útver were in the district, 2 were in Bolungarvík, 1 in Skálavík and 1 in Kálfadalur. The útver at Skálavík had declined at the time and in the early 18th century was only used by the farmers nearby. The two large fishing stations in Bolungarvík were owned by the farmer at Hóll and the útver at Kálfadalur was owned by the farmer at Ós.

The principal component analysis identifies in the first component, cows (.944), milk ewes (.948) and wethers (.942) as the most important domestic animals. The Eigen values show that the first component explains about 44% of the data. This suggests that the main domestic animals in the early 18th century were equally cattle and sheep (Appendix 3.38).

The multivariate regression for Bolungarvík excludes all animals except cattle. The R-square is .577 and both F- and T-tests show a significance of .000. This shows that only 58% of the variance in the y variable is explained with the x variable, suggesting that cattle farming was the most important part of the agriculture for farmers in the Bolungarvík district (Appendix 3.39).

The agricultural economy of Bolungarvík seems to favour cattle rather than sheep farming. However, the data suggest that all the main domestic animals, milk ewes, wethers and cows seem to be equally important, suggesting that farmers in the district were focusing both on milk and wool production in equal proportion.

Few of the farmers in Skálavík own a boat, and the fishing station in the area is no longer in use and has been changed into a *heimræði*. This suggests that the farmers in that

area were primarily fishing for subsistence. None of the farmers in Bolungarvík own a boat except for the two main farmers at Hóll and Ós. However, all the farmers in Bolungarvík had the duty to man the boats of the richer farmers during the fishing season.

The multivariate regression for fishing in Bolungarvík shows an R-square is .398 and both F- and T-tests show a significance of .001. This shows that 40% of the variance in the y variable is explained with the x variable, suggesting that fishing was an important part of the farm economy for farmers in the Bolungarvík district. Together agriculture (58%) and fishing (40) answer for 98% of farm value in the district (Appendix 3.40).

The nature of the economy in the Bolungarvík district shows a different pattern than elsewhere. For most of the farmers in the district agriculture was the most important income. Only two farmers had access to fishing and the same farmers owned the largest fishing stations on the whole Vestfirðir peninsula, possibly in the whole country. It is interesting that all farmers who wanted to fish from these stations came from outside the district and none of the local farmers were allowed to use these stations for themselves.

The Bolungarvík fishing stations seems to have been primarily used for commercial purposes, creating an extra income for the farmers at Hóll and Ós. The two richer farmers in the Bolungarvík district would have received a substantial amount of extra income from fishing, based on the number of fish that they would have received in toll and the fishing that they did from their own boats.

Skutulsfjörður

Similar to Bolungarvík the geography of the Skutulsfjörður district is dominated by three valleys that extend from the fjord of Skutulsfjörður. All valleys were well suited for

agriculture and in the 18th century there were 18 farms in the district, 6 farms were outlying farms and 1 farm was abandoned. Of the 18 farms, 13 were privately owned and 5 are owned by the church.

There were 2 *útver* in the district in the 18th century and both of them were situated at the mouth of the fjord. One of these *útver* was in decline at the time of the registry and only few boats remained of what had been earlier. Only 3 farmers in the district owned boats and only 9 boats from outside the district were stationed at the fishing stations. At earlier times up to 24 boats were stationed at the two fishing stations, showing 62% decline in fishing from these stations. The same pattern is clearly visible in the Skutulsfjörður district, as in the other districts, that fishing seems to be in general decline in the early 18th century. Both fishing stations in the area were privately owned and one of them was owned by a person living outside the Skutulsfjörður district.

The loadings for component 1 that are grouped together and which are the most important are wethers (0.970), milk ewes (.965), and cows (.942). The Eigen values show that the first component explains about 47% of the data. The principal component analysis has identified the most important group for subsistence in Skutulsfjörður. This suggests that the agricultural economy of the Skutulsfjörður was focusing in some degree on wool production (Appendix 3.41).

The multivariate regression for Skutulsfjörður has an R-square of .691 and both F- and T-tests have a significance level of .000. This shows that about 69% of the variance in farm value comes from domestic animals in this district. The model excludes all domestic animals except cows and with the factor analysis it can be concluded that the agricultural

economy of the farms in the district was equally focused on cattle and sheep farming with emphasis on wool production (Appendix 3.42).

The multivariate regression for fishing in Skutulsfjörður has an R-square of .141 and both F- and T-tests have a significance level of .152. This shows that about 14% of the variance in farm value came from fishing in this district. However, the high significance level suggest that the model does not fit the data perfectly, which probably is explained by too few variables (Appendix 3.43).

The Skutulsfjörður district is in some cases similar to the district of Bolungarvík as both districts show similarities in the agricultural economy. Skutulsfjörður had less income from other sources than agriculture, 31%. It is clear that at the time of the registry fishing is in decline from earlier periods in the Skutulsfjörður district with fewer boats stationed at the two útver in the district.

Eyrarsókn

The Eyrarsókn district is on the southern part of Ísafjarðardjúp and consists of three deep fjords, Álftafjörður, Seyðisfjörður and Hestfjörður. The geography is dominated by these fjords, the high mountains above them and little arable land between the mountains and the sea. Few valleys are in the district and most of them are long, narrow and are ill suited for agriculture. Most farms in the district are situated along the coastline.

In the early 18th century there were 21 farms in the district and of them, 4 were outlying farms. The King owned 6 farms, the Church 5 and the remainder was privately owned. Two farms are not occupied at the time of the registry.

In Eyrarskókn there are no *útver* or large fishing stations. All farms except 6 farms have a *heimræði* but only 6 farmers own a boat. According to the registry the main reason for the few boats in the district is that it is too far to the fishing grounds and that fishing within the fjords themselves is not worth the effort. Farmers who wanted to fish during the fishing seasons had to go to the larger stations in other districts.

The principal component analysis identifies in the first component, wethers (.958) and milk ewes (.925) as the most important domestic animals. The Eigen values show that the first component explains about 43% of the data. This suggests that the main domestic animals in the early 18th century were primarily wethers and milk ewes (Appendix 3.44).

The multivariate regression for Eyrarsókn excludes all animals except milk ewes. The R-square is .352 and both F- and T-tests show a significance of .005. This shows that only 35% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important part of the agriculture for farmers in the Eyrarsókn district (Appendix 3.45).

The multivariate regression for fishing in Eyrarsókn shows an R-square of .243 and both F- and T-tests show a significance of .023. This shows that only 24% of the variance in the y variable is explained with the x variable, showing that fishing was important for farms in this district. Combined agriculture (35%) and fishing (24%) are 59% of the value of farms in the district (Appendix 3.36).

The value of farms in the Eyrarsókn district is based almost equally on agriculture and fishing with only about 10% between. Other local resources do not seem to have played an important part in the economy because they register less than 5% of the farm value.

Ögursveit

The Ögursveit district consist of two fjords, Skötufjörður and Mjóifjörður, between them is a large peninsula where most of the farms were situated. The peninsula is the most prominent landscape feature in the district and it offers in few places good agricultural land. Most farms are situated on the coastline with only few situated away from the coast.

Since the 16th century, one of the farms in the district, Ögur, had been the seat of the richest and most powerful farmer on the Vestfirðir peninsula (Sigrjónsson, A., 1975). At the time of the registry the importance of the farm had somewhat declined but at the time it still retained its status as one of the richer farms in the area.

There were 18 farms in the district in the 18th century, 2 farms are abandoned, 3 farms are owned by the church and the remainders are privately owned. The 3 church farms are owned by the church at the farm Ögur.

There are 2 *útver* (fishing stations) and 1 *blandað ver* (mixed base) in the district but in the early 18th century only 1 boat is stationed on each fishing station. Earlier the number of boats had been up to 4 boats per station. All three stations were owned by the farm Ögur and those who wanted to fish from there paid toll to the farmer at Ögur. Only 5 farmers in the district own boats which they probably used for subsistence fishing from their *heimræði* (home base).

The principal component analysis identifies in the first component, cows (.920), milk ewes (.945) and wethers (.938) as the most important domestic animals. The Eigen values show that the first component explains about 42% of the data. This suggests that the main domestic animals in the early 18th century were equally cattle and sheep (Appendix 3.37).

The multivariate regression for Ögursveit excludes all animals except cows. The R-square is .636 and both F- and T-tests show a significance of .000. This shows that only 64% of the variance in the y variable is explained with the x variable, suggesting that cattle farming was the most important part of the agriculture for farmers in the Ögursveit district. The data show that farmers in the district were focusing equally on cattle and sheep farming (Appendix 3.38).

The multivariate regression for fishing in Ögursveit gives an R-square is .623 and both F- and T-tests show a significance of .000. This shows that only 62% of the variance in the y variable is explained with the x variable, suggesting that fishing was equally important as agriculture (Appendix 3.39).

Agriculture explains about 64% of the data, all other local resources explain less than 5%, and fishing explains another 62% of the data. Other important resources such as driftwood and stranding were not important parts of the economy for farms in the Ísafjarðardjúp fjord as they were situated too deep in the fjord for driftwood and stranding to play an important role in the economy. The economy of the district is equally based on marine and agricultural resources which could explain the success of the Ögur farm in gaining a higher status than other farms in the Vestfirðir area.

The Ögur farm owned both of the *útver* in the district, which would have supplied the farm with extra income from the toll. Furthermore, the farmer at Ögur owned a fishing booth at the fishing station at Kálfadalur in Skutulsfjörður where he paid toll for his boat during the fishing season. The fishing from the Kálfadalur station would also have created extra income for the Ögur farmer who could both sell the fish or use it to feed his own household.

Vatnsfjarðarsveit

Vatnsfjarðarsveit consists of four fjords, Mjóifjörður, Vatnsfjörður, Reykjarfjörður and Ísafjörður. Vatnsfjörður and Reykjarfjörður are small fjords lying between the larger Mjóifjörður and Ísafjörður. Most farms in this district lie on the coastline but a valley extends inland from the fjord Vatnsfjörður offering a more agricultural land than along the coast.

The single most important farm in the district is the farm Vatnsfjörður, which probably was one of the richest and most powerful farms in Iceland in the period between the settlement and the 15th century. At the writing of the registry it had lost most of its former power but still remained an important farm in Vestfirðir.

In the 18th century there were 19 farms in the district, 3 were abandoned, 9 were owned by the church and the remainder privately owned.

There was one fishing station at Vatnsfjarðarnes but in the early 18th century it was not in use and therefore most farmers would, have gone to stations outside the district, either going themselves or sending their farmhands. However, the farm Vatnsfjörður owned fishing booths at the station in Bolungarvík and people could fish from there without paying a toll.

The principal component analysis identifies in the first component, wethers (.946), milk ewes (.934) and cows (.911) as the most important domestic animals. The Eigen values show that the first component explains about 42% of the data. This suggests that the main domestic animals in the early 18th century were equally cattle and sheep (Appendix 3.40).

The multivariate regression for Vatnsfjarðarsveit excludes all animals except cows. The R-square is .268 and both F- and T-tests show a significance of .013. The tests are a little high which may be explained with few variables as the farm value is only given for 16 farms. However, this suggests that only 27% of the variance in the y variable is explained with the x variable, suggesting that cattle farming was the most important part of the agriculture for farmers in the Vatnsfjarðarsveit district (Appendix 3.41).

The multivariate regression for fishing in Vatnsfjarðarsveit has an R-square is .464 and both F- and T-tests show a significance of .001. This suggests that 46% of the variance in the y variable is explained with the x variable, suggesting that fishing was the most important part of the economy in Vatnsfjarðarsveit (Appendix 3.42).

The analysis for Vatnsfjarðarsveit suggests that fishing was the most important part of the economy as no large fishing stations are in the district and it is situated deep in the Ísafjörður fjord. The explanation may very well be that the farm Vatnsfjörður had rights to large fishing stations in the Vestfirðir region and that may actually be reflected in the analysis. Driftwood and strandings are not important parts of the economy of the Vatnsfjarðar district.

However, it is clear that both Vatnsfjarðarsveit and Ögursveit show a mixed economy, agriculture and marine, almost in equal proportion. Both districts had farms that at certain periods gained wealth and power in the area and managed to retain it for a long time. The key to their success lies in the adaptability of their economy.

Langadalströnd

The district Langadalsströnd lies at the bottom of the Ísafjarðardjúp fjord and along the coast north of it. In the bottom of the fjord are more flatlands extending away from the coast into the interior, offering better agricultural land than in many other places in the district.

In the 18th century there were 21 farms in the district, 3 were abandoned, and 1 was owned by the Church. The rest were privately owned and 2 farms were outlying farms. There are no fishing stations in the district and as with Vatnsfjarðarsveit most farmers would have gone to stations outside the district.

The principal component analysis identifies in the first component, milk ewes (.950) and cows (.915) as the most important domestic animals. The Eigen values show that the first component explains about 36% of the data. This suggests that the main domestic animals in the early 18th century were sheep (Appendix 3.43).

The multivariate regression for Langadalsströnd district excludes all animals except milk ewes. The R-square is .331 and both F- and T-tests show a significance of .006. This shows that only 33% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important part of the agriculture for farmers in the district (Appendix 3.44).

The multivariate regression for fishing in Langadalsströnd district gives an R-square .009 and both F- and T-tests show a significance of .685. This shows that the data do not fit the model and that less than 1% of the variance in the y variable is explained with the x variable, suggesting that fishing did not play significant role in the economy of the district (Appendix 3.45).

The factor analysis suggests that the farm economy of the district was based on milk production as the analysis only identified cows and milk ewes as the main domestic animals. It was expected that Langadalsströnd would show a higher percentage in agriculture as the area has good agricultural areas but this low number may be explained by the fact that the dataset was too small. Driftwood does not register at all in the analysis but stranding seems to have played a small role in the economy of the district.

Snæfjallaströnd

The Snæfjallströnd district is on the north side of the Ísafjarðardjúp. The district lies on a coastline between the sea and the mountains of Snæfjöll. There is little agricultural land between the mountains and the sea, which made farmers rely on other income than agriculture to sustain their households.

In the early 19th century there were 9 farms in the district, 1 owned by the church and the remainder privately owned. No farms were abandoned in the early 18th century.

There were two fishing station in the district, Snæfjallaeyrar and Garðanes. On the Snæfjallaeyrar station were 3 fishing booths in the early 17th century but no boat was recorded fishing from there. It is likely that 3 boats fished from this station at earlier periods. On the Garðanes station 6 booths were recorded in the early 17th century but only one boat is fishing from the station at that time. Prior to the 18th century 6 boats probably fished from this station.

The principal component analysis identifies in the first component, milk ewes (.925) and cows (.905) as the most important domestic animals. The Eigen values show that the

first component explains about 49% of the data. This suggests that the main domestic animals in the early 18th century were mainly sheep (Appendix 3.46).

The multivariate regression for Snæfjallaströnd gives an R-square of .322 and both F- and T-tests show a significance of .111. The F- and T-tests are a little high showing that the model fits the data only to a degree. This suggests that 32% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important part of the agriculture for farmers in the district (Appendix 3.47).

The multivariate regression for fishing in Snæfjallaströnd gives an R-square of .332 and both F- and T-tests show a significance of .082. The F- and T-tests are a little high showing that the model fits the data only to a degree. This suggests that only 33% of the variance in the y variable is explained with the x variable, suggesting that fishing at least played an equal role alongside agriculture in the district. Neither driftwood nor stranding register in the analysis (Appendix 3.48).

The main problem with the dataset from Snæfjallaströnd is that it is probably too small and therefore both F- and T-tests are high. But it is very likely that the district based its income on a mixed economy.

Grunnavíkursveit

Grunnavíkursveit is one of the two northernmost districts in Iceland and is situated along with Aðalvík, in an area known as Hornstrandir. The Hornstrandir area was the northernmost inhabited area in Iceland and lies just below the Arctic Circle. The area always had to rely more on marine resources than other places in Iceland and a large part of farm subsistence were sea birds, eggs and seals.

In the early 18th century there were 23 farms in the district with 11 farms abandoned and only 12 occupied. The church owned 14 farms and 9 were privately owned.

No fishing stations were in this district and that may have been because the southern part of Grunnavíkursveit consists of a small fjord systems, Jökulfirðir and it would have been far to row to the fishing grounds from this area. The northern part of the district is open to the Denmark Strait and almost every winter the drift ice gets land locked and during other seasons icebergs make sailing hazardous. It is likely that farmers from this area went to fishing stations in other districts during the fishing seasons.

The principal component analysis identifies in the first component, cows (.958) milk ewes (.928) and wethers (905) as the most important domestic animals. The Eigen values show that the first component explains about 59% of the data. This suggests that the main domestic animals in the early 18th century were equally cows, milk-ewes and wethers (Appendix 3.49).

As with Snæfjallaströnd the multivariate regression model for Grunnavíkursveit is unfortunately unusable as both F- and t-tests show a significance of 0.638 (Appendix 3.50). The same problem occurs with the regression model for fishing and both F and T-tests show a significance of .510 (Appendix 3.51). Driftwood and stranding do not register at all in the analysis of the data. This is probably because that there are too few farms that can be analyzed in the district and the numerical analysis used here works best with datasets over 20 variables. Even though Grunnavíkursveit had 23 farms, only 12 were occupied in the early 18th century and only domestic animals would have been registered on these farms.

Aðalvík

The Aðalvík district is situated on the northwest part of the Hornstrandir area, facing the Denmark Strait. The area is similar to Grunnavíkursveit with little agricultural land and a short growing season and therefore farmers in the area had to rely more on other sources than agriculture for income.

In the early 18th century there were 24 farms in the district, 8 were abandoned, 9 were owned by the church, 7 by the king and the remainder privately owned.

One fishing station was recorded in the district, Slétta and in the early 17th century no boats were fishing from this station but 6 booths were recorded suggesting at least 6 boats at earlier periods.

The principal component analysis identifies in the first component, milk ewes (.964), cows (.939) and wethers (.918) as the most important domestic animals. The Eigen values show that the first component explains about 59% of the data. This suggests that the main domestic animals in the early 18th century were equally cattle and sheep (Appendix 3.52).

The multivariate regression for Aðalvík excludes all animals except wethers. The R-square is .320 and both F- and T-tests show a significance of .002. This shows that only 32% of the variance in the y variable is explained with the x variable, suggesting that sheep farming was the most important part of the agriculture for farmers in the Aðalvík district (Appendix 3.53).

The multivariate regression for fishing in Aðalvík has an R-square of .618 and both F- and T-tests show a significance of .000. This shows that only 62% of the variance in the y variable is explained with the x variable. Suggesting that fishing was the most important

part of the economy for farmers in the Aðalvík district. As with the Grunnavíkur district, neither driftwood nor stranding register in the analysis (Appendix 3.54).

Trékyllisvíkurhreppur (Árneshreppur)

The district of Trékyllisvík, modern Árneshreppur, is the northernmost district of Strandasýsla. The district stretches over a geographically large area which offers good agricultural land in some places. However, the district is similar to the districts north of it, Grunnavíkursveit and Aðalvíkursveit, with long winters, short growing seasons and more focus on marine resources. Trékyllisvíkurhreppur is also one of the richest driftwood areas in Iceland.

In the early 18th century there were 30 farms in the district, 12 were owned by the king, 7 by the church and 11 were privately owned.

There were 3 fishing stations recorded in the 18th century in the district, Gjögur, Kjörsvogur and Reykjarfjörður, 8 boats at Gjögur, and 1 on each of the other. At Gjögur there were 6 booths recorded, and 1 at Reykjarfjörður. Prior to the 18th century there were 10 booths at Gjögur, 2 at Kjörsvogur and 1 at Reykjarfjörður.

The principal component analysis identifies in the first component, cows (.924), and milk ewes (.902) as the most important domestic animals. The Eigen values show that the first component explains about 30% of the data. This clearly suggests that the main domestic animals in the early 18th century were cows and milk ewes (Appendix 3.55).

The multivariate regression for Trékyllisvíkurhreppur excludes all animals except cows. The R-square is .238 and both F- and T-tests show a significance of .002. This shows that only 24% of the variance in the y variable is explained with the x variable,

suggesting that cattle and sheep farming was the most important part of the agriculture for farmers in the Trékyllisvíkur district (Appendix 3.56).

The multivariate regression for fishing in Trékyllisvíkurhreppur gives an R-square of .194 and both F- and T-tests show a significance of .015. This shows that 19% of the variance in the y variable is explained with the x variable, suggesting that fishing was equally important as agriculture for farmers in the Trékyllisvíkur district (Appendix 3.59).

The multivariate regression for driftwood in Trékyllisvíkurhreppur gives an R-square of .164 and both F- and T-tests show a significance of .026. This shows that 16% of the variance in the y variable is explained with the x variable, suggesting that driftwood was important for the farm economy in the Trékyllisvíkur district (Appendix 3.57).

The multivariate regression for stranding in Trékyllisvíkurhreppur gives an R-square of .159 and both F- and T-tests show a significance of .029. This shows that 16% of the variance in the y variable is explained with the x variable, suggesting that stranding was important for the farm economy in the Trékyllisvíkur district (Appendix 3.58).

It is clear that marine resources played the most important role in the economy of the Trékyllisvíkur district as fishing, driftwood and stranding add up to 51% while agriculture only adds to 24%.

Kaldrananeshreppur

South of Trékyllisvíkurhreppur lies the district of Kaldrananeshreppur and as Trékyllisvíkurhreppur it extends over a large geographical area. Most farms are situated

on the coastline with little agricultural land but there are areas such as Bjarnarfjörður that offer a fairly good agricultural possibility.

In the 18th century there were 26 farms, 9 were privately owned, 2 owned by the King and 5 by the Church. Two farms were abandoned, 24 were occupied and 1 farm is registered as an outlying farm.

There were 4 fishing stations recorded in the district, Skreflur, Búðarvogur, Drangsnæs and Eyjar. Three boats were stationed at Skreflur, 5 at Eyjar and 1 at Búðarvogur.

The principal component analysis identifies in the first component only milk ewes (.957) as the most important domestic animal. The Eigen values show that the first component explains about 35% of the data. This clearly suggests that the main domestic animal in the early 18th century were milk ewes (Appendix 3.60).

The multivariate regression for Kaldrananeshreppur excludes all animals except cows. The R-square is .451 and both F- and T-tests show a significance of .000. This shows that only 45% of the variance in the y variable is explained with the x variable, suggesting that cattle and sheep farming was the most important part of the agriculture for farmers in the Kaldrananæs district (Appendix 3.61).

The multivariate regression for fishing in Kaldrananeshreppur gives an R-square of .335 and both F- and T-tests show a significance of .002. This shows that 34% of the variance in the y variable is explained with the x variable, suggesting that fishing was almost as important part of the economy for farmers in the Kaldrananæs district (Appendix 3.64).

The multivariate regression for driftwood in Kaldrananeshreppur gives an R-square of .256 and both F- and T-tests show a significance of .008. This shows that 27% of the variance in the y variable is explained with the x variable, suggesting that driftwood was important for farm economy in the Kaldrananeshreppur district (Appendix 3.62).

The multivariate regression for stranding in Kaldrananeshreppur gives an R-square of .131 and both F- and T-tests show a significance of .069. This shows that 13% of the variance in the y variable is explained with the x variable, suggesting that stranding was important for farm economy in the Kaldrananeshreppur district (Appendix 3.63).

It is clear that marine resources played a major role in the economy of Kaldrananes and combined they add up to 60% of the farm value and agriculture is only about 40%.

Staðarhreppur

In the bottom of the Steingrímsfjörður fjord was the district Staðarhreppur and most of its farms were located in valleys extending towards the interior but a fair number were located on the coast.

In the 18th century there were 19 farms, 12 farms are owned by the church, 7 are privately owned in the district and all farms are occupied. No fishing stations were recorded in the district.

The principal component analysis identifies in the first component only cows (.954) as the most important domestic animal. The Eigen values show that the first component explains about 32% of the data. This clearly suggests that the main domestic animal in the early 18th century were cows (Appendix 3.65).

The multivariate regression for Staðarhreppur excludes all animals except milk ewes. The R-square is .318 and both F- and T-tests show a significance of .015. This shows that only 32% of the variance in the y variable is explained with the x variable, suggesting that cattle and sheep farming was the most important part of the agriculture for farmers in the Staðarhreppur district (Appendix 3.66).

The multivariate regression for fishing in Staðarhreppur gives an R-square of .096 and both F- and T-tests show a significance of .154. This shows that 10% of the variance in the y variable is explained with the x variable, suggesting that fishing was not an important part of the economy for the Staðarhreppur district (Appendix 3.69).

The multivariate regression for driftwood in Staðarhreppur gives an R-square of .247 and both F- and T-tests show a significance of .036 (Appendix 3.67). This shows that 25% of the variance in the y variable is explained with the x variable, suggesting that driftwood was important for farm economy in the Staðarhreppur district. In Staðarhreppur 60% of the farm value is estimated to be from marine resources, 32% are from agricultural resources and 8% from other resources, such as trout fishing, etc.

Tröllatunguhreppur

The Tröllatunguhreppur district lies on the south side of the Steingrímsfjörður fjord and the settlement developed along the coast and in two narrow valleys that extend inland, towards the south.

In the early 18th century there were 21 farms in the district, 3 were owned by the Church, 1 by the King and the remainder were privately owned. Of the total number of 21

farms 6 were abandoned at the time of the registry. No fishing stations were recorded in the district.

The principal component analysis identifies in the first component milk ewes (.984) and cows (.927) as the most important domestic animals. The Eigen values show that the first component explains about 45% of the data. This clearly suggests that the main domestic animal in the early 18th century were cows and milk ewes (Appendix 3.70).

The multivariate regression for Tröllatunguhreppur excludes all animals except milk ewes. The R-square is .528 and both F- and T-tests show a significance of .000. This shows that only 53% of the variance in the y variable is explained with the x variable, suggesting that cattle and sheep farming was the most important part of the agriculture for farmers in the Tröllatungu district (Appendix 3.71).

The multivariate regression for fishing in Tröllatunguhreppur gives an R-square of .347 and both F- and T-tests show a significance of .005. This shows that 35% of the variance in the y variable is explained with the x variable, suggesting that fishing was an important part of the economy for the district (Appendix 3.73).

The multivariate regression for driftwood in Tröllatunguhreppur gives an R-square of .336 and both F- and T-tests show a significance of .005. This shows that 34% of the variance in the y variable is explained with the x variable, suggesting that driftwood was important for farm economy in the district (Appendix 3.72).

The multivariate regression for stranding in Tröllatunguhreppur gives an R-square of .336 and both F- and T-tests show a significance of .005. This shows that 34% of the

variance in the y variable is explained with the x variable, suggesting that stranding was important for farm economy in the district.

Farm value for the district of Tröllatunguhreppur was estimated from stranding, driftwood, fishing and agriculture and as with other districts in the area the majority of income came from marine resources.

Bitruhreppur

The Bitruhreppur district lies on the south west side of Húnaflói bay, at the mouth of the Hrútafjörður fjord. As with Tröllatunguhreppur, the settlement developed along the coast and in the narrow valleys extending into the interior.

In the 18th century there were 27 farms in the district, 3 were owned by the church, 1 by the king and the remaining 22 were privately owned. Of the total number of farms 9 were abandoned. No fishing stations were recorded in the district.

The principal component analysis identifies in the first component milk ewes (.924) and cows (.930) as the most important domestic animals. The Eigen values show that the first component explains about 44% of the data. This clearly suggests that the main domestic animal in the early 18th century were cows and milk ewes (Appendix 3.74).

The multivariate regression for Bitruhreppur excludes all animals except milk ewes. The R-square is .189 and both F- and T-tests show a significance of .023. This shows that only 19% of the variance in the y variable is explained with the x variable, suggesting that cattle and sheep farming was the most important part of the agriculture for farmers in the Bitruhreppur district (Appendix 3.75).

The multivariate regression for fishing in Bitruhreppur gives an R-square of .225 and both F- and T-tests show a significance of .026. This shows that 23% of the variance in the y variable is explained with the x variable, suggesting that fishing was an important part of the economy for the district (Appendix 3.77).

The multivariate regression for driftwood in Bitruhreppur gives an R-square of .206 and both F- and T-tests show a significance of .017. This shows that 21% of the variance in the y variable is explained with the x variable, suggesting that driftwood was important for farm economy in the district (Appendix 3.76).

The multivariate regression for stranding in Bitruhreppur gives an R-square of .206 and both F- and T-tests show a significance of .017. This shows that 21% of the variance in the y variable is explained with the x variable, suggesting that stranding was important for farm economy in the district.

The farm values in Bitruhreppur district were primarily estimated from marine resources, fishing 29%, stranding and driftwood, each 21% and agriculture only about 19% of the farm value. All resources combined are about 90% of the estimated farm value.

Bæjarhreppur

Bæjarhreppur is the southernmost district in Strandasýsla and is located on the west part of the Hrútafjörður fjord. To the south it extends inland to the highest point of the Holtavörðuheidi heath.

In the 18th century there were 22 farms in the district, 6 were owned by the church, 2 by the king and the remaining were privately owned. Of the 22 farms in the district only 3

were abandoned. No fishing stations were recorded in the district but during the early Medieval period a trading place was at Borðeyri.

The principal component analysis identifies in the first component milk ewes (.954) and wethers (.934) as the most important domestic animals. The Eigen values show that the first component explains about 40% of the data. This clearly suggests that the main domestic animal in the early 18th century were wethers and milk ewes (Appendix 3.78).

The multivariate regression for Bæjarhreppur excludes all animals except milk ewes. The R-square is .372 and both F- and T-tests show a significance of .003. This shows that only 37% of the variance in the y variable is explained with the x variable, suggesting that cattle and sheep farming was the most important part of the agriculture for farmers in the Bæjarhreppur district (Appendix 3.79).

The multivariate regression for fishing in Bæjarhreppur gives an R-square of .225 and both F- and T-tests show a significance of .026. This shows that 23% of the variance in the y variable is explained with the x variable, suggesting that fishing was an important part of the economy for the district (Appendix 3.82).

The multivariate regression for driftwood in Bitruhreppur gives an R-square of .278 and both F- and T-tests show a significance of .012. This shows that 28% of the variance in the y variable is explained with the x variable, suggesting that driftwood was important for farm economy in the district (Appendix 3.80).

The multivariate regression for stranding in gives an R-square of .278 and both F- and T-tests show a significance of .012. This shows that 28% of the variance in the y variable

is explained with the x variable, suggesting that stranding was important for farm economy in the district (Appendix 3.81).

Both Bæjarhreppur and Bitruhreppur show similarities and farm values were primarily estimated from marine resources. In Bæjarhreppur fishing was 23%, stranding and driftwood, each 28% and agriculture only about 37% of the farm value. All resources combined are about 90% of the estimated farm value.

2.6 General Discussion

The statistical analysis focused on the numerical data in the registry of Árni Magnússon and Páll Vídalín in an attempt to understand the factors behind farm values in Strandasýsla and Ísafjarðarsýsla.

One of the main questions was to understand which of the variables in the registry, i.e. domestic animals, fishing, etc., have the largest effect on farm value, thus identifying the most important resource for income of farm economy in the early 18th century.

The results of this analysis show that different variables affect farm value but in general these are in Vestfirðir; agricultural resources and marine resources, which can be subdivided into four main groups; domestic animals, fish, driftwood and stranding. Two of the subcategories are identified on all farms, domestic animals and fish, but in different proportions, and they are the core economic subsistence units in the area. It is clear that the environmental setting for the districts in Vestfirðir play a major role in determining the composition of economic units within each district. In the whole of Strandasýsla marine resources, a combination of fish, driftwood and stranding are the main variables affecting farm value. A similar ratio between domestic animals, fishing, driftwood and stranding can be seen in all district, Trékyllisvíkur-, Kaldrananes-, Staðar-, Tröllatungu-,

Bitru- and Bæjarhreppum and in all cases the marine resources are the dominating resource. In Ísafjarðarsýsla a slightly different pattern emerges between resources as both stranding and driftwood are mostly absent from the area. The proportion between agricultural and marine resources are almost 50/50, with the agricultural portion only slightly higher (Map 24).

The most important agricultural region in Ísafjarðarsýsla is the area on the western coast of Ísafjarðarsýsla, which explains the higher proportion of agricultural than marine resources in the region. In Ísafjarðarsýsla, Öndarfjörður, Mýrþingsókn and Arnfjarðarströnd have the largest herd sizes, i.e. cows, milk ewes and wethers. This suggests that these are the richest agricultural districts and this is supported by the statistical analyses. The areas with the smallest herd sizes are Grunnavíkursveit, Aðalvíkursveit and Snæfjallaströnd. This suggests that these are the poorest agricultural districts and is again supported by the statistical analysis. But it has to be taken into account that only about half of the total number of farms in Grunnavíkursveit were occupied at the time (Maps 25, 29).

The districts that have the largest portion of fishing in Ísafjarðarsýsla are Dýrafjarðarhreppur, Ségandafjörður, Bolungarvíkurhreppur, Ögursveit, Vatnsfjarðarsveit and Aðalvíkursveit. The districts with the lowest proportion of fishing are Öndarfjörður, Langadalströnd, Arnfjarðarströnd, Mýrþingsókn, Skutulsfjörður and Grunnavík. It is interesting that the main agricultural districts, Öndarfjörður, Mýrþingsókn and Arnfjarðarströnd are among the lowest scoring even though some of these districts had large commercial fishing stations (Map 30).

Strandasýsla seems to be poorer in agricultural resources than Ísafjarðarsýsla and the districts with the largest herd sizes are Kaldrananes- and Bæjarhreppur, which is supported by the statistical analysis. The poorest commune in Strandasýsla seems to be the commune of Trékyllisvíkurhreppur. Compared with Ísfjarðarsýsla, Strandasýsla has a higher proportion of fishing as part of its general farm economy. The districts that have the highest percentage of fishing are Kaldrananes- and Tröllatunguhreppur and those that have the lowest are Staðarhreppur and Trékyllisvíkurhreppur (Map 30).

A very high proportion of driftwood and stranding in the farm economy seems to be found almost entirely in Strandasýsla. As regards the other areas it is only in Bolungarvík in Ísafjarðarsýsla that driftwood scores in any quantity. All other districts in Ísafjarðarsýsla either have little or no driftwood and stranding. The picture is reversed in Strandasýsla as all districts have driftwood and stranding to some degree. The highest ratio is in Bitru-, Kaldrananes- and Staðarhreppur districts and the lowest in Trékyllisvíkur- and Bæjarhreppur districts. This fits almost perfectly with the pattern where driftwood is found in the Vestfirðir region on the eastern part of the peninsula (Map 31).

Farms in Vestfirðir focus mostly on milk production and the statistical analyses support this. There is a slight difference between Strandasýsla and Ísafjarðarsýsla, which focuses slightly more on wool production than Strandasýsla.

The statistical analysis has identified the main subsistence economic units of the Vestfirðir regions and given a clearer understanding of the proportion between them. Farm values were still based on local resources to some degree in the 18th century and in Vestfirðir marine resources played the main role. However, the analysis has only

identified the subsistence units in the region but other no less important units can very well have played an important role in the original evaluation of a farm.

The statistical analysis has not been able to identify the proportion of commercial fishing stations in the economy of Vestfirðir. This is because the information regarding fish catches from these stations in the 18th century does not exist. It is safe to assume that these stations played an important role in farm economy of the region and supplied farmers with extra income and wealth.

Even though the analysis suggests strongly a marine based economy, there are some inconsistencies that need to be addressed. These inconsistencies are the fact that the local economy answers to about 70% of the total income of farms but there is still 30% missing. The value system was originally invented in the 11th and 12th centuries and even though it has remained relatively stable, the elements on which the system was based has gone through some changes by the early 18th century. Economic units that were originally used to calculate value for farms have changed or disappeared, such as pigs, iron, etc. Other factors that are not quantifiable, such as cultural values of the people, etc., may also be part of the value system.

Chapter 3

For decades Icelandic scholars have viewed fishing in Iceland from the beginning of the settlement to the 20th century, as an industry that remained relatively unchanged and stagnated. Except for brief periods of increased fishing, Icelanders used fish and fish products only as a mean for extra income in the agricultural society. Icelanders did not trade fish with foreign merchants in large quantities until the revolutionary changes in the late 19th and early 20th centuries took place (Gunnarsson, G., 1987, Jóhannsson, Þ., 1965, Jónsson, J., 1994, Karlsson, G., 2000, Kristjánsson, L., 1982, Sigrjónsson, A., 1975).

The majority of the existing written sources about early fishing in Iceland date to the 17th – 20th centuries (Ogilvie, A.E.J., 1997, Pálsson, G., 1991). At this time legislation limiting fishing had been passed by the Danish government. There were two main laws past in the early 17th century which had negative effect on Icelandic society; *Vistarbandið* (law of residency) whereby every work hand in the country had to be registered on a farm and could not leave or move without the consent of the landowner, *Einokun* (law of trade monopoly) which banned all trade with foreigners, except those approved by the Danish King. These laws were one of the factors that hindered the development of the industry as well as the Icelandic society in general and caused fishing to fall into decline and stagnation. Most scholars have used these sources to create a picture of the development of fishing from the beginning of the settlement to the present day. The question here is whether it is feasible to use these sources as an attempt to create a credible model of the fishing prior to the 17th century and if it is possible, to identify which part of the sources are the most reliable for reconstructing earlier events. Societies are dynamic and rapidly change and it is therefore difficult to use younger sources to

understand earlier periods. Furthermore, written documents often show us an extremely limited view and are more the opinion of a single individual and what was important at the time of writing for that particular individual.

Ethnographers, and, in some cases, historians often mix together different practices and information from different time periods, i.e. creating a timeless view of a society over a long period of time. Fishing in Iceland is one of these practices that has been labeled, unknowingly, timeless. Ethnographers and historians have recorded fishing stations in Iceland without any thought to development and change, all stations are recorded as they existed in the same place at the same time for centuries (Kristjánsson, L., 1982, Descola, P., Pálsson, G., 1996, Pálsson, G., 1996). Archaeological research for this work actually shows that very few stations have existed from the beginning of the settlement and in Vestfirðir it is possible that only one station dates from the earliest settlement of the peninsula

The society in the 17th – 20th centuries is a result of prior changes, whether these changes are caused by political decisions or environmental factors. This is the best recorded period in Icelandic history and has well been researched by Icelandic scholars. It is, however, important to draw a clear picture of the society in the early 18th century in order to understand the structure of the Icelandic economy and society of earlier periods but the written sources have to be examined with caution.

The sources that probably are the most important are not the writings of individual 19th – 20th century historians, but various registers, census records and other sources that give us economical values that can be statistically analyzed and compared to the

archaeological record. Historical writings are often biased and are the interpretation of a single individual and rarely give accurate information and are frequently misinterpreted.

3.1 Older Models for the development of fishing in Iceland.

In the 20th century, fishing became the dominant economic activity in Iceland and until the 1980s it provided up to 70% of the national income. Today it is a little less or about 30 – 50% of the national income. The change from an agricultural society to a society that based its income primarily on fishing was the result of technological changes within the fishing industry in the late 19th century. Iceland has few natural resources that can be exported on a large scale. The written sources suggest that during the Viking period and early Middle Ages, Iceland exported wool and other agricultural products but in the late Middle Ages the demand for fish in Europe (i.e., cured fish) increased, and fish became one of the major export items in the period from AD 1250-1500. Technological advances in the 13th and 14th centuries brought about the development of ships that could transport fish on a larger scale than had previously been possible (Crumlin-Pedersen, O., 1997, Nedkvinte, A., 1983, Nash, E.G., 1995).

For a long time scholars have held a general idea on the importance of fishing in Iceland, and this view has remained unchanged for decades. This idea is that agriculture was the major industry from the settlement period (AD 900) until the mid 13th century, and fishing was only a means for extra income for the farms. From the 13th century and until the early 16th century the export of fish gradually increased because foreign merchants began sailing to Iceland looking to buy fish products. This increase caused people to move to the shoreline to take part in this growing industry. At this period there seems to have been a lot of poor and landless people that saw this as an opportunity to

gain income. However, there seems not to have been enough surplus population because this caused a decline in the agricultural industry of the period as farmers lost many of their farmhands to the growing fishing industry. Shortly after 1400 plagues and famines caused major decline in population and farmland became available for the poor and landless. People moved again from the shoreline to abandoned farms inland and fishing went into decline (Júlíusson, Á.D., 1996, 1994). In the 16th and early 17th century the fishing industry increased again but shortly before the end of the 17th century it fell into decline and did not begin to grow again until the late 19th century (Jóhannesson, Þ., 1965, Gunnlaugsson, G. Á., 1997).

Behind this idea lies the assumption that the society all over Iceland was based only on agriculture and that there were no real differences in income between regions. It furthermore states that Icelanders in general preferred agriculture over fishing and when land became available they abandoned fishing for farming.

It cannot be denied that fishing in open boats in the North Atlantic is much more hazardous than farming and many would have preferred to farm than fish. However, agriculture is not feasible everywhere in the country and in some cases it could not sustain whole households on its own. Fishing was therefore a major economic factor for subsistence in the Icelandic agricultural society of the Middle ages. In the late Middle ages it became more important, both socially and politically than before, and remained so at least until the early 17th century.

Farming is generally viewed as the default setting for the Medieval society in Iceland and elsewhere, but the question is if that was the case everywhere. Regions offer different access to agricultural land and in some cases farmers would have had to rely on other

sources for main income than agriculture. However, all farms, whether based primarily on fishing or animal husbandry, had to have some domestic animals for basic subsistence.

The hazards involved in fishing are generally thought to have been an issue when it comes to comparing fishing and agriculture, thus favoring agriculture. It is true that fishing in open boats had its dangers but it cannot be forgotten that farming in a society that was environmentally on the fringe offers other types of dangers that could be just as hazardous for the ordinary farmer. A farmer that only relied on agriculture as his or hers income could lose all the livestock in a bad winter. A successful farmer would without a doubt have to be flexible and have access to different sources of income.

This brings us to the issue of economic structure of the Icelandic medieval society. Land ownership has always been measured as the main source of wealth for the Icelandic medieval farmer (Jóhannesson, J., 1952, Karlsson, G., 2000, Sigurðsson, J. V., 1999, Sigrjónsson, A., 1975). A landowner having only tenants on agricultural land would be very vulnerable to environmental changes and market changes. Such a landowner would have nothing to fall back on if the environment caused agricultural disasters or the market for his agricultural products crashed. It is likely that any landowner would have tried to gain access to farms with different source of income and thus making his tenants specialize in different industries, i.e. a tenant having access to rich bog iron would specialize in the production of iron, another, close to rich fishing grounds would specialize in fishing and the production of stockfish and another would specialize in harvesting driftwood. A landowner in such a position had a flexible economy, making it possible for him to shift between different incomes during hard times and he was also in great position to gather wealth and power.

The picture of the economy of the medieval Icelandic farm is very much skewed as too much emphasis is laid on the ownership of land without a thought to what actually lies behind the term. The reason is simply that research in Iceland tends to be elitist, i.e. with a focus on examining the elite of society and transforming that model over all farmers in the country. The tenant farmer and the poor farmer are in most cases kept out of the research but the truth is that it was probably these farmers that made the wheels of society turning.

Recent archaeological work has shown that in the early modern period diminished flexibility for Icelandic farmers was caused by climatic fluctuation affecting both the agricultural and fishing industry (Dugmore, A., et al. 2007a, 2007b, 2007c, Ogilvie, A.E.J., 1997, 2008). The period also saw political decisions affecting trade, restricting trading possibilities of Icelandic farmers. The Danish King also becomes the largest owner of land in the country and many of the largest fishing stations, driftwood farms, etc., fall under his ownership. All these causes combined made it almost impossible for the Icelandic farmer to shift between different incomes and get a fair price for his products. The resources are no longer used to fuel Icelandic society but disappear into the treasury of the Danish crown. From 1500 onwards all the rich families lose large portions of the wealth and in some cases they disappear from history (Sigrjónsson, A., 1975, Júlíusson, Á.D. 1996, Gunnarsson, G., 1987).

It is extremely difficult to get a clear picture of Icelandic economy and society before the 18th century. The reason for this is partially because the written sources are few and give us a one-sided view of the economy. It is nearly impossible to detect any clear evidence for economic regional differences. Archaeology would be of great help but

unfortunately too few sites have been excavated with this in mind, and those that have are mostly sites that belonged to the upper classes of the society. However, in the last decade archaeologists have begun paying more attention to different sites and the results are most promising.

The pattern presented here, which has been generally presented by both historians, ethnographers, and archaeologists alike, has encouraged the belief that the entire Icelandic society was based solely on agriculture and that there were no real differences in income between regions. It furthermore suggests that Icelanders in general preferred agriculture over fishing and when land became available they abandoned fishing for farming.

3.2 Evidence for fishing in the written sources

The earliest written sources on fishing date to the 13th century (Ísl.sög.I). These sources describe events that took place at least 200-300 years earlier. There are no contemporary written sources from the 10th and 11th centuries referring to fishing or fishing stations in Iceland and all data on fishing from this early period come primarily from archaeological sources. However, it is important not to omit the 13th century sources in the study of fishing in Iceland as they may provide important clues regarding fishing in the earlier periods as they were written closer to that period than we are today.

The Book of Settlements, *Landnámabók*, has recently come under criticism and scholars have stated that it actually gives a wrong impression of the settlement of the country (Vésteinsson O., et al. 2007., Vésteinson, O., 1995). The Book of Settlements rarely mentions fishing and only once does it refer to a fishing station of any kind. Þuríður sundafyllir is mentioned as the settler of Bolungarvík in Vestfirðir who

established a fishing station on her settlement. She located rich fishing grounds close to this fishing station and collected tolls from anyone who wanted to fish from her station (Ísl.sög. I, 109). This reference suggests that this particular settler came to Iceland with a pre-conceived idea as to the type of a place on which to settle and in this case, the marine resources were the ruling factor in settlement choice, not agriculture. This statement is also interesting in the light of where she actually came from according to the sources. She was from Hálogaland in Norway where the coastal areas are similar to the Northwest.

The Icelandic Sagas also refer to fishing and fishing sites on a number of occasions. For instance, the above-mentioned fishing station in Bolungarvík can be found in *Fóstbræðra Saga* (Ísl.sög. V., 249). *Eyrbyggja Saga* describes a storage space for dried fish at a certain farm and further explains that the fish was stacked so high that it filled the entire storage space, making it nearly impossible to open the door (Ísl.sög. III., 146). Fishing is mentioned in the majority of the Sagas and it is very clear from these sources that fishing was an important part of the early Viking/Medieval farm economy. These references, however, only mention fishing sites when they are important to the plot of the story and there is little or nothing that can help in understanding the fishing industry in detail at this early period.

The compilation known as *Sturlunga Saga* was written in the 13th century and describes events contemporaneous to that period. In general it discusses the struggle for power between certain families in Iceland. One part of the story is about a feud between two chieftains, Þorgils and Hafliði, and it is in this source that the first real clues appear regarding the role of fishing in the medieval economy. It is quite clear from this story that marine products were an important part of the farm economy and the means for extra

income for chieftains. It may also indicate a possibility for poorer individuals to be a part of the fishing industry and to earn income for themselves (Sturl.Saga I., 17).

Only one Saga suggests export of dried fish prior to the 13th century (Ísl.Sög. VII., 307). This reference actually shows the presence of early trading with dried fish and suggests that it was commonplace at least in the 12th and 13th centuries. It is impossible to determine from the historical sources if the early fish trade was on a large or small scale but further archaeological work on this subject could shed more light on this problem (Barrett, J. R., Nicholson, R., Cerron-Carrasco, 1997, Barrett, J. H., Locker, A. M., Roberts, C. M., 2004). The historical sources show an increase in the fish trade from the 14th – 16th centuries and that can directly be linked to the appearance of larger and more sturdier ships. Prior to the appearance of these large ocean-going vessels the main trading ship of the North Atlantic was the *Knörr*, which was in fact designed exactly for the purpose of trade in the whole of the North Atlantic. Archaeological research on these boat types have shown that the *Knörr* was capable of carrying any type of cargo but only in less quantities than later boat types (Crumlin-Pedersen, O., 1989, 1997).

The number of references to fishing and fishing stations in the written records increases after AD 1300 (Magnússon, Á., Vídalín, P., 1940, D.I., I., II., XV.) These sources mostly refer to tolls that each fisherman was supposed to pay for fishing at a particular station and neither discusses the structure of the fishing industry nor provides any idea of which species of fish were caught at the stations in question. This makes it nearly impossible to understand from the written sources the role of fishing in the economy of Iceland. However, it is clear from these sources that *skreið* (dried fish) becomes one of the major export items sometime in the 13th century and remained so, at least until the 15th century.

In the period between AD 1200 and 1400, prices for *skreið* increased steadily and became the most valuable export item (DI.VI., 16). The number of merchant ships similarly increased at this period and reached its peak in the period between AD 1340-1347, when a total of 12 merchant ships sailed to Iceland annually to trade (DI.II, 497).

The cargo capacity of the Viking age ships were no more than 60 tons, which meant that dried fish could only be transported in small quantities. However, later ship types had a cargo capacity up to 250 tons and it is probable that the merchant ships sailing to Iceland in the mid 14th century are of this size. This change in size had a dramatic change for the transportation of goods, especially fish products, as they could now be exported on a large scale .

3.3. 18th Century Society and Farm Economy

The 17th and early 18th century saw the beginning of economic and social decline that was to increase during the 18th century (Gunnlaugsson, G.Á., 1997). No one factor contributed to this decline and it was various different things that caused this to happen. The most important factors where probably political and environmental. The political factors are without a doubt the new harsh legislation in the early 17th century that strangled free trade and also the legislation that forced every person to be registered at a farm and banned movement between districts.

It is recorded in annals from the 17th century that fish catches in different areas, both in the Breiðafjörður and around the Northwest, were a lot less in the mid- to late 17th century than during earlier periods. The fish catch of the fishermen in Bjarneyjar in the fjord of Breiðafjörður, during the fishing season in 1690, was so poor that they could not sell any to foreign merchants. Previously fishermen from Bjarneyjar had caught so much

fish that they had to give a portion of their catch to foreign merchants so the fish would not spoil. Similar stories emerge from the Northwest at the same time (Ogilvie, A.E.J., 1982).

From these annals it is possible to speculate that in the late 17th century sea temperatures had dropped dramatically causing the cod to migrate further south and that would explain why the fish catch during the 1690 fishing season was so poor in the Northwest of Iceland. The migration of cod is well researched in modern Iceland and the data suggests that cod is extremely sensitive to temperature changes. In addition to harsh social conditions, Icelandic small farmers were also confronted by changing climate and geomorphologic challenges to agriculture (Ogilvie, A.E.J., 1984). Three well-dated sea cores taken just off shore from central Árneshreppur by teams led by John Andrews and Anne Jennings (INSTAAR, University of Colorado) support other paleoclimate evidence in indicating a prolonged cold interval in this district from AD 1650-1920, based on carbonate accumulation and stable isotopic variations from benthic foraminifera (Andrews pers com 2003, Jennings et al 2001a, 2001b, Jensen et al. 2004).

By the 18th century erosion had also seriously begun to affect farmland all over the country. As both the brief *Jarðabók* notices and the longer accounts in the annual sheriff's letters of the 17th-18th c indicate, pastures and sometimes entire farmsteads were being lost to rapid wind erosion, destabilization of slopes, and sudden hydrological changes in river and stream regimes: landslides, floods, and denuded pastures are common complaints in most of the quarters of Iceland (Ogilvie, A.E.J., 1984, 2001, 2008). Many scholars somewhat devalue the accounts of property damage in the land registries from the 18th century as they suspect that the farmers were complaining

and not giving an accurate description of their farmland because the registry was to be used for tax purposes. While farmers and tenants certainly had an incentive to stress any factors likely to reduce taxes, a range of paleoenvironmental studies indicate that adverse landscape changes were indeed widespread and that cooling climate did reduce pasture productivity and the amount of winter fodder that could be secured. Vestfirðir was also affected by sea ice in both winter and (in many years of the 18th century) in summer as well (Ogilvie, A.E.J and Jónsdóttir, I., 2000). Both the documentary and paleoenvironmental record starkly reveal the host of challenges facing small farmers in 18th century Vestfirðir; the coping strategies they employed to survive are less well understood.

In addition to the deteriorating climate the government made political and social decisions that probably were just as important in the social and economical decline of the 18th century. In 1610 a law was passed that banned people to move to the shore (*vistarbandið*), especially to the fishing stations. From this time onwards every worker had to be registered at a farm and was not allowed to move unless he or she got permission from the farm owner.

In 1610 the government banned free trading with foreign merchants and from this time anyone who wanted to trade had to go to certain trading posts and only trade with merchants that had a license to trade in Iceland (*Skarðsárannáll* page number?).

It is no doubt that these two decisions were a major disaster for the Icelandic society, especially at a time when climatic changes should have forced the governing elite to turn to new managing strategies both in agriculture and other industries.

The *vistarbandið* gave farmers full control over their worker force and in truth enslaved all workers in Iceland. Icelandic workers ceased completely to exist as a free workforce and became slaves of the agricultural elite. They received almost no wages, and in truth their lives depended completely on their employer.

The monopoly forced farmers to trade at certain trading posts, which were few and far between. It also caused prices to be fixed and farmers would get much less for their merchandize than they previously had. This was a major disaster for an area like the Northwest, which based most of its income from trading with fish, liver oil and other marine resources. Large areas in the Northwest found it increasingly difficult to trade as most of the trading posts were so far away that it was not worth while to go there. The trip would take days, even weeks, and over difficult and often life-threatening areas. The main result of this was that many farmers did not trade at all and only went to the trading posts when they had to. Most farms in the Northwest became after this period subsistence farms surviving on little livestock and local resources. Some farmers would continue to trade illegally with foreigners but instead of merchants they traded with foreign whaling and fishing ships (*Alþingisbækur*, 1914-1934).

The combination of environmental changes and bad political decisions caused a general stagnation and decline in Icelandic society. Some areas were hit harder than others and one of them was the Northwest of Iceland. The political decisions were in favor of agriculture and in the Northwest agriculture alone could not sustain the local population. The combination of bad political decisions with environmental changes proved disastrous for the Northwest. Thus, after the mid 17th century, the Northwest gradually became the poorest part of the country as farmers struggled to survive on agriculture in an area that

had flourished economically at earlier periods because of fishing and the trade with marine resources.

Both rich and poor farmers in the Northwest experienced difficult times as the environment became less favorable and the economical base crumbled. The poorest farmers in the Northwest were hardest hit, however, and the richer farmers in the area still managed to maintain a decent income in spite of difficulties.

In the 17th and 18th centuries Icelandic society was under a firm control of the upper classes, i.e. the agricultural elite. The status of the poorest classes had been reduced to a status of slaves, with no chance of income to support their families, nor any chance of acquiring cash to buy farmland. The only chance they had to acquire a land was if a famine killed enough people, making farmland again available (Júliusson, Á.D., 1996).

In the Northwest of Iceland many households did not have enough arable land nor enough domestic animals to maintain the household. Most of the poorest farmers were far below the poverty limit and were living on the edge of starvation. At the same time the richer landowners had enough income to gain extra cash to buy luxury items.

In the 18th century 29 farms are recorded in the Árni Magnússon land register in district of Árneshreppur, which is situated in Strandasýsla in the Northwest of Iceland. Of the total 29 farms, 5 were not occupied at the time. The church owned 7 farms, the King 13, and 9 farms were privately owned (Á.M.VII, 1940). Prior to the 15th century the King did not own any farms in the district and most farms were privately owned, except for few farms belonging to the Church.

The land register allows some broad inter-regional comparisons of prevailing stock raising practices. table (1) compares the records for the main domestic animals (milk cows, milking ewes, wethers) and the number of these per farm from three districts Árneshreppur (NW), Reykjahlíðar (NE- valley near sea level), and Mývatn (NE- inland higher altitude). It seems clear that while all three districts kept the same mix of stock, both absolute numbers of animals per farm and the proportion of stock maintained differ across 18th century northern Iceland.

Table 3	Mývatn. 1712	Reykjahlíðar.1712	Árnes. 1706
Farms	18	61	35
Milking Cows	66	199	50
Milk ewes	962	2323	322
wether/old wether	680	1532	132
total	1708	4054	504
Major stock per farm	95	66	14

Table 3. Domestic animals in Mývatn, Reykjahlíðar and Árneshreppur.

Not only do the farms in the Northwest keep far fewer domestic animals, but their mix is tilted much more heavily towards food production rather than wool production, with a proportionally higher percentage of milk cows and milking ewes relative to wethers. Sturla Friðriksson estimated that under conditions of traditional Icelandic agriculture (before the mid-19th century) it took the product of 9 ewes to sustain one adult, with 6 ewes equaling one cow (Friðriksson, S., 1972). If we use these figures as a rough guide, it is possible to show that in the Árnes district the total number of animals could not possibly sustain the number of people actually living on the farms in 1706, but the number of domestic animals in the Mývatn and Reykjahlíðar districts should have been able to sustain the number of people that were living in the area in 1712.

Further analysis (see previous chapter) indicates that only about 26 – 30 % of income for farms in Árnes in 1706 were based on agriculture while the ratio is much higher for Mývatn- and Reykjahlíðar districts, about 70% in 1712. These analyses indicate that the people of Árnes district in the early 18th century could not live on agriculture alone and must have based their income on resources not fully quantified in the land registry or any other historical source.

The Jarðabók entry reveals some patterns common to much of 18th century Iceland. A complex pattern of absentee land ownership was not unusual, in this case a four-tiered structure extending from the actual occupants up to the King of Denmark, with a local farmer (Jón Magnússon from Reykjanes), providing oversight within the hreppur. Multiple tenant households within the same farm were also common in this period, with up to four sharing the same holding (not necessarily all occupying the same structure).

At the farm Finnbogastaðir in the Árneshreppur (Map 32) district there were two tenant households in the late fall of 1706. These households were clearly of different economic (and probably social) status. The larger household was of Sr. Bjarni Guðmundsson, the local Lutheran minister. The Reverend Bjarni maintained four servants (both male and female) as well as his wife and four children (it was not uncommon for poor tenants to have still more impoverished landless servants living in their households). Reverend Bjarni had a mix of milk cows, wethers, milk ewes, and two horses as well as younger cattle and sheep apparently being maintained over the winter with an eye to stock renewal. He also owned some additional stock maintained at the nearby church farm Árnes. The smaller household was that of Brandur Björnsson, who had only his wife and six children to support, but who also only had a single cow and five

milk ewes. If we apply the Friðriksson provisioning formulae, both households appear to have had a provisioning shortfall: Sr. Bjarni had approximately 5.3 human rations to maintain his ten household members while Brandur had only 1.1 human rations to feed his family of eight. The households of early 18th century Finnbogastaðir, like the great majority of their contemporaries in Vestfirðir, must have relied on other resources to maintain bare subsistence. We are informed that seal hunting is sometimes successful and that both households have access to boats for fishing, but the register typically makes no attempt to quantify non-agricultural production.

By the 18th century most Icelanders were tenant farmers, and many were extremely poor by any measure. The households of Sr. Bjarni and Brandur at Finnbogastaðir in 1706 may have represented two ends of a spectrum of relative wealth, education, and access to the wider world of enlightenment Europe, but both were certainly poor and struggling tenants. However, the two households on the Finnbogastaðir farm in the fall of 1706 (18 people in all sharing the same small site) were by no means the poorest of the poor. These were the landless paupers and sporadically employed migrant farmhands who caused such official concern and inspired often draconian legislation aimed at controlling the potentially dangerous wandering poor (who tended to have the highest mortality during times of famine, (Vasey, D.E., 2001). Most tenant farmers had single year leases, and would frequently move between farms (either voluntarily or driven by eviction). When a farmer moved a specified number of cows and sheep stayed at the farm for the next tenant, along with any improvements to farm buildings, pastures, or other immovable property. Tenants were formally required to maintain houses, fences, and farm buildings at their own expense. However, maintenance of structures on farms

became a problem after 1700 because tenants moved so frequently that they considered it a waste of time and energy to rebuild farm buildings they could never own and would only briefly inhabit. Only minimum repairs were made to turf structures (which require annual maintenance and large scale rebuilding every 25-30 years), which caused many farms to become increasingly neglected and fall into ruin, prompting negative comments from Danish officials and improving great farmers (Hastrup, K 1997, Durrenberger, E.P., Pálsson, G., 1989). Many tenant farmers in Iceland had to fulfill certain duties in addition to rent payments (usually in made in money and in kind, as at Finnbogastaðir) including different forms of labor service (Sr. Bjarni and Brandur were fortunate to escape these requirements at Finnbogastaðir). In the Vestfirðir, tenants often had to man boats that belonged to the owner of the farm. In other places there were ferry duties, or other required services. Failure to meet all obligations of rent and service led to eviction, which usually resulted in the breakup of the household if not starvation.

By the 18th century, tenant households needed to produce cash (or its equivalent in store credit) as well as food in order to survive. Rent payments often required money as well as butter (as at Finnbogastaðir), and the small collection of imported ceramics and single kaolin pipe fragments recovered in the 1990 excavation suggest the occasional purchase of the imported luxuries so regularly denounced (as unsuitable for the poor) in contemporary sermons. Woolen clothing and bedding were also household requirements that may not have been met by local production. Several 18th century sources (esp. Skúli Magnússon (1784)) allowed a rough calculation of the amount of wool needed to provide for the needs of an individual and many sources provide closely comparable estimates of the washed clip of Icelandic sheep (Orri Vésteinsson pers com 2003). While such

calculations cannot be precise, a comparison of the estimated household woolen requirements vrs probable production provides some grounds for assessing the situation of the 18th century households at Finnbogastaðir (table 4).

Finnbogastaðir				
Household	Sheep fleeces needed for household consumption	wethers	ewes	total adult sheep
Sr. Bjarni	48	21	24	45
Brandur	38.4		5	5

Table 4. Comparision between household woolen requirements at Finnbogastaðir.

From the standpoint of a tenant farmer in 18th century Northwest Iceland, many agricultural practices advocated by enlightenment improvers (drainage ditching, field flattening, intensive manuring, more elaborate hay storage facilities) were complete wastes of scarce time and energy. Not only would most of the improvements serve to enrich the landlord (and probably generate a rent increase for the tenant) but their benefits would almost certainly be lost to the improving tenant due to eviction within a year or two. In addition, steadily worsening environmental conditions in Vestfirðir and widespread loss of pasture area and reduction of pasture productivity was increasingly making agricultural intensification a losing proposition for all but the richest farmsteads in the most protected locations. Instead of putting more effort into agriculture, Vestfirðir tenant households would have been better served by an intensification of exploitation of wild resources, especially fish. In the Árnes area most farms had access to abundant driftwood and stranding and some had access to salmon and trout rivers. However, as the Finnbogastaðir Jarðabók entry above indicates, by the 18th century most of these access rights had been acquired by a variety of distant secular and ecclesiastical land owners.

On the western side of the Vestfirðir peninsula, at the entrance to the Ísafjarðardjúp is the district of Bolungarvík (Map 33). In the 18th century there were 24 farms in the district and 8 of them were outlying farms. Of the total number 12 farms were owned by one family and they lived on the main farm Hóll. The main farmer at Hóll also owned and controlled the largest fishing station in the Northwest of Iceland.

The situation in Bolungarvíkurhreppur is in stark contrast with the Árnes district. The farm economy in Bolungarvík seems to be more focused on cattle farming than sheep farming. This could be explained by the geography of the district as there were almost no summer pastures for sheep while there were good grazing pastures for cattle.

The most interesting economic element in the Bolungarvík district is that more than half of the farms occupied in the 18th century were owned by one farmer or his family. This farmer, Sæmundur Magnússon, lived on his main farm Hóll and owned 3 outlying farms. His son, Sigmundur Sæmundsson who also lived on Hóll owned two main farms in the district Meirihlíð and Minnihlíð and two outlying farms. Furthermore, he owned half of another main farm Tunga. They also owned 4 more outlying farms which were abandoned in the early 18th century because of a smallpox epidemic. Of the total 22 farms in the Bolungarvík district the family at Hóll owned 12 or about 50% of all farms.

With the ownership of so many farms Sæmundur Magnússon and his family at Hóll owned completely or partially about 25 – 50% of all domestic animals in the Bolungarvík district. Of the most important domestic animals, cows, heifers, bulls, milk ewes and wethers they owned 40 – 60% of the total number in the district. Furthermore, the main fishing station in Bolungarvík was situated on their land and gave them control over the richest fishing grounds in Vestfirðir. The registry does not mention any boats owned by

the farmer at Hóll but all the tenant farmers had duties to row on the boats of Sæmundur Magnússon which suggests that he actually owned fishing boats but for some reason fails to mention it in the registry.

The Bolungarvík district shows a clear difference from the Árneshreppur district. The district is firmly in the control of one person and all the economic factors were either owned or controlled by that farmer. Sæmundur Magnússon was a rich landowner and the Bolungarvíkur district was his domain, controlled and looked after by himself or his family members. In reality Sæmundur Magnússon was a chieftain and Bolungarvík was his chiefdom. Sæmundur Magnússon represents the elite of Icelandic society and his subsistence economy was based on cattle farming but most of his extra income came from his fishing station.

The Hóll family had already lived on the farm for some time prior to the Árni Magnússon registry and managed to keep ownership over the economic resources. Neither the Danish king nor the church owned any farms in the Bolungarvík district and received only taxes and tithe from the district.

3.4. The 18th Century Fishing and Fishing Communities

During the 17th century the nature of fishing in Iceland changed from what it had been in earlier periods. Instead of being a mix of subsistence fishing and fishing for a market it became almost entirely subsistence fishing. In very few areas in Iceland the focus was still on fishing for export but in the most of the Northwest fishing became mostly subsistence fishing. However, there continued to be a difference between districts in the Northwest but in general most farmers focused primarily on subsistence fishing, with

most of their catch for domestic use and only a small portion would have been sold at markets.

The land registry of the early 18th century records a number of fishing sites in both Ísafjarðarsýsla and Strandasýsla. Most of these were *heimræði* (home base) but a number of them were fishing stations (*Útver, blandað ver*) where farmers and farm workers would gather during the fishing season. The most common boat in use in the area at the time was a small boat with a crew of seven. However, larger boats were known in the Northwest. A boat with 8 oars and a crew of 9 was primarily used for shark fishing.

In Ísafjarðarsýsla there were 27 stations that can accurately be classified as fishing stations and had been occupied prior to AD 1700. In the early 17th century 7 were abandoned, about 26%, and most of them were only a shadow of what they had been at earlier times (Á.M. VII.).

In the early 18th century approximately 85 boats and 592 sailors are recorded on the fishing stations in Ísafjarðarsýsla. The land register also records the number of boats stationed at each fishing station before 1700. According to the register 168 boats and 1156 sailors were stationed at these fishing stations during the fishing seasons prior to 1700. This shows that in general there has been about 50 – 51% decrease in number of sailors and boats at the fishing stations in Ísafjarðarsýsla from 1600 – 1700 (Á.M VII.).

A similar story emerges from Strandasýsla where 104 boats are recorded in the district after 1700 and 199 prior to the 18th century. In Strandasýsla 133 fishermen are recorded after 1700 and 217 before that period. Only 7 fishing sites are recorded in the Strandasýsla district that can be classified as fishing stations (Amundsen, C., et al. 2005). In Strandasýsla 1 station, Akurvík, is not mentioned in the land register and was found

during an archaeological survey in 1990 (Amarosi, T, et al., 1982, Amundsen, C., et al. 2005). Of the total 8 stations in the district, 2 had already been abandoned or 28%. As in Ísafjarðarsýsla the decrease in number of boats and fishermen is close to 50%. The decrease in boats and fishermen is 40% of what it had been earlier.

It is interesting to note that there are far fewer stations in Strandasýsla than in Ísafjarðarsýsla. The reason for this may well be that Ísafjarðarsýsla is a bit larger than Strandasýsla and therefore there are fewer possibilities for a good location in the latter. This may also be the result of a specialization within the fishing industry, fishermen in the Strandasýsla focusing on a different species than the fishermen in Ísafjarðarsýsla.

By analyzing the land-registry data with statistical methods it is possible to gain some understanding of the nature of fishing and fishing communities in the Northwest in the beginning of the 18th century. A picture emerges of both poor and richer farmers who show different management strategies.

In the 18th century the poorer farmer Brandur at Finnbogastaðir in Strandasýsla had a small boat which he used for inshore fishing “when he could”. The richer occupant of the farm. Reverend Bjarni owned several boats. One boat was used for fishing from the farm itself for domestic use, another specialized in shark fishing at the Gjögur *verstöð* and Sr. Bjarni also owned part in a third boat which was also used for shark fishing. This suggests that one of the Finnbogastaðir farmers was mainly subsistence fishing while the other was fishing on a larger scale, both for commercial and domestic consumption. The farmer at Reykjanes and primary tenant of Finnbogastaðir and other local farms, Jón Magnússon, owned three boats and a part in other boats on different farms. In total he owned 7 boats. Two of his boats were used for shark fishing and one for general fishing.

He also received a portion of the catch from the boats that he owned with other farmers. Most farmers in the Árnes district were fishing for subsistence but the three richest were also fishing for commercial purposes, and access to boats and *verstöð* stations (along with rent income and labor service) were clearly key elements in the strategies of these (still rather poor) local magnates.

The 18th century land registry also suggests that some form of specialization was taking place in the fishing industry in Strandasýsla. Many farmers in the Árnes district owned boats that were specially outfitted for shark fishing. At the Gjögur fishing station 9 boats were stationed there in 1706, six of them were outfitted for shark fishing and 3 for general fishing (Á.M., VII.). Three of the farmers fishing from Gjögur were not local farmers. Two of them came from the Kaldrananes district and one from another district further away. These farmers were at Gjögur for shark fishing or deep water fishing as their farms were probably located too far from deep water fishing grounds. This indicates that the fishing industry in the area was more aimed at shark fishing and that the *verstöð* at Gjögur was specialized in shark fishing with cod fishing playing a lesser role. The specialization of *verstöðvar* (pl) is an important question. There is a strong possibility that the location of a *verstöð* in the landscape was the result of what species fishermen intended to catch from that particular site.

From the historical data we can draw some conclusions about the early 18th century economy of the area. While the traditional domestic stock still played a role in subsistence, and rents were still partly paid in butter, it is clear from both the zooarchaeology and a close reading of the available documents that the most important species for most of the people of the Árnes district were cod and shark with agriculture

playing a lesser role. As the statistical analyses of the *Jarðabók* register demonstrate, poor tenants (like Brandur and his family) were very dependent upon marine resources to support their families and to buy necessities they could not produce themselves while at the same time they were largely restricted to fishing from scattered *heimræði* or as crewmen in boats owned by others. Middling tenants like Reverend Bjarni had more options open, both in terms of stock raising and in the ability to access larger boats, operating from better fishing locations. The three richest farmers (like Jón) were in some ways mini-entrepreneurs, owning many boats and shares in others. These greater farmers thus had a wider social niche breadth and were participating in both inshore fishing, taking smaller-sized cod species, and offshore fishing, taking larger-sized cod and shark. They would have had enough surplus products to trade with other farmers or to sell at markets, acquiring the imported tableware, tobacco, and other minor luxuries documented by the archaeological record. Strategies for survival and for coping with the environmental, economic, and social stresses of the 18th century thus varied among the different levels of society in the Árnes district, but all involved intensification of fishing, and a notable flexibility in combining terrestrial and marine resources, and negotiating the different options and constraints of both the cash-based and subsistence based portions of both a local and regional economy. A combination of documents, artifacts, animal bones, and locational archaeology applied to landscape and seascape allows us a glimpse of the complexities of the coping strategies of the farmer-fishers of early modern Vestfirðir.

On the other end of the Vestfirðir in the district of Bolungarvík a different management in the fishing industry emerges from the registry data. In the early 18th

century 21 boats were fishing from there during the fishing seasons. Earlier it was recorded that up to 30 boats fished from the Bolungarvík station (Kristjánsson, L. 1982,). The Bolungarvík station was known by all farmers in the Northwest and was used by farmers from outside the district during the fishing season. Anyone who intended to use the Bolungarvík station had to pay toll to the owner, i.e. the farmer at Hóll.

The rich landowner at Hóll was in the center of the economic picture for the district of Bolungarvík. The largest fishing station in the district was located on the main farm or on the farms owned by the farmer at Hóll and tenant farmers all had a duty to row on the boats of the Hóll farmer. It is not mentioned how many boats he owned but probably more than one. No other farmers in the Bolungarvík district owned a boat, and if they wanted to fish they had to row on one of Hóll's boats and pay toll for fishing (Á.M,VII., D.I., I.). In the early 18th century 15 boats from outside the district, were stationed at the *útver* in Bolungarvík and 6 at the *útver* Kálfadalur, a total of 21 boats. The registry suggests that the number of boats had been a lot higher at earlier periods.

Each fisherman, who came from outside the district, was supposed to pay in average about 10 fishes during the fishing season in toll to the farmers at Hóll and Ós. The farmer at Hóll received about 630 fishes during the fishing season and the farmer at Ós 420 fishes. With 2.2 kg as the average weight of cod after it has been gutted and the head removed, the farmer at Hóll could expect to receive about 1.4 tons of cod and the farmer at Ós about 0.9 tons from the toll alone. When this is calculated into *vætt*, which is about 30kg, the farmer at Hóll would have received in toll about 50 *vætt* of dried fish. To put this into perspective, an average sized farm in Vestfirðir would pay about 6 *vætt* in rent, or the rent of 8 average sized farms. Depending on the economic condition at any time

these farmers could either use this extra income to pay taxes, for export or for domestic use. The toll was a clean profit for the two farmers who owned these fishing stations.

The average cargo ship used in transporting goods from Iceland in the 16th and 17th centuries were between 60 - 250 tons in size and would carry about 34 tons of dried fish of different types (D.I. XVI). The actual size of the fish cargo was probably different from season to season as many factors could influence the fish catch every year. The toll alone from the fishing station at Bolungarvík would therefore have been about 2.3 tons or about 7% of the total fish cargo of one ship. It is difficult to assess how much fish in total would have been landed at the fishing station in Bolungarvík during one fishing season but it was probably enough to fill the hold of at least one cargo ship of dried fish.

The function of the Bolungarvík fishing station in the early 18th century was probably still mostly for commercial fishing but had declined from what it had been earlier. The station was owned, controlled and managed by the main farmer at Hóll. The management of the station was not only in the form of payment from the farmers who wanted to use the station but the farmer at Hóll also had its own boats and crews stationed there. From both toll and his own catch the farmer probably received a substantial amount in cash which made it possible to purchase luxury goods and other items that were not available to the lower classes. The farmer at Hóll clearly belonged to the higher class in Icelandic society and at the center of his power were the fishing station and the ownership of land, both within the district and in other parts of Iceland. The fishing station at Bolungarvík was a tool to gain extra cash which was not readily available for other landowners and lies at the center of power and the economy of the district.

All farmers in the Bolungarvík district were dependent on the farmer at Hóll, both in agriculture and fishing. The tenant farmers who lived on farms that were not owned by Hóll still had to rely on him as they had no boats and need to fish for extra income. This forced them to row on boats owned by the Hóll farmer or other farmers who came to the district to fish and in any case they had to pay toll to the main farm. Other tenant farmers had duties to row on Hóll's boats and these farmers had no rights to the catch but were probably paid in kind for their services.

In the 18th century fishing and fishing communities in Vestfirðir continued to decline, and the number of people engaged in the industry was half of what it had been earlier. The decline continued more or less until the mid 18th century. The picture emerging of the society in the Northwest from the registry data shows a general development from subsistence/commercial- towards pure subsistence fishing. The fishing economy of Árnes and Kaldrananes districts had become mostly for subsistence by the early 18th century. Most farmers in the region were so poor that they could not survive on agriculture and turned to fishing for feeding their households. Few farmers still had the possibility to trade marine products but at this period it was on a small scale.

The draconian legislation of the early 17th century, especially monopoly and *vistarbandið*, almost wiped out the commercial fishing industry that was at a fragile stage in its development. The development of the fishing industry in Iceland was similar as had been recorded in England in the 14th century. At the center of this development were the fisheries, managed and controlled by lords, who received payment in kind from the fishermen. Originally these fisheries were seasonal fishing stations but in the period between the 13th and 17th centuries they developed into prosperous fishing villages. From

these fishing villages large fishing ships sailed to fishing grounds around Iceland and Newfoundland (Fox, H., 2001).

Similar development can be seen in Iceland in the 13th – 15th centuries where some seasonal fishing stations were developing into fishing villages but the legislation of the 17th century halted this development. From the written sources we can conclude that at least two fishing stations had in reality become fishing villages by the late Middle ages, Hellnar on Snæfellsnes and Bolungarvík in the Northwest (Á.M. V., VII., Kristjánsson, L., 1982, Edvardsson, R., 1999a.).

In the early 18th century there did not exist fishermen in Iceland as all workers had to be registered at a farm. All workers in Iceland were farmhands or agricultural workers who were bound to farm and owned by agricultural landowners. The fisherman class had been abolished by legislation and all workforces in Iceland reduced to nothing more than slavery.

3.5 The 18th century as a model for fishing at earlier periods

In chapter 2 we examined the numerical data in the Árni Magnússon land registry of the early 18th century, in an attempt to identify the main economic factor for farms in Vestfirðir.

We approached the problem in two ways, first by statistically analyzing the region on a large scale, i.e. the whole region and second on a smaller scale, i.e. individual *hreppar*. It is clear that the results of the first analysis are more reliable as they used more numerical values but in some cases of the second analysis the results are less reliable as there were too few numerical values.

The analysis for the whole region showed clearly that the underlying economic base for Vestfirðir came from other sources than agriculture as only about 33% came from agriculture. It also shows that marine resources like fishing, driftwood and stranding played a major role in the economy of the region, about 31%. The analysis of individual *hreppar* was problematic but it still clearly showed differences between hreppar within the same region, suggesting that farmers were managing their environment based on what each hreppur could sustain. In the early 17th century agriculture in Vestfirðir were for subsistence and mostly for domestic use. Most of the districts seemed to be more focused on milk production, which clearly suggested domestic use and not trade.

It is clear that the main source of income for farms in Vestfirðir in the 17th century came from marine resources. The main resources were, fish, whale stranding, driftwood, seals, sea-birds and eggs and of these driftwood and fish were the most important.

At the time of the land registry fishing was in decline as the data clearly demonstrate. In the district of Ísafjarðarsýsla boats had decreased about 50%, booths in use about 26% and sailors about 50%, from what it had been prior to the 18th century. In Strandasýsla boats had decreased about 40%, booths in use about 50% and sailors about 40% (Á.M., VII). This was probably due to the harsh legislation of the early 17th century and environmental conditions in the late 17th century.

Driftwood had also ceased to be an important income for farmers situated in Vestfirðir as most of the driftwood belonged, in the early 17th century, to the Church, King, or rich landowners outside the district. In general, farmers in Vestfirðir could no longer use driftwood for their own purposes; they could neither use it for building, nor trade it for extra income.

It is clear from the data that the early 18th century cannot be used as a model for fishing at earlier periods without caution because at that time the industry was already in decline and in most cases in Vestfirðir used for subsistence only. Only the richest landowners and the well to do farmers could trade fish products.

The 18th century is in general a bad analog for the society in Vestfirðir at earlier periods. The underlying economic factors are marine resources, and at this time all power was in the hands of the Danish King or the agricultural elite, who pressed the increase of agriculture in a region that could not possibly sustain large scale agriculture. The local farmers understood this and tried to resist, as some of the historical sources demonstrate (Olavius, 1964, Ólafsson, E., 1981). They understood that Vestfirðir could only flourish in a marine-based industry and that the settlement in the area was founded because of the marine resources, not agriculture.

The 18th century gives a picture of Vestfirðir as a poor agricultural region that uses marine resources as subsistence but at earlier periods it had in fact been reversed. Vestfirðir was a marine region that used agriculture as subsistence economy. The fact is that most scholars decided that the whole of Iceland was one economical unity based on agriculture, completely ignoring the fact that Vestfirðir was settled because of its marine resources and developed alongside the sea. Without the marine component Vestfirðir was bound to go into decline and the area would, without a doubt, have been abandoned if it had not been for the revolutionary changes in the 1850s.

The jarðabók data clearly suggests a strong marine connection in the economy of the early 18th century Vestfirðir. The archaeological data should show a similar connection in

the region, thus strengthening the hypothesis of a strong marine economy for Vestfirðir and showing a specialization in the fishing industry.

Chapter 4.

Since the 1990s, research in the Vestfirðir peninsula has steadily been increasing. The increasing research interest in the region mirrors the changing role of archaeology as a tool for studying the past, as more and more researchers use archaeology as their primary tool of research. There has been a more than 200% increase in archaeological research in Vestfirðir, from only a handful of sites surveyed, and three excavated, prior to 1990, to over 6000 sites surveyed and two large-scale excavations and many minor ones in the last 15 years (Edvardsson, R., 1996, 1997, 2000, 2005, 2006, 2007, Lárusdóttir, B., et al. 2005, Guðmudnsson. G. et al., 2005, Taylor, J. et al., 2005). This increased archaeological research has produced many new and exciting data and is changing the old ideas about Vestfirðir as a perennially stagnant, poor and backwater region. The data suggest that Vestfirðir was not always poor, and, at times, even the richest part of the country. Theories on the settlement of the region have also been challenged as new C14 data suggest that the region probably was settled at least at the same time as other parts of the country, even earlier (Edvardsson, R., 2005).

It is likely that the history of Vestfirðir will be re-written in the near future, with more emphasis on the archaeological material. The focus in archaeological research should be more towards systematic surveys and the excavations should be aimed at sites from the period 1200 – 1500 as that is both the period in Icelandic history that is poorly researched, and the period when the society and the economy of Vestfirðir flourished. Focus should also be on the poorer farmers as such information is missing in the present day archaeological material.

4.1. Early Research into Fishing sites in Vestfirðir

It is safe to say that archaeological research into fishing sites in Vestfirðir were almost non-existent prior to the 1990s but since then research into this topic has steadily increased. Prior to 1990 no fishing site had ever been excavated and before 1996 only one site had been surveyed with archaeological methods (Ó., Guðmundur, 1994).

The first Icelandic historian to point out the importance of fishing and trade for Icelandic society was Björn Þorsteinsson who wrote especially about the trade between Iceland and English merchants in the period between AD 1400 and 1500. This work, however, was on the trade in general and did not focus on any specific region but was nevertheless the first historical work to suggest that fishing prior to 1700 AD had played a different, more important role in Icelandic society (Þorsteinsson, B., 1966, 1976).

The most fundamental historical work on fishing was written by Lúðvík Kristjánsson and in his work he discusses mainly maritime folkways but one volume is dedicated to fishing sites in Iceland. In his work on fishing sites he attempted to categorize sites based on function as it appeared in the historical data.

In 1990 a team of archaeologists and students from the City University of New York excavated a fishing station at a place called Akurvík in the district of Árneshreppur. Akurvík seems not to be mentioned in any of the written sources and the site was only located because the site was eroding. This excavation showed that the site had two occupational phases. The first dated to the 13th century and the later to the 16th century (Amorosi, T., 1992). The site was not completely excavated and further excavation awaits future expeditions. The team also conducted an archaeological survey in the area

close to the excavation site, revealing a number of turf structures dating from different periods.

In 1996 two large fishing sites were surveyed, Bolungarvík and Skálavík, in connection with the total survey of the Bolungarvíkurkaupstaður. Other surveys soon followed with 7 different fishing stations surveyed before the end of the millennium (Edvardsson, R., 1996, 1997, 2000). In the first years of the new millennium excavations were carried out on several of the surveyed fishing stations.

4.2 Survey methods and fieldwork approaches

The archaeological survey for this project was in the beginning primarily focused on fishing sites. However, it became evident that fishing stations could not be understood when they were taken out of the context of their surroundings; especially the sea, fishing grounds, farms etc. Therefore the survey was expanded to include archaeological sites of all types. Immediately the project was faced with the problem that archaeological surveys in the area had been limited, and the area too large to survey. Thus, existing survey data, which the author had collected from 1996 in connection with various other projects is included in this research (Edvardsson, R., 1996, 1997, 2000). Data are mainly drawn from three districts: Bolungarvík, Kaldrananes, and Árneshreppar. Survey data from other areas is also included when it is relevant to this study. The survey is aimed at answering a set of questions: 1) What does the cultural landscape in Vestfirðir consist of?; 2) Is it possible to distinguish between periods with survey alone?; 3) What is the ruling factor in the placement of fishing sites in the landscape?; 4) Is distance to fishing grounds an important factor in the placement of fishing stations?; 5) What is the relationship between the farms and the fishing stations?; 6) What can the visible structural remains tell about

type and function of the fishing stations?; 7) Can the location of farms give any ideas about the first phase of settlement in the region and its development?

The project intended to use for the archaeological survey a method which had been designed by the Institute of Archaeology (FSÍ) for survey in Iceland. This method is mainly based on historical documents and is divided into two parts; regional survey and field survey. The regional survey is based on the collection of written data for all archaeological sites in the historical documents. These sites are then located, mapped with GPS, recorded and photographed during the fields survey.

It soon became evident that this method was inadequate for the purpose of archaeological survey in Vestfirðir. This methodology is based on historical documents and focuses on remains from the late 19th and early 20th century. It also focuses around the farm site and sites that are either far away from the farm and not mentioned in the written documents or are in danger of being excluded, thus giving a wrong picture of the archaeology in any region. This method was created for surveys in regions where agriculture was the main economic factor and therefore the landscape is the underlying base. It was clear that Vestfirðir had a different base, i.e. the sea, and sites in the area needed to be surveyed with this fact in mind. The methodology was modified to include more archaeological methods, such as transects and field walking. Certain areas were selected for more detailed surveys and it soon became evident that with a method focused on archaeology there was about 30 – 40% increase in sites.

The survey method that has been in use both by the FSÍ and other archaeologists in Iceland is document/farmer based, i.e. most of the time is spent in the library and interviewing farmers than systematically walking the fields which aims at site discovery.

This history-based method is useful for surveying sites dated to the late 19th and early 20th century and probably is also useful in understanding the immediate areas around the farm itself, but when it comes to sites from earlier periods, far off sites and not mentioned in the written sources then it becomes more or less useless. It is important for Icelandic archaeology to begin using methods aimed at site discovery. More focus is needed on archaeological methods in surveys as that will increase our understanding of the cultural landscape and locate new and unrecorded sites.

Kaldrananeshreppur

The archaeological survey for Kaldrananeshreppur in Strandasýsla was done in the period between 1999 – 2001. This project was funded by the local council and was aimed at a total survey of the district.

In the written sources for Kaldrananeshreppur 515 references for archaeological sites on 26 farms were found, with the average of 19.808 sites per farm (Map19). Of these 515 sites only 189 were actually located during field surveys. The reason was that many sites had disappeared due to modern construction or erosion. Some sites had no structural remains because of their nature, such as boat landings, folklore, etc.

Function:		Uncertain	53	Execution	1
Irrigation	4	Pool	2	Well	1
Bridge	2	Living quarters	28	Farm	25
Chapel	3	Ghost	3	Noon mark	1
Sheep house	24	Barn	4	Stable	11
Dry rack (fish)	3	Barn for rams	1	Fairies	1
Garden	1	Church	1	Kvívar	18
Barn for lambs	3	Farm boundary	9	Burial	18
Path	21	Playground	4	Boat landing	21
Piet mine	22	Mill	2	Naust	10
Night pen	7	Unknown	62	Fox trap	1

Sheep pen	3	Turfcutting	1		
Roads.	3	Shieling	19	Storage house	3
Hunting shelter	4	Shepherds hut	2	Smithy	6
Pen	40	Swimming pool	2	Camping	1
Avenue	1	Field boundary	10	Outhouse	5
River crossing	16	Well	14	Road	1
Fishing booth	6	Fence	2	Washing site	3
Midden	5	Fishing station	4		

Table 5. Types of sites in Kaldrananes based on function.

For centuries farms in Iceland have been located on the same spot and sometimes since the settlement period. On these spots farm mounds build up which are made of structural remains and cultural layers. These sites are one of the most important archaeological sites in Iceland but the main problem is that they are in many cases still occupied and modern concrete houses with deep cellars have been built on top of these farm mounds. In Kaldrananes most farm mounds had been damaged by modern construction or disappeared for some reason. It was only the farm sites Bjarnarnes, Tungukot, Brúará and Kleifar which were undisturbed. The farm mound at Kaldbakur was more or less intact but the farm mounds at Bólstaður, Sandnes, Bær, Kaldrananes, Bakki, Skarð, Goðdalir, Sunndalur, Klúka, Asparvík and Eyjar were badly damaged.

On each farm a number of outhouses were surveyed and usually these houses were distributed randomly within the home field. Most outhouses were for sheep and horses but there were a few barns for cattle. It is likely that most barns were connected to the farm house itself and that explains why only 4 barns were surveyed in the district. In total 25 houses for sheep, 11 houses for horses which were in most cases situated at the edge of the home field, 6 smithies were recorded within the home fields. It seems like outhouses have remained on the same spot for a long time and in these places mounds have built up for centuries. However, it is important to mention that these houses may

have changed function and that a barn may well be built on a spot where a smithy once stood.

In the late 19th century farmers were encouraged to build boundaries around their home fields and therefore most of the field boundaries visible today date from that period. In total 10 boundaries were recorded and all of them were made of stone. Two boundaries were recorded that were of a different function, probably built to keep sheep away from certain areas.

A number of sites were recorded that were outside the home fields. Most of them were of the type kvíar and stekkir, which were used for milking sheep and separating the lambs from their mothers. Other sites outside the home fields were shielings which were often built well away from the farm. Shielings are usually found on larger farms, such as church farms that were large and had access to grazing in the higher elevation. The shieling was a site which was occupied seasonally and usually in the summertime. They were used by farmhands for producing agricultural products from sheep which were brought to the farm at the end of summer. These sites can be categorized as “farms away from the main farm” and in many cases shielings changed into farms at later periods. Most farmers in Iceland ceased to use shielings in the 19th century and these sites probably date to that period. In total 40 stekkir, 18 kvíar and 19 shielings were recorded in Kaldrananeshreppur.

In Kaldrananeshreppur most farms had access to the sea and a number of boat landings and fishing sites were recorded. In total 21 boat landings were recorded and in some cases farms had more than one landing. In the district 4 fishing stations were recorded; Skreflur, Sauratún, Bjarnanes and Drangsnes.

A number of sites were recorded in the Kaldrananes district which, according to the written sources, are of a foreign type. These sites are on the farmland of Kleifar in Selströnd and Eyar and are supposedly the remains of a foreign settlement from the 17th century. These sites are thought to be remains of Basque whalers that settled for a brief period and built whaling stations in the district. The first whaling station is located on a peninsula called Strákatangi and 8 structures were surveyed that correspond to the whalers' occupation. The other station is located on small islands outside the farm Eyjar and 13 sites were recorded that are probably associated with the Basque presence on the islands (Map 34).

The archaeological survey in the district of Kaldrananeshreppur gives us an idea about the district in the late 19th – early 20th century as the majority of the sites surveyed date to that period. The position and general outline of farms represents Icelandic society at this time and cannot be viewed as representation of the earlier society. At this time the economical focus was on sheep farming and that is clearly represented in the survey data as most sites are connected with sheep farming. Of the total number of sites that could be categorized, based on their function, 110 sites were in some way connected with sheep farming (table 1.).

The survey data shows that only a handful of sites in the district can be connected with the period before the 19th century; Urriðasel, the Basque sites, a longhouse in Goðdalur and the small farm Tungukot in Goðdalur. However, the dating of many of these sites are based on the written sources and not on excavation data (Map 34).

Urriðasel is, according to the written sources, the original site of the main farm in the district Kaldrananes and was moved to its present location sometime after AD 1000. The

field survey on the site located a number of sites, including an oval shaped farmhouse, that had probably been used at a later period as a shieling, a circular boundary with a ruin in the center, and three other sites of an unknown function.

The Basque whaling stations revealed a number of structures from the 17th century and all of them were in a good state of preservation and did not seem to have been disturbed by later erosion or construction. The Basque sites are a foreign element on Icelandic soil and it is completely unknown what influences they had on Icelandic society. On the other hand, the survey could not determine if these sites were previously unknown Icelandic fishing sites but subsequent excavation revealed the site to be a foreign whaling station from the 17th century (see discussion below).

The longhouse in Goðdalur is a fairly large single-roomed structure with boat-shaped walls, typical for houses from the Viking period. The small farm Tungukot in Goðdalur consists of a farm mound, a sheep house, and two other ruins of an unknown function. Based on the written evidence and the condition of the site it probably dates to the 15th – 16th centuries. The farm was an outlying farm and belonged to the main farm Goðdalur and probably was a poor farm dependent on the main farm.

Bolungarvík

The archaeological survey in Bolungarvík was carried out in the period between 1996 and 2000. As with Kaldrananeshreppur it was aimed at a total survey of all archaeological sites in the district. The survey was funded by the council of Bolungarvík (Map 17).

In the written sources 309 references were found for archaeological sites on 21 farms. The expected average number for sites on each farm was 14, 8. Of the total number of

sites expected from the written sources, only 219 sites were recorded or about 70%. About 30% of sites had disappeared due to construction, nature or other factors. During the field survey 71 sites were recorded that were not in the written sources. Of the total 290 sites recorded during the field survey 25% were previously unknown sites.

Farm mound	23	Place name	10
Sheep house	18	Farm	1
Pen (for milking)	11	Fishing grounds	47
Vegetable garden	3	Stable	1
Living quarters	23	Shieling	8
Fairies	1	Unknown	32
Midden	5	Sheep pen	3
Well	3	Road	1
Cattle barn	3	Shelter	1
Farm boundaries	4	Night pen	1
Piet mine	14	Dry rack	4
Field boundaries	7	Fishing station	3
Boat landings	28	Folk tale	1
Fishing booth	11	Lamb house	1
Church	1	Winch	11
Churchyard	1	Noon mark	1
Barn	2	Burial	1
Pen	2	Outhouse	2
Washing	1	Not in sources	44

Table 6. Types of sites in Bolungarvík based on function.

Most sites in Bolungarvík are connected with sheep farming as the majority of sites are of the sheep-house type. It is interesting, however, not unexpected, that a large number of

sites are connected with fishing, as Bolungarvík was the largest fishing station in Vestfirðir. About 100 sites were recorded that in one way or another could be connected with the fishing industry. All the fishing stations in the area, except for one, had been destroyed, Bolungarvík, Kálfadalur and Ós, the only remaining one was the station in Skálavík.

In Bolungarvík most farm mounds had either been destroyed or damaged by construction. The farms Heimari- and Ytri Búðir, Tröð, have been destroyed and now lie under the town of Bolungarvík. Hóll, Tunga, Ós, Hanhóll, Gil, Minni- and Meiri Hlíð have been damaged by modern construction. The old farm at Geirastaðir was destroyed in the middle of the 20th century by an avalanche. The farm mounds at Miðdalur are intact as the present farmer built a new house in a new location. A similar story emerges from Skálavík and most farm mounds are also damaged or destroyed.

In Syðridalur, on the northern shore of lake Syðridalur, five structures were recorded that were oval in shape. Two were largest and one was about 30 x 8 meters and the smaller one about 13 x 6 meters in diameter. Both structures are about 100 meters from the lake, and there are only a few meters between them. Other structures were recorded around them but it was difficult to estimate their shape and size. The shape and size of the two main structures suggest that they are remains of longhouses, dating to the settlement period, but that can only be verified with excavation (Plan 1).

Árneshreppur (Trékyllisvíkurhreppur)

The archaeological survey of Árneshreppur was carried out between 2004 and 2005. A survey had previously taken place twice in the district, first in 1990 when parts of it were surveyed by the same team that excavated at Akurvík and Gjögur, and the second time

when the FSÍ (Institute of Archaeology) surveyed the district for the local council. This survey was the third and was primarily done for this dissertation and aimed at surveying the whole district.

According to the sources, 27 farms were in the district in the mid 18th century and the sources suggested 815 archaeological sites, or 30,2 sites pr. farm. During the field survey only about 430 sites could be located or about 53% of the number indicated in the written sources. As in the other districts, sites had been destroyed by erosion, construction and other factors (Map 22).

Function		unknown	35
Execution	1	Destination	1
Irrigation	4	Sheep house	17
well	8	Bridge	1
Habitation	12	Shelter	2
Farm	49	Chapel	3
Noon mark	12	Fish drying	2
Sheep house	28	Cowshed	6
Stable	5	Storage for hay	8
Shed	10	Barn	3
Elves	17	Potato garden	1
Trading place	1	Church	2
Coal pit	2	Pen for milking	19
Lamb shed	2	Farm boundary	4
Burial	11	Path	48
Landing	41	Piet mine	38
Mill	3	Boat house	11
Pen	24	Unknown	81
Smokehouse	1	Pen	6
Turfcutting	3	Salt house	1
Road	11	Shieling	15
Herring factory	1	Storage	1
s	9	Smithy	3
pen	1	Pen	42
swimming pool	2	Troll	8
field boundary	3	Boathouse	1
Outhouse	163	Ford	10
Water	1	Fishing booth	18

Boundary	1	Washing pond	2

Table 7. Sites in Árneshreppur based on function.

Most sites recorded in Árneshreppur are connected with sheep farming as 132 sites were of this type. The second largest group are sites connected with fishing or 71 sites.

According to the sources there were two main fishing sites in Árneshreppur, the first at Gjögur on the Reykjarnes peninsula, and the second at Ávík in Trékyllisvík (Map 20). The written sources suggest that each site belonged to different periods, Ávík to the settlement period and Gjögur to late- to post medieval period. It is important to point out that this is only suggested by the written sources as limited excavations have been carried out on these sites. At Gjögur, modern buildings and constructions have damaged earlier structures but a few still remain of the early fishing site. In Ávík no structures were recorded that could be connected to fishing during the settlement period but a few sites were recorded that need to be tested with archaeological excavations. Other fishing sites were recorded on most farms in the area but it is difficult to assess without excavation to what period they belong.

Most farm mounds in the district have been damaged by 20th century constructions but there are a few mounds that are more or less intact. The farm mound at Kolbeinsstaðir is not damaged by modern construction as the farm was abandoned early in the 20th century. Many of the farm mounds north of Ófeigsfjörður are in a good state of preservation and many of them are intact.

4.3 The cultural landscape of Vestfirðir

The cultural landscape of Vestfirðir as it appears in the archaeological-survey record dates primarily to the late 19th and 20th centuries. This cultural landscape is identical all

over the country and shows the same pattern in placement and layout of farms (Edvardsson, R. 2000, 2001. Vésteinsson, O., 1996.). The approach to the Icelandic cultural landscape has been colored by the idea of continuity, unchanging economy and society. This has led most archaeologists to approach the cultural landscape from one point of view, i.e. agriculture, and little attempt has been made to include other factors. There is a growing need to approach the subject of cultural landscape from other points of view as no cultural landscape is formed by one element alone.

The first and most important factor in the survey and study of the cultural landscape is to identify the major element influencing human society in any region. The most influential factor influencing Icelandic society throughout the ages is the environment and on many occasion it has had a disastrous effect on Icelandic society. The second most important aspect to look at is the economy of a region as the cultural landscape will be highly influenced by this factor. However, it is important to understand that the economy is always changing based on various factors and each region has different methods of income at different periods. It is not enough to assume that, because Iceland based its income on agriculture in the 19th century, it had always been so.

It is extremely difficult to connect archaeological sites to certain historical periods based on survey alone. It is also both dangerous and misleading to associate archaeological sites to certain periods based on historical data. The traditional historical division into time periods is not visible in the archaeological survey record in Vestfirðir. The divisions are made from historical records alone and cannot be used when dealing with the archaeological data. From the survey data only three periods can be recognized: 1) Pre 19th century. 2) 19th – early 20th centuries. 3) Modern.

There is a long continuity in both building practices and material in Iceland. Structures have been built over long periods in the same manner and therefore differences that could associate them to certain time periods are difficult to identify without excavation. Thus a *stekkur*, a type of penn used to separate the lambs from their mothers, which, with a specialized function, can remain unchanged from the settlement period to the early 20th century. Other structures, such as *kvíar*, pens, sheep houses, etc. can also remain relatively unchanged throughout time. As present-day archaeological data are not extensive enough, we truly do not know enough about the development of houses and if they in fact remained unchanged throughout the whole period.

The general layout of farms can also remain unchanged for centuries. The layout of the farm Tungukot in Kaldrananes, dated in the written documents to the 15th – 16th centuries, shows no difference from farms dated to the 19th – 20th centuries. If it were not for the historical data there would be nothing to suggest that this particular farm was older than other farms in the region. The same pattern and layout was surveyed on 90% of farms in the study area and the only change from this pattern appears to have taken place in the mid 20th century when farms were being modernized.

The farm Vatnsfjörður (Map 36) in Ísafjarðardjúp shows a typical layout on a home field map from 1918 where most of the outhouses are clustered around the farm house itself, and a few at some distance from it. Most of the houses are within the home field boundary or nearby. The layout of the present-day Vatnsfjörður farm is quite different from the pre 1918 farm (Map 35). All the outhouses are gone, and one large sheep house with a barn has replaced them. The same change is visible on farms all over Iceland, and

is the result of a revolution in agriculture that took place in the period between 1918 and 1960. The present-day cultural landscape of Iceland is a result of this revolution.

On very rare occasions has an older cultural landscape been preserved, not by planning but by accident. Many farms in Vestfirðir were abandoned prior to 1918 or in the period when the agricultural revolution was taking place. These farms are especially in the Hornstrandir area and it is in these places that the preserved 19th century cultural landscape can be observed. These farms show a similar layout as is represented on the field maps from 1918 from all areas of Iceland and in some cases ruins can be identified on these maps.

The farm Skáladalur in Aðalvík was abandoned in the early 19th century and no modern agricultural equipment was ever used on its farmland, the fields were never flattened, and no modern houses were built on the site. The ruin of the farmhouse is similar to the layout of a typical 19th century house, with many houses connected together. Close by are a few small sheep houses and on the outskirts of the home field a few pens were recorded. By the sea a boat landing and a fishing booth were recorded. The farm value of this particular farm in the 19th century was low and it is classified as a poor farm even in Vestfirðir region (Johnsen, J., 1850). Other farms in the Hornstrandir area, Slétta by Jökulfirðir, Rekavík bak Látrum, Tunga in Fljótavík, Hlíðarhús, Skarð and Sandeyri on Snæfjallaströnd, etc. show an identical layout and all were abandoned in the same period, i.e. prior to the 20th century revolution.

The survey in Vestfirðir shows that it is difficult to locate any sites that can be identified to periods before the 19th century. The reasons for this are many but one of the most important is that few sites have been excavated to date to be able to give conclusive

results and ideas on the development of farms, buildings, etc. in the area. This is not only the case in Vestfirðir but all over Iceland as Icelandic archaeologists have been too focused on excavating certain types of structures from certain periods. The most common structure excavated in Iceland is the Viking age longhouse, which typically, has bow shaped walls, a central hearth, 13 – 30 m long and 6 – 8 m wide. This kind of structure has been dated with absolute dating methods to the period between ca. AD 900–1000. The longhouse seems to disappear from the archaeological record between AD 1000–1100 and a new type appears. This type of structure is the best researched and dated in Icelandic archaeology and the fact that its shape and size is unique and has been dated to a certain period, makes it extremely valuable in archaeological survey.

The field survey for this project located a number of structures of this type, Vatnsnes in Bolungarvík, Goðdalur in Kaldrananeshreppur, Botn in Geirþjófsfjörður (Auðartóftir), Hvítanes in Skötufjörður, Flókatóftir in Vatnsfjörður, Vatnsfjörður in Ísafjarðardjúp, Grímkelsstaðir in Þorskafjörður, Urriðasel in Bjarnafjörður and in other places in Vestfirðir (Map 37). All these sites show the characteristic that is typical to a Viking age longhouse and all are located in different place than the 20th or 19th centuries farmhouses. All such structures that have been surveyed on farms that have access to the sea, except the one in Goðdalur, show the same pattern in the placement in the landscape. All sites are located closer to the sea than the later farmhouses. There is an obvious connection between the structures of this type and the sea. In some cases, like Vatnsnes in Bolungarvík, safe anchorage for ships seems to be the main factor in the placement of these early structures which suggests that the ruling factor for the early settlement of Vestfirðir is the sea and not the land.

The first settlers of Vestfirðir came from the sea, and, as the land they were about to settle was unknown, the choice of settlement would be from the sea. Their interpretation and understanding of the landscape was sea- not land-based. Their first priority was to make their ships safe as they were the only way back if the settlement failed. In the beginning, the link to the sea was the most important factor influencing the choice of settlement. Thus, the first houses would have been built close to the sea, in the first place suitable for house building. The settlers would also have to build up their stock of domestic animals as their small boats could not carry many animals and therefore the sea and what it provided was of a great importance for the first settlers in Vestfirðir. Later, once their domestic stock was built up and the land cleared and explored some of them moved their settlement to a new location more suitable for their type of farming but it was not always moved far away from the sea as it remained their main source of income.

A similar pattern is visible in Qassiarsuk (Brattahlíð) in south Greenland, where extensive surveys have been carried out since the 19th century (Arneborg, J., 2006) (Plan 2). No attempt was ever made to categorise any of the surveyed structures to certain periods and most were recorded as belonging to the same period. The site Ø28b is in the south part of the Qassiarsuk area just above the beach. It was surveyed and then later excavated by Nørlund and Stenberger in 1933 (Plan 3). They surveyed a number of archaeological features, 12 structures, and a number of smaller mounds. Their excavation focused mainly on the small mounds where they discovered fireplaces and booth-like structures. They concluded that this site could not possibly be a farm, based on its unfavorable location and was probably the remains of either a Thing-place or a market place. The largest structure, which was given the number 38, was interpreted as an

exceptionally large booth-like structure (Nørlund, P, Stenberger, M. 1934). The site was surveyed and partially excavated again in 2006. The ruin was 20 meters in length and 10 meters in width, measured from the outside. The north end of the ruin was curved but it was not possible to see if the south end was the same as older archaeological trenches had damaged that end. It is however likely that the south end was also curved (Edvardsson, R., *et al.* 2006).

This site shows a clear similarity to sites recorded in Vestfirðir as they are similar in size and shape and located close to the shoreline. In addition, the sites excavated around the structures in 1932 (Nørlund, P., Stenberger, M., 1934) do not resemble fireplaces used for cooking but rather for some industrial activity. All fireplaces are almost identical to the ironworking furnaces recorded at Hríshemar in northeast Iceland, which also date to the settlement period (Edvardsson, R., et al., 2004, Nørlund, P., Stenberger, M., 1934).

This suggests that Ø28b belongs to the earliest phase of occupation at Qassiarsuk and may well be the first settlement in the area. This interpretation would be consistent with what has been recorded in Vestfirðir and it would only be later that the pattern of settlement changed as it became more of a mix between the land- and seascapes.

The archaeological survey of early settlement sites both in Vestfirðir and south Greenland supports this hypothesis of the sea being the most influential factor at the onset of the settlement of the area. A large number of sites that probably date to the settlement period show a similar placement in the landscape. However, not all sites from the settlement period have been surveyed.

No detailed archaeological study has been done on the period after the settlement and up to the 17th century, and there is a need to research the later period to get a better

understanding of the development of the Vestfirðir settlement and its economical background.

4.4 Archaeological survey of fishing sites

Fishing sites of all types are numerous in Vestfirðir and therefore certain areas were selected for a more detailed survey. The survey of fishing sites attempted to find sites that were more specialized fishing sites and would have been more into commercial fishing than other sites. The main aim of the survey was to understand the placement of fishing sites in the landscape and what factors influenced this choice. Other aims were to see if the layout and building of structures changed over time, if there were any difference between regions in Vestfirðir and to understand the relationship between the farms and the fishing sites.

The fishing sites selected for more detailed survey were Skreflur, Sauratún, Búðarvogur and Drangsnes in Kaldrananeshreppur, Ávík, Gjögur and Akurvík in Árneshreppur, Skálavík, Bolungarvík, Kálfadalur in Bolungarvík, Slétta in Jökulfirðir, Skáladalur in Aðalvík, Kálfeyri in Önundarfjörður and Arnardalir in Skutulsfjörður. Fishing sites on some farms were also surveyed to compare different types of fishing sites (Maps 18, 20, 21).

Skreflur

The Skreflur site is located in the northern part of the district of Kaldrananeshreppur. The site lies just south of the border between Árnes- and Kaldrananeshreppur about 2 km north of the farm Kaldbakur. The site is mentioned in 18th century sources but had probably been there for some time before the early 18th century (Magnússon, Árni, 1940). In the 18th century 3 fishing booths were recorded, each used by local farmers. From this

written source it is possible to estimate that 21 men were stationed there during the fishing season. The site was used by local fishermen until 1940 (*Örnefnaskrá Kaldbaks*).

The site consists of three buildings which are built about 30 meters from a rocky shore. On the north side of these buildings a small peninsula protrudes into the sea, sheltering the boat landing from the north wind. The northernmost building has two rooms, each about 10 x 6 meter in diameter. The southernmost building has three rooms, two of them 9 x 6 meters and one 10x 10 meters. Between the two larger buildings is a small, single roomed structure, measuring 6 x 8 meters. All buildings were made of stone with a turf lenses (*strengur*) between the stone rows (Plan 4). Nothing could be found during the survey that could positively show that these buildings had a roof.

The remains at Skreflur are from the last occupation of the site around 1940. Each of the rooms would house one boat crew and during the fishing seasons five crews would be stationed there, ca. 28 men. In the last phase of occupation the station was only used by local farmers.

Sauratún

About 1 km south of Skreflur is another fishing station called Sauratún. This site appears in a written source from 1467 but is mentioned as an abandoned fishing station in the land registry of Árni Magnússon. It is therefore likely that the site had been used for some period before 1467 but probably abandoned around AD 1500 (D.I.XV).

The site is situated in a similar setting as Skreflur, about 25 m above a rocky shoreline, and a small peninsula provides a shelter for landing just below the station. There were six structures recorded at Skreflur and 4 of them had only a single room, measuring ca. 5 x 5

meters in diameter. To the south of the station itself, just above the rocky beach, is a ruin of a boathouse. The sixth structure lies to the west of the smaller structures. This structure is probably not from the same period as it is not as overgrown and melted as the other smaller ones. Furthermore it consists of one large room and a smaller attached to it. This is probably remains of a pen of the *Stekkur* type that was built on the site sometime after the abandonment of the station.

The condition of the site makes it difficult to speculate about the actual size of each of the fishing booths and if these structures had a roof. However, based on the visible remains it can be concluded that the Sauratún station is very similar in layout and size to the Skreflur station. During the fishing season 4 boat crews, 28 men, were probably stationed at this site (Plan 5).

Búðarvogur and Drangsnes

In the southern part of Kaldrananeshreppur, close to the mouth of the fjord Steingrímsfjörður, two fishing stations were surveyed. The southern one, Drangsness, is recorded in 18th century sources but today nothing remains of the fishing station as a small fishing village stands now in its place (Á.M.VII.). Constructions around the harbor and the beachfront have completely removed all remains of this station.

About 7 km to the north of Drangsness, by the mouth of the fjord Bjarnafjörður, was the fishing station Búðarvogur. This station is mentioned in 18th century sources and at that time it had been occupied for some period before the 18th century. The station is on the farmland of Bjarnarnes (Á.M.VII.).

The ruins at Búðarvogur are situated in two small bays and on a peninsula between them. Some of the ruins are obviously younger than others and are probably not associated with fishing but sheep farming. These younger structures probably are remains of pens of the *Stekkur* and *kvíar* type.

In the southern bay four structures were surveyed, about 5 – 10 meters from the sea. These structures are oval in shape with an opening facing the sea. Three of the buildings are connected and the fourth stands a few meters to the north. These structures are the remains of boathouses.

On the peninsula to the north of the boathouses 4 structures were surveyed that probably are remains of fishing booths. All structures were rectangular and clustered together with about 4 meters between them and the openings, where it was visible, faced the sea. Two of the structures measured 4 x 3 meters, one 11x 8 meters and the last one was a large rectangular building, 10 x8 meters, with a boathouse connected to it.

In the bay north of the peninsula two structures were surveyed that probably are the remains of fishing booths. However, these structures were so badly eroded that it is difficult to make any firm remarks about them.

Based on the survey evidence this station was occupied by 4 – 5 boat crews, 28 – 35 men during the fishing season. The number of boathouses indicate that 5 boats were stationed at the site but all of the houses may not have been in use at the same time.

Strákatangi

In the southern part of Kaldrananeshreppur is a small bay called Hveravík and in the middle of this bay a small peninsula, Strákatangi, extends into the sea. On the eastern side

of this peninsula 5 structures were surveyed about 5 meters from the sea. Four of these structures were clustered together and the fifth was 100 meters south of the main group. This structure was the remains of a boathouse, 23 x 11 meters in diameter.

The main group consisted of 4 large rectangular buildings, with three buildings close to each other and the 4th at some distance from the rest. The smallest building was to the north, 17 x 11 meters, just south of it a large building with three rooms, 30 x 24 meters. South of this building was a structure that was different from the rest. It had no rooms but looked like a platform of some sort with a ramp leading up to it on the north side. It measured 18 x 18 meters. The southernmost building was rectangular in shape, 25 x 15 meters, and had an opening to the east.

The written sources suggest that these structures are the remains of a Basque whaling station from the early 17th century (Olavius, O., 1964). The nature of these structures had never been tested with archaeological methods and therefore it was a possibility that they are the remains of an Icelandic fishing station. However, the survey at Strákatangi showed that these structures are somewhat different from structures surveyed at Icelandic fishing stations. The Strákatangi structures are a lot larger than any surveyed on Icelandic fishing station and no platform with a ramp has been surveyed elsewhere. Since the survey in 2000 the site has been excavated and it has become clear that this site is the remains of a whaling station dated to the 17th century (Plan 6).

Gjögur, Ávík and Akurvík

North of the district of Kaldrananeshreppur lies the district of Árneshreppur. Today most of the farms that are occupied are in the center of the district around a bay called

Trékyllisvík. South of this bay is a large peninsula, Reykjanes, and on it three fishing sites were surveyed (Map 20).

The fishing station Gjögur is named after the farm where it is located. The station is situated south of the farmhouse just above the shoreline. The station appears in 18th century sources and at that time 8 fishing booth were recorded, with 56 men stationed there during the fishing season. In the early 18th century the base seems to have been more of a mixed base, fishing for both shark and cod (Á.M.VII.) The fishing station at Gjögur has been damaged and those that are still intact date to the early 20th century.

To the northeast of Gjögur, about 4 km, is the fishing station Akurvík. This station does not appear in any of the written sources and was recorded and partially excavated by a team from CUNY, Hunter College, in 1990. During the 1990 excavation the excavators noted that the site was in the process of eroding. In 1999 was revisited and surveyed and at that time the erosion had stabilized (Plan 7).

The site is stationed just above the shoreline and today the beach below the station has silted up making it impossible to land any boats there. When this happened is impossible to say but as there is no mention of this site in the Árni Magnússon registry it is likely that it had happened some time before the early 18th century.

Four small structures were surveyed at the site, each 4 x 5 meters in diameter. These easternmost structures had partially eroded away but the remaining 3 were more or less intact. The size and shape of the structures were similar to the structures recorded at Sauratún.

North of Akurvík are the farms Ávík minni (lesser) and Ávík meiri (greater). In the settlement period these farms were one farm called Ávík but they had split into two farms sometime after the settlement period. This farm is recorded in the written documents from the 13th century as an important fishing site but in later sources there is no mentioning of a fishing station at this farm.

Bolungarvík, Kálfadalur and Skálavík

Bolungarvík is one of the oldest fishing station in the country and is the only one mentioned in the Book of Settlements. The station was not only used by the local farmers, but also by farmers from other districts, often far away, who moved to the Bolungarvík station during the fishing season. The oldest boat register that exists in Iceland comes from the Bolungarvík station and it records 26 boats fishing from there in 1620 (Lúðvíksson, K., 1983). In the early 18th century 18 fishing booths are recorded in the Árni Magnússon land registry. This suggests that during the fishing seasons between 126 – 182 fishermen were stationed at Bolungarvík.

Nothing remains of this station today as a fishing village now stands on the spot where the station once stood. Constructions around the harbor and the beachfront have removed all remains of fishing booths. According to some of the older people in Bolungarvík the last of the 19th century fishing booths were torn down in the 1960s.

It was impossible to locate any structures where the station had been, but with the help of the written sources, and the older people of the village, 26 boat landings were surveyed. Each boat landing was normally used by one boat but sometimes more than one boat used the landing. It is important, however, to point out that these boat landings were not located archaeologically and all date to the 20th century.

The fishing station Kálfadalur was located east of the Bolungarvík village about half the distance between Bolungarvík and the town of Ísafjörður. The station was situated on the beach below high and steep mountains, which are well known for snow avalanches and mud slides. The road between Ísafjörður and Bolungarvík lies below these mountains and has throughout time claimed many lives.

In the early 18th century 7 – 8 fishing booths were recorded at Kálfadalur, with about 49 – 56 fishermen during the fishing season (Á.M.VII.). Today nothing remains of this station as a road was built over it in the 1960s and all fishing booths were destroyed.

The district of Bolungarvík consists of three main valley systems and in the northernmost valley was the fishing station Skálavík. In the valley of Skálavík there were a number of farms occupied but is now deserted and the last inhabitants moved away around 1970.

The farm Minnibakki is in the bottom of the Skálavík bay and on its farmland, about 200 meters to the north, is a fishing station. In the 18th century this fishing station was only used by local farmers but was probably used by farmers outside the district at earlier times as some of the fishing booths in the 18th century were named after areas far away, suggesting use by farmers from elsewhere. There were 7 – 8 fishing booths recorded in the early 18th century, with 49 – 52 fishermen stationed there (Á.M.VII.) (Plan 8).

The survey recorded 12 structures of different sizes, 9 fishing booths and 3 platforms for winches. The largest structures were recorded on the southern part of the fishing station. The southernmost structure being the largest, 34 x 9 meters and the northernmost 19 x 9 meters. Between them two smaller structures were recorded, 7 x 6 and 13 x 10 meters. These structures showed signs of being younger than other structures in the area

as walls were still standing. These structures are probably from the later part of the 19th century when fishing from this station briefly increased and people moved to Skálavík for fishing.

Just north of these structures 3 platforms for winches were recorded. These platforms were all circular in shape made of small stones, measuring 7 meters across. In the center of these platforms a wooden winch would have been placed, that was used to drag boats up onto the shore. On one of these platforms remains of a winch was clearly visible, suggesting that these platforms were still in use well into the 20th century.

North of the platforms four rectangular single room structures were recorded and each of them measured 9 x 6 meters. Three of them had a small entrance facing the sea and one with an entrance in a easterly direction.

The structures at Skálavík were clearly from different time periods and most of them from the last phase of occupation in the late 18th – early 20th century. In various places between the visible structures smaller mounds were recorded. These mounds had no regular shapes and neither walls nor rooms could be identified. They are remains of older occupational phases and some of them are remains of older fishing booths. It is quite clear from the survey data that there has been a continuous occupation of the site for a long time .

Slétta

Straight across the fjord of Ísafjarðardjúp from Bolungarvík is the farm Slétta. About 100 meters west of the farm itself is a fishing station called Garðanes. It is recorded in the 18th century sources and at the time 4 – 5 boats were stationed there (Á.M.VII.).

The fishing station at Garðanes is situated about 10 meters from the shore at the edge of a bog that extends inland. On the site 10 single room structures were surveyed 8 of them fishing booths and 2 small structures of an unknown function. All the fishing booths were similar in shape and size, rectangular, about 8 x 6 meters in diameter. The booths had an opening facing the sea and were made of turf and stone (Plan 9).

The fishing station at Garðanes closely resembles the station at Skálavík. The single-roomed structures are similar in size and the general layout of the station in the landscape is identical.

Arnardalir, Kálfeyri and Hvannakrar

The fishing stations Kálfeyri and Hvannakrar are on the farmland Eyri, which is on the north shore of the fjord Önundarfjörður. Both stations are situated quite some distance from the farm on a rocky beach. The land rises rapidly behind the stations and a large mountain range looms above it.

Both stations are mentioned in the 18th century sources but the station Hvannakrar seems to be abandoned at that time. Prior to the 18th century 2 – 3 boats were stationed there. The 18th century sources record 16 – 19 boats stationed at the Kálfeyri fishing station. On both stations about 126 – 156 fishermen would have been fishing during the fishing season (Á.M.VII.).

The survey recorded 9 structures at Kálfeyri, 3 of them double rooms, 4 single rooms and two of an unknown function. The single-room structures were all similar in size 7 x 5 meters in diameter. The double rooms were 13 x 6 meters in diameter, with each room about 7 x 6 meters. All structures were made of stone and turf and no evidence of a roof

could be seen. In some places around these structures mounds were recorded, similar to those recorded at Skálavík, which suggest an earlier occupation of the site. The visible remains at Kálfeyri are from the last phase of occupation in the late 19th to early 20th centuries. Radiocarbon samples collected in 2006 from two trenches at Kálfeyri by Ian Simpson and Stuart Morrison suggest that the earliest occupation of this site dates to 710 +/- 30, giving the calendar date of 1205 – 1275 for this station.(Morrison, S. et al., 2009) (Plan 10).

At Hvannakrar no standing structures were recorded, only a few mounds that probably are the remains of fishing booths. In total 4 irregular mounds were recorded. This suggests that the station at Hvannakrar has been abandoned for some time, even since the early 18th century.

The fishing station at Arnardalur is on the farmland of the farm Arnardalur in Skutulsfjörður. This fishing station is recorded in the 18th century but no earlier sources exist on this site. Modern structures have been built on this site, i.e. sheds and fish drying racks, but ruins of older buildings are visible. During the survey, 4 structures were recorded, all similar in size and shape as on other fishing sites in the area. The buildings were made of stone and turf and open towards the sea. The earliest phase at the Arnardalur site was dated with C14 to AD1630 – 1700 (Morrison, S., et al., 2009) (Plan 11).

Fisher farmers

It was noted during the field survey that in some cases where the written sources mentioned a fishing station, few or no fishing booths were found. In some cases boathouses were located but often nothing that could connect the site to fishing, except

that it was by the sea. The reason behind this was not that it had been destroyed by nature or man but that there was a different type of station. During the fishing season fishermen would go to the farm of one farmer and instead of building fishing booths they would stay at the farmhouse. This creates a problem as the fishermen left little or no physical remains of their presence and if they did, it is without a doubt mixed in with the material remains of the farm itself. The larger issue here is how to distinguish commercial from subsistence activity on such a site, as during the off seasons the farmer would continue to fish for subsistence.

North of the farm Slétta is a small bay called Aðalvík and on the southern side of it is a small valley, Skáladalur. In this valley was a farm that was abandoned early in the 20th century and according to some 19th century sources a small fishing station was on its farmland. However, there are no records of a fishing station at this farm in the 18th century or earlier.

The farm was surveyed and no fishing station was located during the survey. One structure was recorded on the shore that probably was the remains of a fishing booth. It is very likely that there was never a commercial fishing station on this site as no evidence for it could be found. The site may have been used by farmers in the area during the fishing seasons for subsistence fishing. In such a case the fishermen would have lived on the farm itself and not built any fishing booths.

Fishing grounds

An important part of fishing around Vestfirðir are the fishing grounds themselves and how they relate to the fishing stations. It was clear from the survey that there was a pattern in the placements of fishing station in the landscape and that pattern seemed to be

closely related to fishing grounds. Many of the fishing stations were situated on peninsulas and nearly all of them in places that were ill-suited for human habitation. The fishing station at Kálfadalur nestled under a high and dangerous mountain, Kálfeyri is sitting under a high mountain and others in places which were inaccessible by land. It was therefore likely that fishing grounds played the major role in the placement of fishing station.

Written sources from the 18th century give us an idea how fishermen thought of their profession and it is clear that these men feared more than anything to be lost at sea (Kristjánsson, L., 1982). It is obvious that these men wanted to be able to reach the fishing grounds in the shortest time possible and to be able to make it back as soon as possible if the weather changed for the worse. Thus, the fishing stations would be placed as close to the fishing grounds as possible.

In many written sources there are references to fishing grounds all around Vestfirðir. Unfortunately, the location of many have been lost as modern navigation has made land markers unnecessary when it comes to finding fishing grounds. Fishermen have also ceased using most of these older fishing grounds and fish far off the shores of Iceland.

Prior to modern navigation fishermen would locate the fishing grounds by using land-based reference points. The system they used is a sort of triangulation, i.e. when the boat was on a certain spot where two reference points on land would line up in the right way. This indicated to the fishermen that they had reached a particular fishing ground. Most fishing grounds were named after one of the land-based reference points, i.e. the fishing ground Öskubakur was named after a mountain that was used as one of the reference points.

It soon became very clear that it would be extremely difficult to locate all fishing grounds around Vestfirðir as few were actually named in the written sources and in many cases where they were named there was no way to locate them as no one knew where they were. The reason is that the fishing grounds are named after only one reference point and as very few modern fishermen know the second point it is impossible to locate the fishing ground.

It was only in one area in Vestfirðir where fishing grounds could be accurately located and that was in the area at the mouth of the fjord Ísafjörður. All the fishing grounds used by the Bolungarvík and other stations in the area had been named and mapped by a fisherman in the early 20th century (Bárðarson, J., 1964). This was extremely valuable as the relationship between the fishing grounds and stations could now be analyzed and studied.

All fishing stations had to meet a certain category based on the written sources and survey, before they were selected for analysis. First they had to be mentioned in the 18th century written sources, second; farmers from places outside the district had to have used them, third; they had to have more than one fishing booth.

In total there were 47 fishing grounds recorded and mapped in the area. The fishing grounds were divided into two types, *djúpmið* og *útmíð*. The local division of the fishing grounds was that the *djúpmið* were located off the Ísafjarðardjúp, east to west and *útmíð* from within the Ísafjarðardjúp, north to south. The division of fishing grounds as it is represented in the written sources is not based on off- or inshore fishing grounds, but in general most of these fishing grounds are of the off shore type. It is not clearly recorded what type of fish was caught but in most cases it was cod and haddock. One of the fishing

grounds, Björg, was seldom used, and then only for shark fishing. This particular fishing ground is the furthest away from land (Map 38).

To understand the relationship between the fishing grounds and the stations, all data were analyzed with Geographical Information Systems (GIS). The average maximum distance to any of the fishing grounds from the fishing stations in the vicinity was 43 km and the minimum average distance was 12 km. The optimal distance to a fishing ground would be about 27 km. Buffers were created around all fishing grounds at the mouth of the Ísafjörður fjord at a distance of 27 km. All of the major fishing stations in the vicinity fell within the specified distance showing a clear relationship between the fishing grounds and the placement of a fishing station. It is interesting to note that the oldest fishing ground mentioned in the written sources, *kvíarmið*, is placed at the optimal distance about 27 km from all fishing stations which suggests that most of the fishing stations were established around fishing in that particular area. This might be an indication of an early establishment of these off shore bases.

4.5 The Archaeological excavation

The question of methodology is an important one when approaching an archaeological site. The main aim of any archaeological excavation is to extract as many of the data available from the site, and therefore it is important to realize that on any given archaeological site not much remains of the original cultural material that was there during occupation. If an excavator is not careful in his approach and choice of method he can easily lose the majority of the data, making it impossible to interpret the site. At the same time, the excavator cannot be too rigid in his approach and methodology as it is the archaeological site that decides what method is best suited for the site in question.

Before beginning an excavation it is important to understand the nature of the site in question. An urban site or a farm mound needs a different approach than a fishing site or a site occupied for a short time. The urban site and the farm mound have a deep and complex stratigraphic sequence as the cultural material has been built up over a long period of time. These sites have multiple phases and houses and other structures have changed function, size and shape which need to be carefully excavated if it is ever to be possible to understand them. The fishing site is different as it was built and used for one purpose, i.e. fishing. It was also seasonally occupied and in many cases fishing sites were abandoned after 200 – 300 years of use. The shape and sizes of the structures built on a fishing site do not change much throughout the centuries making the stratigraphic sequences much simpler. Sites that were only occupied for a short time, 100 – 200 years, often only have one building phase sometimes two or three, but in most cases the structures have maintained their function and shape until their abandonment, and have a simple stratigraphic sequence.

The methodology behind the excavations at the sites chosen for this research is the so-called open area excavation and single context recording. This method has been used now for over 10 years on various sites in the North Atlantic and has proved an excellent method of excavating both structures and midden sites (Edvardsson, R., 2004, Drewitt, P.L., 1999, Harris, E., 1989).

With this method a large area is opened, preferably an area of a 10 x 10 meters and each archaeological unit (context), i.e. deposits, cuts, structures, etc., are excavated in a reversed order, starting with the youngest. All units are cleaned, photographed, planned and finally removed. The whole area is excavated at the same time, which gives the

archaeologists a view of all phases of the site until the whole area is excavated to the undisturbed phase before occupation. Ideally all archaeological units are removed, i.e. structures, midden deposits and other units and at the end of excavation nothing remains except the soil prior to occupation of the site. This gives a complete understanding of the history of the site and any changes it has gone through. In some cases of the excavation, for example Vatnsfjörður, no structures were removed, only the cultural deposits and the excavation was halted once the earliest building phase was reached.

It is important in order to gain full understanding of any archaeological site that everything prior to the excavation at hand is treated as part of the archaeology and therefore the earlier archaeological trenches, if there were any, were recorded in the same manner as any other archaeological deposit.

The sites that were selected for this research were sites of different functions and not only fishing sites. The reason for this is that it is difficult to speculate about the role of fishing in medieval Iceland only from the fishing stations because it would give a one-sided view of the industry. Therefore data from one farm were also included in this research, Vatnsfjörður in Ísafjarðadjúp, which was occupied continuously into the 20th century. Vatnsfjörður was selected because during the medieval period and well into the modern period, it was the richest farm in the whole Vestfirðir region.

There are four sites that are discussed, but not described in any detail, and these are Hrísheimar in northeast Iceland and Ø28b in Greenland. The reason why Hrísheimar was selected, in spite of the fact that it is situated in another part of the country, is because it is an inland farm, where excavation has revealed large amounts of bones from saltwater fish species, and is therefore a good representation of the other end of the spectrum, i.e. where

the dried fish products would end. The excavation of the Hrísheimar site also suggested a different economic base which was thought to be relevant to this study. The selection of a Greenlandic site as comparative material was based on the fact that south Greenland is in many ways similar to Vestfirðir, and similar settlement patterns have been observed.

These similarities are important as it is likely that both settlements developed on a similar trajectory. Both settlements would have relied on a mixed economy, i.e. agricultural and marine, and with heavy reliance on export and import. The study and comparison of Greenlandic sites, and sites in Vestfirðir will aid in the understanding of where these settlements succeeded, and where they failed.

Fishing increased dramatically in the period between the mid-19th to early 20th centuries. This was mainly due to the industrialization of the fishing industry and the lifting of bans and regulations that limited the industry. New types of boats with engines were developed, making it possible to go farther out to sea than had earlier been possible.

These changes made the older fishing stations unnecessary as the distance to the offshore fishing grounds no longer mattered. Many offshore fishing sites were abandoned. Others changed from a fishing station to a fishing village as more and more people flocked to the shore to participate in the booming fishing industry. Only the sites that had been established in a favorable environment changed to fishing villages, while others were completely abandoned.

Unfortunately, the fishing villages often completely destroyed the physical remains of the earlier fishing stations, and in other cases the stations were destroyed by road or other types of construction. The largest fishing stations in Vestfirðir were: Bolungarvík, which became a fishing village; and Kálfadalur, in the vicinity of Bolungarvík, which was

completely destroyed by road construction between 1960 and 1970. Very few offshore bases lasted into the 20th century. Those that did survive, were finally abandoned by the mid-20th century. The offshore fishing station of Skreflur, in the district of Kaldrananes, lasted until the 1940s, after which all fishing in the area had moved to the village of Drangsnes (*Örnefnaskrá Kaldbaks*)

The rapid developments in Vestfirðir caused the near destruction of sites with the offshore bases and today there are few remains to be studied. Also a consideration for few remains of stations is that some stations were so close to a farm that the fishermen could remain on that farm overnight or for longer periods. In these cases there was no need to build booths to live in during the fishing season. Such sites left few physical remains. This can clearly be seen on the island of Bjarneyjar in Breiðafjörður where no fishing booths are visible, only massive boat landings, constructed with large rocks and boulders.

This research included two main approaches to studying fishing stations in Vestfirðir. The first and foremost is to look at each site archaeologically from the land. This includes all states of survey and excavation, as well as including the landscape, surrounding farms, and boundaries surrounding the fishing stations. Secondly, one cannot attempt to understand fishing stations or fishing in general without understanding the source and the relationship with that source. Thus, not only should the landscape be considered, seascapes must be included as well. Therefore, this research into the settlement of fishing sites and indeed the settlement of Vestfirðir in general, not only views the fishing stations from a terrestrial perspective, but also from a marine perspective. It is the view of this research that the sea and its resources are the primary factors influencing the settlement

and its development in this area. The location and placement of any settlements, fishing or otherwise, were ruled primarily by the sea and land is only of secondary importance. The archaeology of such sites is concentrated on the landscape, and fishing stations themselves, thus these are the main focus of this research; however, it seems relevant to include a brief discussion of the seascape and its connection to particular types of fishing stations as well as where the fishing stations were situated. This information should help to categorize the fishing sites and stations and help to clarify the archaeological data. After which the historical, functional and locational aspects of the fishing stations themselves will be discussed.

Function

In the study of fishing and its development, special notice should be given to the particular seascape of a fishing site and its settlement. There are two main functions of stations that will be discussed: offshore and inshore. Any fishing site that was a base for deep-sea fishing had to be located close to the offshore fishing grounds. A practical location for such a site would be on a peninsula, which was closest to the deep-sea fishing grounds, and where suitable landings could be found, preferably a rocky beach. It would not be practical to locate an offshore fishing base far away from the fishing grounds, deep in a fjord, as the cost for the fishermen would be too great to reach the fishing grounds, and too dangerous as they would be exposed to the elements for too long. At the same time, fishermen who targeted inshore fishing could do so from their own farms. The only thing that an inshore fishing base needed was a decent landing, anywhere on their farmland. This type of fishing was only fishing for subsistence and did not target a certain type of fish or of any particular size.

Cod was the main species targeted from the offshore fishing sites, and comes mainly in two sizes in the waters surrounding Iceland. The smaller is found in the inshore fishing grounds, and the larger in the offshore fishing grounds. The smaller cod was generally not usable for the production of *skreið* and therefore was primarily for domestic use. The larger cod was large enough to be turned into *skreið* and was therefore targeted for both internal and external markets.

The importance of cod size was probably greater in the period before 1700 as these periods produced different fish products for export. In the early period dried fish products were the main export items and in the latter period the market turned to salted fish products. The former was probably more difficult to produce as it required a certain size of cod and particular conditions needed to be met; while the latter was not as vulnerable to outside conditions during its production. This is extremely important for understanding the role of marine products in the Icelandic economy, and the development of the fishing industry during the period from 1200–1800; as well as the usage, size and placement of fishing stations.

Another factor which plays a role in choosing a location for these functional fishing stations from the seascape is that fishing in Iceland has always been a hazardous occupation as weather patterns are unpredictable and can change without warning. Fishermen in the past practised their craft in small open boats which were fragile and could not endure the full fury of the North Atlantic for long. For this reason, it was especially important in deep-sea fishing for the fishermen to be able to reach the offshore fishing grounds in as short time as possible and to get back to base as soon as possible if conditions turned for the worse.

Type

In his fundamental work on fishing in Iceland, Lúðvík Kristjánsson (1983) categorizes fishing sites into four main types: (i) *heimræði* (home base), (ii) *viðleguver* (shared base), (iii) *útver* (outlying base), and (iv) *blandað ver* (mixed base). These sites can be generally described in the following manner: *heimræði* was the place from which a fisher-farmer set out during fishing trips and was used generally only by himself and his farmhands. *Viðleguver* is a place where many farmers from the region used a *heimræði* of a particular farm during the fishing season. *Útver* is a particular place on one's farmland, not close to the farm itself, where fishermen set out on their fishing trips during the fishing season. The main difference between the *viðleguver* and *útver* seems to be that the latter is not in the *heimræði* of a particular farm. *Blandað ver* is a fishing station that seems to be a mixture of the other three types of fishing sites. The word *verstöð* also appears in some of the sources; however, it seems to be a more general term for a hunting station, including fishing, with the main difference being that it was always used for a site away from the farm (Kristjánsson, L., 1982, 32).

The number of bases of all types are numerous in Vestfirðir as nearly all farms had access to the sea. All these farms had a *heimræði*, however, sites of the *útver* and *verstöð* types are relatively few. These two latter types are all situated in similar locations close to the tip of a peninsula and often in very inhospitable and rough places. The *heimræði* are randomly situated on each individual farm although usually as close to the farmhouse as possible where a good landing could be found.

Archaeological Assessment of Fishing Stations

Archaeological surveys and excavations conducted for this project have provided this research with a new understanding of fishing stations in Vestfirðir. Taking the surveys into consideration, it is revealed that there are no serious differences between the forms of fishing stations based on the historical types aforementioned herewith. The historical differentiations are based on location from a farm more than likely given centuries ago and attempting to properly associate a particular station with a particular farm today is not based on anything definitive, since there are no stylistic differences between the types. As all are situated near water, the obvious connection with fishing, it is difficult to apply these typological terms. (Edvardsson, 1996, 1997, 1999, 2000, 2002, 2003)

Excavations, on the other hand, do provide some relevant differentiation to support function. For instance, inshore fishing stations seem to have smaller and more varied species of fish associated with them. While offshore fishing stations tend to single out fish of a similar species, usually cod, as well as similar displaying similar proportions. In other words, the offshore fishing stations demonstrate a more or less homogenous sample of large cod (Amundsen, et al., 2005; Edvardsson, 2003, 2004).

Based on the information revealed from surveys and excavations, it can be seen that the historical divisions, while correct and relative when speaking about the historical past and understanding the culture; cannot be recognized in the archaeological record, in neither survey nor excavation. Such divisions are also overlapping in their own definitions. Thus, it seems that a new categorization strategy should be formed based on function and not historical reference. Therefore, it would be relevant to have only two categories: Inshore fishing bases (home bases) and offshore fishing bases (Fishing stations) and these terms will be used here from now on. In this work fishing sites are classified only as inshore

fishing and offshore fishing sites and no attempt is made at identifying other types of sites.

Function sites in Vestfirðir

General fishing sites in Vestfirðir are numerous as most farms had access to the sea. However, sites that can be categorized as offshore bases in the 18th century are very few and most of them in the northern area of Vestfirðir peninsula. These sites increase in number in the period between 1800 and 1900. There seems to be a connection between the offshore bases and social conditions at any given period. In the 17th and 18th centuries fishing went into decline in a period that corresponds with environmental, social and political changes. The increase of fishing sites in the mid 19th century, into the 20th century, also seem to correspond to more favorable conditions environmentally, politically and socially in Iceland (Barlow, L, 2001, 106; Júlíusson, Á.D., 1996, 212-212)

This research discusses mainly fishing stations that can be categorized as offshore fishing bases and would therefore primarily have a commercial function. In these cases the sea and its resources were the important factors when it came to their location in the landscape. For other fishing bases that were only subsistence or mixed the sea would also have played an important role but other factors need to be taken into account.

Fishing sites and Farms

In Vestfirðir there are two types of farms in general, the coastal farm and the inland farm. The settlement pattern for both types is identical in respect to location of field boundaries and outhouses. The only difference is that the coastal farm had access to the

sea and structures connected to fishing and the storing of marine resources. A coastal farm could also have a fishing station located on its farmland.

The archaeological survey suggests that all coastal farms had at least one boat landing, one *naust*. Some coastal farms had multiple boat landings and *naust* and this was both because these farmers could own many boats, and also other farmers used their farmlands to row to and from the fishing stations. This causes a problem from an archaeological perspective as all coastal farms could at one time or another have been a mixed base (*viðleguver, blandað ver*). An example of such a site is the farm Skáladalur in Aðalvík.

Farms that were used as fishing sites by many farmers could not be identified with archaeological surveys because the main element, i.e. a fishing booth, was missing from farms, and in many cases boat landings had been washed away by the sea. It is unlikely that such farms can be identified with archaeological excavations as the industrial waste from commercial fishing is probably mixed with the domestic waste. Nevertheless, this needs to be tested with archaeological methods, especially if it is possible to distinguish between domestic and industrial waste in the archaeological record.

It is possible to use the seascape of each coastal farm to help in locating a mixed base, given that a fishing station had to be located as close to the fishing grounds as possible. Every coastal farm that falls within the optimal distance from a fishing station can be labeled as a potential mixed base and then tested with archaeological methods. Those farms that are mixed bases in the historical records from the 19th and 20th centuries can also further help in identifying a farm that was a mixed base.

The survey data suggests that the settlement pattern remains relatively stable throughout time and does not change much in the period after AD 1400. It is therefore

impossible to date farms by typology of houses or settlement patterns in Vestfirðir, making the historical divisions into periods unusable. The survey only recognized three main periods, A) Settlement. 900 – 1100. B) 1100 – 1900. C) Modern. It is possible however that with more survey and archaeological excavation that period B can be subdivided into two periods; 1100 – 1400 and 1400 – 1900.

4.6 Sauratún and Skálavík

The fishing site Sauratún is located in the northern part of the district of Kaldrananes on the Kaldbakur farmland. Sauratún is about 1,5 km east of the farm Kaldbakur (Map 20). The oldest written sources mentioning the site are from 1575: “Kirkian i Arnesi a heimaland halft. Jtem thrídiung vættar skreidar aff huerium buande og fiskemanne theim sem hann er til vers. Fra Geirhole og i Sauratun halfann manud edur leingur.” (DI.XV.,562) (The church at Árnes owns half of the homeland. Also third *vætt* of stockfish from each farmer and fishermen that he sends to a fishing station. From Geirhólmi and to Sauratún for half a month or longer. Trans. Author). In the land registry of Árni Magnússon from 1706 it is recorded that the station has been abandoned for a long time and that all booths have collapsed (Á.M.. VII. 1940). This suggests that the station has been abandoned for a long time and was last used sometime before AD 1600.

Prior to excavation the fishing station was positioned with GPS (Global Positioning System) and its position is; 65°53.18N, 21°17.14W. The plan was also to measure the station with a differential GPS but it was decided to wait as the shape and size of the booths were barely visible due to soil accumulation on the site.

On the site five small hills are visible each measuring 5x 5 m in diameter and are all aligned in an east/west direction. The ruins are on a slope facing the sea and south of

them just above the shoreline is a small boathouse (*naust*). To the northeast of the station are the ruins of a sheep pen (*stekkur*) made of stones and a rock formation forms one of its walls. The pen is not overgrown and probably dates to the 19th – early 20th centuries.

The northern most hillock was selected for excavation. The ruin was divided into four quadrants and each quadrant was excavated separately. This was done so that the excavators could maintain stratigraphic control on the site during the excavation.

After removal of topsoil [1] a light brown Aeolian deposit [2], [9] became visible which extended all over the excavation trench. Underneath this Aeolian deposit were the walls [4], [16] of the structure which were visible on all sides except on the southern side, facing the sea. The walls had been constructed with stones and turf, i.e. the stones lined up on each side and earth filled in between the two lines of stones. The ruin was in the shape of a horseshoe and measured 1 x 1.50 m on the inside and 3 x 3 m on the outside. In the northern part of the excavation trench a wall [13] became visible which does not belong to the horse shaped structure. This wall is made of stones and is aligned in an east/west direction. This wall belongs to a structure that is barely visible in the surface north of the excavated structure. Stones from the structure above had collapsed into the main excavated structure and once they had been removed it became clear that the main structure had partially been dug into the slope above [12]. The northern part of the structure had been dug into the slope and the up cast [10, [11] had been used for fill in the walls. A thin Aeolian deposit [3], mixed with charcoal, covered the inside of the structure. Underneath this Aeolian deposit was structural collapse [15, 17, 16] from the walls of the structure. After the removal of the structural collapse the floor became visible. The floor [6] was black, compact and extended from the northern part of the

structure but became thinner as it extended towards the entrance on the south side. Built into the northern wall was a small fireplace [19]. The fireplace was a simple structure, three large stones forming a square which was open on the south end. The fireplace was filled with peat, wood ash and charcoal [5] and occasional burnt bones. Once the floor had been removed no postholes were detected which suggest that the building did not have a roof (Plan 12).

No bones were excavated but north of the structure a large midden deposit was recorded but not excavated [18]. Two other midden deposits [7, 8] were also recorded but both were underneath the west wall of the structure and therefore they were not excavated. The presence of deposits underneath the walls suggests an older occupation on the site. Samples were taken from all deposits with the hope that useful material could be extracted from the deposits for radiocarbon dating but unfortunately none of the samples were found suitable.

Few artifacts were found during the excavation and all of them were made of iron and bronze. The iron artifacts were all large boat nails and the bronze were fragments of large and small vessels that were probably used for cooking. No ceramic or glass artifacts were excavated which suggest an early date for the structure.

Skálavík is located in a valley about 5 km from the town of Bolungarvík and the fishing station is on the Minnibakki farmland on the eastern side of a bay, about 200 m from the farm. The oldest written source that records fishing from Skálavík is the church deed of the church of John the Baptist at Núpur in Dýrafjörður dating to 1363 (D.I.III.,330). The church deed of the Vatnsfjörður church from 1509 states that the church owns 3 *vættir*(pl.) of stockfish from the fishing station at Skálavík (D.I.VIII.,

286). It is recorded in the land registry of Árni Magnússon that in the beginning of the 18th century only the local farmers use the fishing station but before 1700 many fishermen from different places had come to the station to fish (Á. M. VII., 1940). From 1850 and into the beginning of the 20th century fishing in Skálavík increased and at the turn of the 20th century 85 people lived in the valley and 20 years later the population had increased to 200. Around 1920 fishing from the station declines and only local farmers use the station in the period between 1920 and 1960.

The fishing station was positioned with GPS and is located at 66°11'07.223N, 23°28'38.566W. All the structures at the site were measured with a differential GPS. Twelve structures were measured, 9 buildings and 3 platforms for winches. The structures differ in size and shape and some are more collapsed and overgrown than others. Some buildings have standing walls up to 1 m in height. The best preserved buildings are the remains of so called *sjávarhúsa* (sea houses), which were built around 1900. These houses were occupied the whole year round by fishermen and their families.

It was decided to avoid the structures that were in a good state of preservation both because they are remains from the last occupational phase of the site and because it would take too long to excavate them. An area was chosen where the remains of two overgrown structures were visible. The excavation area was 5x 5 m and the area was divided into four quadrants. Only two out of four quadrants were excavated.

The northeastern and southwestern parts were opened, each measuring 2,50 x 2,50 m. In the northeastern part of the excavation the topsoil [1] was 5 – 10 cm thick. Under it was a deposit [2] that was spread over the whole excavation area. The deposit was light brown in color and with small charcoal and burnt bone inclusions. The deposit was

recorded both on the inside and outside of the structure and is probably an Aeolian deposit that has accumulated against the structure. In both layers [1,2] small artifacts were excavated, i.e. ceramics, nails, glass and clay pipe fragments. These artifacts do not belong to the occupational phase of the structure but are a mix of objects from different periods that were thrown into the structure. Most of the artifacts come from the last occupational phase of the fishing station, 1920 – 1940. Under deposit [2] were stones [3] that probably come from structures close to the excavated structure and these stones are probably collapse from these buildings. A wall [6] was excavated in the south western quadrant that had an entrance on the south side. Various waterlogged, clayish and organic deposits [8,11,13, 14, 15, 16] were excavated on the inside of the structure. A number of artifacts were found in these deposits, ceramics, glass, iron and clay pipes. It is probable that these are midden deposits that were dumped into the structure after it fell out of use. During the excavation of these deposits a number of animal and fish bones were recorded but they were all in such a state of decay that it was impossible to collect them. It was attempted to sieve the deposits to retrieve bones but it proved impossible. Once these deposits had been removed it became clear that the structure had been dug [12] down and the up cast used for walls on the south and west sides. Stones had also been used in the construction but mainly to make the walls stronger. The structure measured 2x 2 m on the inside and no solid floor deposits were recorded, which suggest a short term occupation of the structure. No postholes were recorded which suggests that the structure had no fixed roof (Plan 13).

Samples for pollen analysis were taken from all deposits but no suitable bones could be found for radiocarbon dating. A number of artifacts were found during the excavation,

most of them made of iron, ceramic and glass. Few pieces of window glass were found that probably belong to structures close by and come from the last occupation of the site. The head of a clay pipe was found in deposit [11] that probably is a Dutch basis type 3 dating to 1750 – 1850 (Duco, D.H., 1987).

Further excavations were carried out at Skálavík in the autumn of 2008. The propose of this excavation was to get material that could be analyzed with C14 methods to obtain an absolute date for the Skálavík stations. The oldest date was 905 +/- 30, giving the calendar date of 1015 – 1075, and other dates were from the 13th – 14th centuries and the 16th century. The material suggested a phase of abandonment of the station in the 15th century but it has to be remembered that the station is spread over a large area and the 15th century occupation could be in another place on the site (Morrison, S., *et al.* 2009).

Conclusions

The structure excavated at Sauratún is probably a small fishing booth, measuring 2 x 1,50 m. During the construction of the booth a small pit was dug out and stones were laid out and the up cast used for infill between the stones on the east and west sides. A thin floor layer was recorded which suggests that the booth was used seasonally, i.e. during the fishing season and was abandoned in the period between. The excavation records also suggest that the booth had no fixed roof and during its occupation a tent made of hides would have been erected over the structure. It is unlikely that this booth was used as living quarters because of its size. Instead its function was probably a kitchen for the fishing station as the fireplace suggests. .

Unfortunately, it was impossible to retrieve samples for radiocarbon dating and therefore it is difficult get an absolute date for the fishing booth at Sauratún. The artifacts

suggest that the booth dates to the period prior to AD 1500 as no artifacts made of ceramics or glass were excavated. For comparison it can be pointed out that during the excavation at Akurvík in 1990 only iron and bronze artifacts were recorded in deposits dated to AD 1300 – 1500 with radiocarbon dating but in the later deposits, i.e. after 1500, both ceramics and glass were recorded (McGovern, T., Amorosi, T., 1998). Both fishing sites at Sauratún and Akurvík are similar in size and seem to have been abandoned at the similar time. At Sauratún older phases were recorded as the excavated fishing booth was constructed on top of older midden deposits.

The excavated fishing booth at Skálavík was similar in size, 2 x 2 m in diameter. The same method had been used in its construction but at Skálavík the whole booth had been dug down while the Sauratún booth was only partially dug into the subsoil. No fireplace was recorded in the Skálavík booth and it is difficult to determine its function but it is likely that it functioned as sleeping quarters. The booth had no postholes nor floor layers. It is therefore likely that it had no fixed roof but a tent was erected over it during the fishing season. As at Skálavík it would have been abandoned in the period between fishing seasons.

The deposits overlaying the structure itself suggest a lot of activity in the vicinity and artifacts suggest that the booth had been abandoned sometime in the 19th century and never used again.

4.7 Akurvík and Gjögur

In the summer of 1990, an international team under the direction of the National Museum of Iceland carried out survey, excavation, and paleoenvironmental research in Árneshreppur, Strandasýsla, North-West Iceland. Two small scale excavations were

carried out on nearby sites located at the end of the peninsula between Reykjarfjörður and Norðurfjörður, both producing substantial archaeofauna dominated by fish. One excavation centered on the deeply-stratified midden associated with the farm mound at Gjögur, recovering what amounts to a large column sample (Amorosi., 1996, McGovern, T., *et al.* 2004). The other excavation sampled an eroding 18 meter long profile at the coastal site of Akurvík 3 km to the North-East of Gjögur. The Akurvík site had been exposed and badly damaged by marine erosion, and a substantial portion of the site may have been affected by the post-medieval cultivation. Small turf structures and dense concentrations of fish bones had been observed in 1987 near an active erosion face in the North-West corner of the small bay during a preliminary survey, and small collections of bones had been recovered from the erosion face. The objectives of the 1990 investigations were to clarify the nature and date of the deposits at Akurvík, drawing profiles and recovering useful collections of artifacts and animal bones. Despite a shortened season and some challenging weather, large bone collections and a small number of artifacts could be recovered, and a series of small turf structures visible in the eroding profile were documented. Several of these small structures measuring 2m wide x 3-5 m long were visible in a long exposure that had been created by storm wave erosion of the beach deposit, and additional sub-rectangular depressions probably representing additional structures of the same sort were visible in the undisturbed grassy meadow just to the southwest of the erosion face. The erosion face was also banded by successive layers of medium brown soil horizons separated by thick bands of grey-black shell sand, suggesting periods of natural sand accumulation and phases of temporarily stabilized turf cover. Among these largely non-cultural deposits, several horizons of bone and other

organic material appeared that were associated with the small structures visible in profile, or with other structures not intersected by the erosion face. These layers of bone and organic material ranged from 3 cm- 40 cm in thickness and were full of fist-sized fire cracked stones as well as substantial amounts of worked whalebone and a few iron objects, mainly boat nails. When the erosion face was cleared and cut back 30-50 cm, a very large amount of animal bone was collected, especially from the two contexts reported here (stratigraphic units or SU 22 and 24). The material was 100% sieved through a 4 mm mesh and a sample of approximately 5% was sieved through a 1 mm mesh as a control check. The 18 m long profile allowed excavators to differentiate midden spreads from different phases of occupation, and it was possible to stratigraphically connect contexts 22 and 24 with two structures (F & G) appearing in the profile.

The lower structure (F) was constructed directly upon a pre-existing deposit of fish, bird, and mammal bone (context 24), which itself rested on natural pre-occupational beach sands. The interior of the structure F was filled with a hard packed set of floor layers comprised of fire cracked stones trampled into a rough pavement mixed with substantial amounts of fish, bird, and mammal bone, turf ash and small flecks of wood charcoal. These deposits formed a series of at least four successive floor layers (contexts 29-32), each separated by small layers of culturally sterile sand. These structures (F & G) were both small, lightly built, roughly rectangular constructions, made primarily of turf laid directly upon sand partially stabilized by earlier midden deposits. Both included several large fragments of whale bone buried at the base of the exposed corners. These may have provided footings for supports for a light roof, perhaps a tent. The foundations could not have supported a very heavy superstructure given the loose sandy matrix, and a

removable roof covering would explain the layers of sterile beach sand separating successive thin floor layers. Following deliberate demolition and final abandonment, structure F was later capped by a thick layer of fish bones and other refuse (context 22) that was generated by the later structure (G) at a stratigraphically higher position (Amorosi, T., McGovern, T. 1991) (Plan 14).

The bone data

The large archaeofauna from Akurvík is still under analysis and for this dissertation the analysis from two main archaeological units, unit 24, 13th century and unit 22 15th century will be discussed. The NISP count for unit 24 is 8,922 and for 22 is 101,089. Both units are dominated by fish species but domestic mammal, sea mammals, birds and mollusca are also present. Fish is about 90% of the total archaeofauna from Akurvík and is dominated by gadid (cod family) fish and the majority is cod with haddock a distant second.

Much has been done in the past to identify early commercial fishing in the north Atlantic. A number of zooarchaeological indicators of potential involvement in local and regional fish trade have been proposed, including high fish NISP in collections, changing species diversity, body part representation, butchery strategy, and reconstructed live length.

The Akurvík archaeofauna shows strong similarities with material from Storvågan in Norway which was a medieval commercial fishery. Both sites reflect a dramatic reduction in species diversity, focusing nearly entirely upon cod. The 13th-15th c contexts at Akurvík demonstrate a strong concentration upon cod, similar to the pattern of the early commercial Storvagan collections. Such a concentration upon cod is characteristic

of medieval commercial fisheries in Norway (Perdikaris, S., 1999) and in commercial fisheries in early modern Iceland (Amundsen, C., 2004, Edvardsson, R., et al 2004, Perdikaris, S., et al 2001, Perdikaris, S., McGovern, T.H., 2004). This specialization and associated reduction in species diversity in the landed catch was part of the process of high Medieval commoditization, which transformed the natural diversity of subsistence catch seen in Norwegian Iron Age and Viking Age Icelandic archaeofauna (Perdikaris, S., et al 2004, Perdikaris, S., 2000) into a focused effort to land the species most salable on the local and international markets.

The butchery and distribution of body parts at provide a signature for identifying Akurvík as a production not a consumer site. The Akurvík material shows clearly what has been noted on other production sites in the north Atlantic where large gadid heads (mouth parts and cranium) tend to be cut off and left at coastal processing points. Depending on the preserving method (salting, flat drying, round dried “stockfish”) a variable amount of the vertebral column is commonly either left at the processing site (esp. thoracic and precaudal vertebrae in flat dried methods) or travels with the caudal vertebrae to the consumer.

4.8 Strákatangi

The Strákatangi site is in the southern part of the Kaldrananes district and is located on the Kleifar farmland. There is no mention of fishing from this site in the written sources but, according to one written source, and folk tales, the site was either used by Basque whalers in the 17th century or Irish monks prior to the settlement of Iceland (Olafur O., 1964). The possibility of an unknown fishing site in the southern part of the district made

it important to include in it in this research as such a site would have increased our understanding of fishing in the area.

The ruins at Strákatangi are located approximately 10 m from the shoreline on the northern part of a small peninsula. The site consists of 4 structures, 3 are clustered together with about 2 – 4 m interval but the fourth is approximately 30 m south of the main cluster. Prior to the excavation the structures were given codes, the northernmost structure was given the code A, next B, C and finally the southernmost structure D.

The northernmost structure (A) was smallest 7 x 5 m, and it consisted of one room. The next structure (B) was the largest, 14 x 7 m and had three rooms. The largest room was 5 x 5 m, next 3 x 3 m, and the smallest room was 2 x 1,50 m. The south structure in the main cluster was 7 x 7 m and had no rooms (C). On the south and west side of this structure two rows of foundation stones were visible. The structure itself resembles a platform of some sort and an access ramp had been built on the north side of the structure. The final structure in this ruin group was furthest away from the main cluster was 16 x 9 m and had an entrance on the southeast part (D).

In 2005 two test trenches were excavated in structures B and C and both were 2 x 4 meters in diameter. The trench in structure B was excavated into the largest room and after removal of collapse and windblown soil a floor became visible. This floor was black, thick and was in lenses, with windblown soil between the floor lenses, suggesting seasonal occupation of this structure. In the north part of the trench a small circular hearth was excavated. The trench in structure C revealed a circular structure made of bricks, which all showed clear evidence of burning. This suggested that this structure was the

remains of tryworks and a working platform but further excavation was needed to clarify this.

In 2006 a full scale excavation was carried out on structure C. A trench, 7 x 7 meters or 49 square meters was measured up and it enclosed the whole structure.

Once topsoil [1] had been removed from the excavation area a large platform became visible. On top of the platform were four holes [2, 34, 35, 36, 39], at an equal distance from each other and they are remains of postholes dug by the last farmer at the farm Hveravík. In the period between 1960 and 1970 the farmer had intended to build a fish-drying shed on top of the platform but had abandoned it due to difficulties placing the posts for this building.

The platform was 7 x 5 meters in extent and was built with stones and turf. The platform did not have regular walls but stones had been irregularly piled up and soil and sand used as fill between the stones [43]. Two access ramps were on the north side and the northeastern one is a bit larger, approximately 3 x 1 meters. The ramp on the northwestern side is 1 x 1.50 meters. In the center of the platform is a semicircular stone wall which probably partially enclosed the brick structure [44] in the center of the platform. The platform had been damaged on the west side probably because farmers in the vicinity probably robbed stones from the structure after it had been abandoned.

In the center of the platform was a circular structure made of bricks, approximately 5 meters in diameter [47]. Bricks were recorded in situ on the north and partially on the east side but are mostly gone on the west side. The structure had obviously been robbed of bricks and it is likely that farmers in the vicinity are to blame. All sides of the structure lean towards the center and in the center is a trench [46], aligned north/south (0.50 x 2

meters) and it is likely that this is a trench for fuel and copper pots would have been placed above the trench. In this area small pieces of brick fragments were recorded that all showed marks of intensive heat.

A black deposit was recorded on the northeast side of the excavations trench, just by the western ramp [40]. This deposit was burned and organic in composition and is probably remains of organic material that was dumped in this area when the try works was cleaned. A similar deposit was also recorded on the northwestern side of the ramp [41].

The archaeological excavation in 2006 verified that structure C is the remains of try works, which were built by foreign whalers in the 17th century. The method of construction was that first a circular brick furnace was built and then a large platform was erected around it. Two access ramps were built on the north side, one probably to get whale blubber into the furnace and the other to remove the whale oil.

Excavations continued in 2007 and 2008 and during this season the focus was on structure B, i.e. the central structure in the main complex. The excavated area was approximately 116 square meters and the whole structure b was included within the trench. The grid system from the 2006 excavations was extended to the north, including the whole of structure B. A temporary bench mark was created on the shoreline which later was measured in accurate meters above sea level.

Structure A (Cooperage).

The main focus of the 2008 excavation was the northernmost structure of the main ruin complex. This structure was given the code A. The excavated area around structure A

was 8 x 6 meters. In the surface the structure was approximately 7 x 6 meters, measured from the outside. The grid system was extended from Y1028/x1000 to Y1039/x1000.

After the removal of turf from the whole excavated area a light brown Aeolian material became visible [51]. This material had accumulated over the structure after the abandonment of the station. Right under this deposit the top of the earth walls of the whole structure were visible and on each side of them a light brown deposit was recorded [52]. This deposit was similar to [51] but had more reddish turf inclusions. Deposit [52] was a mix of Aeolian material and collapse from the walls.

The excavation of deposit [52] was begun on the inside of the structure. Right under this deposit bricks were recorded [59]. These bricks were laid out in regular rows and extended from the south end to the center of the structure. It was clear that this brick construction was a part of the floor of this building. North of this structure, extending from the brick floor to the north gable end, was a black, sandy deposit [61] that was also interpreted as the floor of this building. In the center of the brick floor was a small structure made of bricks [60]. It was clear that these bricks had been carved and then laid out to form a circle. This circle had the approximate dimensions of the bottom of a barrel. Along the edges of this circle upright bricks had been arranged as to support something. It is very likely that this construction is some sort of a platform used during the assembly of wooden barrels for transporting oil.

Along the side of all walls postholes were recorded [67]. Three were along the north gable wall, two in each corner and one in the center. One posthole was recorded along each long wall and three by the south gable wall. All postholes were square and similar in

size, about 20 centimeters each. On the southeast long wall, facing the sea an entrance into the building was recorded.

The postholes suggest that building A had a timber frame and a roof. Nevertheless, outside the timber frame soil had been piled up to form outer walls [68] for the building. It was clear that these walls were not turf walls as they did not have the same consistency and shape as turf walls recorded on Icelandic sites.

The brick floor and the circular structure in the center of it suggest that this building was the cooperage, i.e. the working and sleeping quarters of the person who was responsible for the assembly of barrels for oil transportation. The cooper was without a doubt the most important person on the station and the best building was reserved for him. This has also been recorded on other excavated whaling stations (Tuck, J.A., 2005, *Walvisvaart in de Gouden Eeuw*, 1988).

Structure B. Room a. Habitation.

Structure A consists of three rooms and the largest lies to the southeast. This room is approximately 5 x 5 meters with an entrance on the south side. During the excavation this room was labeled room a to distinguish it from the other rooms.

The walls [43] of this room became immediately visible after the removal of topsoil [1]. The inside of the room was filled with a deposit that consisted of mixed material, turf collapse and Aeolian deposit [6]. Similar deposit was recorded on the outside of the room but these deposits were not connected over the walls [8].

A number of modern disturbances were recorded in a few places. An archaeological test trench [4] had been excavated in 2005 on the inside of the room, in the southeast part

(Ragnar Edvardsson, 2005). This trench was 2 x 4 meters and had been excavated down to the subsoil. In the south east corner of the room two inter cutting pits [7] had been excavated. These pits had been excavated through all cultural deposits and into the subsoil. The pits had also been recorded during the excavation in 2005 and are probably rubbish pits dug by the Hveravík farmer as a fair amount of modern rubbish was recorded in them.

After the removal of the mixed deposit on the inside of the room a black/grey, sandy deposit became visible [17], [19]. This deposit extended over the whole inside of the building and it reached up to the walls on all sides. This deposit was the floor in room a, and was recorded and excavated in two main layers, upper and lower. However, it was clear, as was recorded in 2005, that the floor was in lenses but these lenses were so microscopic that they could not be excavated individually. Between the floor lenses were sandy lenses. A single black/grey deposit [18] was recorded that probably is not part of the floor but is a dump of mixed material.

Alongside all walls on the inside circular negative features were recorded that cut through the floor into the undisturbed subsoil. These features were postholes [40] that were 10 – 20 cm in diameter.

In the center of the room a circular feature was recorded about 1 meter in diameter. This feature consisted of a mixed deposit, bricks, charcoal and wood ashes and was the remains of a hearth [21], [34].

At this point all cultural layers had been removed from room a, exposing an undisturbed sand deposit inside the building. All walls of this building were not removed but left standing in situ.

Structure B. Room b. Kitchen.

North of room a was a smaller room, 4 x 3 meters. The outside walls [43] of this room were built in a similar fashion as in room a, but a wall divided rooms a and b that had been built in a different fashion. This wall had a foundation of stone but the actual wall was built with 'strengur' turf [44].

After the removal of topsoil a similar deposit [9] was recorded inside room b as had been recorded in room a, mixed deposit of turf and Aeolian soil [6]. This infill was recorded in two parts, upper and lower, as there was a visible difference between them. The lower [13] infill was more mixed with sand and turf than the upper. Part of the south wall had also collapsed as a single block and was recorded as separate deposit [16].

Post-abandonment disturbances were recorded in this room especially in the west part of the room, where a number of small holes had been dug [10], [11], [14], [15]. These deposits were not visible from the surface but they had been dug through the mixed deposit [6] that filled the inside of room b. It is probable that these holes had been excavated for the extraction of bricks from the oven. One large modern disturbance was also recorded, a large oval pit dug into the wall on the north side [5]. The large pit was probably a rubbish pit excavated by the Hveravík farmer.

After the removal of the infill a large oven made of bricks was recorded in the northwest quadrant of room b. This structure was rectangular in shape and the south-east part of it extended further to the south. All the bricks in the furnace showed clear indication of heat and burning. Mixed in between the bricks of the oven and outside it was a sandy, clayish deposit [12] that is the remains of the joint filler that had been used between the bricks in the oven.

After the area had been cleaned, a deposit of collapsed bricks [53], primarily concentrated in the north part of the area was recorded. These bricks were collapse from the large fireplace [69] in the northwest corner. Below the collapse two deposits were recorded. On the outside of the fireplace a sandy deposit [55], mixed with filler from the fireplace, was recorded. This deposit was also part of the collapse from the fireplace. On the inside of the fireplace was a burned deposit [54], mostly consisting of ash and charcoal. This deposit belonged to the occupational phase of the building.

After the removal of the sandy deposit a thick black organic deposit was recorded [58]. This deposit extended over most parts of the northern area and it was clear that the dividing wall was on top of the deposit. The floor of the building and the fact that it extended underneath the dividing wall suggested that the wall was a later addition and the room had been one large chamber and not two rooms as had been interpreted in 2007. This also explained what the excavators in 2007 had recorded, that the dividing wall was different from all other walls on the site. It was clear that it was made in an Icelandic fashion with the *strengur* method. Another black deposit[62] was recorded below the primary floor. This deposit was similar to [58] but it had a higher consistency of wood remains, in some cases large pieces of wood. Most of the wood had showed markings of burning. Right under the floor deposit was the natural sandy soil as had been recorded during the 2007 excavation.

Structure B. Room c. The Smithy (Group 49)

Room c was east of room a and was approximately 3 x 3 meters in diameter. The room was connected to room a, but no access was from room c to a. An entrance into room c

was on the south side. The walls [42] of this room were different as they were much thinner than any of the other walls, only about 60 cm.

It became clear after the removal of topsoil that room c had sustained some damage from post abandonment disturbance. In four places small cuts were recorded, one on the southwest wall, two in the northwest wall and one in the northeast wall [5]. All were probably made for fence posts and could very well be 20th century activity.

In the north part on the inside of the room a large pile of mixed material was recorded. This pile was mostly composed of slag with a mix of turf between the slag lumps [2]. This deposit is probably waste from the main furnace in the main smithy.

Several deposits [25] were recorded inside room c that probably were dumps of materials inside the smithy. These deposits were a mix of slag, bricks, ash, and soil.

In the northeast part of the room a rectangular furnace was recorded [26]. This furnace had been made of bricks but it was in an advanced state of collapse and all the bricks within this structure showed markings of intense heat. All around the furnace was a mixed deposit of sand, bricks, and grey clay that was collapsed material from the furnace [20], [22]. After the large brick furnace had been removed a rectangular platform [37] was recorded. This platform was made of turf and earth, and the brick furnace had been built on top of it. Just south of the large brick furnace a small structure was recorded [27], [38] that consisted of burned brick fragments. It looked like this structure had been dug into the structure, but not much remained of it so it is impossible to determine its function.

Several pits had been dug into the floor inside room c and all are probably connected with iron working. These pits are the remains of smaller furnaces as slag was recorded in the bottom of all of them [28], [29], [35], [36]. One pit was rectangular in shape but it was impossible to identify the function of this particular pit as nothing but gravel was recorded within it [24].

Few postholes [30], [31], [32], [41] were recorded in room c but they were all in the north part of the room and none were recorded, neither by the west nor the south walls. However, pits had been dug into both the south- and northwest corners after the abandonment of the room, making it impossible to see if any postholes had been in those areas. All postholes were small, with a diameter of 5 – 10cm and only dug about 10cm into the subsoil.

The floor [33] in room c was similar to the floor in room b, black/grey, but it included a high amount of slag and charcoal fragments. The floor was recorded everywhere within the room except for the area where the large furnace stood.

Structure B. The entrance to room a and deposits outside the structure

An entrance into room a was recorded on the south side of the building. Similar mixed deposit [23] filled the entrance as had been recorded everywhere. On the east and south side of the entrance, small walls had been constructed that formed a shelter for the actual entrance, a sort of a windbreaker [39]. In the entrance and in the area between the south wall and the windbreaker walls, was a black/grey deposit that was recorded as the same as the floor inside room a. Once outside the walls this deposit changed in color and composition and became more black and organic [3]. This deposit was recorded everywhere outside the buildings, immediately underneath the mixed windblown

material. Even though no real distinction was clear between the floor inside a and this outside deposit, except the color and composition changes, they were recorded separately as each represents activity inside and outside the building. They, however, both belong to the same occupational phase.

Structure C (Tryworks)

The excavation in 2006 had focused on the southern-most structure of the main ruin complex. This structure had been given the code C and during that season it had been established that the structure was try works with a large platform around it. The platform was excavated in 2006 but the excavators had only removed the upper parts of the oil furnace. Excavation was renewed in 2008 with the aim of fully excavating the furnace.

Once the platform and furnace had been cleaned, a row of bricks, set out in a circular fashion, became visible. These bricks had been recorded in 2006 and from the outer part of the furnace. The furnace is circular in shape with a small rectangular protrusion to the north.

In the center of the furnace was a depression filled with fragments of bricks. The excavation began with the removal of this deposit [65]. After the removal of this deposit a large rectangular chamber was recorded. The chamber extended along the north/south axis, approximately 0.80 x 2 meters. The chamber was open towards the south. The chamber had a floor made of large bricks that extended almost to the north end. A similar chamber has been recorded on other try work excavations and it is a fire chamber and the opening to the north was to keep air flowing into the fire during operation.

The furnace was damaged, as had been noted during the 2006 excavation, both because of four holes dug into it by the farmer at Hveravík and because it had probably been

periodically robbed of bricks from the abandonment of the station in the late 17th century (Plan 15).

Finds in 2004 – 2008

The number of finds during the 2007 season were 302 recorded numbers, bringing the total number of finds from all seasons to 452 find numbers . Of the 302 finds 127 (42%) were made of iron, 156 (52%) ceramics, 2 (0.5%) of copper alloys, 3 (1%) of flint, glass 5 (1.7%), lead 1 (0.3%), organic 1 (0.3%), stone 2 (0.5%) and unknown 5 (1.7%). The largest number of finds in this assemblage are those made of iron and ceramics.

When the finds are divided by units then 3 finds are unstratified (0.9%), 11 are from unit 1 (4.0%), 23 from unit 2 (8%), 12 from unit 3 (4%), 2 from unit 4 (0.7%), 35 from unit 6 (12%), 12 from unit 8 (4%), 1 from unit 12 (4.0%), 3 from unit 13 (0.9%), 1 from unit 17 (0.2%), 1 from unit 18 (0.2%), 163 from unit 19 (54%), 2 from unit 20 (0.7%), 18 from 21 (6%), 4 from 22 (1%), 1 from 23 (4%) and 10 from 33 (3%). More than half of all finds recorded came from unit 19, the floor in room a.

Tobacco pipes

The largest part of the finds consist of tobacco pipes made of ceramics (clay pipes). This is consistent with the test excavation in 2005, where the largest part of the finds assemblage for the 2005 season were tobacco pipes.

Of the total ceramic assemblage 126 finds were clay pipe fragments, 86 of them were stems and 40 were bowl fragments. Of the 40 bowl fragments, 8 were whole bowls with parts of the stem still attached. All whole pipes, with the exception of 2 were not decorated and all are of the earliest types of tobacco pipes, from the early 17th century.

The two decorated bowls were in the form of a human head and the face was turned towards the smoker. These pipes are of a type known as Sir Walter Raleigh and the crocodile and were popular among mariners in the period between 1630 and 1650 (Duco, D.H.). One pipe bowl was flawed as a result of a mistake during manufacture. Another undecorated bowl had the heel mark DA which dates to the early to middle 17th century.

Most of the stem fragments were small and undecorated but a number of them had decorations. All decorations were floral designs as had been noted in the years before, with an exception of few with a “fleur de lis” design. Some of the stems had the heel still attached but almost none had a manufacture’s stamp. This suggests that the Strákatangi pipe assemblage dates from the early to mid 17th century. The oldest clay pipes from unit 19, i.e. floor, came from the lower levels of the floor, while the younger came from the upper level.

Metal

The second largest finds assemblage were finds of iron and again this is in consistence with the finds from the 2005 test trench. Of the 127 iron finds, 72 (57%) were unidentifiable type, 46 (36%) were nails, 3 (2.4%) rivets with the rove still attached, 1 (0.8) horseshoe and 1 (0.8) machine part. The horseshoe and machine part are probably from the 20th century. One decorated button made of lead was recorded. This button was small, 1 x 1 cm and had a flower decorated on it. In a few places remains of copper alloy were noted but in all cases these finds were completely corroded, leaving only a green stain in the soil, making it impossible to retrieve them.

Pottery

During the excavation 30 (10%) pottery fragments were recorded. Of the total number of pottery fragments, 17 (57%) were red ware, 8 (27%) stoneware and 5 (16%) white ware. The white ware are all of a 20th century type and were all found in the topsoil or in the windblown layers above the cultural layers belonging to the structures. The red ware are of the similar type, most of them were glazed and few had a green glazing. The stone ware are all of a Westerwald type, dating to the 17th century, and some fragments were decorated (Gaimster, D.R., 1997).

Other finds

A large amount of slag was recorded and most of it in room c. Slag was only recorded as finds if it was a single piece, and 7 pieces were recorded. In most cases slag was recorded as samples as it was in large quantities and when analyzed could give more detailed information about activity on site. Bricks were generally not recorded as finds as they belong to certain structures. However, a few bricks were taken as samples with the hope that analysis of them will be able to locate where they were manufactured. The excavation also revealed 3 pieces of flint which probably are gunflints used in pistols and muskets at the time.

Conclusions

The main aim of the excavation at Strákatangi was to assess the function and age of the site. It was hoped that the excavation would throw light on who had occupied the site, whether Icelandic or of another nationality. It was quite possible that the site was a previously unrecorded Icelandic fishing site.

A certain inconsistency is obvious between the structures at Strákatangi and known fishing sites in the Vestfirðir area. Icelandic fishing sites are usually situated close to the fishing grounds and often on a peninsula. Fishing sites are never found in the bottom of bays or fjords and individual booths are almost never larger than 5 x 5 m in size. The ruins at Strákatangi are a lot larger than the average fishing station and its position in the bottom of a bay at the mouth of the fjord Steingrímsfjörður suggests that it is not an Icelandic fishing site.

When the structures at Strákatangi are compared with structures at whaling stations from the 17th century in the North Atlantic region, especially Red Bay in Labrador, and in northern Norway, many similarities become apparent.

Few try works have been excavated at the Basque whaling station in Red Bay in Labrador but they all are similar in construction, i.e. furnaces for melting blubber and in front of them a platform where the workers stood (James A. Tuck et al., 2005). The shape of the structure A at Strákatangi suggests that it is a try work of a similar type. However, the try works at Strákatangi are more similar to the try works excavated at Spitsbergen and northern Norway which were built by Dutch and English whalers (Dalgard, D., 1962). The excavation shows that structure A is a platform with a ramp on the north side to facilitate access to the try works. The try works themselves were built with bricks and on top of them large cauldrons stood where the whale blubber was melted.

Many other structures have been excavated at Red Bay, and, among them, the so-called cooperage, i.e. a structure where the barrels were manufactured for transporting the whale oil. These buildings were usually the largest ones and had a fixed roof (James A. T. et al., 2005).

It is likely that structure B is of this type as it was the largest structure and a lot of work was put into its construction. Postholes were recorded during the excavation that shows that the structure had a fixed roof. The floor deposit was thick and many artifacts were found in it which suggest that it was a living quarter and also a working place. The fireplace in structure B also suggests that it was living quarters for humans not animals.

The artifacts found during the excavation suggest that structure B was occupied in the 17th century. The artifacts give us a relative date for the occupation of the site which indicate an occupation in the period 1610 – 1650. No animal bones were recovered during the excavation and sieving of cultural deposits with a 5 mm sieve produced neither animal nor fish bones. Once the samples taken from the cultural layers have been analyzed it is possible that useful samples for radiocarbon dating will be found. Few whalebones were recorded and DNA analysis of these bones by the Marine Research Center of Iceland (*Hafrannsóknarstofnun*) showed that they all belonged to the right whale species.

The floor deposit also showed that the occupation of the site was seasonal and the site probably remained abandoned between whaling seasons. The floor deposit suggested an occupation for a long time but how long is impossible to say without further research of all the structures on the site.

The results of the excavation strongly suggest that the site is a foreign whaling station from the 17th century. It is impossible to say from the archaeological material which nationality occupied the station but local tales suggest that the whalers at Strákatanga were Basques that came from the Basque regions in northern Spain and southern France.

The remains at Strákatangi date to the 17th century and are the oldest remains of foreign occupation on Icelandic soil. These remains suggest that foreign whalers built stations on land and used them during the whaling season which probably was during autumn. This excavation opens up a new chapter in Icelandic archaeology as there is little or nothing known about foreign settlements in Iceland. The written sources cannot give us a good picture of the settlement and especially the relationship between the whalers and Icelanders. The excavation suggests that this relationship may have been over a long period of time and probably was closer than the sources suggest. The whalers came from different countries in Europe, Holland, France and Spain, and created connections, both in trade and culture, between these areas and Strandir. It is important for future research into whaling around Iceland to examine this connection in more detail as we know little about European influence on the common Icelander in the 17th century.

From a cultural point of view the remains at Strákatangi have an international cultural importance as the structures were probably built and occupied by foreigners, and are of a similar type as the whaling stations at Red Bay and in other places around the North Atlantic. The whaling station at Strákatangi is an important part of the history of whaling in the North Atlantic and an important link in the history of the expansion into the North Atlantic by European nations. Further research into this field will, without a doubt, increase our understanding of the beginning of commercial whaling in the North Atlantic, as well as what influence the occupation on Icelandic soil had on Icelandic society.

The Strákatangi site was targeted as a possible fishing site but it proved to be a site of a different nature. However, the site shows certain similarities with fishing sites in Vestfirðir. The whaling station and fishing sites are highly specialized and industrial in

nature. It also shows that Vestfirðir had greater potential in specialization in other marine resources, which were not utilized by Icelanders until the 20th century.

4.9 Vatnsfjörður in Ísafjarðardjúp

The farm Vatnsfjörður is situated on the west side of a fjord that has the same name. The oldest written sources date to the 12th and 13th centuries and the farm is mentioned in most of the old written sources and it is likely that the farm was settled in the 10th century.

In the *Book of Settlements* it is said that Snæbjörn the son of Eyvindur austmann, the brother of Helgi magri, settled the area between the fjord of Mjóifjörður and the river of Langidalur (Ísl.sög. I). The settlement of Snæbjörn was fairly large - from Skálavík in Mjóifjörður to Nauteyri in Ísafjörður. In the mid 18th century there were 22 farms (Johnsen, J., 1940) within the area which probably split out of the original settlement of Snæbjörn in the period between AD 900 – 1200.

Vatnsfjörður probably became one of the more important farms in Vestfirðir early on, and an important powerbase in the region. During the period AD 1000 – 1200 it was the base of the greatest chieftains in Iceland (Ísl.sög I., KristinsSaga).

At the beginning of the 13th century there were two families who shared power in the northwest, *Seldælir* on the southern part of Vestfirðri, and *Vatnsfirðingar* in the northern part and Strandir. The main farm of Seldælingar was the farm Selárdalur in the fjord Arnarfjörður and the main farm of Vatnsfirðingar was Vatnsfjörður. During the age of *Sturlungar* these families fought for power but neither managed to gain complete victory (Sturl.Sag.)

The power structure remained relatively unchanged at the beginning of the 14th century, but the *Seldælir* family seem to have had more power during the 14th century. In the 15th century the Vatnsfjörður family became the more dominant and by the mid 15th century it was one of the main farms of the richest and most powerful man in Iceland. This was Björn Þorleifsson ríki (i.e. the rich) who inherited the Vatnsfjörður farm in 1433. It became the center of his power in Vestfirðir along with the farm Skarð á Skarðsströnd until his death in 1467 (D.I.IV).

The Vatnsfjörður farm slowly lost its position as a powerbase after the death of Björn Þorleifsson and the base of power is shifted to the farm Ögur in Ísafjarðardjúp. In the early part of the 16th century the farm was taken over by the Bishop's seat in Skálholt and after that it belonged to the church (DI.VIII.).

In the church deed of the Church of Ólafur in Vatnsfjörður from 1397 it was written that the church owned half the home farm, half of the island Borgarey, the farm Þúfur, half the farm Eyri in the fjord Mjóifjörður, and the farm Hestur in the fjord of Hestfjörður (D.I.IV). The written sources suggest that a church was built early on the farm and therefore it is possible that a chapel was built on the farm shortly after the christianization of Iceland, c.a. AD 1000.

Even though the Vatnsfjörður farm had lost its position of power in the late 15th century it remained one of the richest farms in Vestfirðir. In the 17th century the farm owned parts of farms and whole farms in various places both in the district of Ísafjörður and Strandir. Around the fjord of Ísafjarðardjúp Vatnsfjörður owned; Gjörvidal, Skálavík, Borgarey, Miðhús, Hálshús, Þúfur, Svansvík, Vogar and Eyri in Mjóafirði, Hest in Hestfirði. In the area from Jökulfirðir to Hornstrandir Vatnsfjörður owned the farms

Hælavík and Slétta and in the district of Strandir it owned Drangar in Drangavík. The farm owned rights, both whale, wood stranding and other benefits at various farms in Vestfirðir.

A resistivity survey on the farm mound in Vatnsfjörður was conducted alongside the excavation on the Viking age remains. It was clear from the 2003 and 2004 seasons that there were extensive archaeological remains in the farm mound dating from the settlement to the 20th century. Therefore it was of great importance to get an idea of the condition of the mound, especially if 20th century construction had disturbed the remains. It was hoped that the survey could determine if it would be feasible to begin excavating the farm mound and where to begin.

The area north and west of the churchyard was selected for a resistivity survey and the area was divided into four main areas A, B, C, and D. Each area was 20 x 20 meters in diameter and in total 1600 square meters were surveyed.

The resistivity survey showed that the area had been badly disturbed by buildings that had been there in the 20th century. The last residence of the Vatnfjörður farmer stood in the western part of area A. This house was built in the early 20th century and was torn down in 1960. The house was made of concrete and had a cellar which had been dug into the mound. The remains of this building is clearly visible in the picture.

Resistivity showed a lot of structural remains in area B and no remains of 20th century concrete buildings were detected.

In area C resistivity showed regular patterns which are probably remains of trenches that were dug in the 20th century. These patterns are very clear and probably are

pipelines of some sort, for sewage, drainage, etc., from houses that stood on the farm mound during its last occupation. In the northern part of area C a building can be seen that probably lies deeper than the 20th century disturbance. It is possible that this building has been damaged by 20th century construction.

Area D was on the lowest part of the farm mound and large parts of the area seem to have little or no cultural layers. This area seems to have very little soil on top of the undisturbed gravel layer which was recorded during the excavation of the longhouse. On the eastern part of area D regular patterns were visible that are similar to those recorded in area C, which are probably pipelines and trenches from the 20th century.

The resistivity survey on the farm mound at Vatnsfjörður shows that the mound has been disturbed by 20th century constructions. In all areas, except area B, 20th century remains were recorded, remains of houses, pipelines, etc. Area B seems to be the least disturbed area and the survey showed walls and structures from different periods. The resistivity survey suggests that area B is the least disturbed, and is best suited in the case of further excavation on the farm mound.

The Longhouse excavation in 2004

The excavation at the Vatnsfjörður farm began in 2003 when 4 test trenches were excavated. These trenches showed extensive archaeology in the area, especially in the farm mound where deep deposits were recorded. In the field north of the farm mound two structures were recorded, the larger one is probably the remains of a longhouse, 15 x 7 m in the surface. The smaller one was of an unknown function, but probably belongs to the same phase as the longhouse. In 2004 a full-scale excavation of the longhouse structure was begun and concluded in the 2005 season.

Cultural deposits became immediately visible after the removal of topsoil. From the surface to the first cultural deposits there were only 10 cm. The walls of the structure were visible on all sides except the south end where the structure seemed to have been damaged, probably the results of field flattening.

On the outside there was an Aeolian deposit [41] which was recorded on all sides of the structure. On the inside there was a similar deposit [40] but neither deposit was recorded on top of the walls. It is likely that these two deposits are the same, and were formed when windblown silt accumulated against and inside the building.

Underneath [41] was a mixed deposit [59] similar to [41] but it had more turf mixed with the Aeolian silt. This deposit was clear on the east side of the building and similar deposits were recorded elsewhere on the outside.

Everywhere on the inside of the structure mixed deposits were recorded that consisted of turf and windblown material [43, 42, 58]. In the south end of the building was a deposit [66] that consisted mostly of gravel and this deposit formed when the fields around the building were flattened. It is likely that the gravel material was pushed up against the structure on the south end.

After the removal of the windblown deposits on the inside, light red turf deposits became visible [44, 45, 46, 47]. These deposits are probably one and the same deposit but they were kept separated during the excavation. The turf deposits are probably collapse from the walls.

In the south end of the structure a circular pit [71], 50 x 50 cm in diameter, was recorded that had been excavated into the wall. This pit is probably the remains of a large

posthole for a fencepost. It soon became very clear that the south end of the building had been heavily damaged by field flattening and in this area deposits were recorded that were heavily mixed with gravel [54, 56, 63, 64]. Another posthole for a fencepost [51, 52] was also recorded in the south end.

The northern part of the structure was much less damaged and it was clear that field flattening had never reached into this area. In this area a number of deposits [49, 50, 53, 60, 61, 62] were excavated that were collapse from walls and the roof.

After the removal of the collapse deposit on the inside a turf wall [57] was recorded that was in the center of the structure and split the building into two sections. The wall was aligned from east to west. During the 2003 excavation this wall had been visible in the east section of the test trench that was excavated in this area. The 2003 season had shown that floor deposits extended under this wall.

Just north of the wall a small fireplace [79], made of flat stones, was recorded. The fireplace was badly damaged and a number of stones had been removed from it. Only 5 flat stones and a few smaller around it remained of this fireplace.

Under the turf deposits and around the fireplace were two floor deposits. The upper deposit [65] was thin, light red and organic in composition. The deposit was bordered by the walls of the longhouse on the north, east and west sides and the center wall [57] on the south side. The lower floor deposit [48] was black, compact and organic and was bordered in the same way as the upper floor deposit. In these floor deposits a number of artifacts were recorded and most of them were made of iron.

North of the fireplace a circular pit was recorded [97], 1 x 1 m in diameter and 50 cm deep. This circular pit was dug into the subsoil and had damaged the fireplace of the longhouse (see discussion below). There were a number of burnt stones in the bottom of the pit.

Just north of the central turf wall [57] was a circular stone structure of an unknown function, 2 x 2 m in diameter. This structure had been disturbed and many stones were missing from it.

Older floor deposits became visible after the removal of the central wall, fireplace and the floor deposits. Two floor deposits were recorded and the upper was light red [70] and the lower, black and compact [74]. The upper layer was thin and was only visible on the south side of the longhouse fireplace but the lower floor deposit was recorded everywhere within the longhouse. The black floor deposit was thick around the fireplace but thinned out as it extended from it. No traces could be found of it in the northernmost end and along the east and west walls. The reasons for this are that along the walls were benches, and in the north end was a timber structure that prevented the formation of floor deposits. No remains were found of benches or a structure in the north as they had either been removed when the building was abandoned or rotted away.

In the center of the longhouse was a fireplace [80], which was 2 x 1 m in diameter, and boat-shaped. During the construction of the fireplace a boat-shaped pit had been excavated, flat stones laid out in the trench and finally smaller upright stones placed along the rim. Both the north and south ends of the fireplace had been damaged. The north end by the circular pit [97] and the center turf wall [57] which had been built on top of the south end.

Postholes were recorded on both the east and west sides of the fireplace, once the floor deposits had been removed. Four postholes were recorded and between them were shallow trenches [95, 96]. Each trench was approximately 3 m in length and were positioned along the fireplace. These are probably the remains of some partition or paneling that ran alongside the fireplace.

North of the fireplace was a troth, 50 x 50 cm in diameter. A small hole had been dug into the ground, a flat stone put in the bottom and 4 raised stones put on each side. On the inside of the troth were 3 separate salty, organic deposits [75, 76, 77].

Two entrances were recorded, one on the north part of the east long wall [90, 91, 99] and the other on the southern part of the same wall [100]. The southern entrance was badly damaged but it seemed like it had been filled. It is likely that this had happened at the same time when the central wall was built and the building shortened. The north entrance was well preserved, approximately 1 m wide and was laid out with flat stones. On the inside, 2 postholes were recorded on either side of the entrance, which probably are remains of doorposts. This entrance was probably in use after the structure had been shortened but it is quite possible that both entrances were in use at the same time, i.e. during the occupation of the longhouse.

The walls of the structure were badly damaged and especially in the south end and little remained of the original wall. The walls of the structure are boat-shaped and made of turf and gravel. No foundation stones were recorded during the excavation but the walls were not excavated in detail during the 2004 season (Plan 16).

Finds

In the 2004 season 103 artifacts were recorded and most of them were made of iron (nails and tools) but 2 beads, spindle whorls, whetstone, worked whalebone, loom weights and a fish hammer were also recorded.

In the surface deposit [39] 1 ceramic shard and a piece of modern steel which probably comes from some modern agricultural machine.

In the floor deposit [48] 40 artifacts were recorded or about 40% of the total assemblage. Most of them were made of iron, and among them were a door lock and various other artifacts. The iron artifacts were randomly distributed over the floor which suggests that they fell on the floor when the timber frame of the building either collapsed or was torn down.

A broken, yellow double bead was found in the floor layer and it is likely that it was lost in the floor. This type of bead is well-known in graves from the Viking age both in Iceland and elsewhere. A bead of this type has been recorded in the Viking age grave at Kornsa in Árneshreppur and it has been dated to the 10th century (Eldjárn, K., 2000).

In floor deposit [64] 6 artifacts were recorded and in [65] 11 artifacts, which were all made of iron.

In floor deposit [67] 2 artifacts were recorded, a nail with a flat head and a bead. Quite a few nails of this type were found during the excavation and they were probably used during the construction of the timber frame, paneling and benches. The bead probably was lost in the floor rather than thrown away. As noted above, a similar bead was also found in the pagan grave at Kornsa in Árneshreppur and has been dated to the 10th century (Eldjárn, K., 2000).

In floor deposit [70] 3 artifacts were recorded, 1 unidentifiable iron object, a bent nail and a whetstone.

In the floor deposit [74] 10 artifacts were recorded, unidentifiable iron artifacts, nails, a broken spindle whorl, 2 whetstones and a fish hammer. The spindle whorl is probably of type A, with a flat base, based on the Bryggen typology (Oye, 1988).

All deposits were sampled and a total sample was retrieved from the floor deposits. Some bones were retrieved during the excavation and they were sent to the Zooarchaeology lab at Hunter College, City University of New York for analysis. The bones were from, sheep, pigs, cows, fish and birds but they were too few to quantify and a larger assemblage is needed for further study.

The excavation in 2005

The main aim of the research in 2005 was to finish the excavation of the longhouse. The excavation area was also extended to the east to establish if there were any other cultural remains in the vicinity of the longhouse and to excavate the small structure that had been recorded east of the longhouse in 2003. The farm mound was further tested with future excavation in mind and this time was surveyed with resistivity to get a clearer picture of the condition of archaeological remains in the mound.

Most of the Viking age longhouse remains were excavated during the 2004 season but it was decided to leave a few parts unexcavated for the 2005 season. What remained in 2005 was to finish excavating the walls to understand how they had been constructed and to examine any remains under the longhouse floor. The main aim of the 2005 season was

to gather information on the construction of the longhouse and what material had been used in the construction.

Along the walls on the inside of the longhouse postholes [349] became visible. All these postholes had been excavated into the undisturbed gravel layer underneath the longhouse. In some places no holes were visible, only flat stones which had been used as post pads [349]. Postholes and post pads were in many places absent in the south end of the longhouse, which probably is the result of field flattening and later disturbance.

The stones in the fireplace in the center of the longhouse were removed, revealing a shallow trench dug into the subsoil. During the construction of the fireplace, flat stones had been placed in the center of the fireplace and others put sideways on the edges of the shallow trench [351]. On the southeastern part of the fireplace a small hole was excavated which probably is the remains of a *feluhola*, i.e. a hole to keep embers overnight to rekindle the fire in the morning. A similar hole had been excavated during the excavation of the longhouse in Aðalstræti in Reykjavík (Howell R., et al., 2003)

The walls of the longhouse [350] were cleaned and what remained of wall collapse was removed. It was clear that the walls were badly damaged by field flattening, especially on the south side. To get a better idea about the construction of the walls two trenches were dug through them. One trench was excavated through the southern part of the west longhouse wall, the other at the middle of the east wall. Both trenches showed clearly that not much remained of turf in the walls only the lowest parts of the walls remained intact.

During the construction of the walls gravel had been dug from the outside of the building alongside the walls. The gravel forms the foundation of the walls and no stones were found in the foundation. Turf of the *strengur* type had been built on top of this

gravel. In some places gravel was clearly recorded between the turf lenses and it seems that gravel had been used as infill between the turf lenses during the construction.

Finds

During the 2005 season, 158 finds were recorded in the longhouse and the area around it. As in the previous year the majority of the finds were made of iron but the assemblage also included finds made of copper alloy, glass, stone, ceramics and gold.

One small gold foil was recorded, which probably came from a piece of Irish metalwork similar to the type known as kite brooch which dates to the 9th – 10th centuries. Gold finds are very rare in Iceland and this is the first find of this type. Only two pieces of gold from the Viking age have been recorded in Iceland; a button of gold wire from Kápa in Þórsmörk and a gold ring from Skarð in Haukadalur (Eldjárn, K., 2000).

Of the total finds assemblage, 88 finds were of iron and 31 of them were unidentifiable. Of the 55 iron pieces, 42 are nails or rivets. Of the remaining there were a few knife blades, mounts and some industrial debris, i.e. slag. The industrial debris came from outside the longhouse and one of the deposits that was rich in industrial debris had been dug into the longhouse wall. This suggests that the industrial activity took place in the second occupational phase of the site.

Conclusions

The main aim of the excavation at Vatnsfjörður in 2004 and 2005 was the excavation of the longhouse to gain better understanding of its construction, occupation and the settlement of the Vatsfjörður farm. The site seems to have only two main occupational

phases which probably date to the 10th century. After the abandonment of the structures there was some activity on the site which can be divided into following phases:

1. Phase 1. Construction of a longhouse (AD 900 – 950).
2. Phase 2. The south end of the longhouse abandoned and the structure shortened (AD 950 – 1000).
3. Phase 3. Area 1 abandoned (ca. AD 1000).
4. Phase 4. The structure collapses and is covered by earth. (ca. AD 1000-1900).
5. Phase 5. Some activity in the area, probably field flattening that disturbed the south end of the structure. (ca. AD 1900-1950).
6. Phase 6. Modern (AD 1950-2004).

Structure 1 (Longhouse)(Plan 17)

The longhouse at Vatnsfjörður is approximately 16 x 6 m in size and was built with turf and gravel. In the foundation of the longhouse gravel was used, not stones, as has been recorded at many other longhouse excavations in Iceland. A trench was excavated along the outside of the longhouse, probably to drain water and divert it from the walls. It is interesting that during the construction of the walls gravel was used between the turf lenses, which suggests that the builders had some problems finding good turf for wall construction and used gravel as a substitute of some sort. This seems strange as there are very good stones for wall construction in the vicinity and it would have been easier to build the walls with stones instead of turf. It is likely that the builders did not realize this, and tried to use the material that was best known to them for the construction of the

longhouse. This suggests that the builders had recently arrived in the area and had not explored the area around the Vatnsfjörður farm.

The fireplace in the center of the longhouse is of a typical Viking age structure and is very similar to the fireplace recorded during the longhouse excavation in Aðalstræti, Reykjavík (Howell M. R., et al. 2003). It is difficult to estimate the original size of the fireplace as both ends of it are damaged.

Alongside the longhouse fireplace there were shallow trenches with postholes that are probably remains of paneling which probably ran the whole length of the longhouse. No traces of paneling were recorded in the south end and the reasons for that is the extensive damage in that area. Panel remains have been found in Iceland on various longhouse excavations (Ólafsson, G., 2000).

In about a 6 m long area along the west wall there were no floor deposits. This area ran almost all the way to the south gable wall and it is likely that benches were situated in this area.

No floor deposits were recorded in the north end of the longhouse and the area was higher than the remainder of the building. This suggests that something was built in this area, for example ,a platform, that prevented the formation of floor deposits.

In the north end of the longhouse a cist was recorded, 50 x 50 m, which had silty deposits on the inside. Samples were taken out of these deposits but they have not been analyzed and therefore it is not possible to determine the function of this cist.

The excavation showed that the longhouse had been divided up into smaller spaces. The division was marked by postholes that had been constructed across the longhouse on

the inside. The first area is in the north part of the longhouse and extends from the north gable wall to the north entrance in the east wall. It is difficult to assess what this space was used for but it may have been a storage space. By the entrance was a small space and south of it was another which is marked by the fireplace. This space is probably the cooking area where meals were prepared. The southern part of the longhouse all the way to the southern gable wall is one space and is higher than the rest of the structure. It is quite possible that this space was further divided but it was difficult to see any further divisions as the area was badly damaged. This space was probably where people slept and along side the walls were probably beds and benches.

Structure 2 (Smithy?)(Plan 18)

At the end of the first occupational phase the south end of the longhouse was abandoned and the structure shortened by 6 meters. A new south gable wall was constructed by the south end of the fireplace and this new building was approximately 9 x 6 m in size. Just north of this new wall a new fireplace was built which probably was rectangular in shape but it is difficult to determine the actual shape and size of this fireplace because it was damaged. But it is likely that this fireplace had been constructed in a similar way as the earlier one, i.e. flat stones with smaller stones placed along the sides.

North of the fireplace a circular pit had been dug out, 1x 1 m, and it had been dug through the north end of the longhouse hearth. It is difficult to determine the function of this pit but it was clear from the burnt stones in the bottom of it that fire had been lit in this pit and therefore it could be the remains of a smithy furnace of some sort. However,

no smithy slag was recorded in the pit and very little smithy slag was recorded in the cultural deposits connected with structure 2.

In the floor deposits in structure 2 there were quite a few artifacts and most of them were made of iron. Most of the iron artifacts came from the timber frame of the building and their random distribution suggest that they fell onto the floor when the building was torn down or collapsed.

One bead was recorded in the floor layers of structure 2. Beads of this type are found in Viking age deposits and are dated to the 10th century, see above. It is likely that structure 2 was in use in the 10th century and had probably been abandoned at the end of that century.

The excavation of the longhouse is now finished and all the archaeological data suggest that this structure was one of the first ever built at Vatnsfjörður. There were two occupational phases recorded in the area. The first one was the construction of the longhouse and the second when the longhouse was shortened and the building used for something different, possibly a smithy. It is likely that both phases are from the 10th century as all artifacts from both phases date to the 10th century. Radiocarbon dating of a cow bone from one of the longhouse floor deposits suggests that the longhouse was in use in the earlier part of the 10th century and therefore was built sometime before that time. Based on radiocarbon samples obtained in 2005, and the excavation data, the longhouse was probably constructed in the early 10th century.

The suggested early date of the longhouse at Vatnsfjörður is in contrast with what scholars have always believed concerning the date of the settlement in Vestfirðir. It has long been stated that Vestfirðir was the last region to be settled in Iceland and that was

because the region was ill-suited for agriculture and therefore it was the least desirable. The data from Vatnsfjörður strongly suggests that the area was settled at the same time as other regions of Iceland and therefore of no less important than other areas.

Archaeological excavations have continued at Vatnsfjörður, and since 2005, extensive remains of Viking age occupation have been uncovered in the vicinity of the longhouse. Excavations have also been carried out on the main farm mound and so far the excavations have focused on the 19th century structural remains.

It was hoped that the Vatnsfjörður excavation would reveal a substantial amount of bones, both animal and fishbone. This would have made the Vatnsfjörður site comparable with other sites from the same period, giving us greater understanding of the Viking age and early Medieval economy. However, no midden was located associated with the longhouse but the site is nevertheless important for this study as it suggested that Vestfirðir was settled at the same time as other parts of Iceland and that it owed its success to other factors than agriculture.

4.10. Hrútey in Mjóifjörður

The island of Hrútey is located in the north part of the fjord of Mjóifjörður. On the east part of the island there are 115 meters between the island and the mainland and on the west part there are 500 meters. The island is approximately 450 x 205 meters in diameter and lies more and less in a north/south direction.

On the western side of the island there is a rock formation, extending along the whole shoreline on that side. The terrain of the island slopes gradually from west towards its eastern shore.

The island is grassy and in the center of it is a large bog which has formed in a depression between the rocks on the west and north sides. The bog shows clear indications of turf and peat cutting and it is obvious that they date from different periods because they show different levels of overgrowth. The largest areas are to the north, and in the center of the island.

A number of archaeological sites were located during a survey on the island in 2000, two in the center of the island and one about 40 meters east of the others. The vegetation covering these sites was different, and the site to the east was more visible and greener than the other two, suggesting a younger age.

The aim of the archaeological excavations at Hrótey was to test the function of the ruins, especially the largest one, on the island. The question was if it was a permanent settlement or a seasonal one and if it was seasonal, then was it connected with fishing or other economic activity.

The site selected for an excavation was a large, oval shaped ruin, approximately 11 x 6 meters. This ruin was located on a hill in the center of the bog that covers a large part of the island. From the surface it seemed as though the ruin had two rooms but it was in such a state of collapse that it was difficult to determine the number of rooms.

A grid system was set out on top of this hill and the lowest point of this system (SW corner) was x100/y100. The x-axis increased towards the east and the y-axis to the north. The whole excavation area was about 100 m². A bench mark was on a rock northeast of the area, giving the fixed height of 5.07 meters above sea level.

Excavation

It was difficult to remove the topsoil because the area was densely overgrown and it was extremely hard to cut through the large hammocks in the area, In spite of these difficulties about 100 m² area was opened.

A test trench had been excavated in the north end of the building to assess the depth of cultural deposits and possibly the function of the building. The trench showed that cultural deposits were from 10 – 60 cm deep but it was inconclusive about the function of the building.

After the removal of turf and topsoil, large piles of stones became visible. Between the stones were light, windblown soil [103]. This was interpreted as wall and roof collapse. Below this was more collapsed material, which was recorded separately as there was clear distinction between these deposits [105, 106, 107, 108].

A thin brown Aeolian deposit [109] was recorded on the inside of the building after the removal of all collapsed material. Below this was a grey/black [110] deposit that extended all over the inside of the building. This deposit was on the floor of the building and was thickest in the south part and gradually faded out towards the north.

A thick gravel deposit [117] was recorded after the floor had been removed. This gravel deposit was underneath the whole structure. The gravel was not a natural deposit on this hill as close examination on nearby hills showed no gravel but rocks below the soil. It is therefore likely that the gravel was transported to this particular location and used as a foundation for the building.

Few structural elements were recorded on the inside of the building. Two postholes, one [114] in the center of the north and the other [116] in the south center of the gable

walls. In the southeast part of the building was a circular fireplace [112] and just beside it, in the southwest part, was a raised platform [113], which probably was the remains of a bench.

The walls of the building were of turf and stone and built on the gravel foundation. Only one stone row remained on each side but it was clear that the walls were constructed in a classical Icelandic manner, i.e. stone rows laid out, filled between them with soil and then turf (strengur) put on top of the stones. This process was then repeated until the whole wall was built (Plan 19).

Preservation for finds were bad, especially for bones and artifacts. Animal bones were recorded in various places during the excavation but they were all in such a state that it was impossible to preserve them. Wood and iron remains were recorded in various places but none could be removed. It looked like most of the iron was remains of nails.

Discussion

Historical sources suggest that the island had various benefits that gave a farmer an extra income. A 13th century source says that rams were kept seasonally on the island and it is likely that the name of the island comes from that source (D.I. VII). The island was an important source for eggs, especially the eggs of the arctic tern (*Terna Paradiseae*) according to the 18th and 19th century sources. The same sources also state that there was enough fodder on the island to sustain one cow (Á.M.VII., 1940, Sóknarlýsing Vestfjarða). The archaeological research on the island showed that the island had other benefits, i.e. turf and peat. Based on these two sources, archaeology and history, it is likely that the building excavated is the remains of a shieling.

The building is 10 x 5 meters, measured on the outside, and 7 * 2 meters on the inside. The building is constructed of turf and stone and is oriented in NNE and SSW directions. The gables are a little oval in shape and an entrance is into the building on the west long wall. The entrance is about 1 meter in diameter. The orientation of the structure is similar to the longhouses excavated in Vatnsfjörður, Ísafjarðardjúp and Aðalstræti in Reykjavík (Ragnar Edvardsson, 2004, Howell M. Roberts, et al. 2002). It is, however important to point out that the shape of the island may have been a factor in the orientation of the structure.

The building has one thing in common with the longhouse in Vatnsfjörður and that is that in both cases gravel was used as foundation for walls. The building in Hrútey is half the size of the longhouse but is the same size as the building that was in use after the longhouse was abandoned.

Even though it is difficult to compare two types of buildings that have only one thing in common, i.e. both used for habitation, there are certain similarities that are difficult to overlook, and possibly suggest that the buildings date from a similar time period. It is therefore possible that the building in Hrútey dates to the 11th or 12th centuries.

The excavation showed clearly that the building was built for human occupation, with a blackish floor layer, fireplace and a platform beside it. Nothing was recorded that suggested a house for animals. The conclusion of the excavation is that the house was a type of a shieling used seasonally, probably over the summertime.

The Hrútey site showed another level of specialization in farm economy and just as with fishing sites or whaling stations, the site was another part of farm economy in the

region. The increased specialization in different economic units made a farm more flexible and thus more capable of surviving difficult times.

4.11 The Zooarcheological data

Our understanding of early economies in the north Atlantic have increased in the past 20 years, giving us a better understanding of both the farms' subsistence economy and internal/external trade of north Atlantic societies. This spans the period from the Iron Age and well into the modern period. The material behind this is primarily zooarchaeological data, collected from midden excavations from almost all countries in the north Atlantic. The zooarchaeological data have not only helped us to understand the agricultural economy of these societies but also shown that the marine economy was no less important, and for many regions it may have been more important.

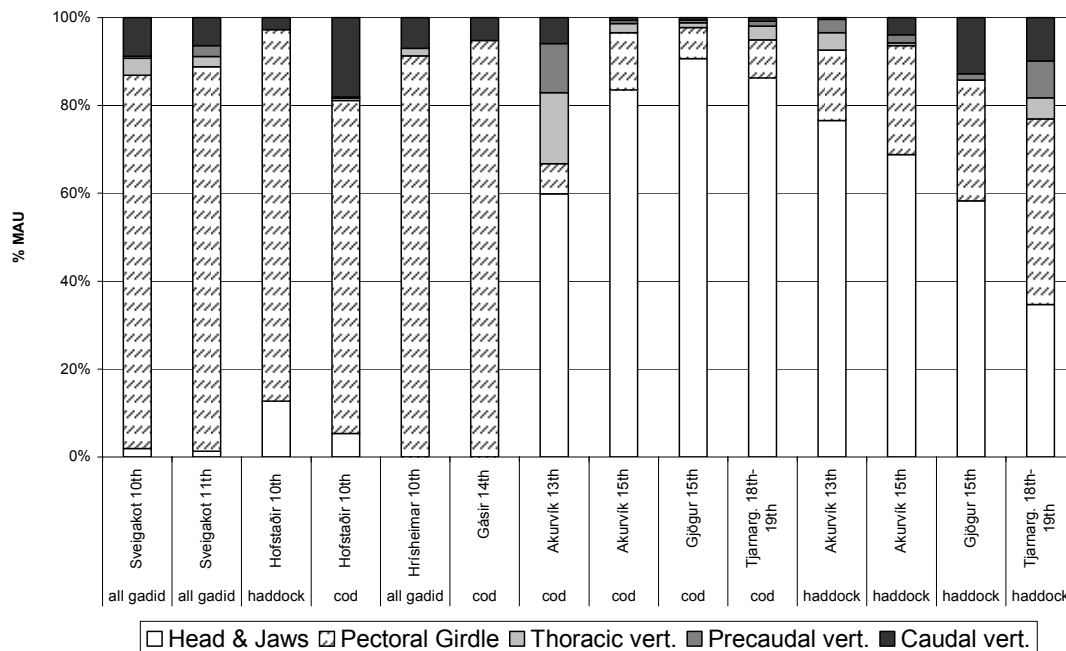


Table 8. Body parts of cod and haddock from both inland and costal sites.

The sea was an important economic source for the Viking age chieftains and later the Church and kings of the medieval and early modern periods. The most important source was fish, especially cod (*Gadus Morhua*) and in lesser cases haddock (*Melanogrammus aeglefinus*). These species were targeted from specialized fishing stations, and air dried to produce a product that is generally known as stockfish and in Icelandic it is known as *skreið*.

There was probably more than one preservation method for cod and haddock, but the archaeological data suggest two main methods; air dried (stockfish) in the round, with most of the vertebral column left in the finished product and air dried (flatfish) with most of the upper thoracic and precaudal vertebrae largely removed. The stockfish was preserved by hanging the fish in dry racks for a period of time, a practice still in use in Iceland, and the flatfish was laid out on the ground, usually on platforms made of rocks. Stockfish is best made from fish between 60 – 110 cm in live length, and flatfish from 40 – 70 cm in live length (Perdikaris, S., 1998, 2004).

This method of preserving fish pre-dates the Viking age and the evidence for dried fish production extends into the early Iron Age in Norway, especially in the Vesteralen and Lofoten Islands (Perdikaris, S., 1998, 1999). In the 11th – 12th centuries fisheries all over northwest Europe were revolutionized, and the source for this revolution must be sought in the Scandinavian world of the early Viking age. The archaeological evidence suggests strongly that fish preservation skills spread to the Scandinavian colonies in the period between AD 800 and 1100 (McGovern, T.H., 1992, 2001,).

The archaeological records show a clear distinction between production- and consumption sites. Production sites will generate a surplus of premaxillae bones while

consumption sites accumulate cleithra which show the different ends of the marketing system.

Table 8 shows the body parts of cod and haddock from both coastal and inland sites in Iceland. Akurvík and Gjögur in Strandasýsla show a pattern that suggest a market deficit of caudal vertebrae and surplus of thoracic and precaudal vertebrae but in contrast the inland farms Sveigakot, Hrísheimar and Hofstaðir show a clear surplus of caudal vertebrae and a shortage of thoracic and precaudal vertebrae. This suggests that ready made stockfish (*skreið*) is being supplied to the inland sites at Hrísheimar and Sveigakot by some production site on the coast.

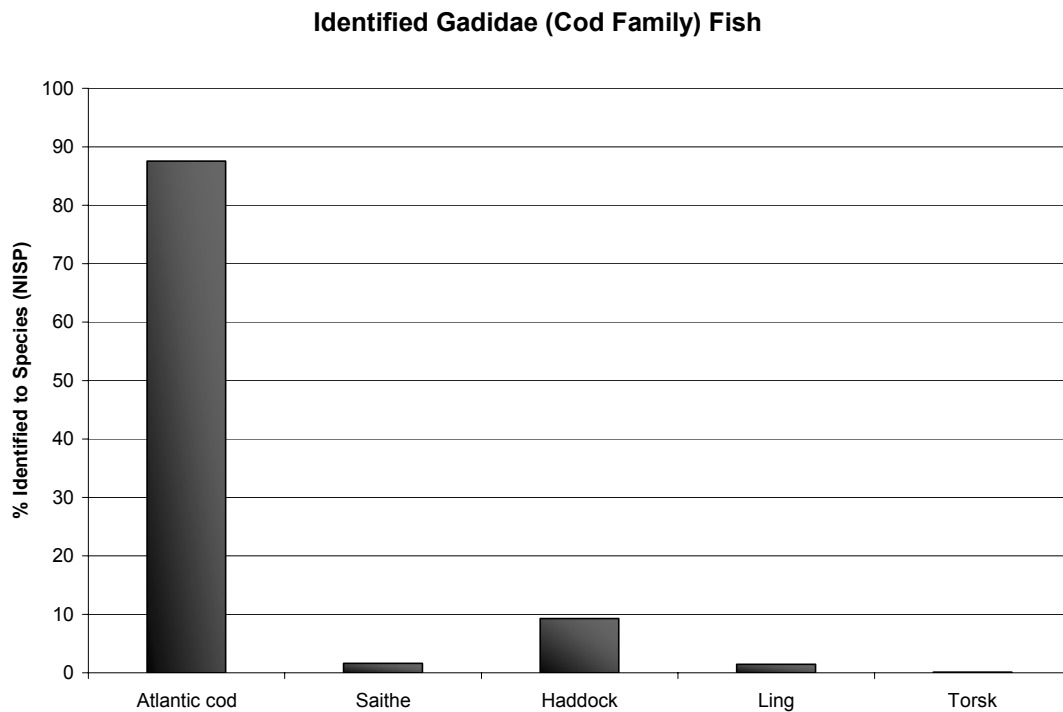


Table 9. Identified Gadidae fish at Akurvík.

Production sites

A production site is a working place where a certain product is manufactured either for domestic use or a market. Such sites can either be producing a number of different products or a single specialized product. An example of a specialized production site is the whaling station at Strákatangi, which was built only for the manufacture of oil. Such a specialized industry shows a distinct pattern in the location in the landscape, type of structures, waste and material culture. The station at Strákatanga shows elements that are identical to all other whaling stations excavated in the north Atlantic area, whether it is in Svalbard, north Norway or Newfoundland (Hacquebord, L., 1998, Tuck., J., 1989, 2005).

A fishing station is also a specialized production site and all sites examined for this work show identical elements, in location, type of structures, material culture and waste. All 13 stations surveyed had a similar location, size and shape of structures and of the total 7 stations either excavated or tested, 2 were excavated with the zooarchaeological material in mind, 2 to examine the structures and 3 for only radio-carbon dating. The two sites excavated with the zooarchaeological material in mind, Akurvík and Gjögur sites, both show a clear producer signatures, i.e. surplus premaxilla. The two major midden horizons have been dated to the 11th – 13th and 15th – 16th centuries and both phases are dominated by cod. Both sites show a similar pattern as the 13th century Storvågen phases.

Table 9 shows the identified *Gadidae* (Cod family) fish and the Atlantic cod represents almost 90% of the total assemblage, while haddock represents less than 10% and other even less. This strongly suggests that fishermen at Akurvík were targeting primarily a single species which again suggests a high level of specialization at the site.

Consumption sites

The classification of a consumption site in its simplest term is the place where the finished product is transported to be distributed, either by exchange or trade. Such a site could be a town, village, farm, etc. In the Icelandic context there were no towns or villages during the Viking to Medieval period and the main consumption sites during this period were farms.

Table 10 shows the contrast between inland consumer sites and the coastal Strandasýsla sites as all the inland sites show much higher concentration of cleithrum in their assemblages.

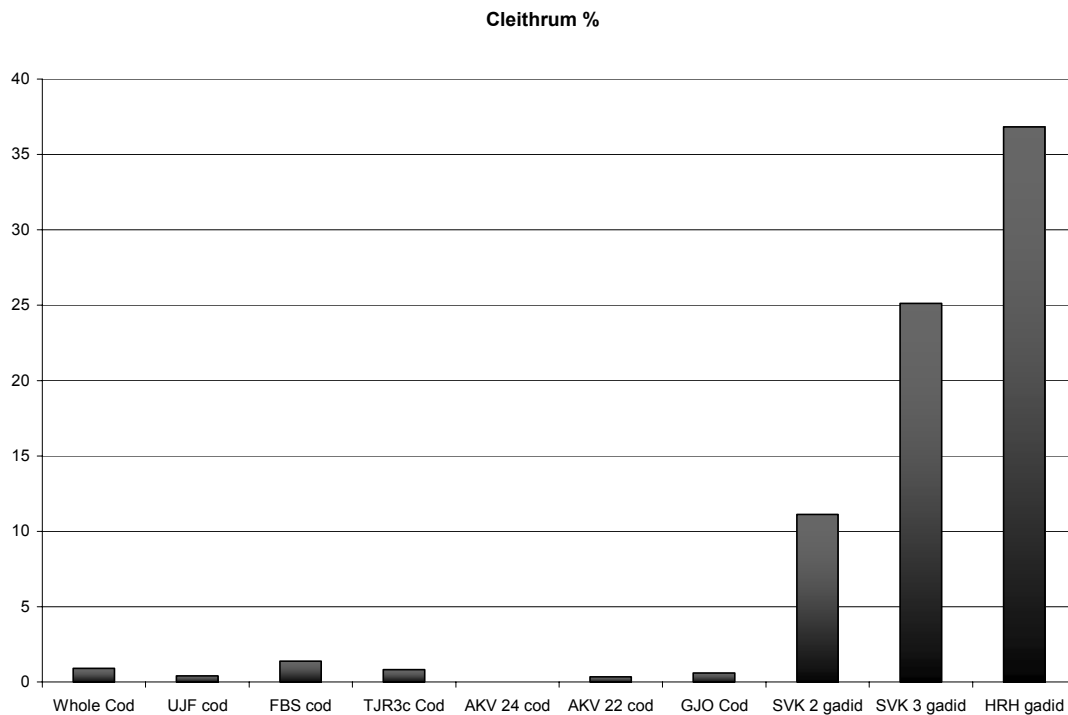


Table 10. Comparison of number of cleithrum found on inland and coastal sites.

Three inland sites in the northeast of Iceland, Hofstaðir, Sveigakot and Hrísheimar show in all their phases that not a single premaxilla of any gadid species seems to have reached these inland farms, instead these deposits are dominated by cleithrum. The

Hrísheimar material also suggest a shift in provisioning between the lower layers (AD 871-950) and upper (AD 950-1050). The earlier phase vertebral patterns suggest that a mix of flat dried and round dried cod and haddock reached the site but the later phase suggest mainly flat dried production consumption. Both Sveigakot and Hrísheimar show that dried fish is present at the beginning of the settlement of the site (c.AD 871) as the excavations showed that the earliest midden deposits were mixed with the landnám tephra.

4.12 Discussion

In this chapter we presented the archaeology data, both survey and excavation data. At the beginning of this research in 2000 not much had been examined in Vestfirðir and many of the old ideas and theories were still considered valid. Since 2000 the archaeology in the region has more than doubled with new data creating new ideas and theories. In a sense it can be said that today Vestfirðir is one of the best regionally studied area of Iceland.

The cultural landscape of Vestfirðir is similar but at the same time dissimilar to Iceland in general. The Icelandic cultural landscape is dominated by remains of centuries of agriculture as archaeological surveys in the country clearly demonstrate. The Vestfirðir cultural landscape shows the same pattern but another cultural element has shaped the settlement in the area and that is the sea. In Vestfirðir the cultural seascape is at least equal in importance to the cultural landscape as the settlement developed on the shores and in close connection with the marine environment. The success and failure of the settlement in Vestfirðir throughout the ages is first and foremost the results of changes connected with the cultural seascape.

In many ways the landscape shows more similarities with south Greenland than Iceland. The landscape both in Vestfirðir and south Greenland is ruled by deep and narrow fjords and short distance between the mountains and the sea. The settlement developed, in both areas, along the coast and valleys, extending into the interior. The approach to the Greenlandic Norse settlement has always been the cultural landscape but maybe closer examination is needed of the cultural seascape and how it influenced the Greenlandic Medieval culture. It would be ideal to compare the settlement in Vestfirðir and in Greenland as settlement patterns show certain similarities and both suffered economic disasters in the late Medieval to early modern period, resulting in the extinction of the Greenlandic colony and the near destruction of the society in Vestfirðir.

The archaeological data presented in this chapter show a pattern that is both new and exciting. This pattern is, however, not surprising but suggests that the role of fishing and marine resources in Icelandic society need to be re-evaluated. The re-evaluation should be based on archaeological research as the evidence for fishing and marine resources is both scarce in the historical record, and the archaeological data show some differences from information in the existing written sources.

Archaeological sites in the area are generally more visible in the surface in Vestfirðir than in many other parts of the country. This is because soil accumulation is slower than elsewhere in Iceland. Current surveys in the area have suggested that it is difficult to associate archaeological sites with certain periods based on the survey data alone. This is because Icelandic farms have remained relatively stable for the past 200 years, and not enough data have been collected, both from surveys and excavations, to identify cultural elements belonging to different periods.

The categorization of fishing stations as it is represented in the historical record is not visible in the archeological record and needs to be simplified. The archaeological data suggest two types of stations, home base (home or mixed station) and outlying base (fishing station). The home base will probably be difficult to identify but the outlying base shows a highly specialized function. It is likely that most outlying bases will show a high specialization in cod fishing, with haddock coming in second. Other bases may show specialization towards shark fishing but that will be difficult to identify in the archaeological record. The actual number of outlying bases, i.e. for commercial purposes, are fewer than the historical records suggest.

The archaeological records also suggest that fishing stations do not always remain at the same location over long periods of time. It can be said that there is a possibility that they have a certain “mobility” in the landscape. The ruling factor in this mobility is the availability of the targeted species, or fishing grounds. Any slight changes in migration patterns will influence the location of a fishing station. If changes occurred at one location a station would be abandoned, and another built closer to the migration route of the targeted species. This could of course be reversed as the old station could be reoccupied at a later period as the evidence from Akurvík suggests. It can be concluded that the sea is the main influential factor when it comes to choosing a location of a fishing stations. Most of the stations presented in this work show certain similarities in location, relatively far away from farms and often in inhospitable areas.

The size of the fishing stations seems to remain unchanged over long periods of time and the number of structures are from 5 – 12 structures, not counting boat landings. The evidence suggest that earlier stations, such as Akurvík and Sauratún, have fewer

structures, 4 - 5 and later from 9 – 12 structures. However, both the archaeological and the historical records suggest that not all structures were always in use at the same time. How many were in use at each period can only be verified with further excavations on these stations.

The building method of stations in Vestfirðir area is primarily turf and stone. The earliest booths, as Sauratún, Akurvík and Skálavík suggest, were sunken feature buildings. These booths were often dug into a slope, walls erected on three sides but the fourth side open and usually towards the sea. These early booths did not show any evidence of a roof and it is likely that a tent covered them during occupation. Later, these simple structures developed into permanent houses with a roof. Most of the stations were seasonal and therefore did not need permanent buildings so it is likely that houses developed on those stations where fishing was a year-round profession. But in most cases fishing was not a year-round profession except for a few stations in Iceland. These stations were primarily for commercial purposes and some of them are known, such as Bolungarvík, Kálfadalur, Vestmannaeyjar, Hellnar, Arnarstapi, etc., but more stations need to be examined so a fuller picture can be drawn of the extent of commercial fishing.

The zooarchaeological evidence from sites in Iceland, both farms and fishing stations, show clearly that fish played a major role in farm economy. Farms dating to the settlement period show a connection with the sea, as all have produced a large number of fishbone from saltwater species. The data also suggest strongly that fishing was a specialized industry, targeting certain species, i.e. cod and haddock, and fish size. All fishbone assemblages from excavated inland sites show clearly that a ready-made fish product is brought to the farm and consumed there (Edvardsson, R. 2003, McGovern,

T.H., 2001). It was common in the late 19th and early 20th centuries to send farmhands to fishing stations during the fishing seasons and bring the catch back to the farm. However, not all farmers could afford going or sending farmhands to the stations and had therefore to secure other means of obtaining fish products. This raises the question whether this signature suggests a local market for fish products already in existence in the settlement period. It is very likely that farmers who could not go themselves or send their farmhands to fishing stations, would trade or exchange agricultural products for fish products.

The relationship between farms and tenant farms need to be examined in more detail and especially the distribution of tenant-farm resources, supplying the main farm. This is extremely important for future research as this distribution is the source of wealth and power for the main farms in the region. The right mix of different resources supplying a single main farm would be the decisive factor for its success. This combination along with the right location for a main farm would eventually decide if a farm would, as time passed, become the main seat of power in the region.

One element of farm economy has been not been fully understood, and that is the function and purpose of shielings. Many shielings seem to have functioned as seasonal farms and were mostly occupied during the summer months. In some cases shielings became fully functional farms at later periods. The archaeological data from Hrútey suggest that shielings are similar to fishing stations, i.e. a specialized production site. Shielings were built to manufacture either many different products or a single product. The shieling in Hrútey was built as a habitation for someone who was supposed to take care of the benefits that could be extracted from the island. The excavation and survey showed that the island could supply the main farm with extra peat- and turf cutting, and

also hay, and was an excellent place to keep domestic animals on a seasonal basis. The shieling in Hrútey probably dates to the period before 1400, based on the archaeological data, and must have been a valuable addition to the economy of the main farm Skálavík. Shielings in general need closer examination to get a full picture of farm economy at earlier times. There are certain similarities between fishing stations and shielings. Both are industrial in nature, i.e. build for a certain purpose, and in most cases only used seasonally.

The archaeological data from Vatnsfjörður suggest that the farm was quite an ordinary farm at the beginning of the settlement but it grew rapidly, and probably about 100 years after the settlement it had become the most important farm in the north part of the Vestfirðir peninsula. The success of Vatnsfjörður cannot be explained from its own agricultural resources as studies have shown that the agricultural output around the farm was only average at best (Simpson, I. et. Al., 2001). It seems that relatively early in its history Vatnsfjörður secured access to different resources by obtaining tenant farms in different places in Vestfirðir but the location of the farm probably was the decisive factor in its rise to power. The Vatnsfjörður farm is located at a point where the control of traffic, both land and sea, could be maintained. In the bottom of the Ísafjarðardjúp is the main land route to Strandir and to Barðastrandasýsla on the southern part of the Vestfirðir peninsula. The location would also have made it easy for the occupants of the farm to watch and control all sea traffic in Ísafjarðardjúp.

A similar pattern can be seen at Reykhólar, which is located on the south part of Vestfirðir, and which was the other most powerful farm in Vestfirðir in the Middle ages. Similar to Vatnsfjörður it is located close to the land routes to the north and west parts of

Vestfirðir and would therefore have been in an excellent position to monitor and control traffic in and out of the southwestern part of Vestfirðir. The location is also in a good position to control sea traffic in the Breiðafjörður fjord (Map 39).

The multiple economic possibilities of Vestfirðir is obvious in the archaeological data, and the region offered many more resources than other parts of the country. Many of the resources were fundamental in the economy of Iceland, i.e. agriculture, fishing and driftwood, but others were no less important. The archaeological research at Strákatangi show possibilities that were probably not fully exploited in Iceland until the 20th century. Whales were an important part of the Viking/Medieval economy as they not only supplied extra meat but also because of the oil which was used for fuel. The historical evidence suggests that Icelanders did hunt whales but probably not in any quantity and they primarily targeted stranded whales. This part of the Medieval Icelandic economy needs further archaeological research as the evidence from Strákatangi obviously show the possibilities of commercial whaling on a large scale.

Chapter 5.

The archaeological data collected in Iceland in the past decade suggests that farmers in agricultural regions were diverse and flexible when it came to their management strategies and that in most cases they had more than one option to fall back on in case of an emergency. It would have been different for those farmers who based their income only on marine resources as they relied on a resource that they could not manage to the same effect as the agricultural farmers. Thus, we can categorize farmers by their primary income and in the whole country there were two basic types; the agricultural farmer and the fish farmer. During the first three hundred years of settlement there may have been other types of farmers, for example farmers who based their income on mining bog iron and producing iron and carbonized steel as the archaeological data from Hrísheimar suggest (Edvardsson, R. 2003).

The fish farmers were located mostly on the western part of Iceland and around the three largest peninsulas, Reykjanes, Snæfellsnes and Vestfirðir (Map 11). Fish farmers were found in other regions as well, but commercial fishing developed primarily around the western part of Iceland. The reason for this is that the best fishing grounds off Iceland are located in these areas (Jónsson, J., 1996). However, the Vestfirðir peninsula is different in one aspect, i.e. more fish farmers are found there than elsewhere in the western part of the country.

There are two fundamental differences between the profession of the fish farmer and the agricultural farmer in the Icelandic context. The fish farmer's profession should be categorized as high risk, both because fluctuations in fish stocks, over specialization and the dangers of fishing on the open sea in the North Atlantic, could spell total disaster

overnight. If a single fishing season did not produce enough products a fish farmer could subsequently be ruined and if a fish farmer perished at sea his family had few options for survival. The profession of the agricultural farmer should be categorized as low risk in comparison, as his possibilities for management of his resources were greater. However, the agricultural farmer was still vulnerable and relying only on agriculture as an income could just as well spell disaster but that would in most cases take a longer time. Archaeological research has demonstrated that agricultural farmers responded to seasonal changes by managing different components of their livestock as well as changing grazing patterns for their domestic animals. A single cold season was not a complete disaster for the agricultural farmer and a prolonged period of cold seasons would affect his income but not ruin him overnight. The important fact is that an agricultural farmer could survive bad times for a longer period by good management and only a prolonged environmental decline or a natural disaster on a large scale could ruin him completely. (Simpson, I. A., Barrett, J., Ogilvie, A.E.J., McGovern, T.H., 2000, Simpson, I.A., Dugmore, A.J., Thomson, A., Vésteinsson, O, 2001).

The whole of Vestfirðir relied on marine resources but its importance varied between areas. Farmers in the Hornstrandir area had to rely more on hunting and gathering alongside farming as environmental factors, such as pack ice and long distances to fishing grounds, and limited fishing resources. Farmers in Strandir and North Ísafjarðarsýsla had access to the best fishing grounds, while farmers in the south part of the Vestfirðir peninsula were limited by environmental factors, such as long distances to fishing grounds and difficult landing conditions. However, it is likely that the majority of farmers

in the Vestfirðir peninsula were in some ways involved in the fishing industry and used the fishing stations that were nearest to them.

The statistical analysis in the second chapter created a foundation for the remainder of the thesis. It showed that in the 18th century the main income for farms in Vestfirðir was marine-based. It also suggested that the economic system of any county in the region was dictated by what each county could produce. The overall income of farms in Strandasýsla and Ísafjarðarsýsla showed very clearly that the marine component was the most important resource. In the third chapter, the statistical analysis was discussed in its archaeological/historical context, i.e. how the economy of farms was affected by their placement, status of farmers, political situation, etc. The chapter attempted to draw a picture of both poor and rich farmers in Vestfirðir and what means were available for them to survive in the early 18th century. It is clear that at the both ends of the social spectrum, farmers in Vestfirðir primarily had to rely on marine resources to sustain their households. Even though marine resources had always been the main income for farmers, they did not have the same opportunities to use these resources as at earlier periods because both the political and social structure had changed from what it had been. Early 18th century Vestfirðir is not a stagnant society, mirroring earlier periods, it is the end result of a series of political, environmental and social changes that caused shifts in the economy.

Chapter 4 brought the archaeological evidence into the picture and demonstrated that sites connected with the sea are a large percentage of all archaeological sites in the region. The fishing sites surveyed and excavated all showed a high level of specialization; in terms of layout, placement, types of structures, etc., and the

zooarchaeological data support the evidence for this high level of specialization. These sites are industrial in nature, i.e. built for one purpose, i.e. to catch cod, and in this they show certain similarities with other specialized industrial sites, such as whaling stations. There is hardly any doubt that the offshore fishing stations in Vestfirðir were commercial in nature. The C14 analyzed from some of the fishing stations show that some stations were already established in the 10th – 11th centuries, suggesting that specialized fishing was part of the economy from the beginning of settlement. The dates also show that there was an increase in fishing in the period between 1250 – 1500 which also corresponds nicely with the hypothesis of increased fishing for commercial purposes at this period. Many of the stations demonstrate abandonment after the 16th century which also fits with the changing environment in Iceland, political, social, etc., which affected the fishing industry. The C14 dates suggest that not all stations mentioned in the written sources existed at the same time and some were even built very late. The stations show a sort of fluctuation in the landscape and were probably moved between locations due to changes in the fishing industry, especially the migration patterns of the targeted species. Other archaeological evidence suggest some settlement changes in the 12th century as on some farms longhouses seem to have been abandoned and the settlement moved to a new location. This pattern has been recorded elsewhere in Iceland but more research is needed in the Vestfirðir region to establish deeper knowledge into this period. The archaeological evidence supported by the historical sources, is creating a picture of Vestfirðir as a region primarily based on a marine economy and supplying the remainder of the country with important marine resources. The society of Vestfirðir seems to have early in its history specialized in the production of cured fish and the harvesting of driftwood. This

specialization created a society that in certain aspects differed from the agricultural society in Iceland. Once the whole country became a unified agricultural economy in the 17th century the economy of Vestfirðir began to suffer and eventually went into decline.

5.1 Viking- Early Medieval Patterns (900-1200)

It has been a persisting view among Icelandic scholars that the Northwest was settled much later than other parts of the country (Jóhannesson, Þ., 1965). This idea is based on the assumption that Vestfirðir was poorer than other parts of the country and therefore the initial settlement would not have begun until all the richer parts, i.e. agricultural regions, of Iceland were settled and the only land left was in the Northwest. One of the arguments for this idea is that only a very few pagan graves have been found and excavated in the area, and therefore many archaeologists have come to the conclusion that the Vestfirðir was settled later (Einarsson, B., 1995). However, the few pagan graves in Vestfirðir only reflect the lack of excavation and research in the past, especially systematical survey, in the area and can in no way be used as an argument for a late settlement of the area. In fact, the increasing research in the past decade has revealed more pagan graves in Vestfirðir (Friðriksson, Adolf, Guðmundsson, G., Gestsdóttir, H., 2009b). There is no other evidence, neither archaeological nor historical that supports this idea and recent archaeological research suggests that Vestfirðir was indeed settled at a similar time as other parts of Iceland (Edvardsson, R., 2005). Both the archaeology and history data support this theory as the oldest C14 dates from the Vatnsfjörður farm in Ísafjörður date to pre AD 900 and certainly the *Book of Settlements* mentions Vestfirðir as one the first areas of settlement in the country (Ísl.sög.I. 1984).

The origin of the idea that Vestfirðir was poorer than other parts of the country comes from 18th and 19th century scholars (Jóhannesson, Þ. 1965). These scholars were working and writing at a time when the Northwest had lost its economic importance and was one of the poorer parts of Iceland. These scholars viewed their own time as a continuity of what had been earlier and thus assumed that nothing had changed from the beginning of the settlement, and because Vestfirðir was poor in the 18th and 19th century it must have been so at earlier periods. These scholars were also firm believers that agriculture was, and had always been, the most important part of the economy everywhere in the country, and did not fully understand the importance of other economic factors in Icelandic society (Olavius, O., 1964).

In general, both scholars and the governing body of Iceland failed to understand that there was an important economic difference between regions in Iceland. The Northwest was ill suited for agriculture and could not sustain the population on agriculture alone but the truth is that in Vestfirðir agriculture was the subsistence part of the economy while marine resources were the part that generated the largest income for farms in the area and were the resources that sustained the population.

Throughout the 18th and 19th century the government persisted in imposing new methods to improve agriculture in the whole of Iceland. In some places these improvements were successful but in other places, like Vestfirðir, the options for improvements in agriculture were so limited that in the long run it failed to improve agriculture or the living standards in the area. In the 18th century governmental officials traveled around the Vestfirðir peninsula to assess improvements for the fishing industry but improvements were suggested but not introduced into the fishing industry, and it

seems that the government had little idea of what was the most important factor in sustaining the population in the Northwest of Iceland (Olavius, O., 1964).

5.2 The settlement and settlement patterns of the Northwest

The settlement of Iceland has always been historically dated to AD 874 when Vikings from Norway and the British Isles settled Iceland. This date is primarily based on written sources from the 12th and 13th centuries (Ísl.sög. I, 1981) and recently it has also been supported by tephrochronology and C14 methods (Ólafsson, G., 1996). Some archaeologists have insisted on the idea that the first settlement of Iceland was much earlier and have even suggested the early 8th century (Hermanns-Auðardóttir, M., 1989).

It is not the purpose here to argue about the dates of the settlement of Iceland but it is important to point out that the greater part of the archaeological evidence suggests the late 9th – early 10th centuries. The material culture from the earliest phase of settlement in Iceland dates to the 9th century and alongside the majority of C14 dates, collected from archaeological sites, it appears very unlikely that Iceland was settled before AD 800. However, the settlement of Iceland must have taken some time and that explorers might well have begun sailing to the island well before AD 874. Many Icelandic scholars have begun favoring this idea of a pre-settlement incursion but so far little evidence is to support these ideas (Vésteinsson, O., 2006, Þorláksson, H., 2006).

The *Book of Settlements* mentions a few such explorers that came to Iceland and stayed for a brief period before returning to their homes again. These references may well be describing expeditions to Iceland before AD 874 and some of them may be descriptions of failed attempts to settle the country (Ísl. Sög. I. 1981).

There is no evidence of failed settlements in the archaeological records and it is a possibility that in the future such settlements will be identified but no systematic research has been done on this subject. There are place-names in some parts of the country that may be connected with these sites but they have yet to be examined.

It is quite likely that there were other failed attempts to settle even though the *Book of Settlements* does not mention them. It would have taken some time for people to find a suitable place to settle and to gain enough understanding of this new environment in order to successfully establish a settlement. It is therefore probable that the date AD 874 marks the date of the first successful settlement in Iceland and that after that the settlement of Iceland progressed smoothly.

Little is known about the origins of the settlers who settled the Northwest, except what the *Book of Settlements* states. It is difficult to draw any firm conclusion from this work, due to the fact it was written a long time after the settlement took place, and because its textual history is so complex (Johanneson, J. 1941, Rafnsson, 1974, Benediktsson, 1969, 1975-6). Recent genetic studies, aimed at understanding the origin of the settlers in Iceland, have suggested that most of them came from Norway and the British Isles (Helgason, A., 2000, 2001). Place-names in the south part of the Vestfirðir peninsula, such as Patreksfjörður and Brjánslækur may be an indication of this British/Norse in the settlement of the Northwest.

It has always been assumed that most settlers to Iceland came from areas that were firmly based on an agricultural economy and therefore would have sought similar areas to settle. Thus, the options for the late-comers would have been limited and they were forced to settle in areas that were less favorable for agriculture, like the Vestfirðir.

The economy of Norway was not all based on agriculture and both historical and archaeological studies have shown regional differences in Norway. In north Norway chiefs based their income primarily on marine resources and the staple economy of that region was more based on marine and wild resources rather than agriculture as the southern part of Norway (Perdikaris, S., 1998).

A settler moving from Norway, or any other part of the Viking world, who came from an area that was based on marine economy, would most likely look for a similar environmental setting. It is highly likely that a fish farmer would have settled in a area where he or she could have utilized the marine resources and would not have sought out an agricultural area.

There is new archaeological evidence that supports that the settlement of Iceland was a rapid process and that inland farms were being settled at the same time as coastal farms. This seems to be the case with the inland farm Hrísheimar as the earliest occupation layers mix with the AD 872 tephra strongly suggesting an early date for the settlement of the farm (Edvardsson, R., 2003). The Vatsfjörður farm in the Northwest has been dated with C14 methods to the 9th century (Edvardsson, R., 2003, 2004) (Edvardsson 2003, 2004) and other settlement farms are now producing earliest settlement dates from the late 9th century (Roberts, H., 2001). The evidence from these sites suggest that the whole country may well have been fully settled by AD 900, which is a few decades earlier than suggested by the written sources.

Recent studies in Icelandic settlement patterns have suggested that the first settlers of Iceland would have favored a cattle-based economy rather than a sheep- or marine-based one. In this study, the research was primarily focused on agricultural areas and therefore

it can only represent those particular regions and is in no way representative of the whole country (Vésteinsson, O., 1995, 2002).

The question of the earliest settlers in Iceland is an important one and needs to be addressed with archaeological methods. It is quite possible that Iceland was already known in the 8 - 9th centuries, and visited by explorers from Scandinavia and the British isles. Iceland may well have been regarded as a seasonal “hunting/fishing station” where hunters sought out the un-exploited resources in the summertime for both fishing and to hunt walrus and returned with their catch in the autumn to their homeland.

In the following sections two main study cases will be used to discuss settlement patterns in the Northwest and its development from 900 - 1200. This work is primarily based on archaeological surveys with historical sources as secondary (Edvardsson, R., 1996, 1887, 1999, 2000) (See above). The two case studies are Bolungarvíkurhreppur (district of Bolungarvík) and Kaldrananeshreppur (district of Kaldrananes). The main aim here is to show that in both cases, even though these districts are situated on the opposite ends of the Northwest peninsula, the sea is the main factor influencing settlement patterns.

Before we examine the archaeological surveys let us look at what the *Book of Settlements* has to say about the settlement of Bolungarvík. The first settler of Bolungarvík was a woman called Þuríður sundafyllir (filler of fjords). This settler came from Hálogaland in the North western part of Norway and was famous in her home area because she was said to be capable of filling the fjords with fish. It is even hinted in the *Book of Settlements* that she had supernatural powers and in local folklore she seems to have shamanistic powers (*Vestfirskar Þjóðsögur*). One of the first things Þuríður did,

once settled in Bolungarvík, was to locate the still-known fishing grounds Kvíarmið and to establish a fishing station in Bolungarvík. Any farmer who wanted to use this station had to pay a toll to Þuríður (Ísl. Sög. I).

If there is any truth in this statement then there is no doubt that the settler in question was consciously seeking out the marine resources in the area. Þuríður had already acquired knowledge of how to identify good fishing grounds from her background, and used this knowledge to locate rich fishing grounds in the new environment. The ruling factor in the location of the settlement in Bolungarvík were not its agricultural resources but the marine ones. Therefore, based on this account, the settlement of Bolungarvík and its development should only be examined in connection with the sea.

The *Book of Settlements* says that Þuríður built a farm on a small peninsula by a lake, called Vatnsnes (Ísl.sög.I). It is believed that in the 9th century the geography of Bolungarvík (map 2) was different than it is today. At the time of Þuríður's arrival the fjord reached into the valley of Syðridalur and the small peninsula Vatnsnes was between the lake Syðridalsvatn (Miðdalsvatn) and the sea. Since the settlement period the sea has eroded the north side of the mountain Traðarhorn, due to the prevailing wind direction from the north. These sand and gravel sediments were carried into the fjord and slowly filled up the area between the lake of Syðridalsvatn and the present day sea-shore (Aðalskipulag Bolungarvíkur 1981).

Both valleys were, in the 10th century, covered with shrub forest from sea level up to about 200 m.s.l. The Vatnsnes peninsula would therefore have been an excellent site for the first settlement. Ships could be sailed into Lake Syðridalsvatn were they would be better protected during the winter and the site had easy access to wood and water, and

Syðridalvatn had a rich source of trout. The settlement at Vatnsnes may not have been intended as a permanent settlement, but as a temporary site while the area was explored and a suitable area was found for a permanent site. In the 10th century the farm was probably moved to the site of the present day farm Hóll, which became the main farm in the district of Bolungarvík and has remained so since its settlement in the 10th century.

The settlement in Bolungarvík in the early 10th century probably consisted of one main farm, situated close to the sea and its farmland extended over most of the district of Bolungarvík, but it is also likely that all main farms in the district were settled at the same time. However, based primarily on the archaeological surveys, and supported by historical sources, it must be concluded that Vatnsnes (later Hóll) was the main farm and other farms were settled later. How much later they were settled is difficult to determine as excavations have, as yet, not been carried out on these farms but it is likely that it happened shortly after the settlement of Vatnsnes, i.e. late 9th or early 10th centuries.

In the period between the 10th and 11th centuries the settlement developed rapidly. All the larger farms of the district, Hóll, Hlíð, Hanhóll, Ós, Þjóðólfstunga, Breiðaból were probably settled by the end of the 10th century and the remaining farms had all come into existence around AD 1100, in total 15 farmsteads (Edvardsson, R., 1996, 1997, 1999).

The geography of the district of Kaldranenes is different from Bolungarvík. Kaldranenes is much larger in geographical terms than Bolungarvík and agricultural conditions are diverse, depending on different parts of the district but in general the area is poor in agricultural resources.

The prominent geographical features of the southern part of the district are high mountains and little flatland between the mountains and the sea and the same conditions

are in the Northern part of the district. The area around the valley of Bjarnafjörður is the only part of the district that is different, offering better conditions for agriculture.

No archaeological excavations have been carried out on farm sites in the district so no excavation data exist concerning the earliest settlement of the area. The written sources mention 5 farms as settlement farms, Kaldbakur, Kleifar, Svanshóll and Grímsey. Each of these farms is centrally situated within their areas so it is likely that they represent the original settlement farms. In addition two more farms, Goðdalur and Kaldrananes, are probably also settlement farms based on the archaeological survey. In Goðdalur a longhouse was recorded at some distance from the later farmstead, and in Kaldrananes a longhouse with other types of outhouses clustered around was recorded also at some distance from the later farmstead (Edvardsson, R., 2000).

It is difficult to assess the development of the settlement in Kaldrananes in the period from 900 – 1200 due to the lack of archaeological data but it is highly likely that it was as rapid as elsewhere in the country and that most of its 22 farms had already come into existence in the 12th century.

During the survey in Kaldrananes it was noted that farmlands for many farms were almost equal in size and systematically distributed. This feature has also been noted elsewhere in the country where it has been viewed as showing a pre-thought division of lands between later settlers by an original settler. (Vésteinsson, O., 1995, 2005). However it must be kept in mind that no records exist of settlement farm boundaries, except for the *Book of Settlements*, and the oldest reliable records of farm boundaries are from the late 19th century (*Landamerkjalyýsingar*). It is therefore likely that these systematical divisions are a much later occurrence and in reality only represent settlement patterns of the 18th

and 19th centuries. Using the 19th century farm boundaries must be approached with caution as they are a part of the 19th century landscape and as most other elements of the 19th century cannot be used without caution and careful evaluation.

The smaller scale settlement patterns, i.e. individual farmsteads, of the period AD 900 – 1000 is fairly well researched in Iceland. A typical farm of the period consisted of a longhouse (sometimes more than one), sunken feature buildings and outhouses built within the home field of the farm (Edvardsson, R., 2003, Einarsson, B., 1995, Hermanns-Auðardóttir, M., 1989). In the outfields pens of different types were located as well as shielings. The function of individual houses depended on where the farm was located, seashore or inland, and also on what kind of economy it based its income on, i.e. sheep, cattle, marine, etc..

The typical farm from the settlement period in Vestfirðir generally does not differ much from other farms from the same date in Iceland, except that a typical farmstead in the Northwest is located closer to the sea and has more structures that are connected with marine economy. At Vatnsnes in Bolungarvík two longhouses have been recorded and both are close to the 10th century shoreline, and few other buildings are visible in the surface. It is however likely that sunken feature buildings and outhouses are also located in the vicinity. At Urriðasel in Kaldrananes the longhouse and other buildings are also only a few meters from the shoreline (Plan 20). Other similar layouts have been recorded at Drangar in Strandasýsla, Hávarðsstaðir on Snæfjallaströnd, Hvítanes in Skötufjörður and in Geirþjófsfjörður (Plan 23).

A change in settlement patterns occurs sometime in the period between AD 1000 – 1150 and new elements are introduced. The cause behind this change is probably linked political, social and to some extent environmental changes.

In the Northwest longhouses are abandoned and the farm moved to another location. The survey record suggests this abandonment phase strongly but it is probably not likely that all settlement farms were abandoned and moved to a new location. Some farmsteads continued to occupy their original location but there is more data needed to draw any firm conclusion about this phase.

Christian chapels and churches appear at this time and most of them are built close to the main farm, sometimes only a few meters away from the main dwelling. At this time permanent fishing booths also begin to appear in the record but it is probably not until the early 13th century that they become a prominent feature on farms in the Northwest (Amorosi, T., McGovern, T., 1992).

It has been argued that churches and chapels appear in the 11th century on all independent farms in Iceland, and that gives an idea of settlement patterns a century and a half after the landnám (Vésteinsson, O., 2000, 2002). If this is true then only about 28% of all farms in North Ísafjarðarsýsla were independent farms around the period AD 1150. All districts show a similar number of churches and chapels except one. In the district of Bolungarvík there is only one Church and based on this argument there was only one independent farm in the district, Hóll, and all other farms were either Hóll's tenant farms or in some way controlled by the farmer at Hóll. This sets the district of Bolungarvík aside and suggests that the chief of the district had a stronger hold over other farms and possibly absolute ownership and power in the district of Bolungarvík. It is interesting that

in the 18th century the farmer at Hóll still owns the majority of farms in the district and all farmers are bound to fulfill some duties for him. This suggests that even in the 18th century some remnants of the older feudal system is still visible in the district of Bolungarvík.

From the survey record four types of farms can be identified; main farm, tenant farm, outlying farm, and a cottage. There is not much difference in settlement patterns between a main farm or a tenant farm, except for size, and in the Northwest typical farms of these types would have a dwelling and outhouses clustered around the main house, all within the home field (Plans 21, 22). In Vestfirðir outhouses would not be built too far away from the dwelling as winter storms and darkness made it easy to get lost going to the outhouses to feed the domestic animals. The majority of farms had access to the sea and had a landing, a boathouse, sometimes more than one, and sheds both for storing fishing equipment and drying fish. In some cases exceptionally large boathouses have been recorded, up to 20 m in length (Edvardsson, R., 2003).

The only difference recorded between a main farm in any district in the Northwest and a tenant farm is that most main farms had a church or a chapel on its farmland. An outlying farm, as a rule, was built within the farmland of either a main farm or a tenant farm. A farm of this type was allowed to use small portions of the home field of the main farm and had few domestic animals. The survey record shows that farms of this type did not have many outhouses and in most cases only one and then usually a sheep house (Edvardsson, R., 1996, 2000, 2002).

The last type of farm, cottage, is not a farm in the strict sense of the word but a dwelling without land or domestic animals. These houses had often originally been

seasonal fishing booths that had become a permanent dwelling. In these houses a single family lived, often a fisherman and his family, that was completely dependent on work from the main farm. The historical record suggests that during the period from 1200 – 1500 dwellings of this type increased in number in the Northwest and other areas of Iceland that were dependent on fishing as an income (Edvardsson, R., 1996, 1997, 1999).

5.3 Chiefs, economy and society in the Northwest of Iceland

The picture drawn in the *Book of Settlements* of the political structure at the beginning of the settlement describes it as being uniform all over the country. First the rich agricultural areas were occupied, and later on, areas less rich in agricultural resources. Those settlers who managed to claim land in these rich agricultural areas became chiefs and form the ruling class of Iceland. The *Book of Settlements* suggests that the first settlers claimed large tracts of land, which were subsequently divided up among his own family and late-comers. This created a client base for the future chiefs which was both a source for power and income. This scenario is probable, in general terms, especially regarding large land claims but new archaeological evidence is suggesting a different process of settlement after the initial phase.

After the establishment of the first settlements phase and land had been divided between the settlers, one or two Chiefs gained power within any large district of the country, such as the whole of Vestfirðir, but the written sources also suggest that there were local chieftains, each within a smaller district (*hreppur*), loyal to a main Chief.

The political and social system of the early Icelandic settlement was probably established quickly as it was brought fully formed from the Scandinavian homeland. No new elements, neither political nor social, were introduced, and the governing of the

country did not differ in any major way from other areas occupied by Scandinavians. At the top of the social spectrum were the chiefs and their families, then independent farmers, tenants, and at the lowest levels, the workers and slaves.

It has to be kept in mind that there were differences between the settlement in Greenland, the Faroes and Iceland on the one hand and settlements on Orkney, Shetland, and the British Isles, as the former occupied pristine and untouched landscapes but the latter occupied already settled and well established landscapes. In Iceland there was neither a native population, which could threaten the newcomers, nor was there a source of slaves or lower rank tenants. Icelandic settlers also did not participate in warfare and raids on the same scale as the settlers in the British Isles probably did. In Iceland there was no real profit in raiding and therefore there was more focus on organizing their settlements, i.e. organizing fishing, food production, etc.

Icelandic nationality and society did not come into existence in the 9th or the 10th centuries, and Icelanders did not think of themselves as an individual nation, separated from the rest of the Scandinavian world. That happened much later, probably not until the 13th century, and it was probably even at a much later date that Icelandic nationality was created. Thus, the first 300 years of the occupation of Iceland must be examined in terms of a close connection with other areas settled and occupied by Scandinavians.

Early in its history Iceland was divided into *hreppar* (districts). The exact date of this division is unknown, but it is generally thought that this division dates back to the 10th to 11th centuries. The *hreppar* system was probably brought into Iceland from Scandinavia, and was the lowest level of government. Similar systems were probably introduced to other Scandinavian colonies, such as Greenland, Faroes and the Orkneys.

Little is known about the function of the *hreppar* in this early period but their creation was probably related to the need of farmers to assist one another. In a way the *hreppar* can be viewed as a collective body where farmers would come together and help each other in communal matters and in a case of an emergency. If one farmer lost his livestock other farmers would give him a portion of their own, but never more than 6% of their livestock. Some houses were also insured in a case of a fire, and if they burned down the farmers within the district would pay for the damage. The maximum number of farmers within a district was 20 (Þorseinsson, B., 1966).

The Bolungarvík district probably came into existence in the 10th century, and it covered more or less the whole area of the original settlement of Þuríður Sundafyllir. It is not known how early the Bolungarvík district had reached its maximum number of farms, but in the church register for the church at Hóll from the late 13th century there are 15 main farms recorded (D.I.II.616). Along with these main farms there were probably outlying farms that are not mentioned in the register. In the Árni Magnússon registry from the 18th century the names and number of main farms in the district had not changed but there were a few outlying farms recorded which were not recorded in the church registry. In the early 18th century a total of 22 farms were recorded (Magnússon, Á., 1940).

These written sources indicate that the Bolungarvík district reached its maximum number of farms fairly early and that the settlement remained relatively stable throughout its history. The reasons behind this relatively stable settlement are mainly two. The main reason lies in the geography of the district which could not sustain more farms than 20, and if that number was increased these farms would quickly be abandoned. The other

reason is that the farm Hóll remained in total control over both the society and the economy of the region. Hóll's control was absolute, and based its control on the ownership of most farms within the district, and it also controlled the main fishing station in the district.

5.4 Early Icelandic fishing and fishing communities: AD 900-1200

Icelandic fishing became very specialized early in its history as fishermen targeted mainly two species, cod and haddock. This “over-specialization” made fishermen in Iceland more vulnerable when it came to crashes in fish stocks. Research has shown that cod and haddock are very sensitive to changes in sea-temperature and during cold periods sea temperatures drop and the boundary between the cold polar sea and the warmer ocean moves south of Iceland. It has been suggested that during some periods this boundary was well south of Iceland, and even as far south as the Faroe Islands. Studies into cod and herring stocks in the 20th century show a clear relationship between crashes for these two species and the cooling of the ocean around Iceland (Jónsson, J., 1994, Malmberg, S-A., 1977).

The most important question, and, at the same time, the most difficult question to answer is on the nature of Icelandic fishing in the period between AD 900 – 1200. The reason behind that is the lack of written sources about fishing from the period and the poor archaeological data. However, it is important to point out that archaeological data are increasing and the new data discovered are already suggesting a more dynamic and diverse marine economy than was earlier thought to have existed. The data also suggest a high level of specialization from the beginning of the settlement and onwards (Edvardsson, R., et al. 2005, Perdikaris, S. 1998).

The main marine areas in Iceland were on the western part of the country, Vestfirðir, Snæfellsnes, Reykjanes and Vestmannaeyjar. Large parts of these areas based their income on marine resources but within these larger areas were pockets that were more invested in agriculture. Fishing was always part of the economy elsewhere in the country but it seems that the largest and most important fishing areas were to the southwest and west of Iceland (Jónsson, J., 1996).

The existing data suggest two possible models for early fishing. The first model is based on the assumption that Icelandic economy was uniform all over the country and therefore fishing was primarily for subsistence and played a minor role in the economy. This view assumes that fishing was the same all over the country and remained unchanged from the settlement until the 19th century. This model is the older theory where primarily historical data are used and 18th and 19th century data are used to explain earlier systems.

The second model proposes a more diverse and complicated scenario. The core in this model is that different regions had different incomes all influenced mainly by their environmental setting. At the center of this model lies the archaeological data and the historical sources are used to supplement the archaeology. At this point the archaeological data are not extensive but they nevertheless suggests a different scenario.

The driving force for fishing in Iceland in the settlement period is that marine products are tradable within Iceland but also, to a lesser degree, to foreign markets. It is an important fact for Icelandic fishing that this economic model already existed in the Viking world and was brought fully developed into the country. It was a natural way of life for Scandinavians in the medieval period. The two economic units, marine and

agricultural, supplied each other with what one could not produce in enough quantities, i.e. the marine regions supplied the agricultural regions with dried fish, driftwood and oil. The marine regions could not produce enough surplus agricultural products and therefore they were supplied by the agricultural regions with wool and other agricultural products. The primary export item during the period between 900 – 1200 were agricultural products, i.e. *vaðmál*, but *skreið* was probably also exported during this period but in lesser quantities (Júlíusson, Á. D., 1996, Þorsteinsson, B., 1966).

It is not fully understood how the exchange of products took place between the agricultural and marine regions. Agricultural farmers who could not afford to send their farmhands to fishing stations probably exchanged agricultural products for marine products, but those who could afford to send their farmhands probably paid tolls in the form of agricultural products, and even livestock for the license to fish at a particular fishing station.

It is of utmost importance to understand that fishing during the first 300 years of the settlement of the country was as equally important to the economy of the country as agriculture. Fishing was not something that was launched in Iceland out of a necessity. It was a matter-of-course for the settlers and a continuity of a well established economic system that had functioned in Scandinavia for several hundred years.

5.5 The temporal perspective

An important issue in the study of any part of Icelandic archaeology is the temporal perspective. This is because a certain sense of timelessness has always been a strong trend in Icelandic archaeological research. The prevailing view has always been heavily influenced by history which concluded that many components of the Icelandic society

remained unchanged throughout the history of the country. A good example of this timelessness is fishing as it has been a common notion that it did not change from the settlement until the late 19th century (Jóhannesson, Þ., 1965, Jónsson, J., 1994, Kristjánsson, L., 1982, Pálsson, G., 1991).

Archaeologists have used periods as they have been defined by historians to explain temporal divisions within archaeology. Researchers in archaeology have in the past tried to identify their sites within the larger established periodical divisions without success. At present, more and more archaeologists are becoming aware of the problem as they are identifying political, economical, etc. changes in the archaeological record that do not correspond with the historical sources (Einarsson, B., 1995, Friðriksson, B., 1994).

Thus, the traditional historical definitions into periods in Iceland are not visible in the archaeological record. Neither the so-called Commonwealth period (traditionally ca. AD 930-1262) nor the age of *Sturlungar* in the 13th century can be identified with archaeological methods, and it is important for the future of archaeological research in Iceland that periods are divided according to the archaeological record and not only by the written sources.

From the archaeological record, the period between AD 900 – 1250 can be divided into two periods marked by changes that occur in the archaeological record around the period AD 1100 – 1150. These changes are well researched in Iceland, and archaeologists have noted, amongst other things, that at this point in time highland farms were abandoned, increased erosion occurred, the traditional longhouses were abandoned and a new house type appears. The causes for these changes are not completely understood, but there are without doubt many factors at work (Dugmore, A., 1994, Einarsson, B., 1995,

Vésteinsson, O., 2002). Similar changes seem to be at work in the Northwest, however, more research is needed on this subject in order to gain a better understanding of developments and changes around this time.

The archaeological record for the period between AD 1250 and 1450 is not complete, and there are too many gaps to be able to detect any clear changes. However, there are a few sites that suggest that in the 13th and 14th century some changes occur in the archaeological record in this period (Gestsson, G., 1959).

5.6 Local variations

It is very clear in the statistical analysis of the *Jarðabók* data (see above) that there is a difference in income between areas of the Northwest in the 18th century. These differences are caused by environmental factors, and it is likely that they remained more or less constant throughout the settlement of Iceland. I am stating here that behind the placement of farms in the landscape lie environmental components, such as closeness to fishing grounds, better access to pasture, etc., that remained constant. The output of each farm, without doubt, differed between periods as a result of fluctuating environmental factors. Environmental changes caused abandonment of some farms, but most farms in the Northwest remained in or close to the original settlement locations. This is mainly because possibilities for land use are far less than elsewhere in the country.

The environmental differences are visible not just on the larger, but also on the smaller scale. Variations in income within individual districts are primarily ruled by the environmental setting, i.e. the access each individual farm had to local resources. In the large agricultural areas of the north and south of Iceland the environment favored cattle, and a sheep-based economy. In these areas, the first settlers favored a cattle-based

economy as recent research suggests, but the same research also shows that later there is a general shift towards a sheep-based economy (Vésteinsson, O., 2002). Changes in the environment are the probable cause, and show that Viking and medieval age farmers in the agricultural areas responded to changes in their environment by changing their management strategies.

5.7 The structure of early fishing and its development in the period 900 - 1300

The system behind fishing in Iceland came from Scandinavia, and was probably based in the beginning on ownership of farmland that was situated close to fishing grounds. In the Northwest, local chiefs, as well as chiefs outside the Vestfirðir peninsula, owned such farms, and often a tenant took care of both driftwood and fishing (Sturl.sag. 1981). In the beginning, fishing was more a mixture of subsistence and a commercial system, and the commercial part of the fishing was mostly aimed at internal markets. Export of dried fish did not begin in earnest until the 13th century and C14 dates from fishing stations support this idea (Amorosi, T., McGovern, T. 1992).

The structure of the fishing industry of the Northwest was based around the migration of fish species, primarily cod and haddock. Studies into cod migration patterns in the 20th century show that the prime fishing grounds around the Vestfirðir peninsula for cod 65 cm plus in size, are the areas in the mouth of Ísafjarðardjúp and the area along the coast of Strandir. It is interesting to note that no fishing grounds seem to be in the area from Trékyllisvík to Horn in the Horstrandir area. The main fishing grounds south of the Vestfirðir peninsula, the bay of Breiðafjörður, lie further south, close to the Snæfellsnes peninsula.

The prime time for fishing in the area around Ísafjarðardjúp is more or less the whole year around but in Strandir it is primarily from January to May, and then from October to December (Jónsson, J., 1996). It is therefore likely that fishing was more seasonal in the eastern part of the Vestfirðir peninsula than in the western part.

In the beginning of the settlement of Iceland, marine resources would without a doubt have been of great importance for the settlers as it would have taken farmers some time to increase their livestock in order to produce enough goods to sustain their households. This simply meant that farmers had to rely more on hunting and the utilization of marine resources to sustain their households.

This puts the marine regions at the forefront of importance during the initial stage of settlement, in particular those regions that had access to more than one resource, especially fish, driftwood and oil. For an inland farmer, fish and driftwood were of great importance; driftwood for house building as Icelandic birch is ill-suited for house building, and dried fish as it gave the inland farmer an extra food resource while he built up his livestock. Oil was probably less important in the beginning of the settlement as there was more than enough wood for fuel.

It is simply illogical to think that longhouses, excavated inland, were built only of birch and turf, especially in light of the fact that excavations on these sites have recorded that a large amount of timber was used in the construction of these buildings (Edvardsson, R., 2004, Einarsson, B., 1995, Ólafsson, G., 1998, 2000). The driftwood was probably worked on the shore and ready-made planks transported to the construction site. Timber was probably also imported to Iceland, but probably not on a large scale during the first 300 years, as timber is a difficult cargo to transport and ships of the period

900 – 1200 were too small to transport all the timber the settlers needed for house building.

5.8 A model for Economy

Many modern economists have pointed out that a society needs to have a flexible economy to flourish and survive (Gelb, A., 1988, Gylfason, P., 2001). A society that relies on only one source of income and trade is highly vulnerable to any changes affecting its main source of income. It has been pointed out that in modern times countries that rely only on fossil fuel (especially oil) as their main source of income, for example the Arab countries draw 80% of their income from oil, are economically vulnerable (Gylfason, P., 2001). Once the oil runs out they will have nothing that can take its place, and the economy will most likely collapse. In contrast, the oil nations of the western world, such as Norway and the USA, have a flexible economy, and rely less than 50% on oil as a source of income.

Economic crashes have been noted in the past, for example, during the gold rush in Alaska, rich communities appeared, but once the gold ran out these communities collapsed and were abandoned. Spain in the 16th and 17th centuries has also been pointed out as an example of a society relying too heavily on one income, such as the gold and luxury items from the New World, causing it to go into economic decline in the late 17th and 18th centuries.

The importance of a flexible and sustainable economy can also be seen in the north Atlantic in the Middle ages. Scandinavian societies that were settled in the north Atlantic in the 9th and 10th centuries needed a flexible economy to survive. These societies were on the fringe, both from an environmental and trading point of view. It is likely that the

environment plays a lesser role in the success of a settlement than exchange and trade, as the loss of trade cuts the society off from the rest of the world.

It is important to look at the economy on different levels, i.e. farm, region and national level. Each of these levels are to a point independent but have to interact, so a flexible economy can sustain society. The flow between these three economy levels cannot be interrupted, and when that happens economic changes occur. Outside these levels are independent factors that at any time can force economic changes and these are mainly environmental and political changes.

On the lowest level is the individual farm, and it had to have access to various sources of income, agricultural products for own use and trade, timber, stones or turf for house building, peat or wood for fuel, fish and oil for own use and trade, etc. Most farms in Iceland were tenant farms and therefore their production was primarily for their own use, and most of the surplus went to the landowner as rent. Not all farms had the same access to resources, and some had little or no access. Thus exchange of goods between farms must have been an important factor in the farm economy. Each farmer would have exchanged any surplus he had after paying rent for other commodities, whether it was luxury items or food. Agricultural farmers would have exchanged their products for dried fish and oil from the fish farmer and vice versa.

On the second level is the minor districts (*hreppar*) who would be dominated by a main farmer or a chieftain. This chieftain owned farms in the district, as well as outside it, and had access to the most important resources. A successful farmer on this level would be the one who had the best access to different resources, i.e. both marine and agricultural resources, and who could therefore be more flexible during economic crises. The

unsuccessful farmer would be the one who relied only on one source of income, and therefore had less flexibility during economic crises.

On the third level, is a lord who owns land in many minor districts, such as all the districts of Vestfirðir. At later stages in Icelandic history, institutions such as the Church and the King became the dominant landowners. During the medieval period in Iceland the position of a lord was held by certain families, which remained relatively stable until the late 15th century. A successful lord would be the one who had access to all resources, agricultural, marine, and, during the first hundred years of settlement, iron. A farmer on this level needed tradable resources to gain power and wealth, and in Vestfirðir dried fish was the main export item. The problem for the economy of Vestfirðir was that lords relied solely on this resource for export, and therefore they were vulnerable to any changes affecting the trade.

A stable economic system was maintained in Vestfirðir until the late medieval to early modern period. During this period, the region supplied both domestic and foreign markets with different products, creating wealth for the local elite. The supply for these markets was controlled by families residing in Vestfirðir, and wealth, cash or luxury items, remained in the region. However, the Vestfirðir region relied too heavily on the trade with marine products, probably between 50 - 70% as the statistical analysis suggests, and was therefore vulnerable to the loss of marine products. Between 1450 and 1700 changes occurred both political and environmental, which caused the region to go into economic decline as it did not have other resources to fall back on in the time of crisis. After the medieval period, wealth no longer flowed into the region but primarily to elites outside it, especially the Church and the Danish king. Prices for marine products,

i.e. dried fish, were fixed, and trading could only take place with licensed Danish merchants, making it almost impossible to gain wealth from trade. This slow decline would probably have caused the abandonment of the region if favorable changes had not occurred in the mid 19th century.

It is probable that a similar scenario occurred in Greenland, as recent archaeological evidence suggests. Excavations in south Greenland (Edvardsson, R., 2006a, 2006b) show an almost complete absence of fish bones in middens dating from AD 1000 to AD 1400. The only marine products visible in the archaeological record are seal and whale bones, driftwood, and walrus bones. The evidence suggests that there was no fishing for a market, neither domestic nor foreign. No seasonal fishing stations have been recorded in south Greenland but no systematic survey has been done to locate seasonal fishing sites in the area.

It seems therefore that the Norse society in Greenland was primarily agriculture-based, and trade was based around luxury source material, such as walrus ivory, narwhal teeth, furs, etc. The trade with these items created enormous wealth for the Greenlandic elite, and, as with Vestfirðir, Greenlandic society probably based more than 70% of its income on this source alone. A crash in the European markets for these items, which occurred in the 13th century, spelled doom for the Greenlandic society as they did not have any other resource to trade instead.

The comparison between Vestfirðir and south Greenland is not as far-fetched as it might seem at first glance. From a landscape point of view these areas are in certain ways similar, with deep fjords, high mountains and settlements primarily on the coast. It is true that Greenland is more mountainous, and the fjords are deeper and numerous. However,

from an agricultural perspective, the land offers similar conditions, little arable land, and short growing seasons. Further research and comparison between these two regions will without a doubt help our understanding of how and why these two Norse settlements succeeded or failed.

The question of a flexible and sustainable economy is an important one, and this question cannot be addressed by only examining the different Norse settlements within their own limited areas. The colonies in the North Atlantic were not isolated entities, but a part of a larger flexible exchange network. As long as the trade and exchange connection remained uninterrupted, and the flow between the homeland and the colonies was maintained, the Norse settlements flourished. This was especially important for the colonies that were economically and environmentally on the fringe, as Greenland and Iceland; however, both colonies relied too heavily on one source for income, making them vulnerable to changes, and these eventually caused an economic decline and crash.

The fate of Vestfirðir at the end of the medieval period is closely connected with shifts in economy that were primarily caused by political decisions. These decisions moved the power to institutions and individuals outside the region, and eventually local resources were managed by institutions, especially the Church and the King, who did not reside in the region. These new landowners were more interested in what the region could yield, and less interested in the management of local resources. This also created a lack of understanding for the region itself, and of resource management.

The changes in the economy of Vestfirðir at the end of the 15th century, and the economic history of the early modern period are interesting when they are compared to modern economic history. At the end of 18th and the beginning of the 20th century, the

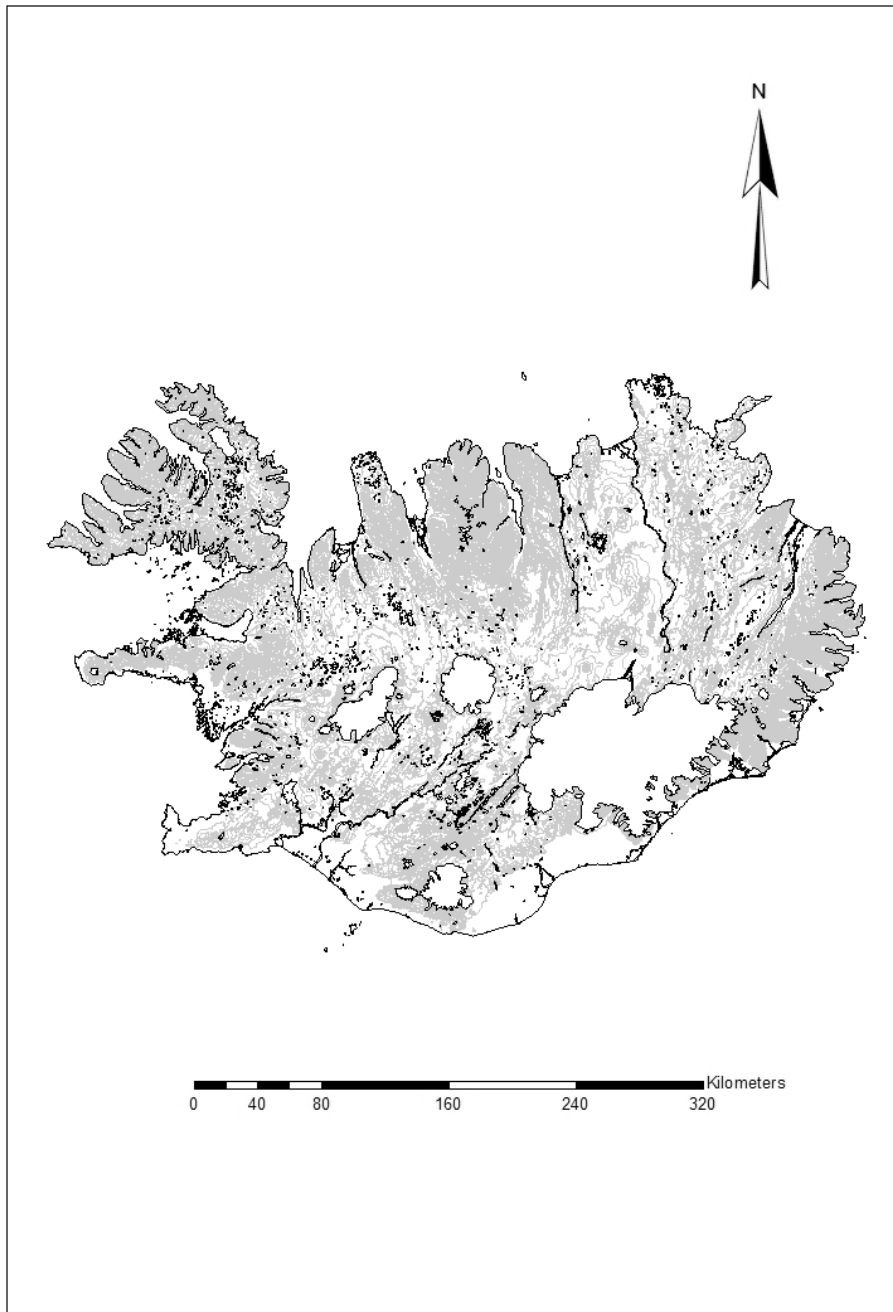
economy of Vestfirðir began to flourish once again, when bans and legislation that limited the fishing industry were removed. Local entrepreneurs appeared once again and the economy boomed. Fishing factories were built, and the number of fishing vessels more than doubled in the early parts of the 20th century. Cash flowed into the region as 90% of fishing boats and factories were owned by locals, and in the early part of the 20th century Vestfirðir was one of the fastest growing regions of Iceland. Economic crashes did occur in the 20th century, but in most cases they were small, and they did not have a lasting effect on the fishing industry. In the late 20th century a political decision was made that eventually caused the complete destruction of the Vestfirðir economy. This was the introduction of the quota system in the 1980s. This allowed outside companies and individuals residing outside the region to own local quotas. In the 1980s almost 90% of the Vestfirðir quota vanished from the region into the hands of few large fishing companies. This led to the decline of the local fishing industry as none of the catch was landed in Vestfirðir. In the past 20 years, Vestfirðir has seen massive depopulation, and the almost total disappearance of the fishing industry.

The economic history of Vestfirðir shows how dangerous it is for a society to rely only on one tradable resource, as the loss of that particular resource spells disaster and destruction for the society. There is a warning for Icelandic society in general hidden in this history of success and disaster, as Iceland on the whole in our modern times relies more than 50% on fish as its main income. From a European standpoint, Iceland is on the fringe, just as Vestfirðir has been categorized as on the fringe in the Icelandic context, and the loss of fishing rights and quotas to foreign companies, or the depletion of cod and haddock in the fishing grounds in the waters around Iceland, would cause total economic

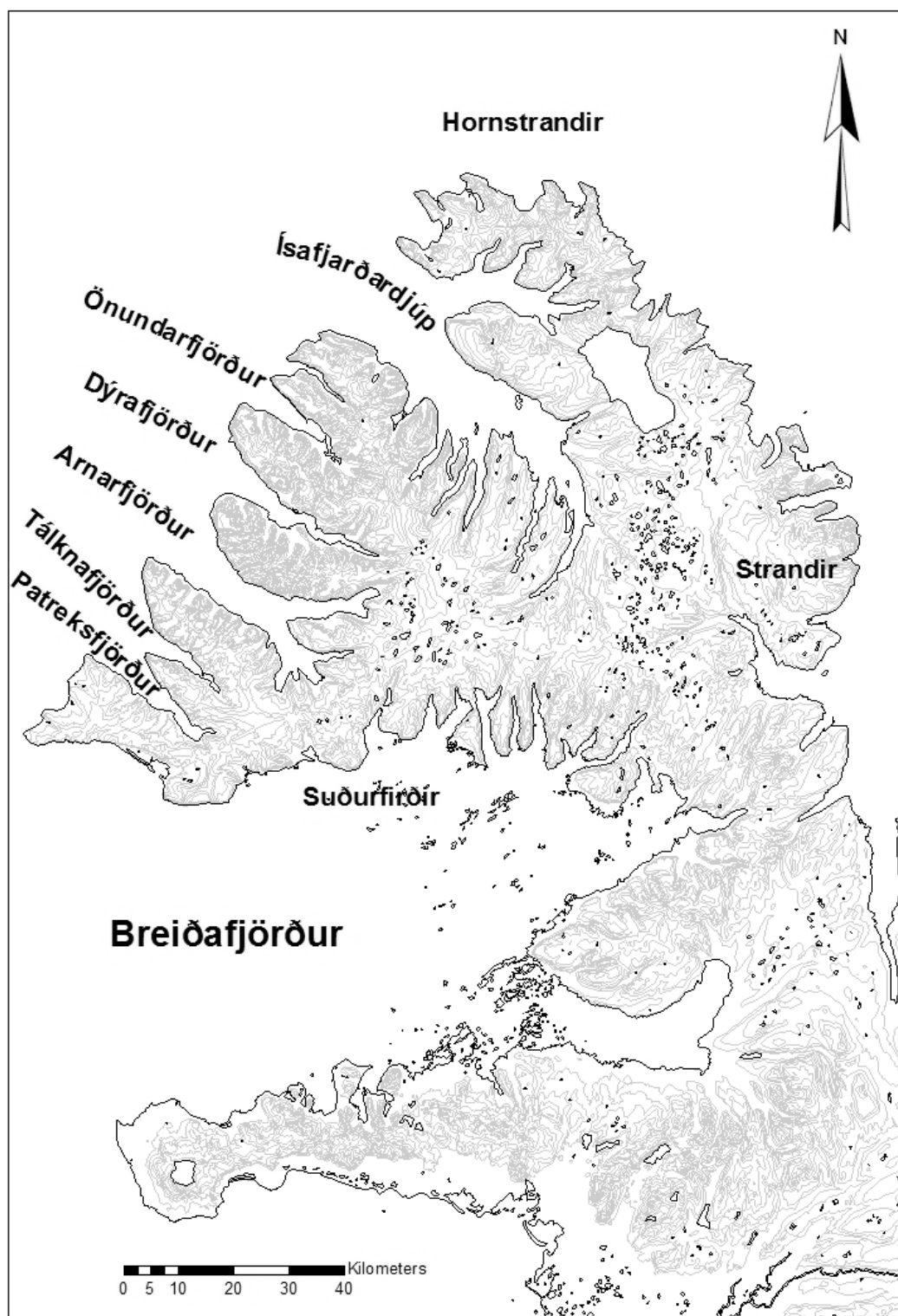
destruction for Icelandic society as a whole. There is a clear need for Icelanders to secure and build up other resources for income if they are to survive economic shifts and crashes in markets in the future.

6. Appendices

Appendix 1. Maps



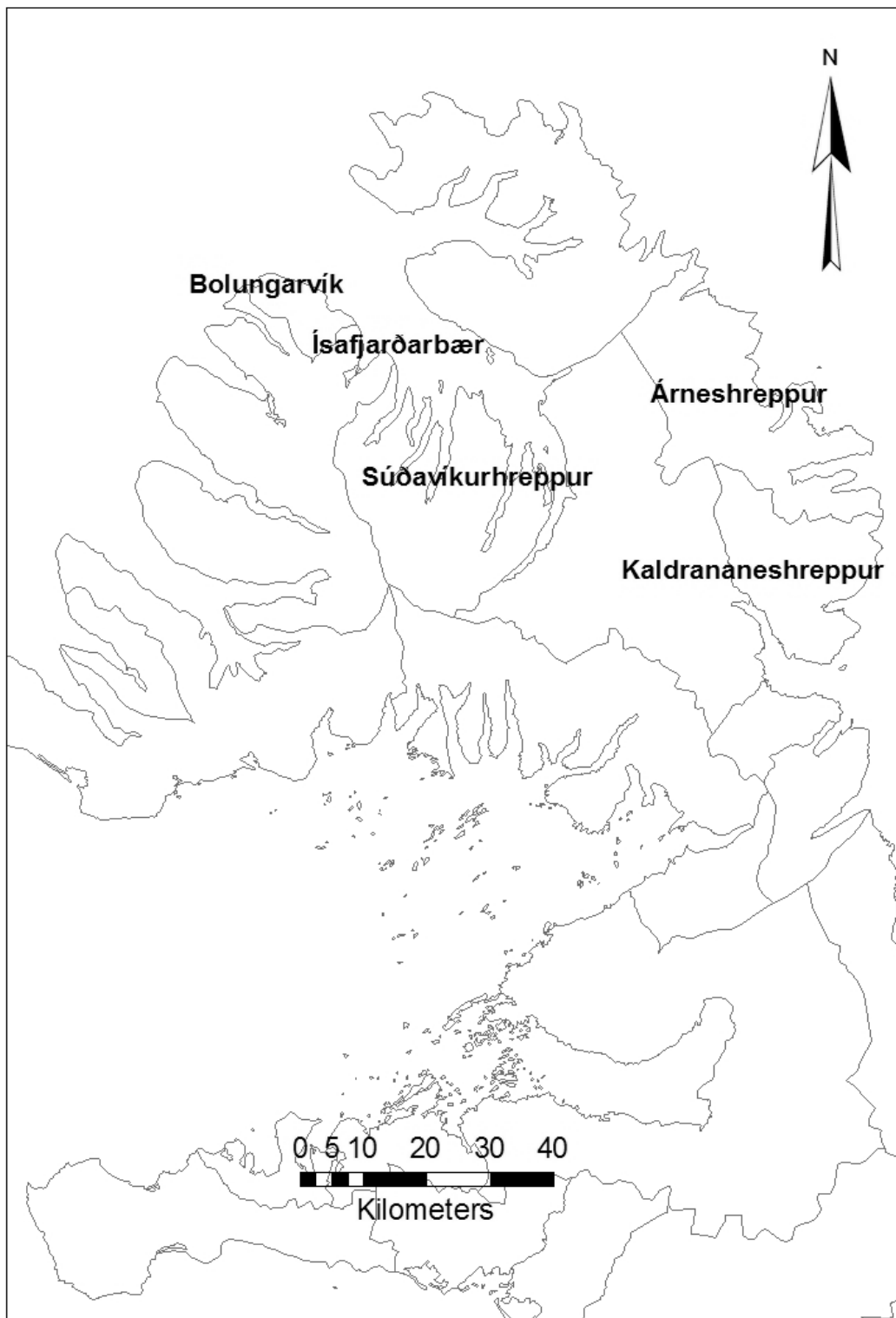
Map 1. Iceland



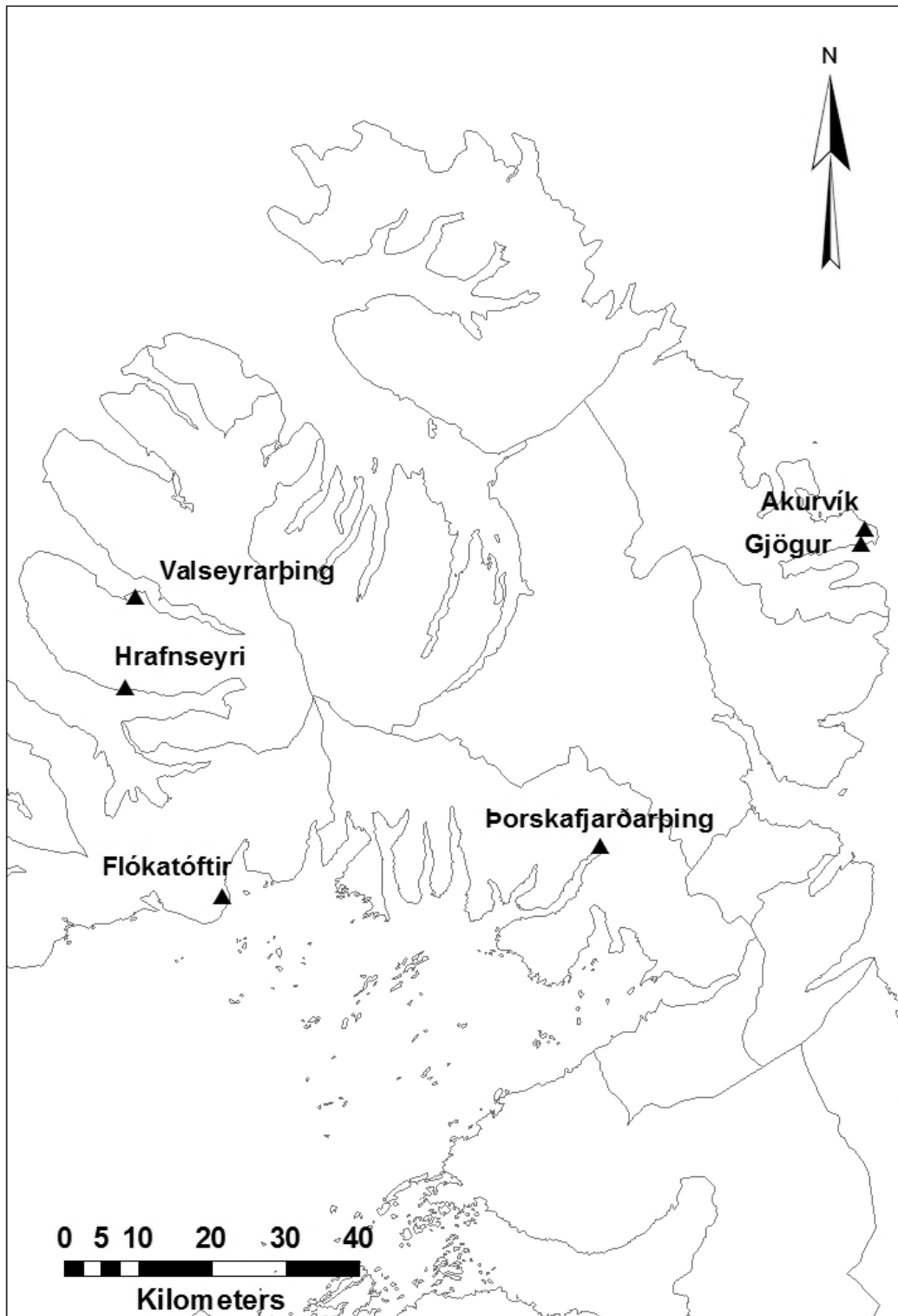
Map 2. Vestfirðir (The North West)



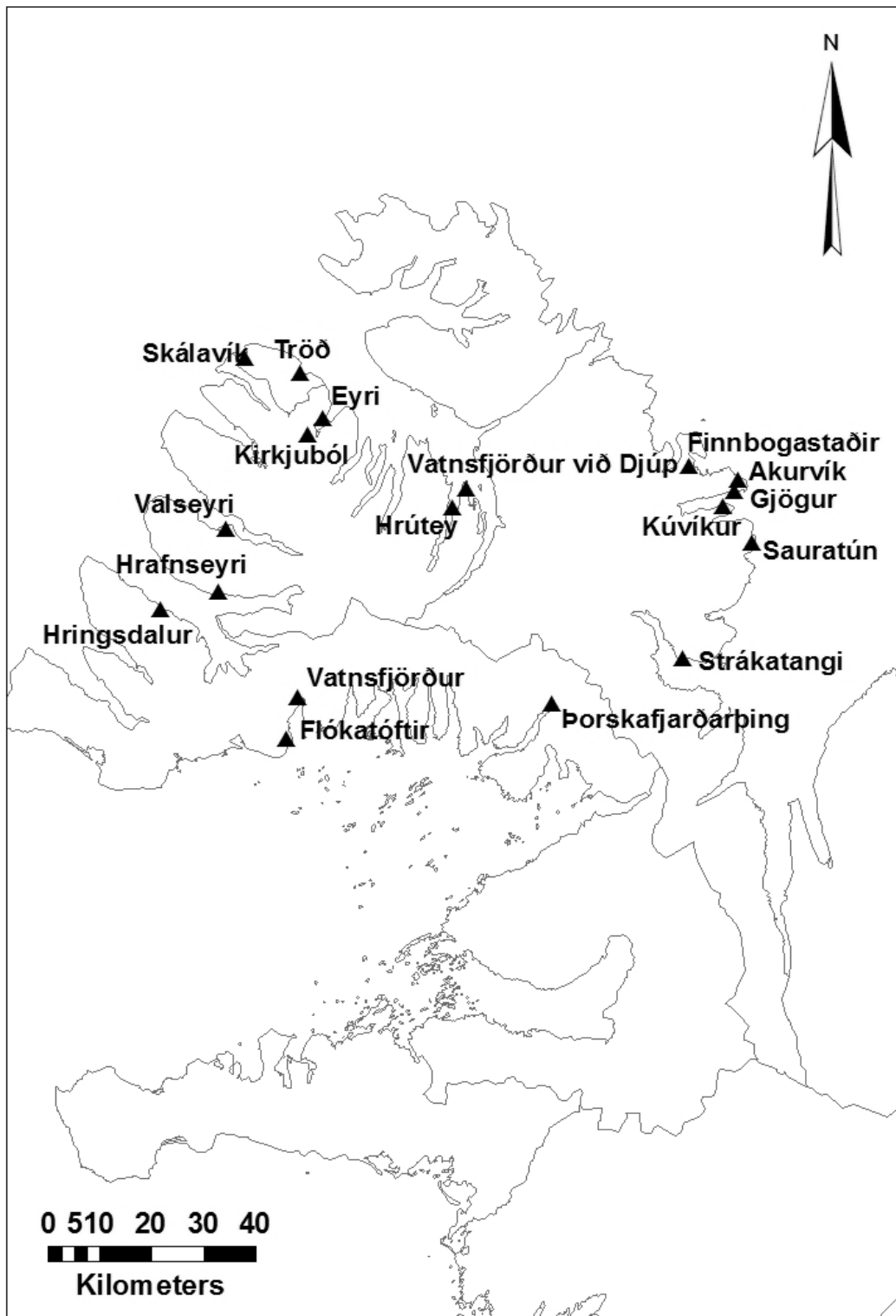
Map 3. Main counties (Sýslur) in Vestfirðir.



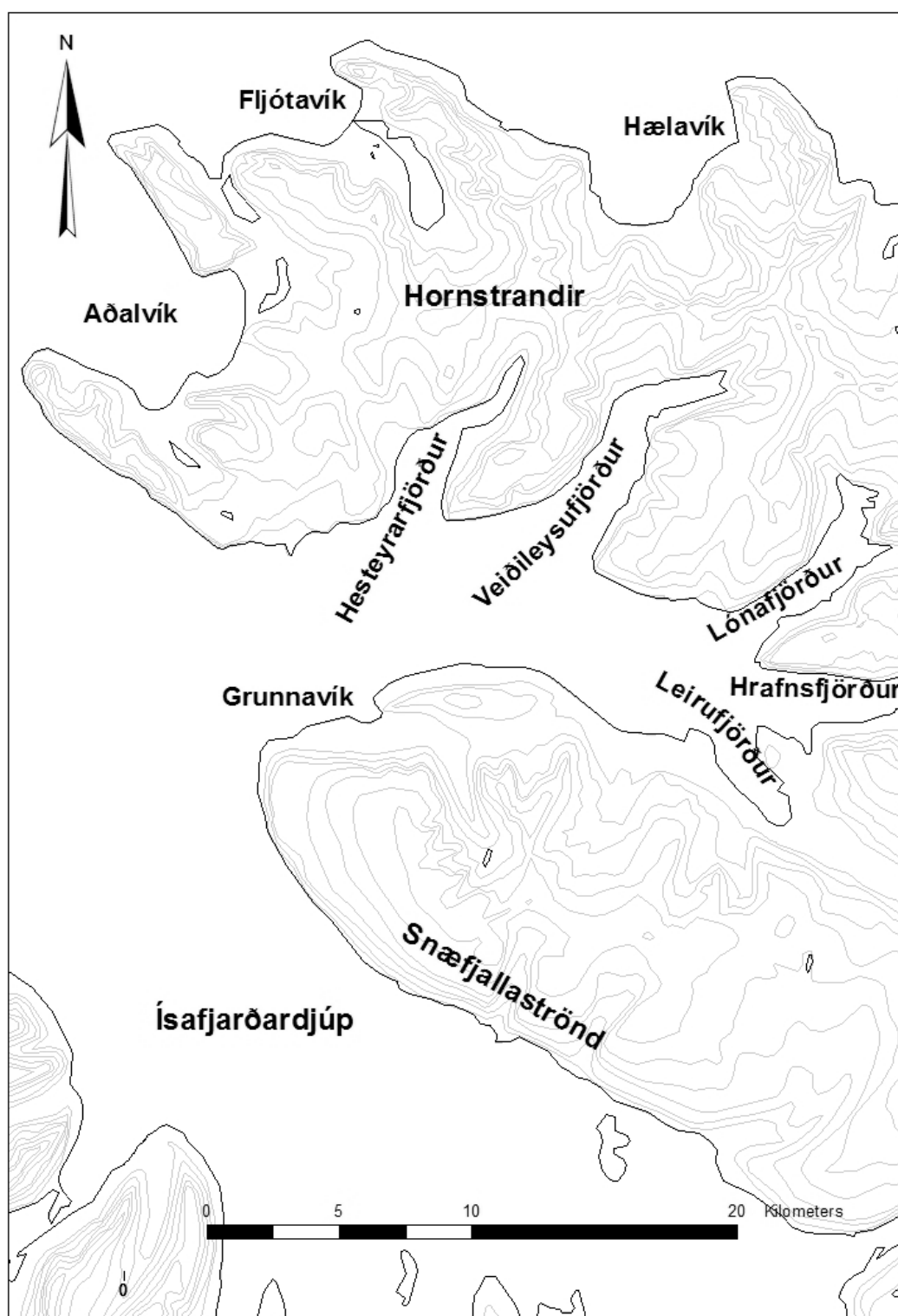
Map 4. Modern districts (hreppar) discussed in the text.



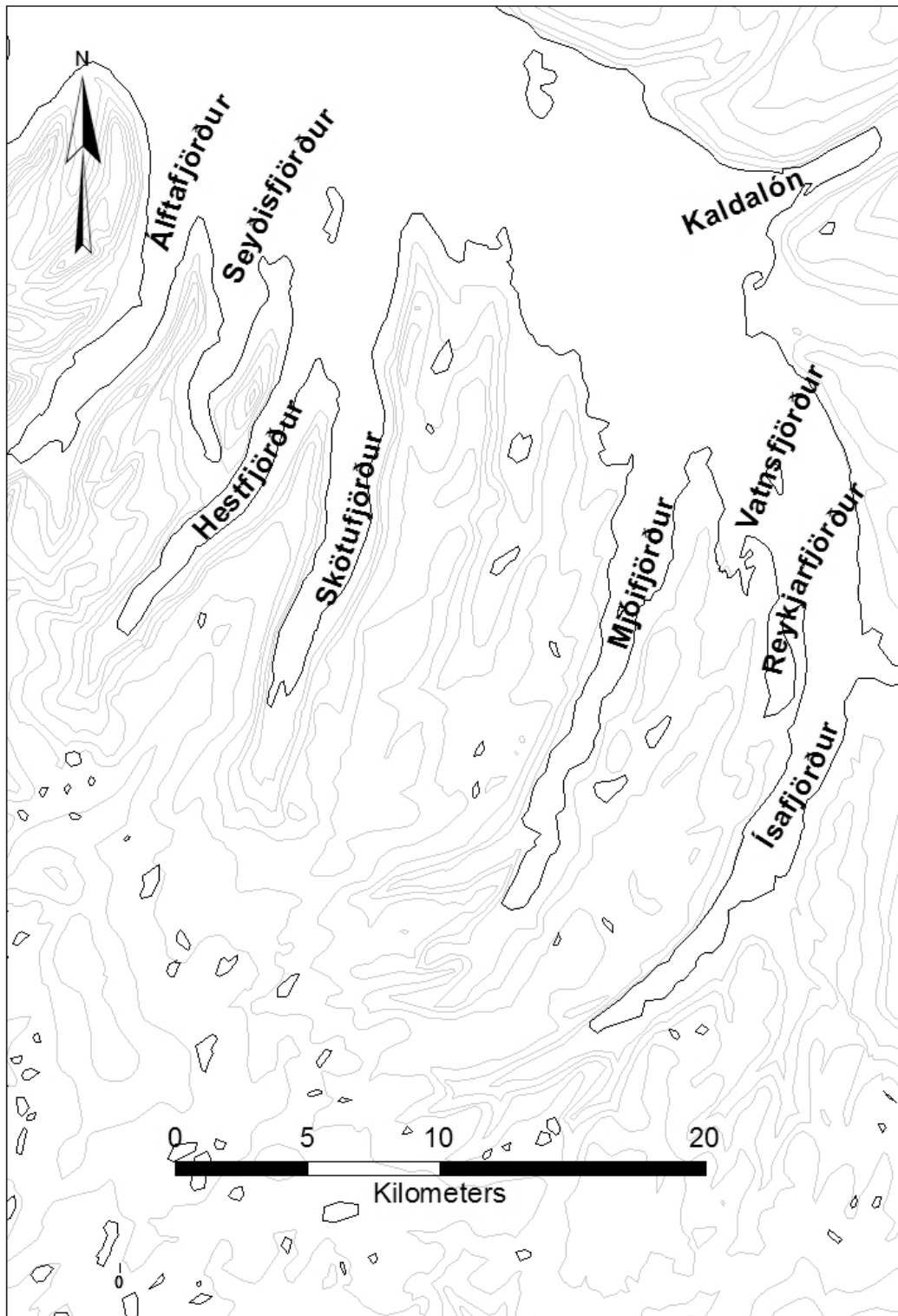
Map 5. Sites researched prior to 1990.



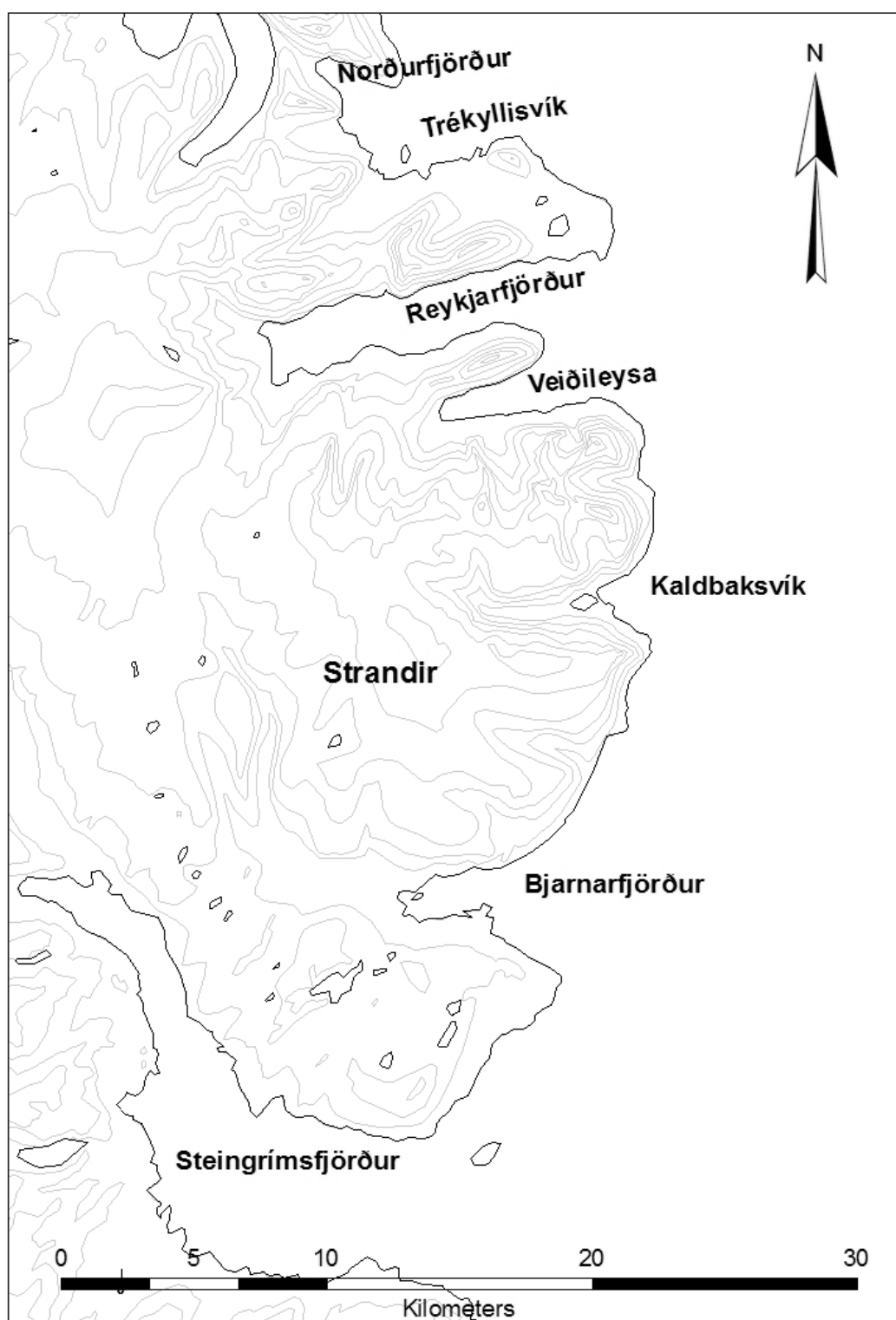
Map. 6 Sites researched post 1990.



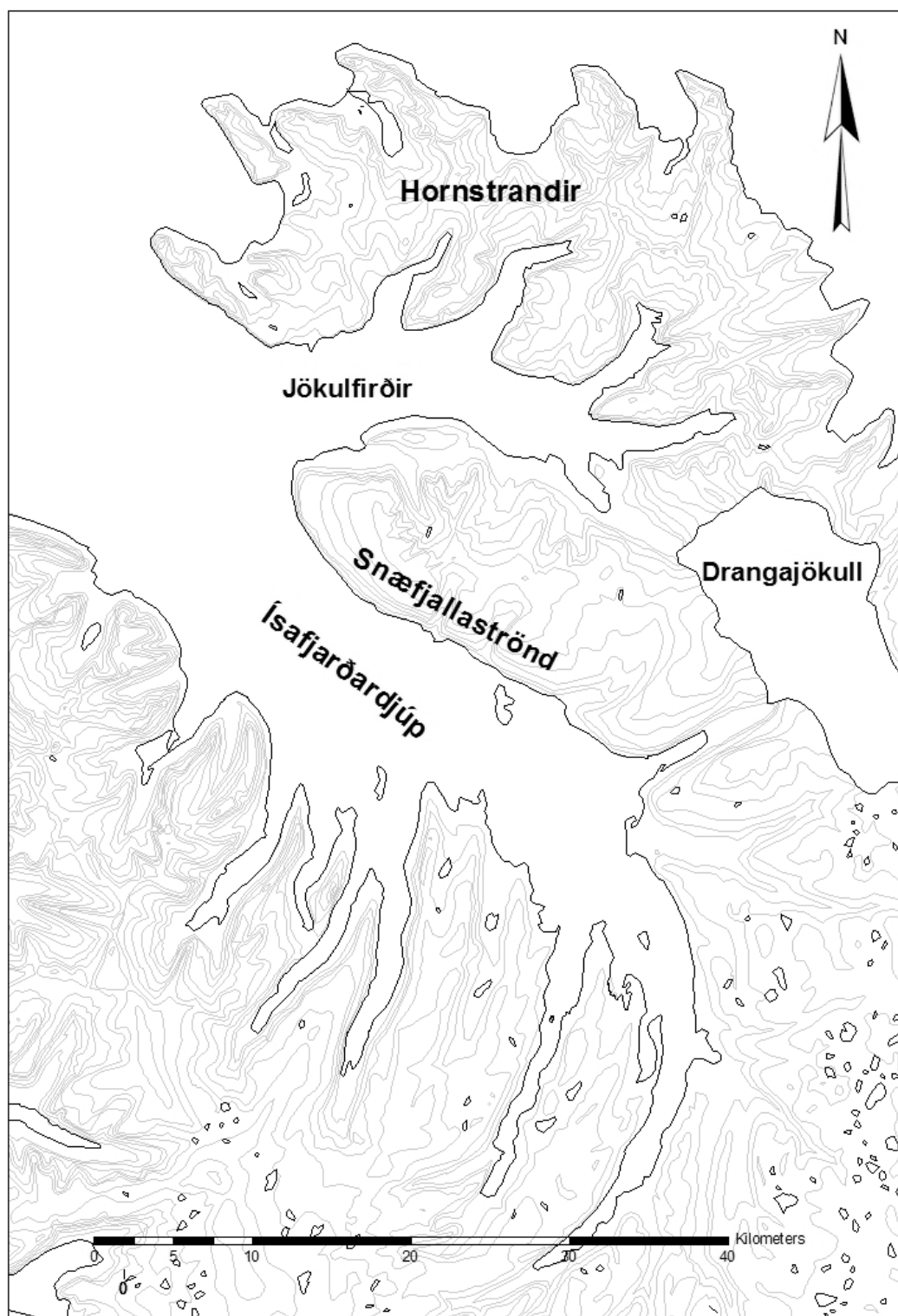
Map 7. The Hornstrandir area.



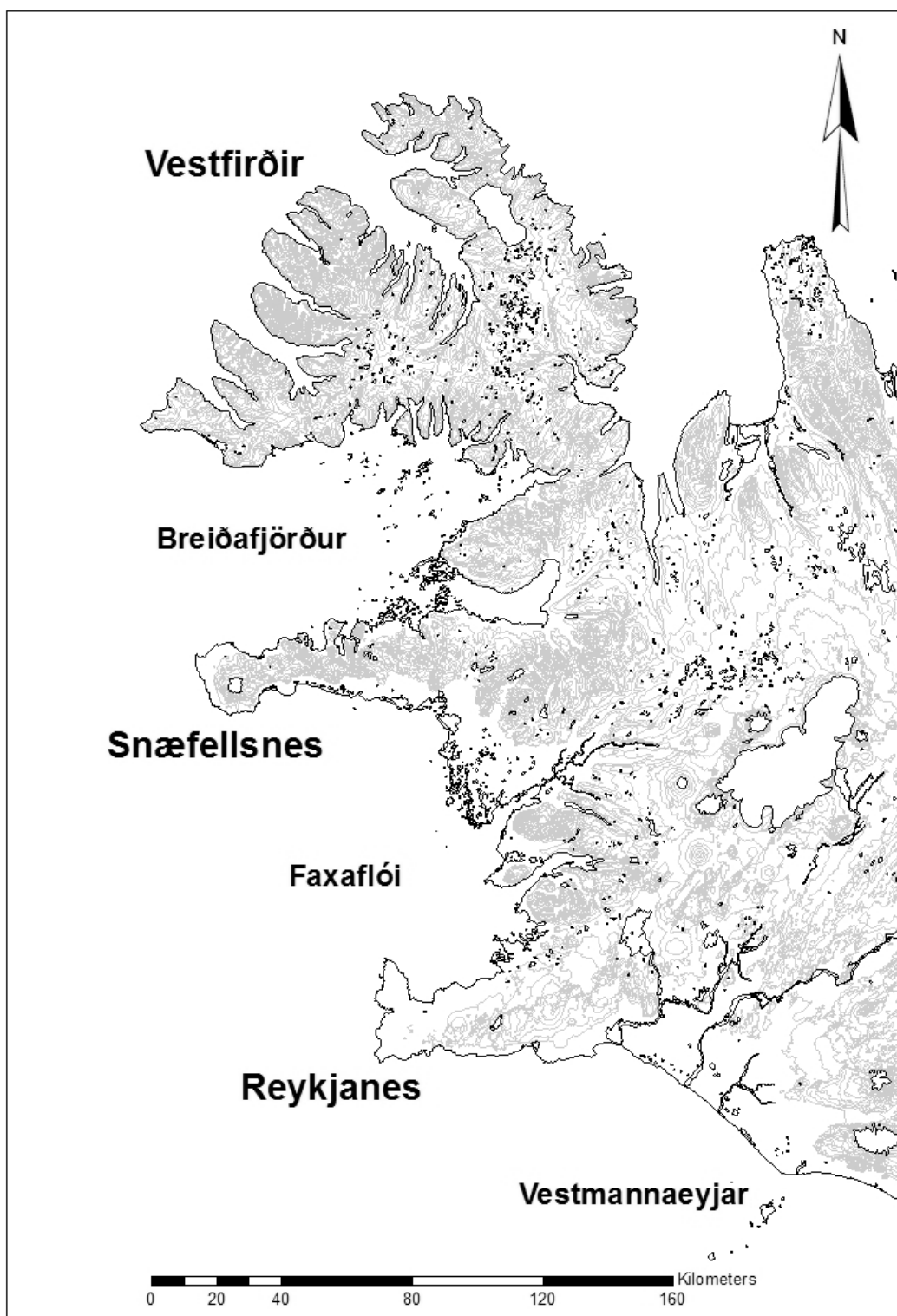
Map 8. Ísafjarðardjúp (The Ísafjarðardjúp fjord).



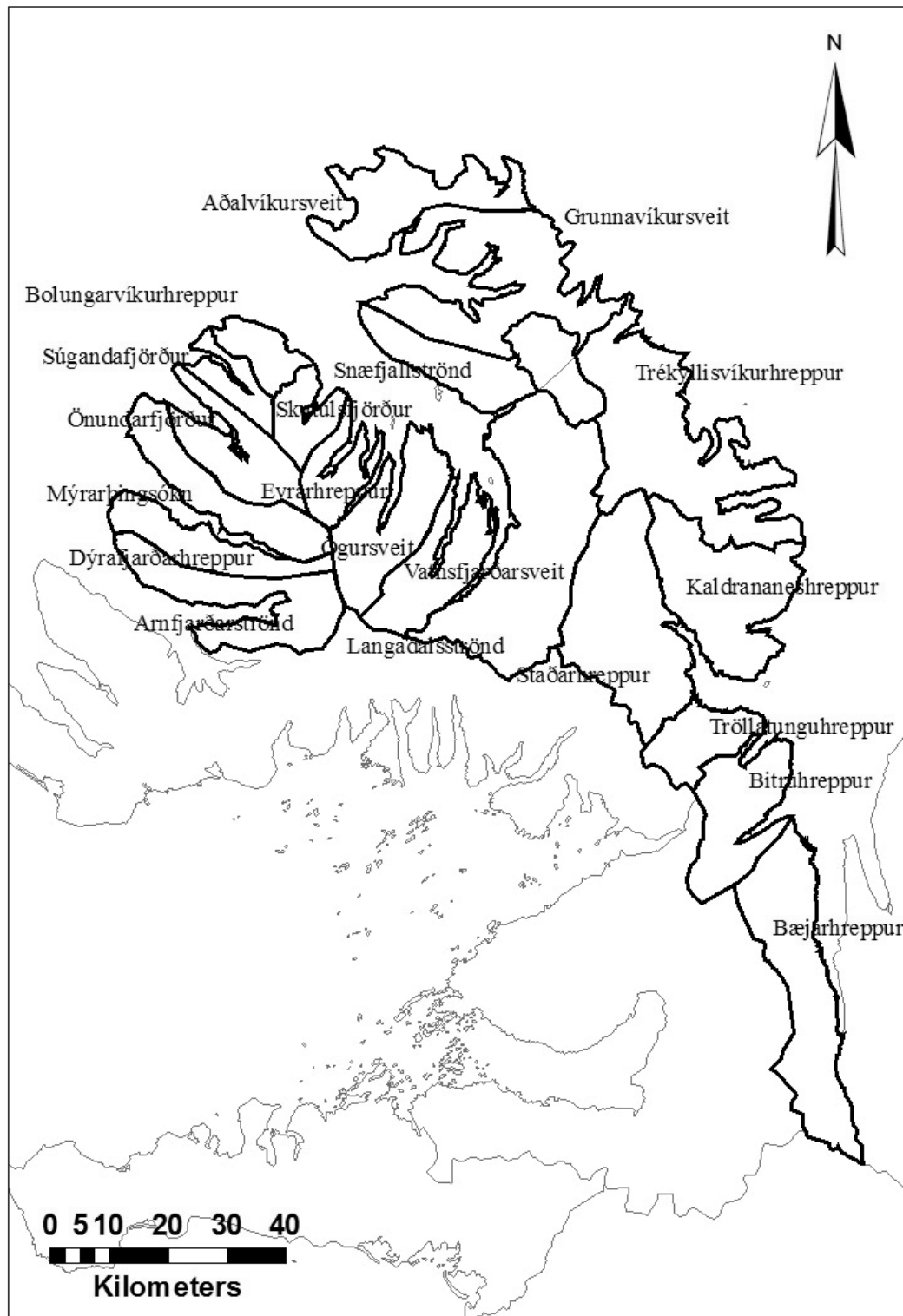
Map. 9. The Strandir area.



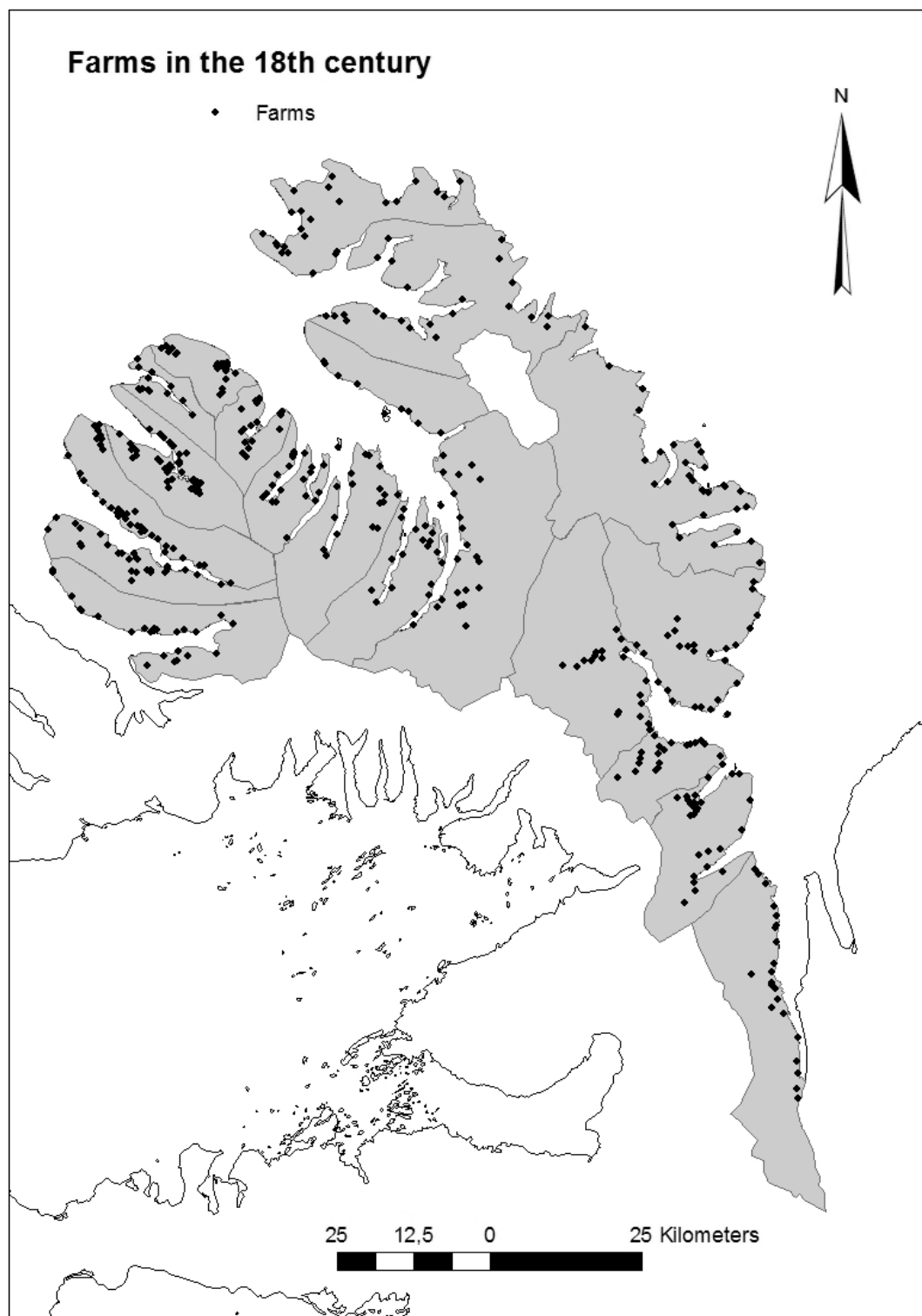
Map. 10 Ísafjarðardjúp, main placenames.



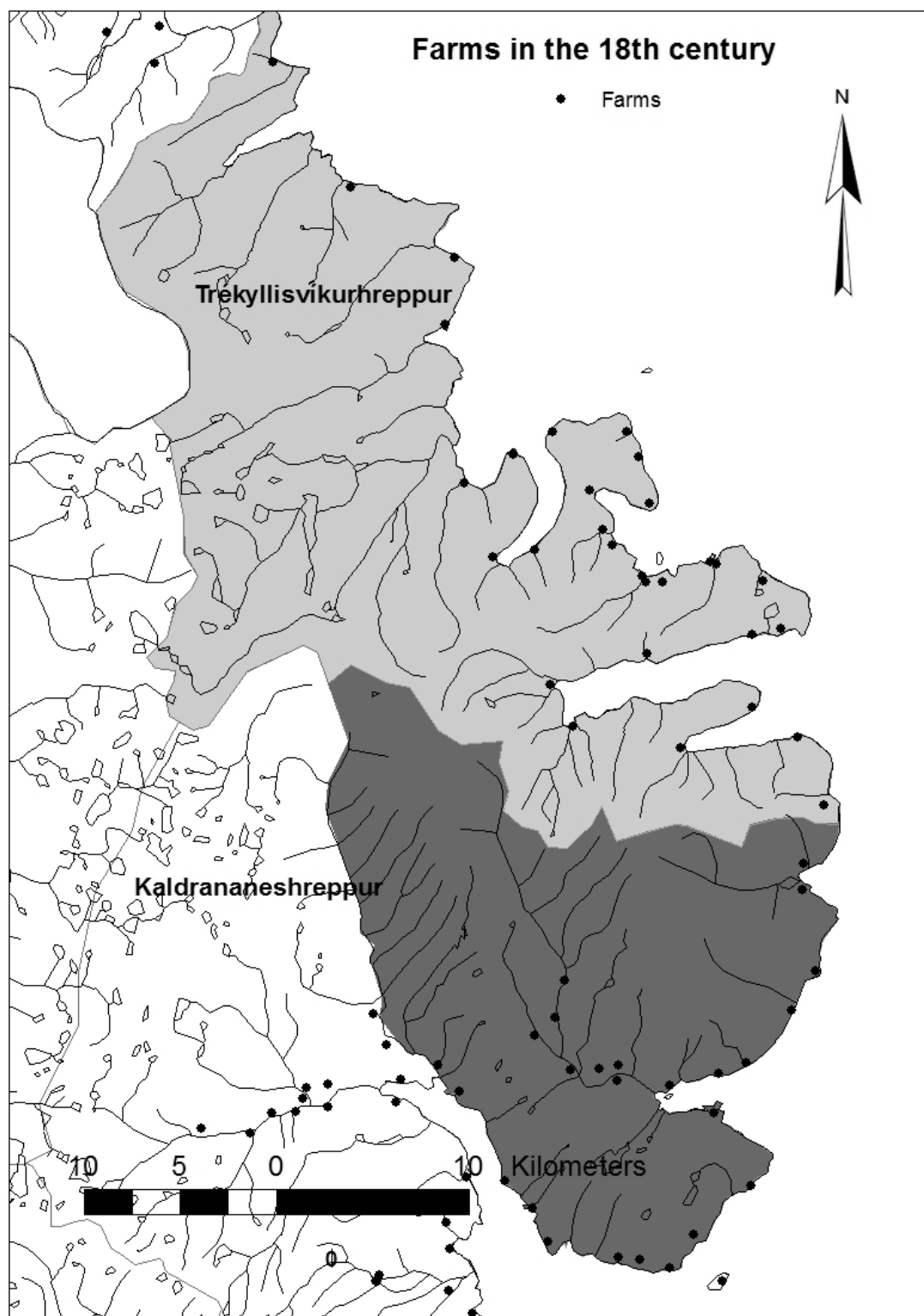
Map 11. The West part of Iceland.



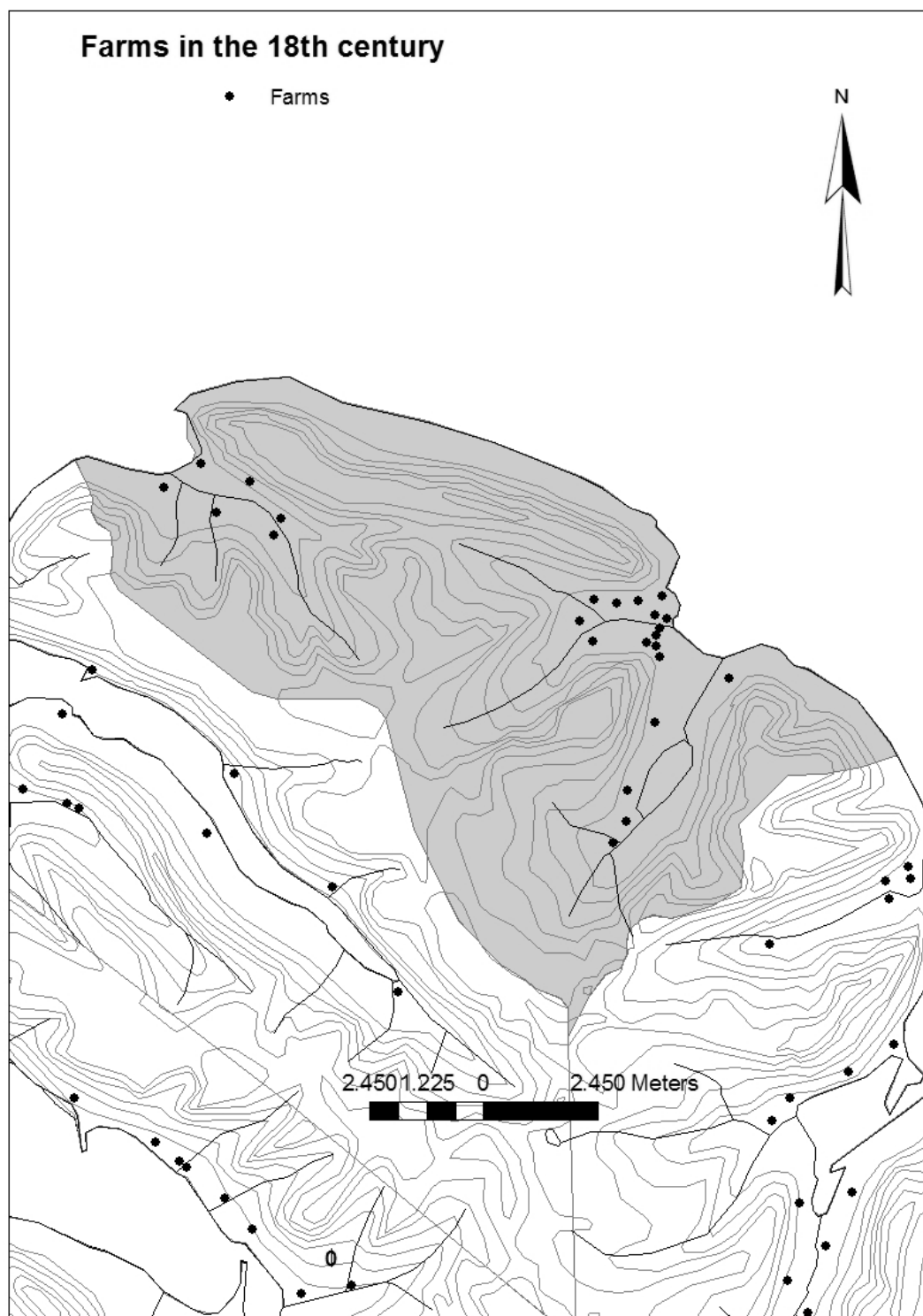
Map 12. Districts (hreppar) in Ísafjarðar- and Strandasýslur in the 18th century.



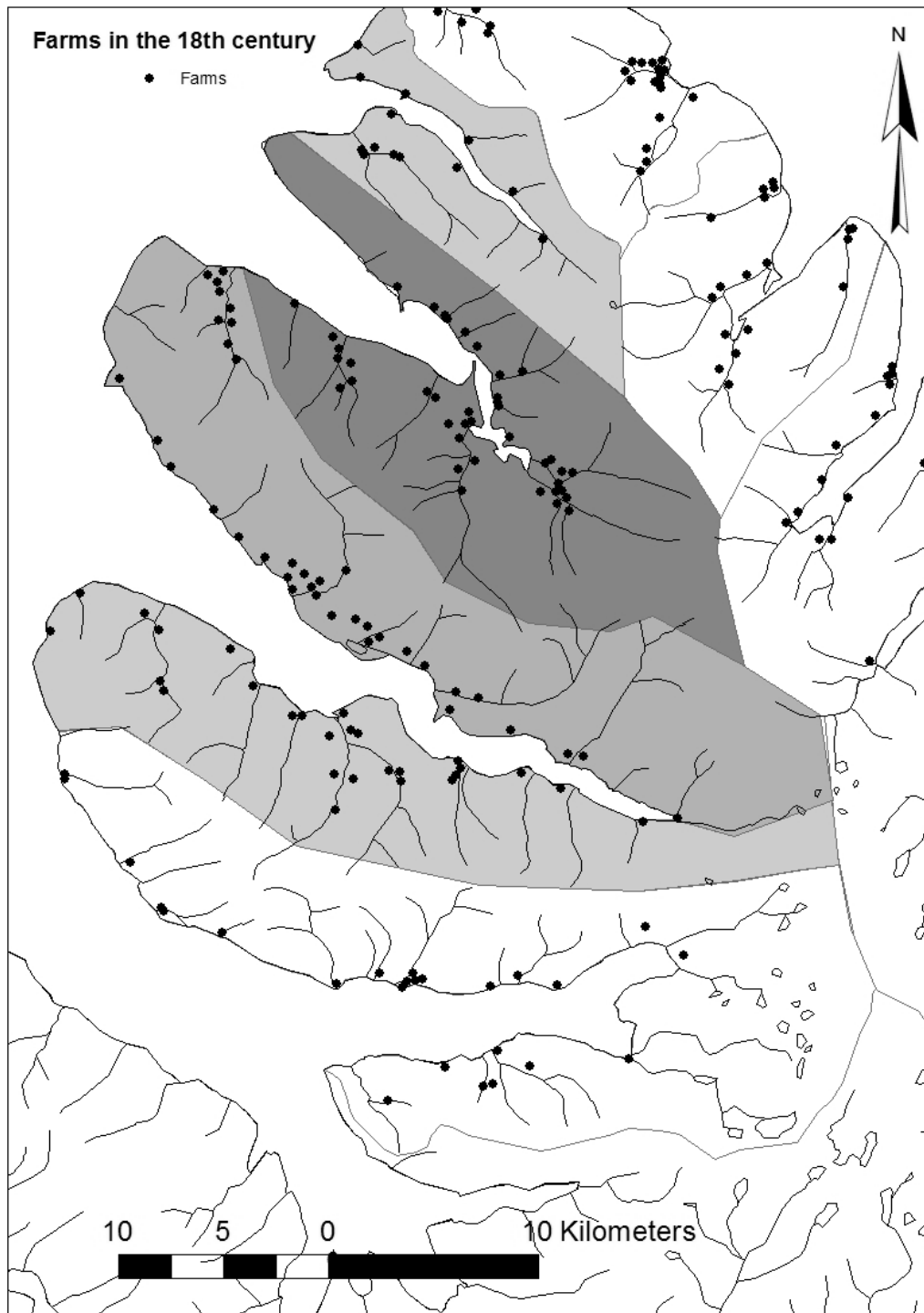
Map 13. Farms in Ísafjarðar- and Strandasýslur in the early 18th century.



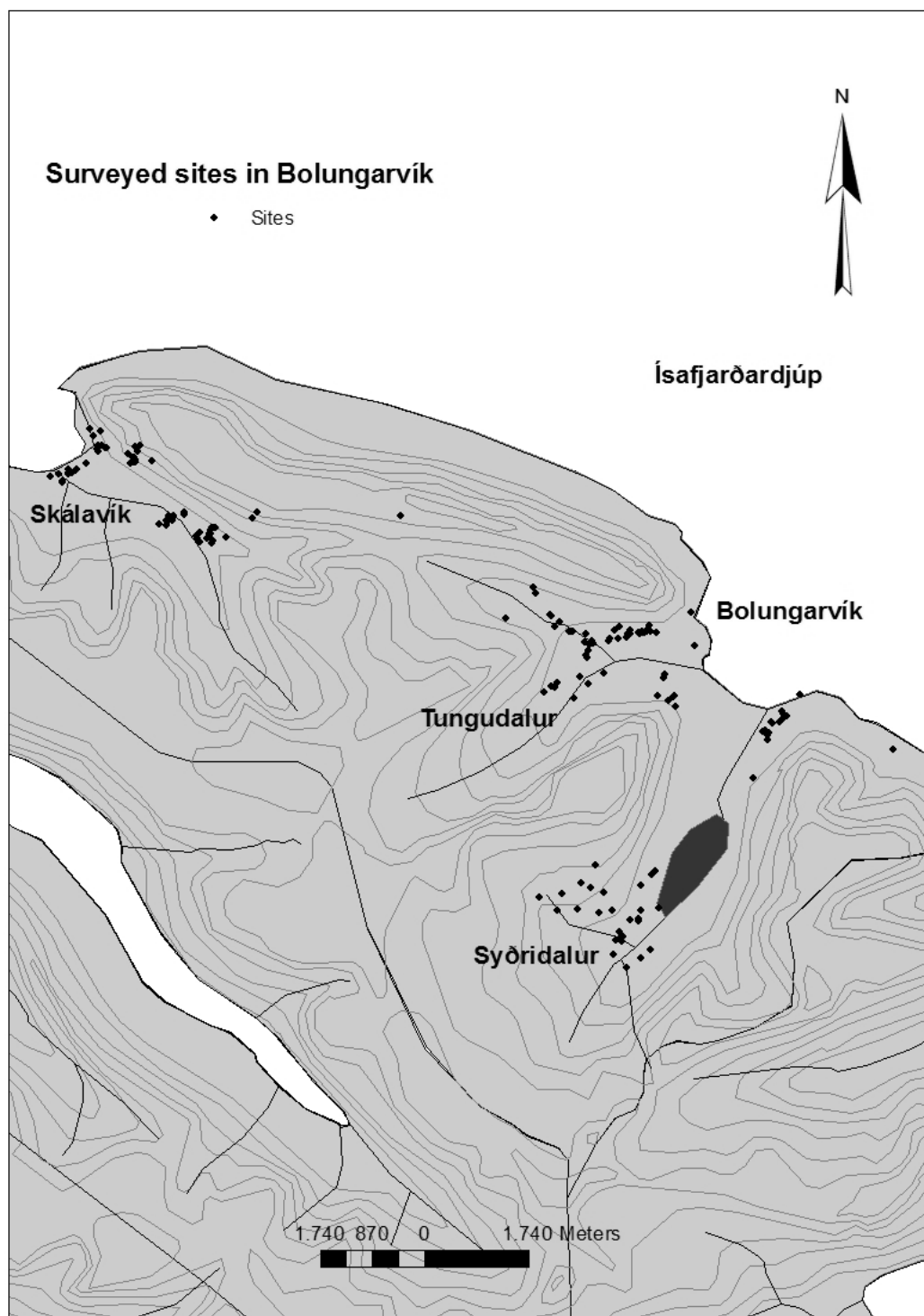
Map 14. Farms in Kaldrananes- and Trékyllisvíkurhreppar (Árnes) in the early 18th century.



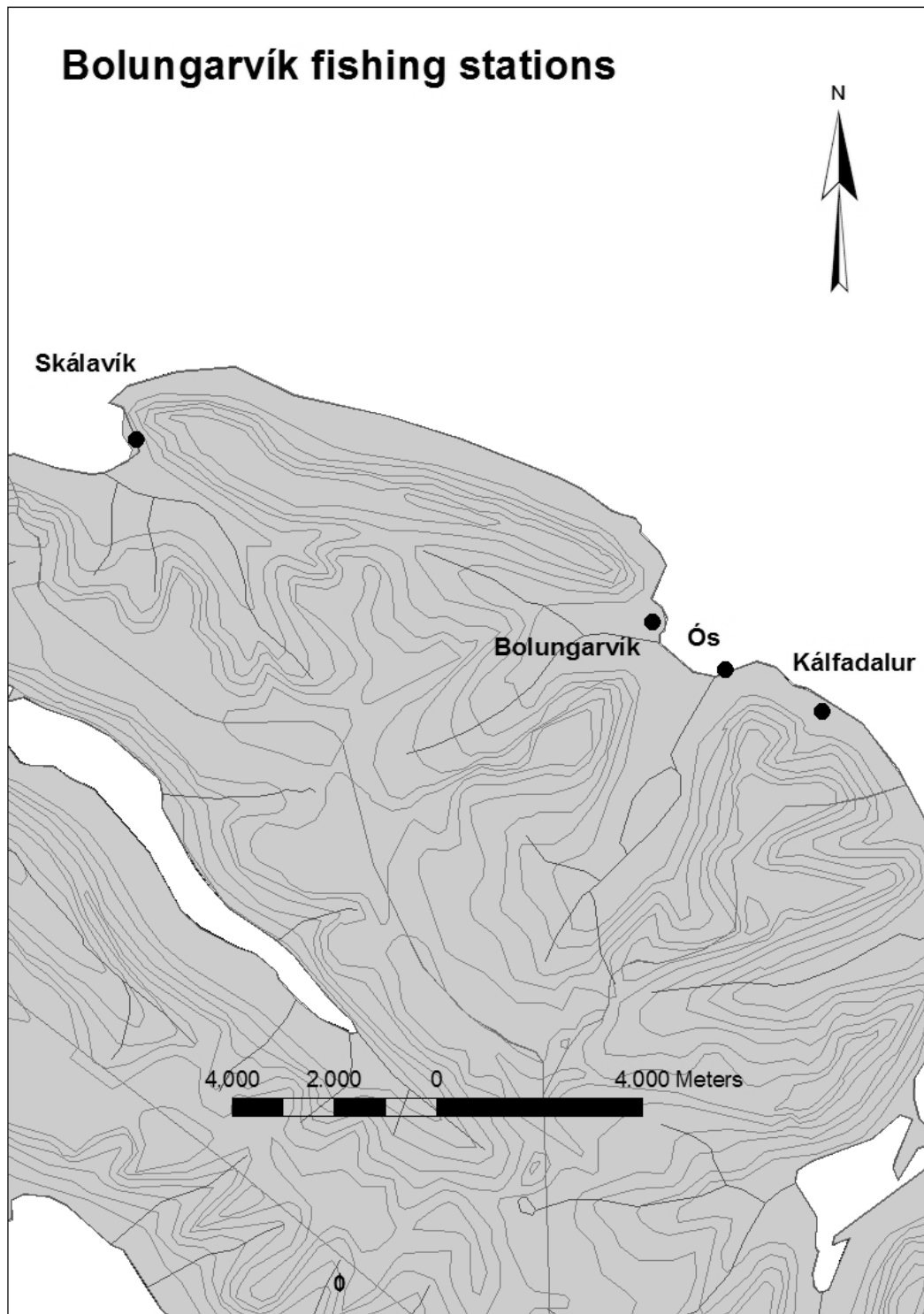
Map 15. Farms in Bolungarvík in the early 18th century.



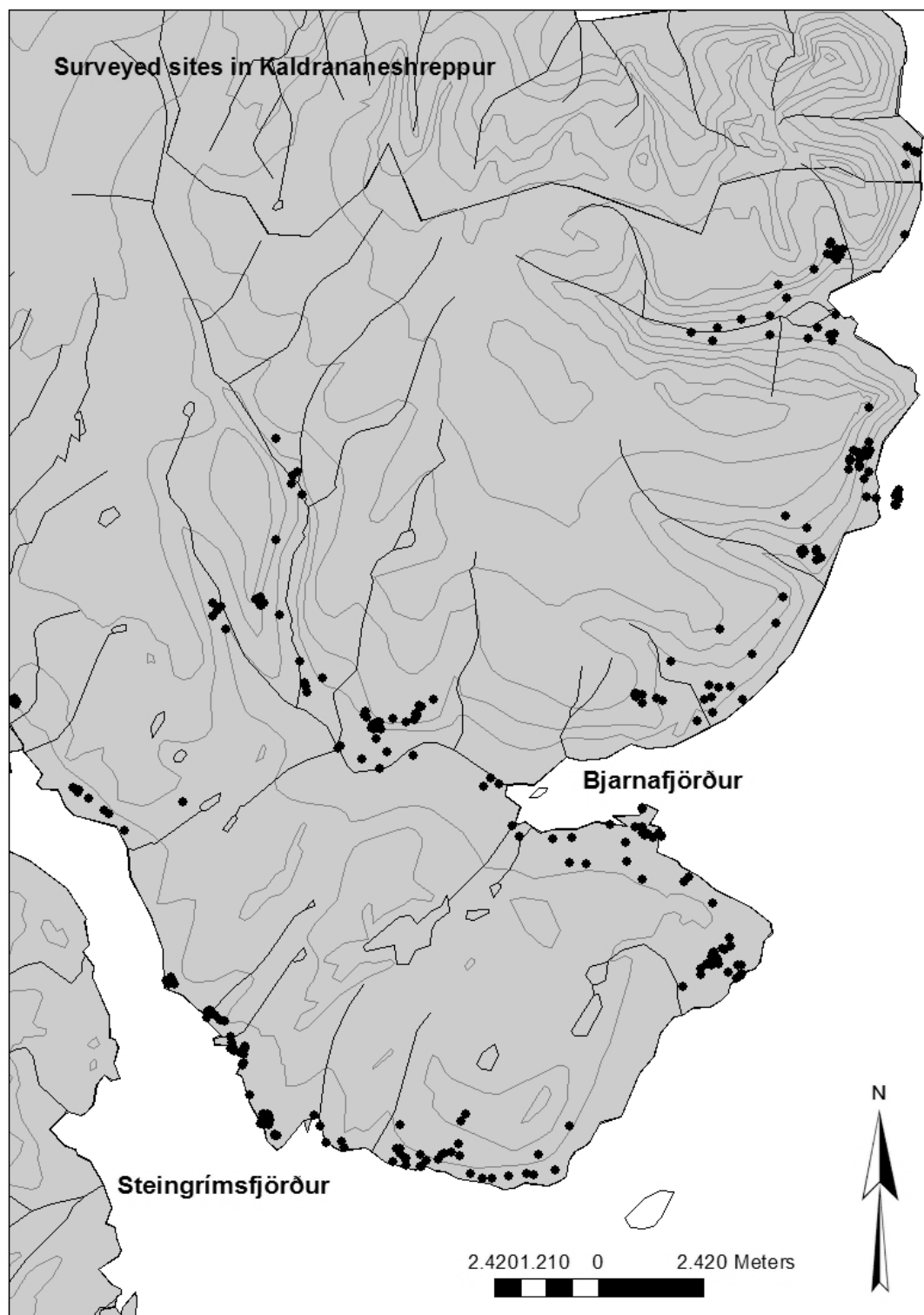
Map 16. Farms in Ségandafirði, Mýra- Öundur- og Dýrafjarðahreppum in the early 18th century.



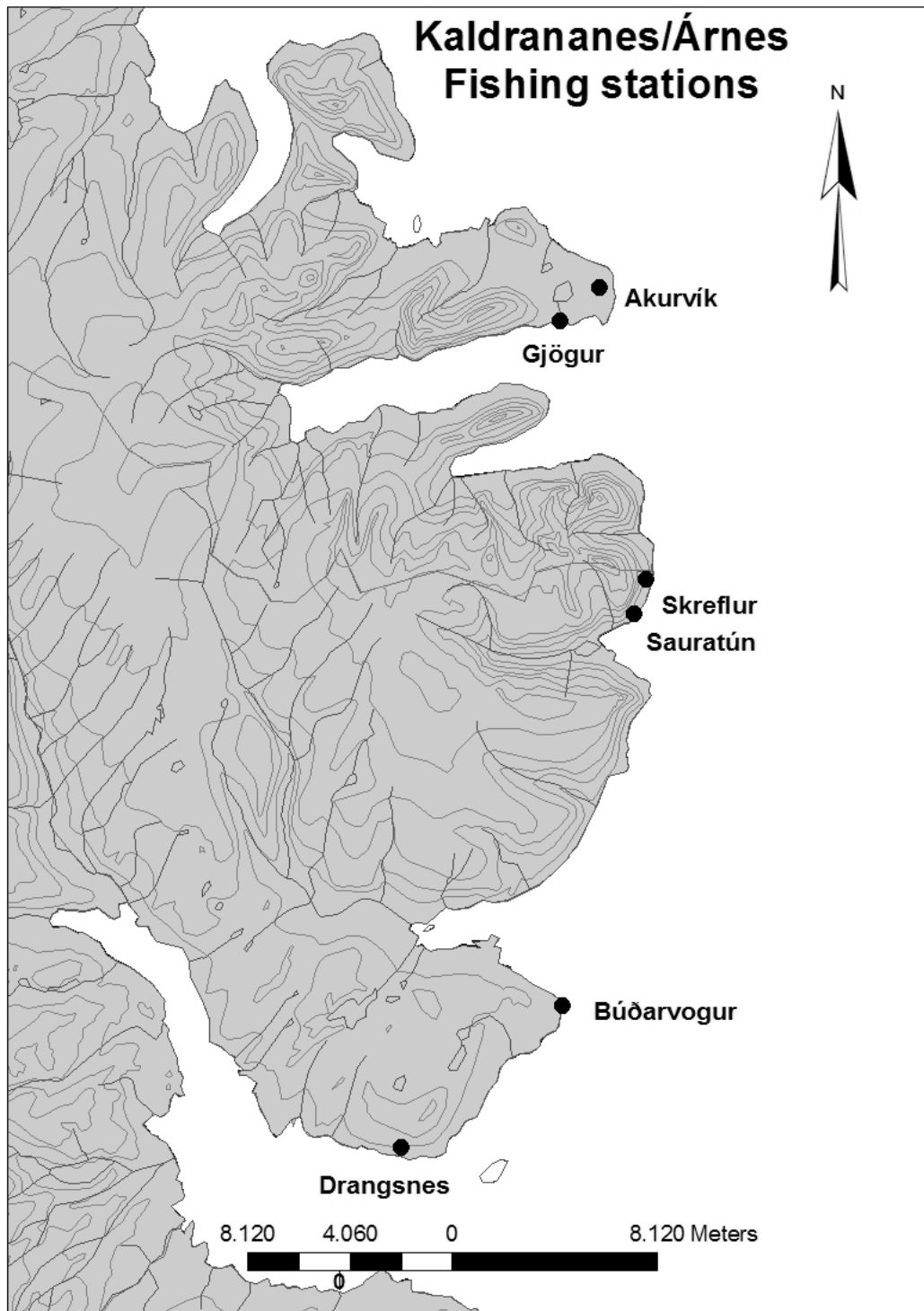
Map 17. Archaeological sites in Bolungarvík.



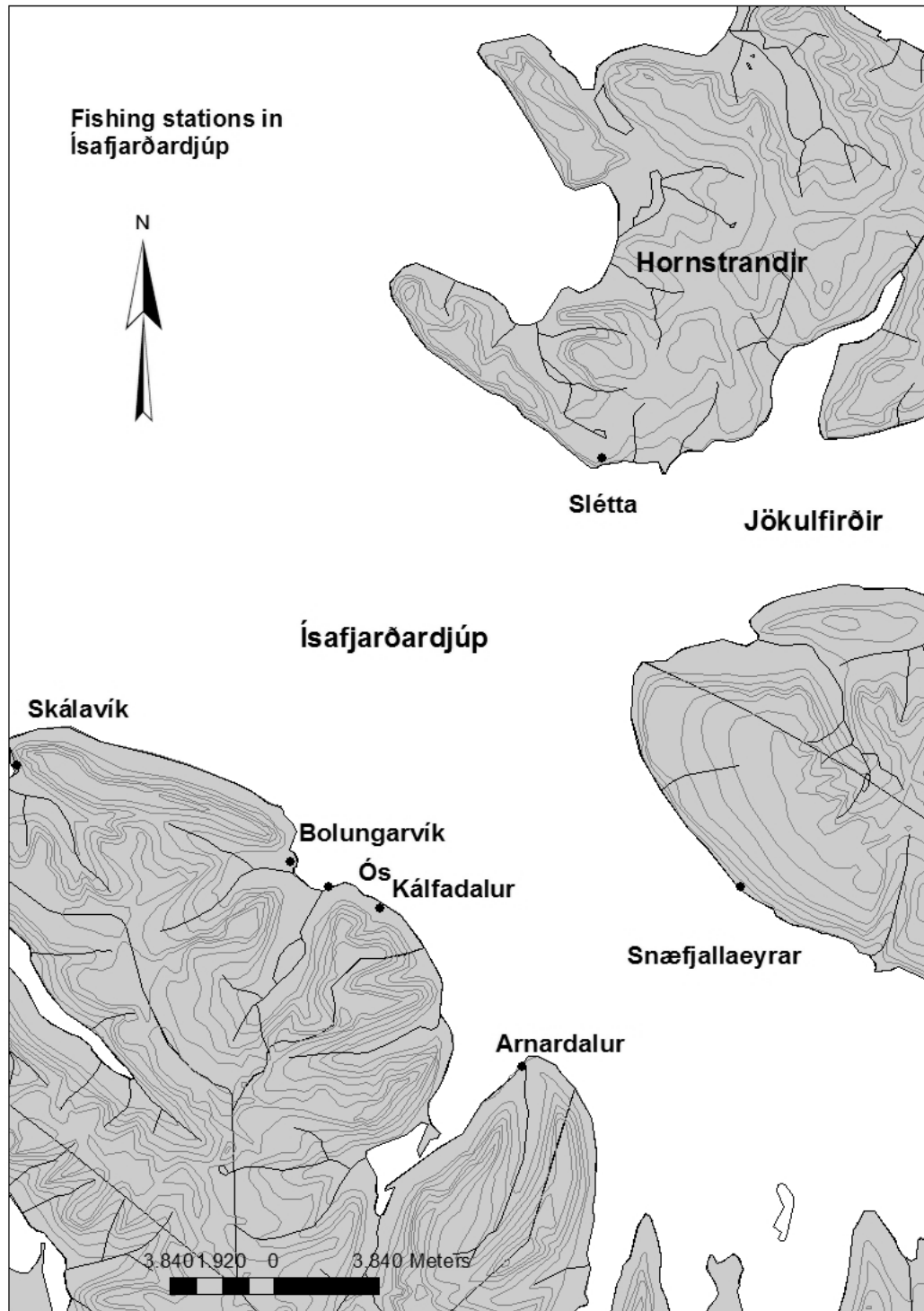
Map 18. Fishing stations in Bolungarvík.



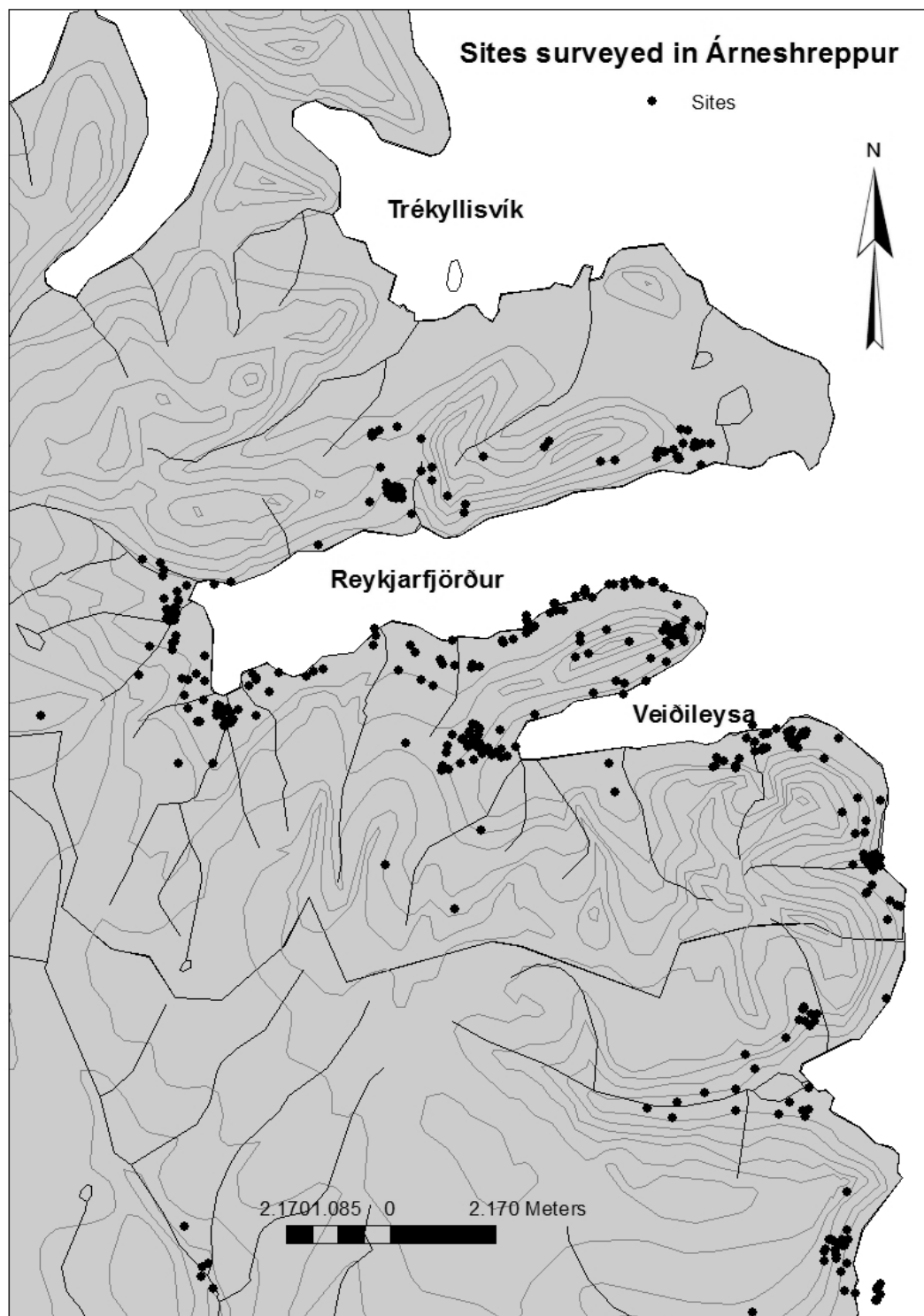
Map 19. Sites surveyed in Kaldrananeshreppur.



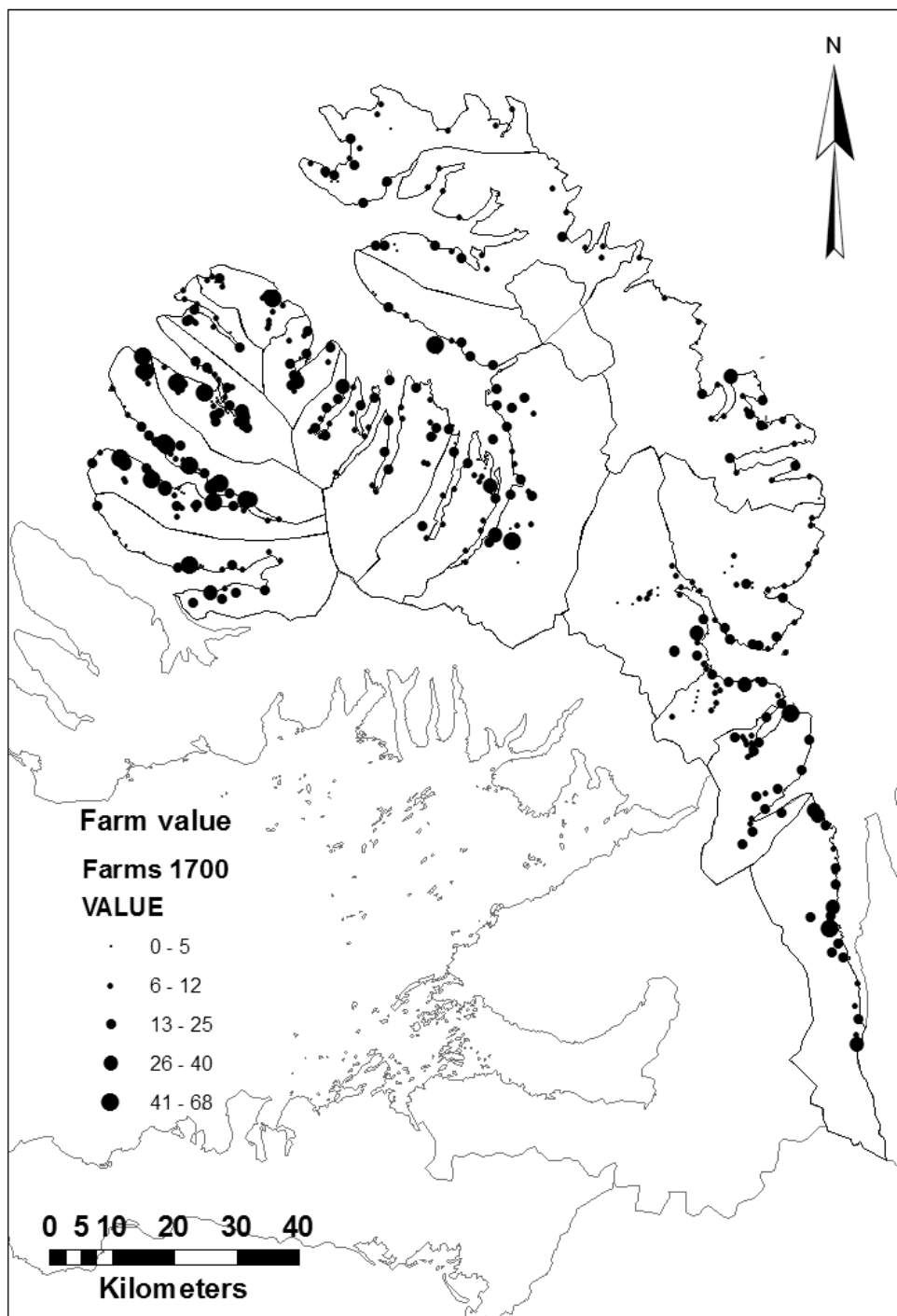
Map 20. Fishing stations in Kaldrananes- and Árneshreppar (Trékyllisvíkurhreppur).



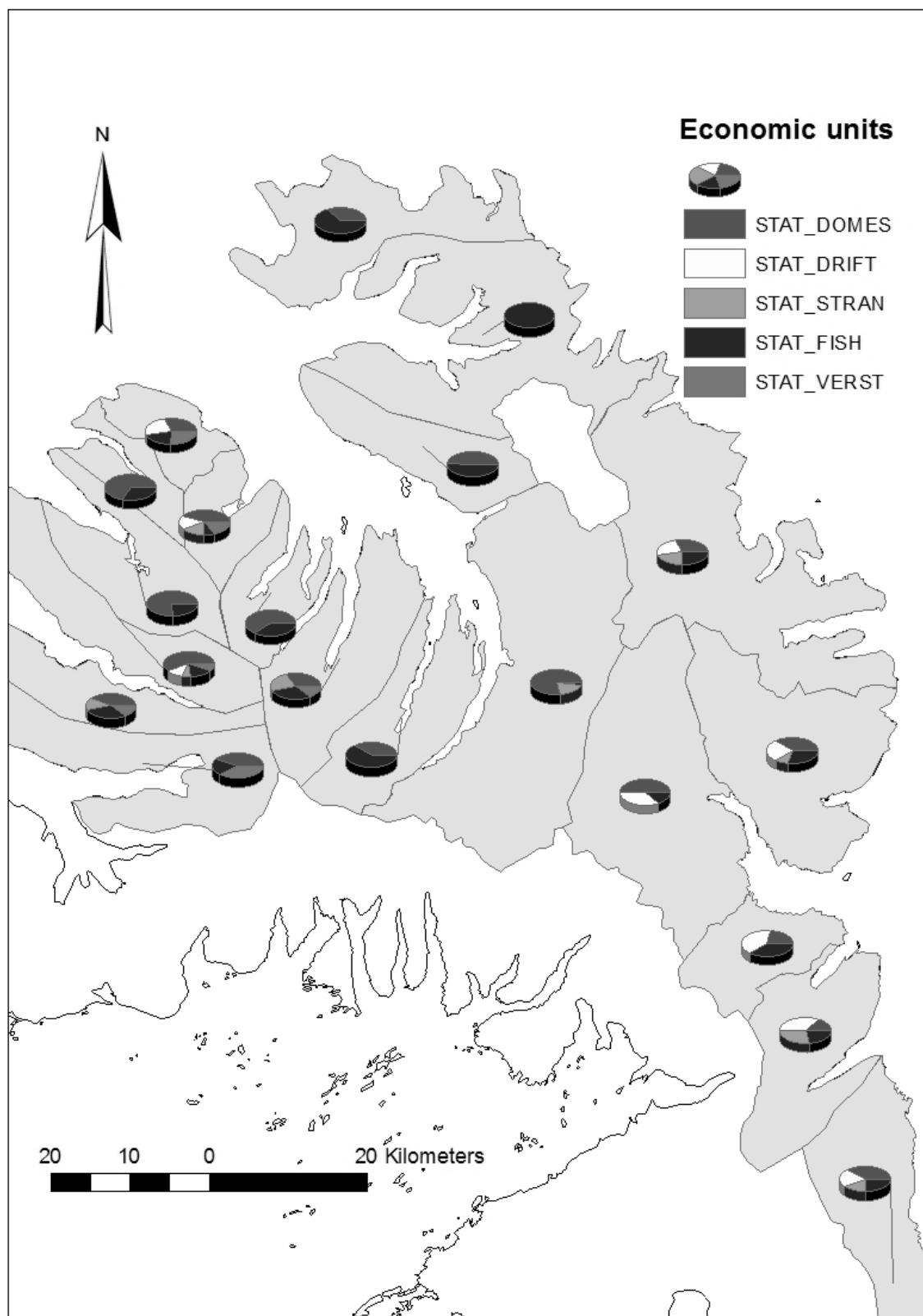
Map 21. Fishing stations in the mouth of the Ísafjarðardjúp fjord.



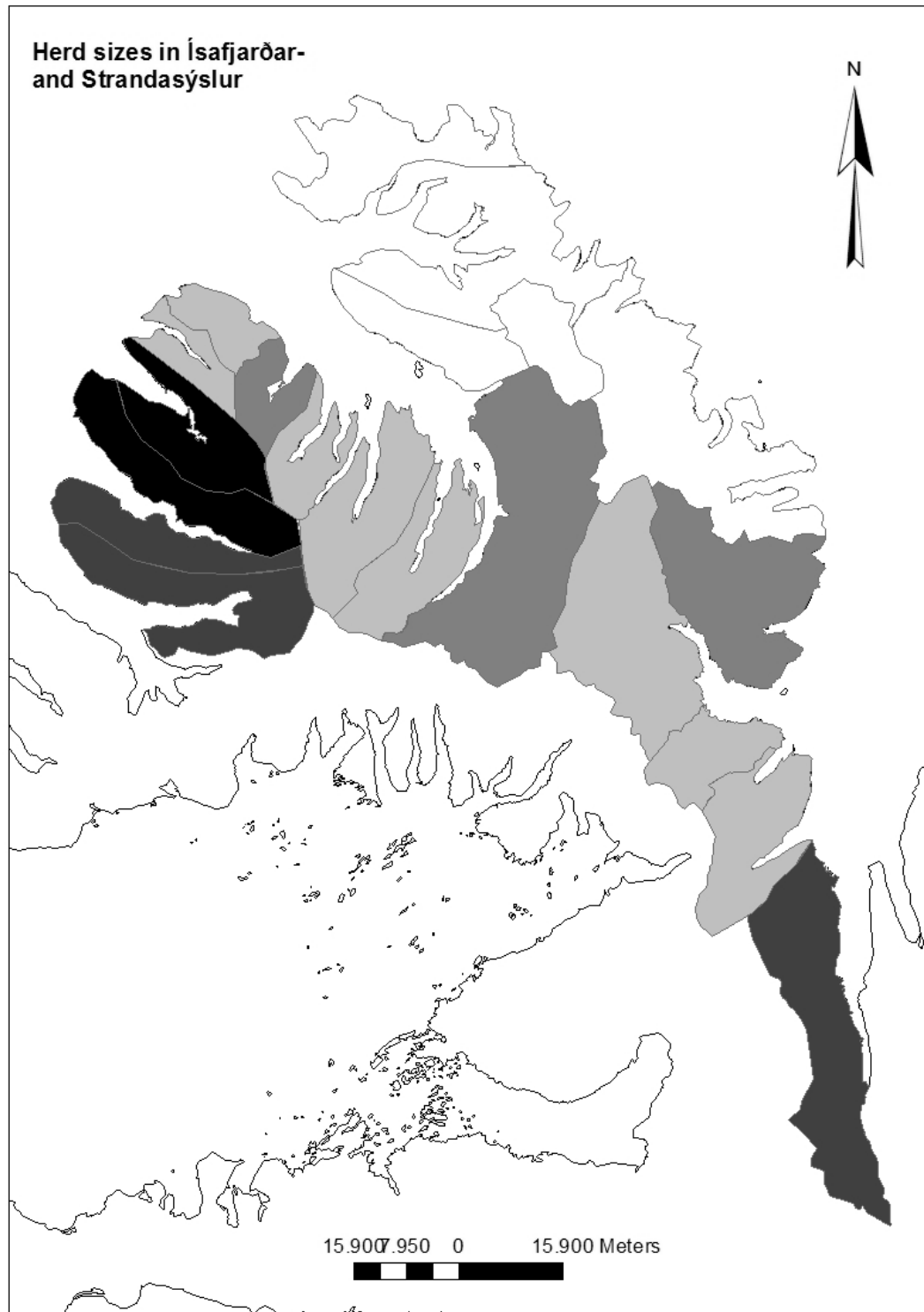
Map 22. Sites surveyed in Árneshreppur (Trékyllisvíkurhreppur).



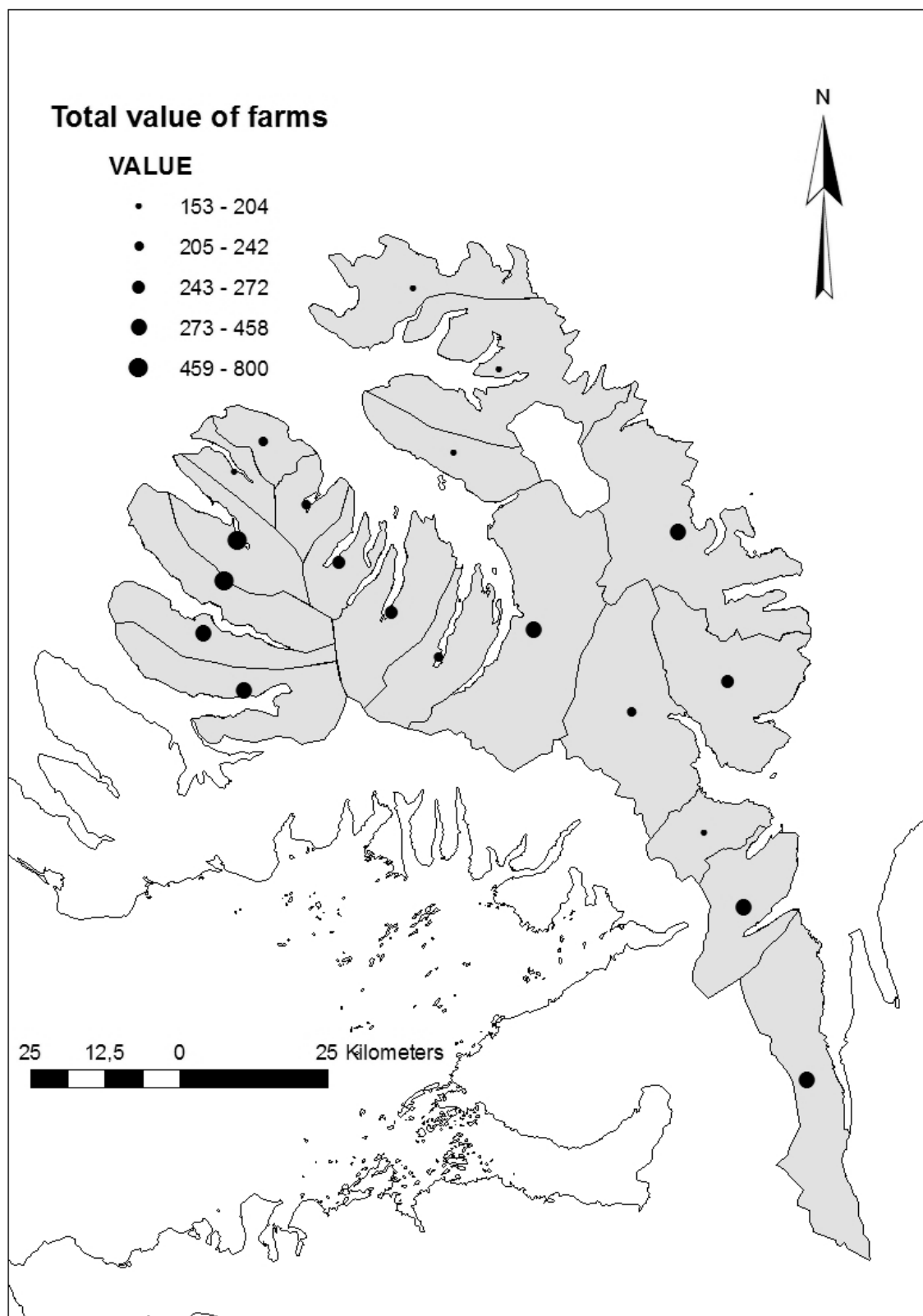
Map 23. Value of farms. Measured in hundreds.



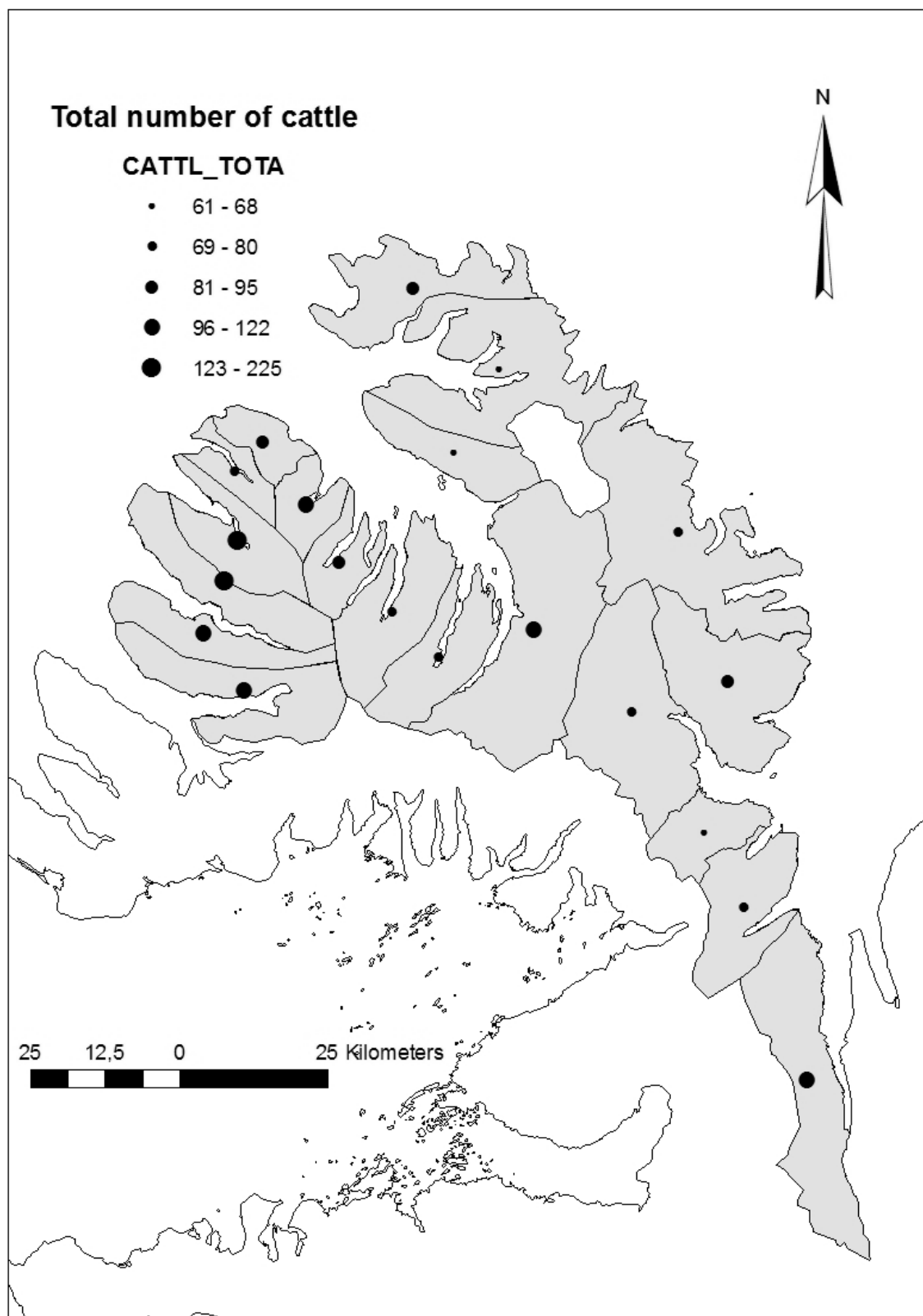
Map 24. Breakdown of economic units in all districts in the 18th century.



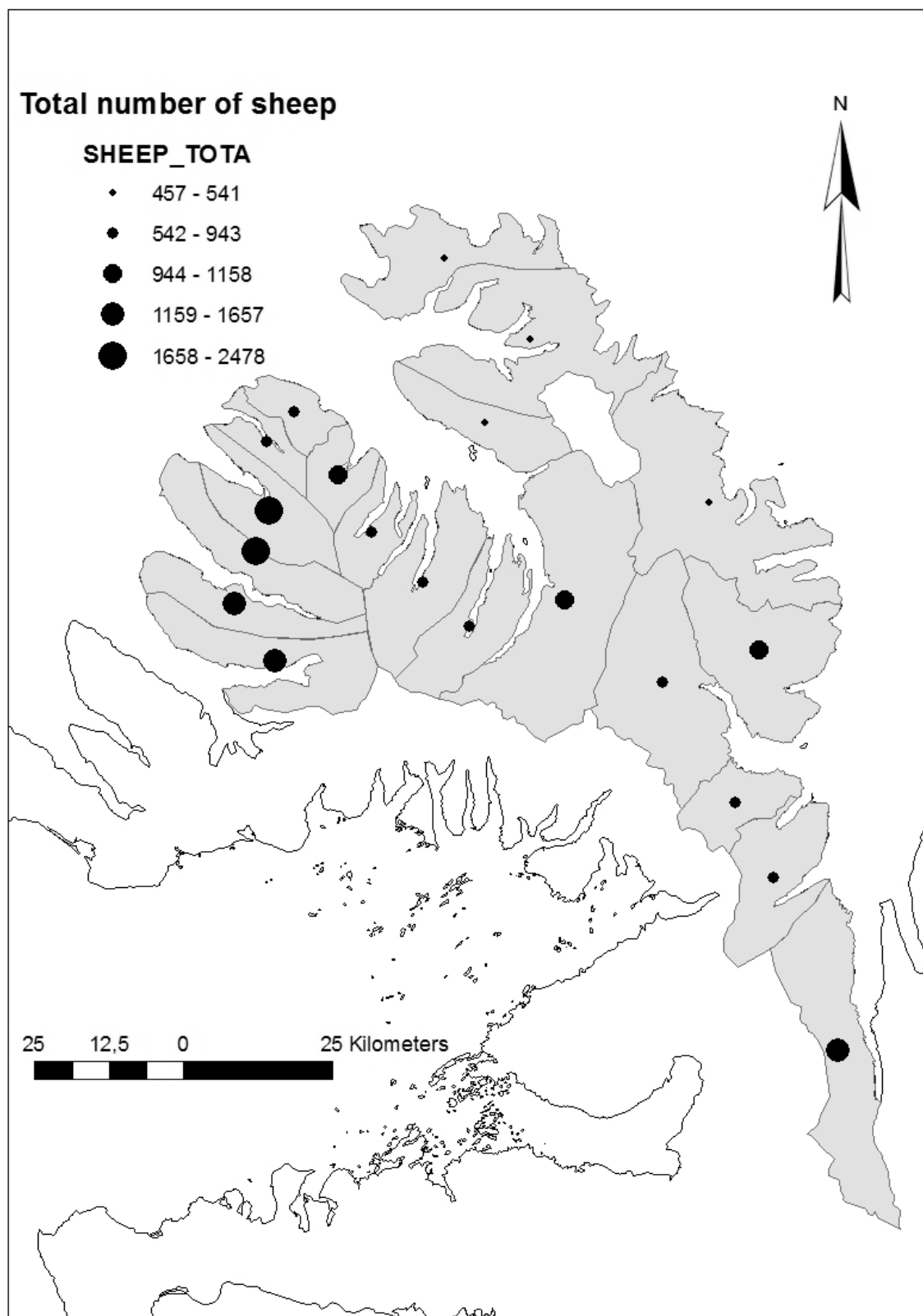
Map 25. Herd sizes in Ísafjarðar- and Strandasýslur.



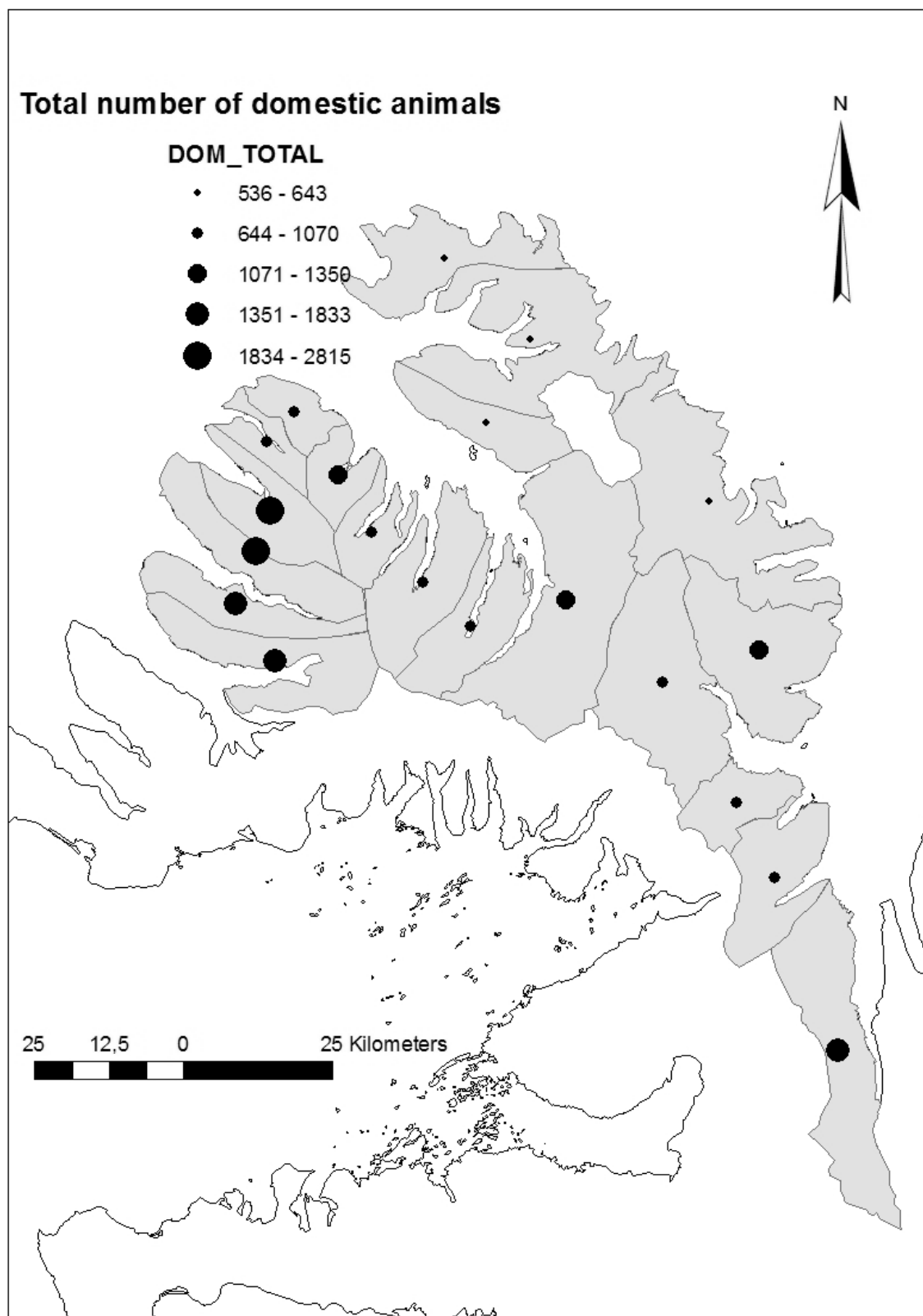
Map 26. Total value of farms in the 18th century.



Map 27. Total number of cattle in the 18th century.



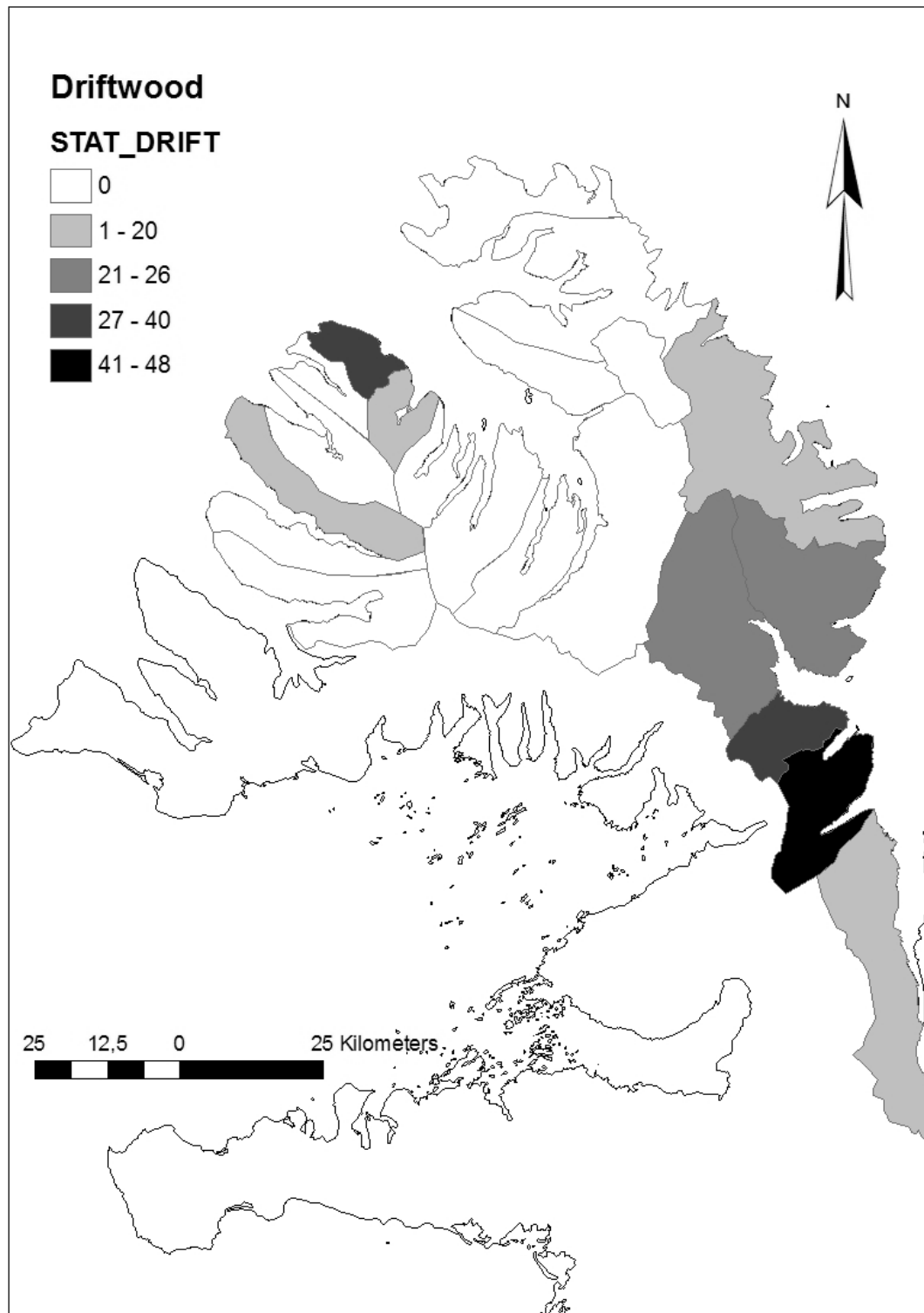
Map 28. Total number of sheep in the 18th century.



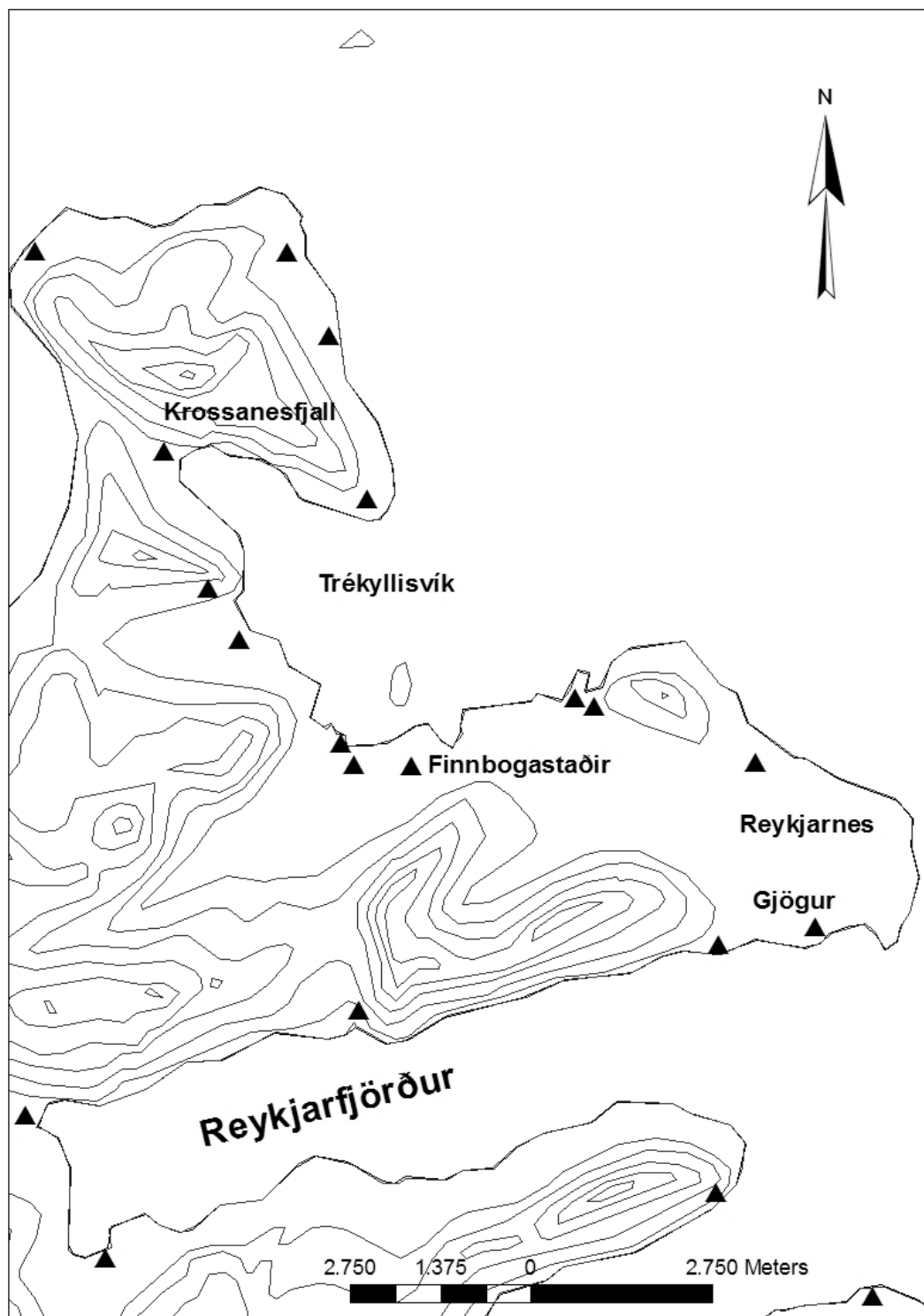
Map 29. Total number of domestic animals in the 18th century.



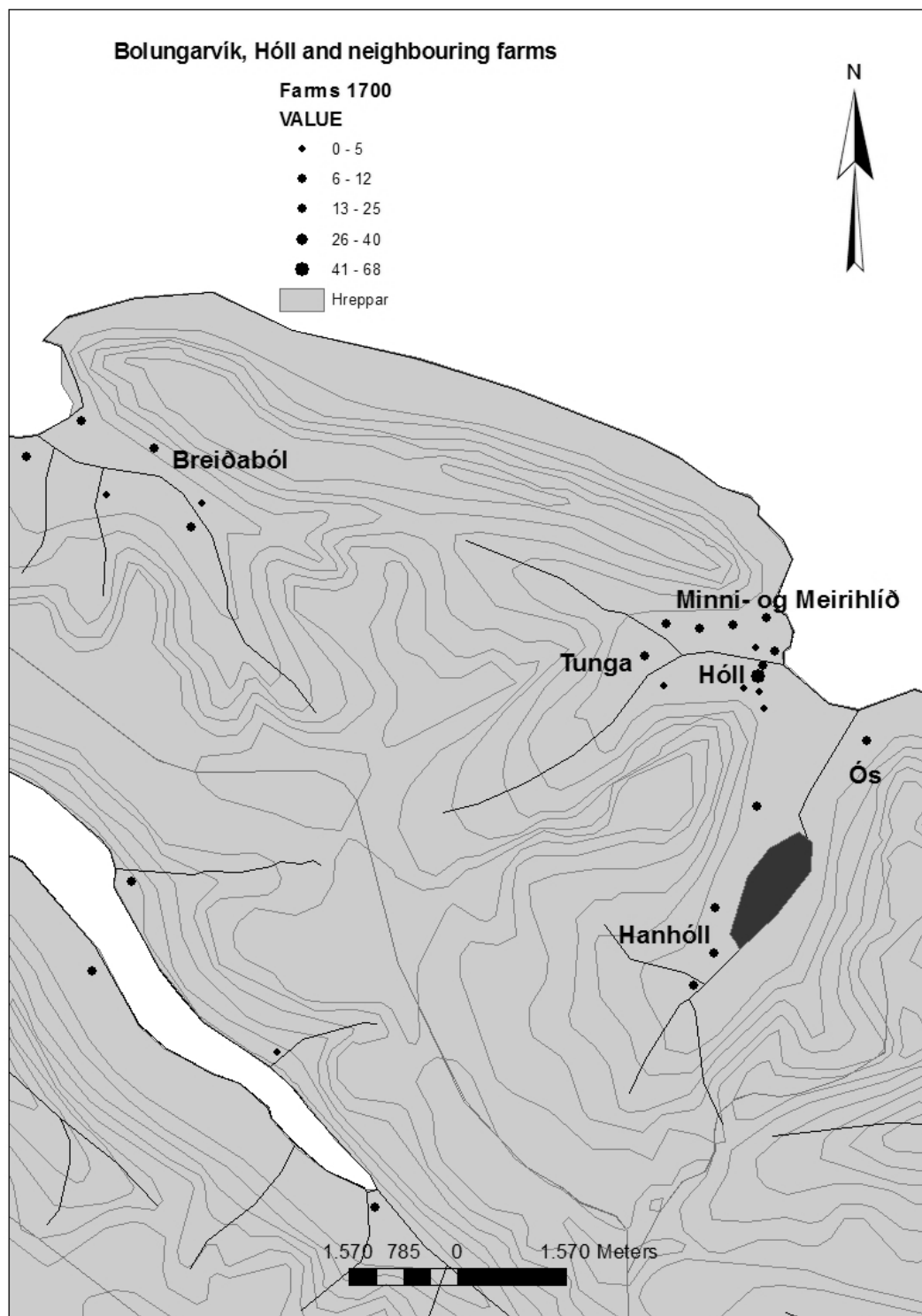
Map 30. Fishing in Ísafjarðar- and Strandasýslur.



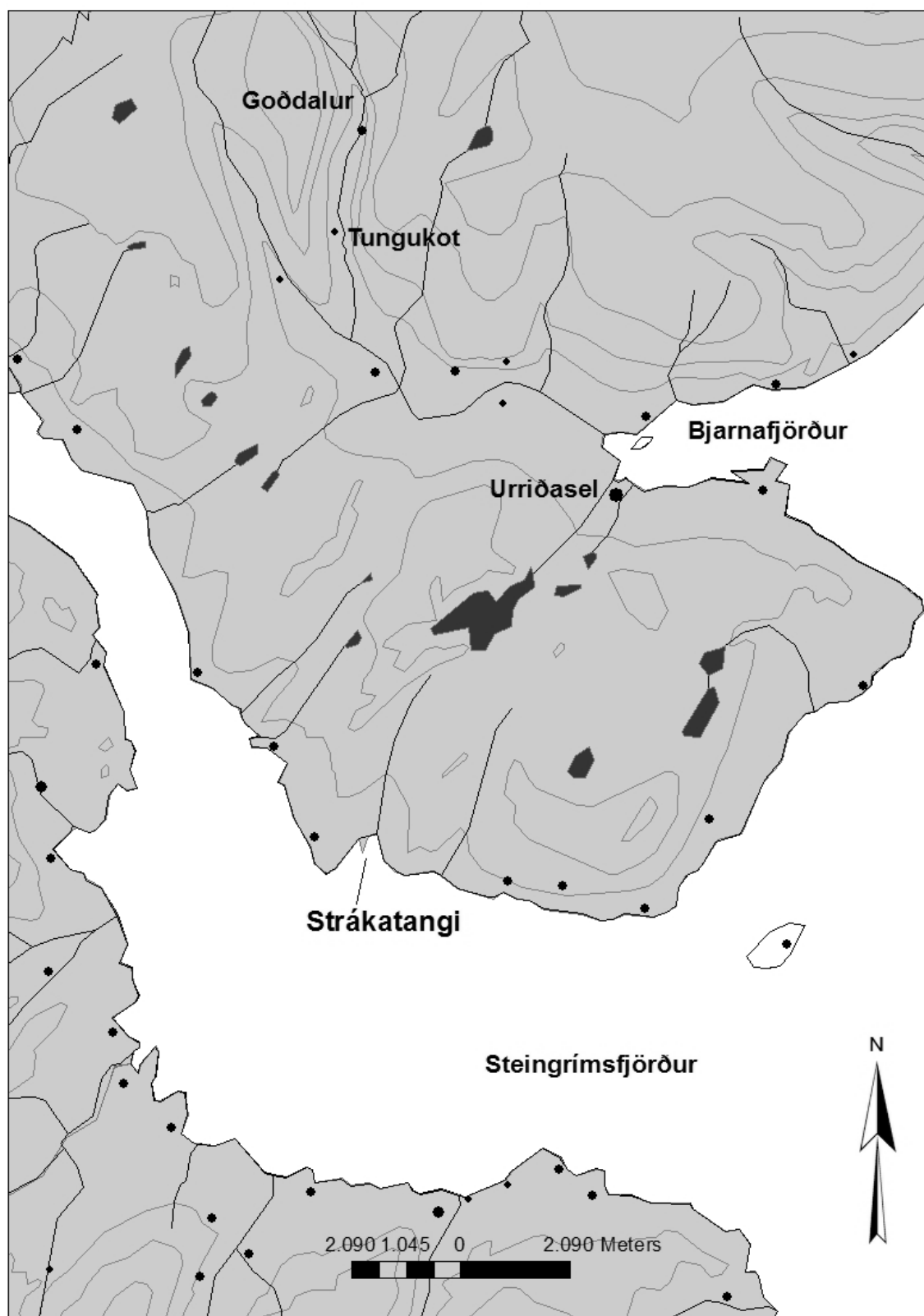
Map 31. Driftwood in Ísafjarðar- and Strandasýslur.



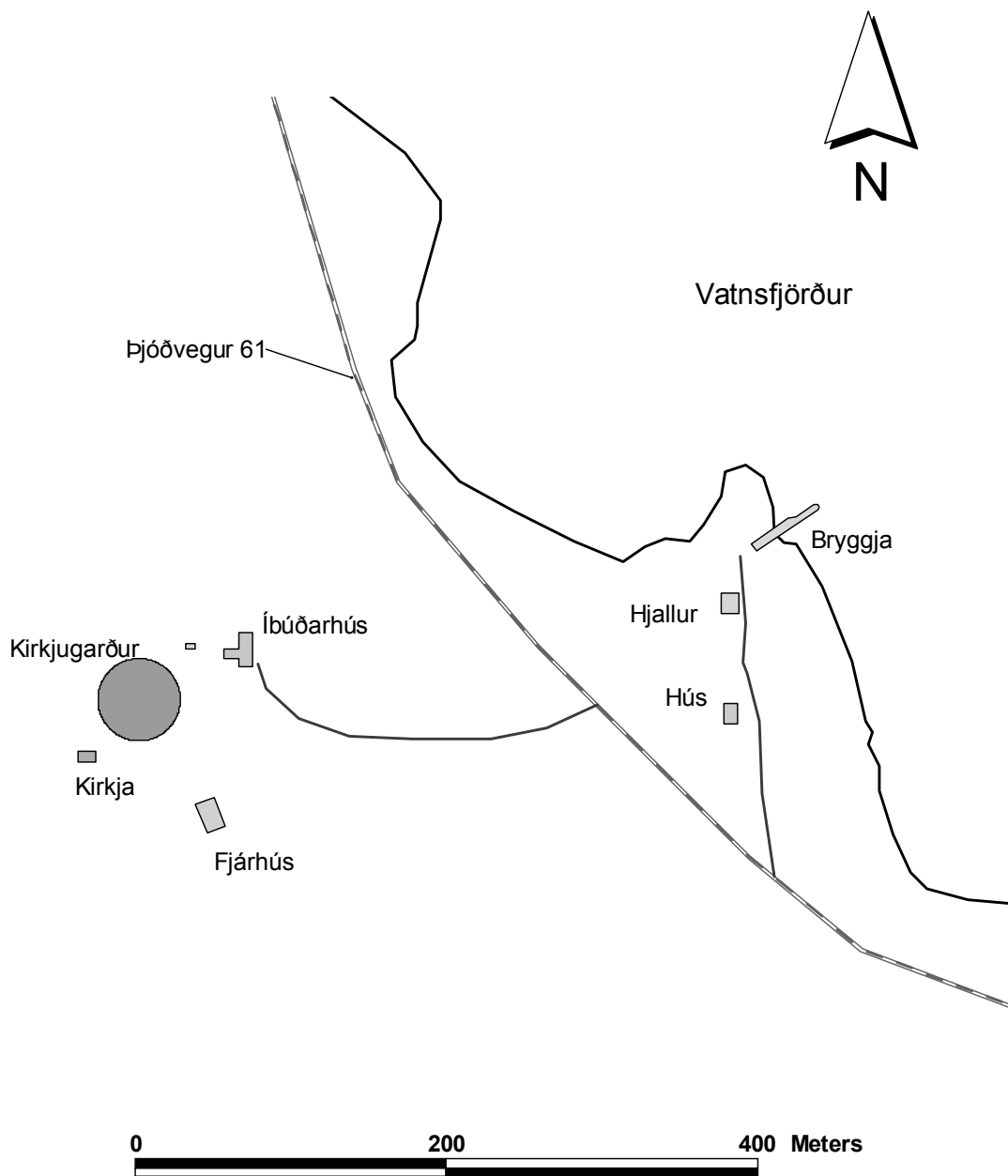
Map 32. The farm Finnbogastaðir in Árneshreppur (Trékyllisvíkurhreppur) in Strandasýsla.



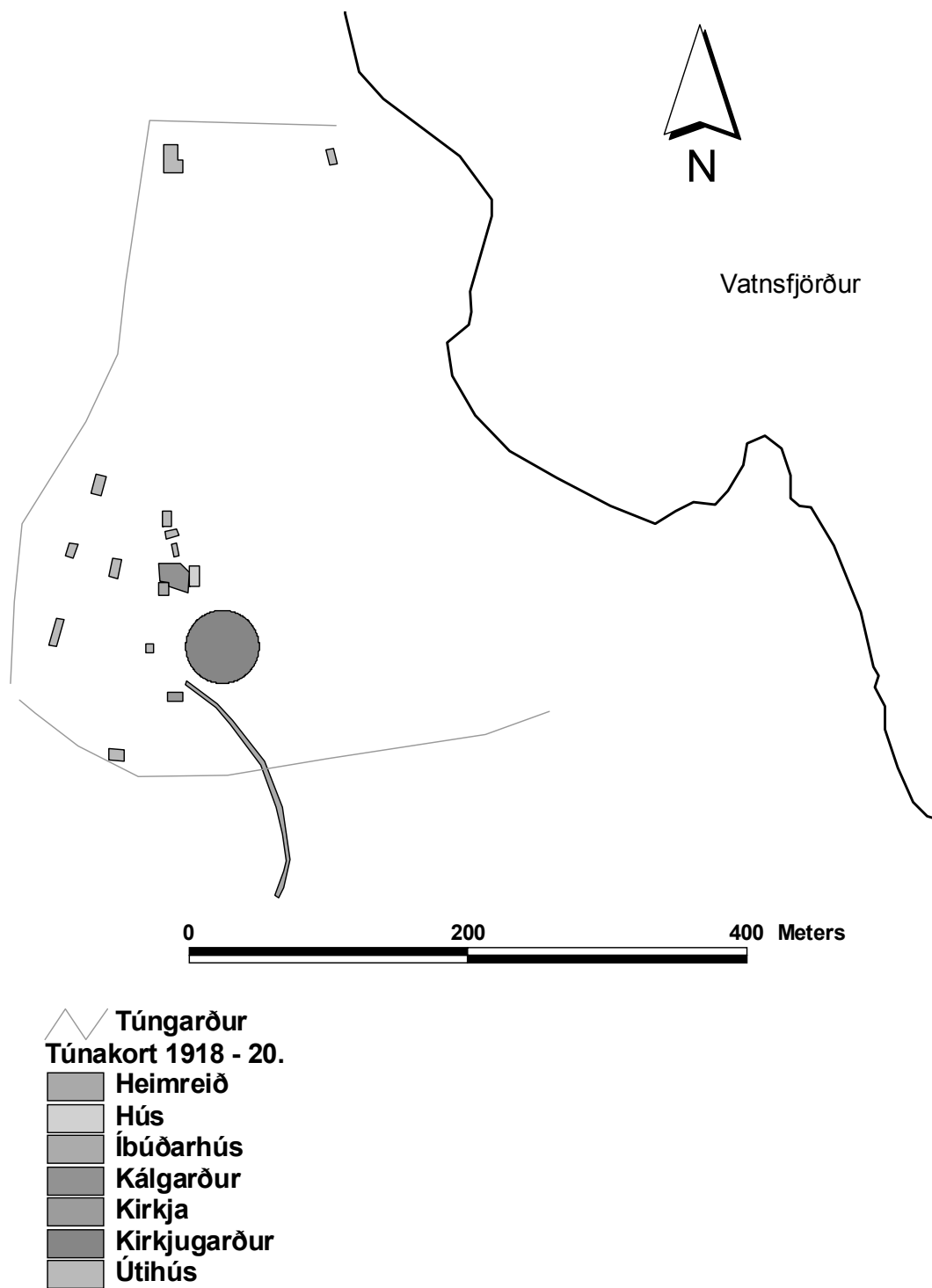
Map 33. Hóll in Bolungarvík and its neighbouring farms.



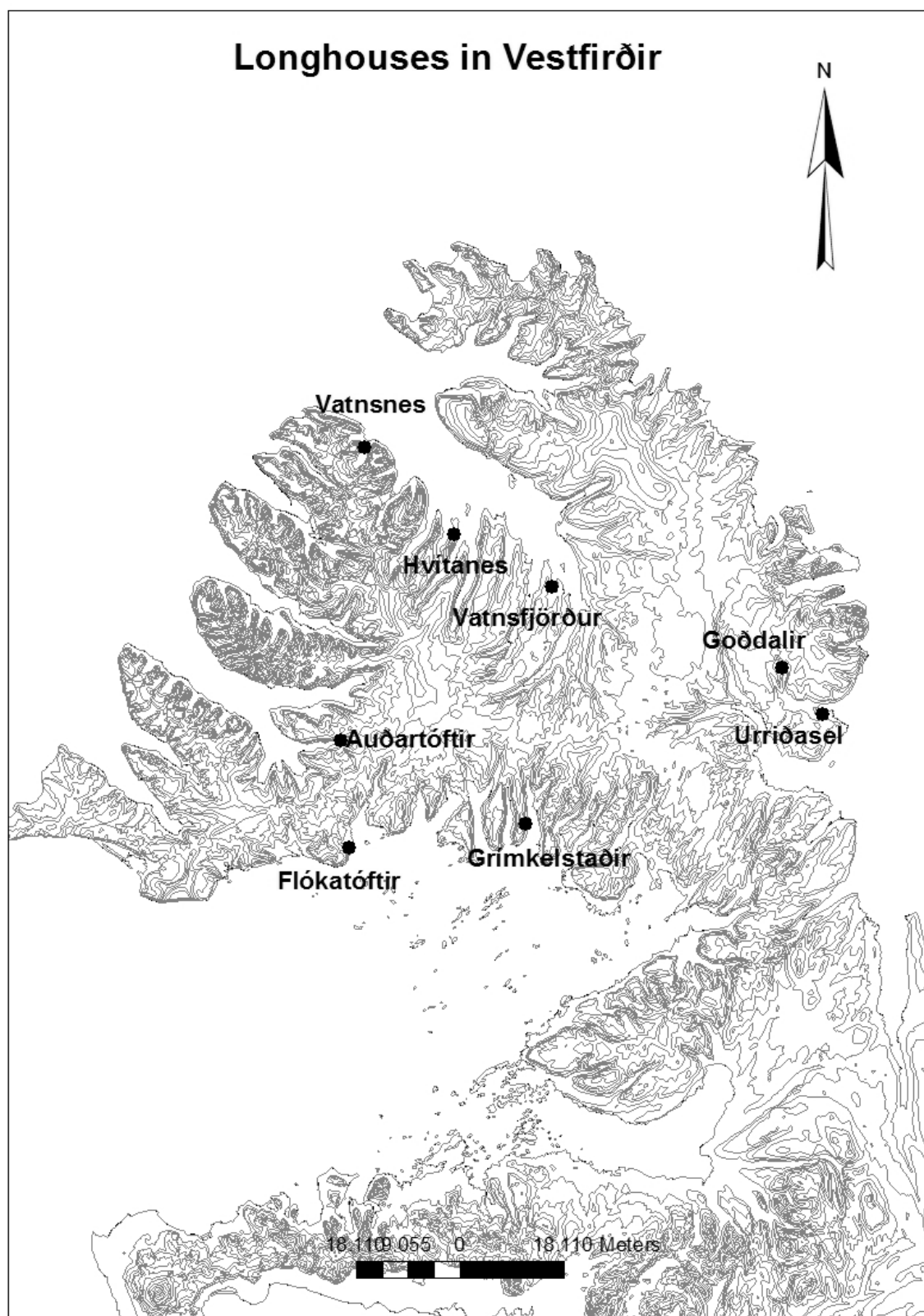
Map 34. Pre- 19th century sites in Kaldrananeshreppur.



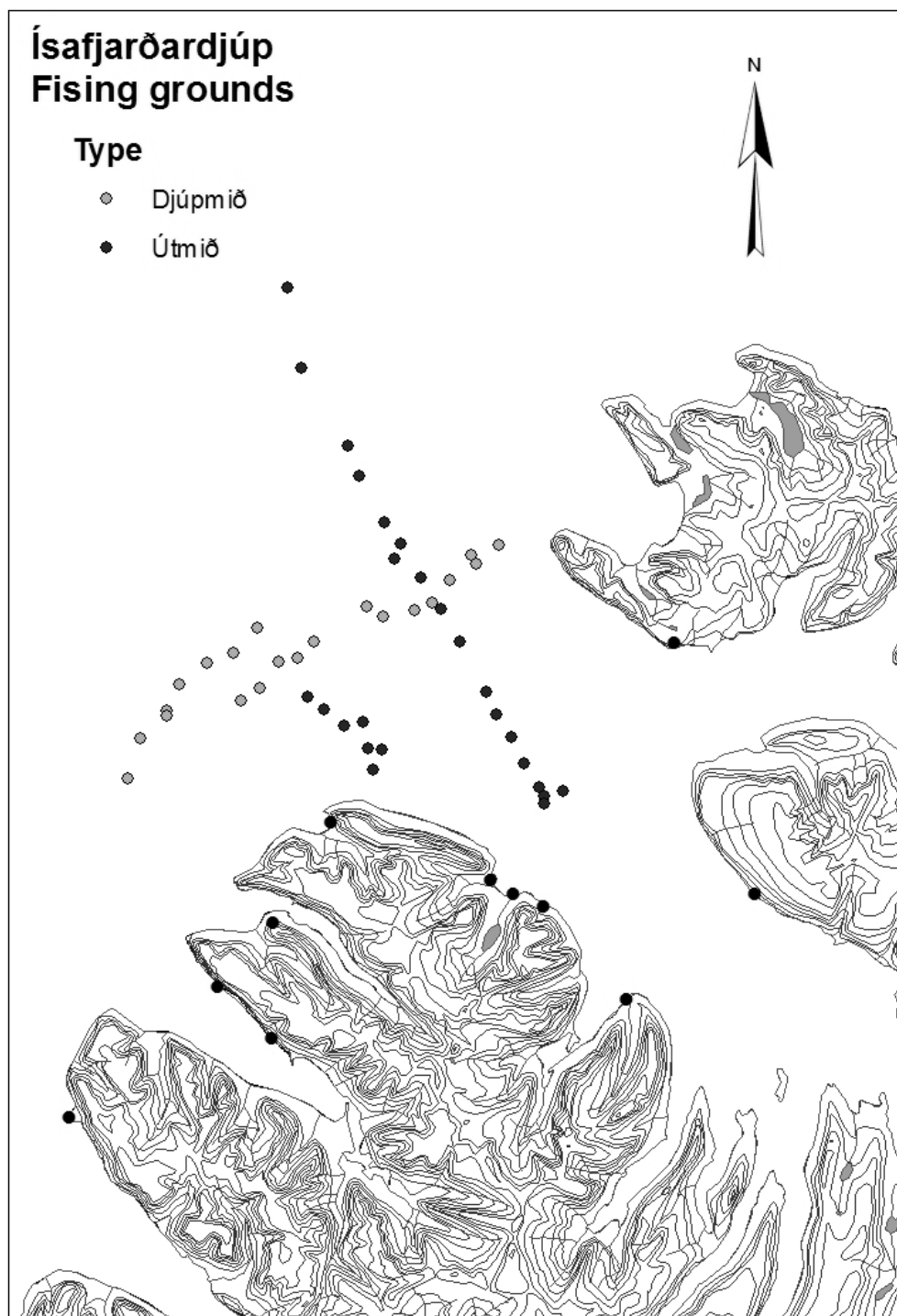
Map 35. Layout of the late 20th century Vatnsfjörður farm.



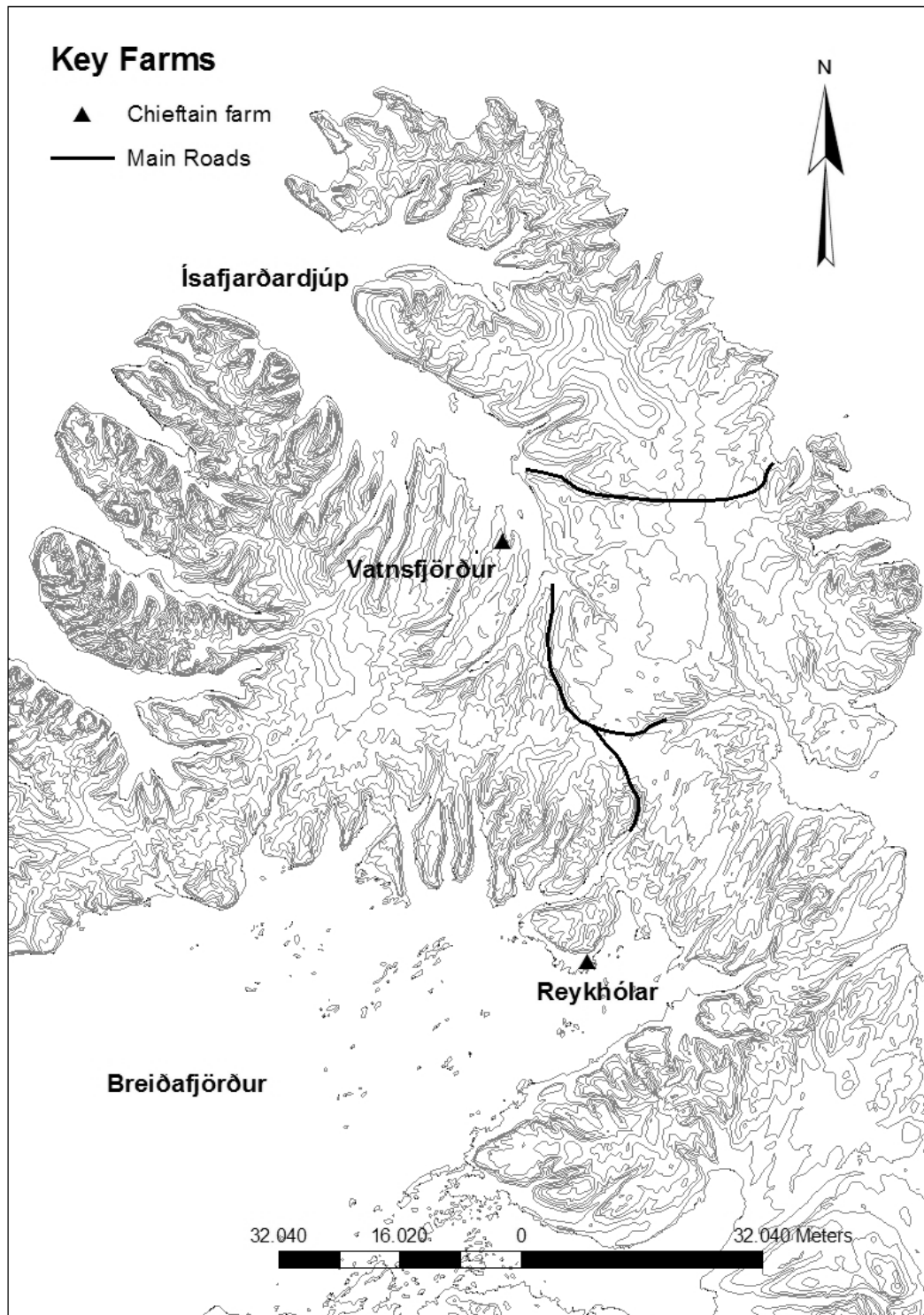
Map 36. Layout of the early 20th century Vatnsfjörður farm.



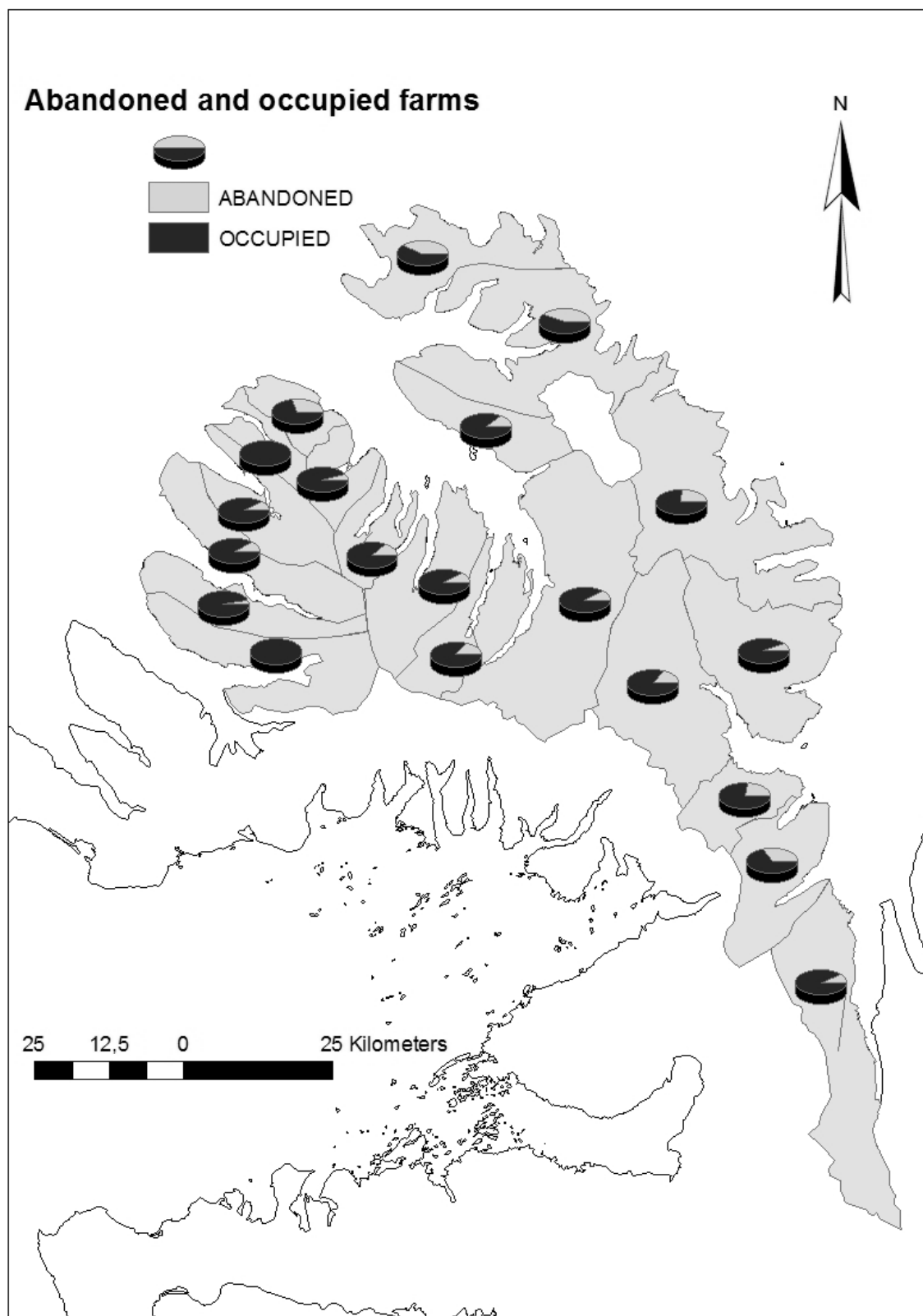
Map 37. Longhouses surveyed in Vestfirðir.



Map 38. Fishing grounds in the mouth of Ísafjarðardjúp fjord.

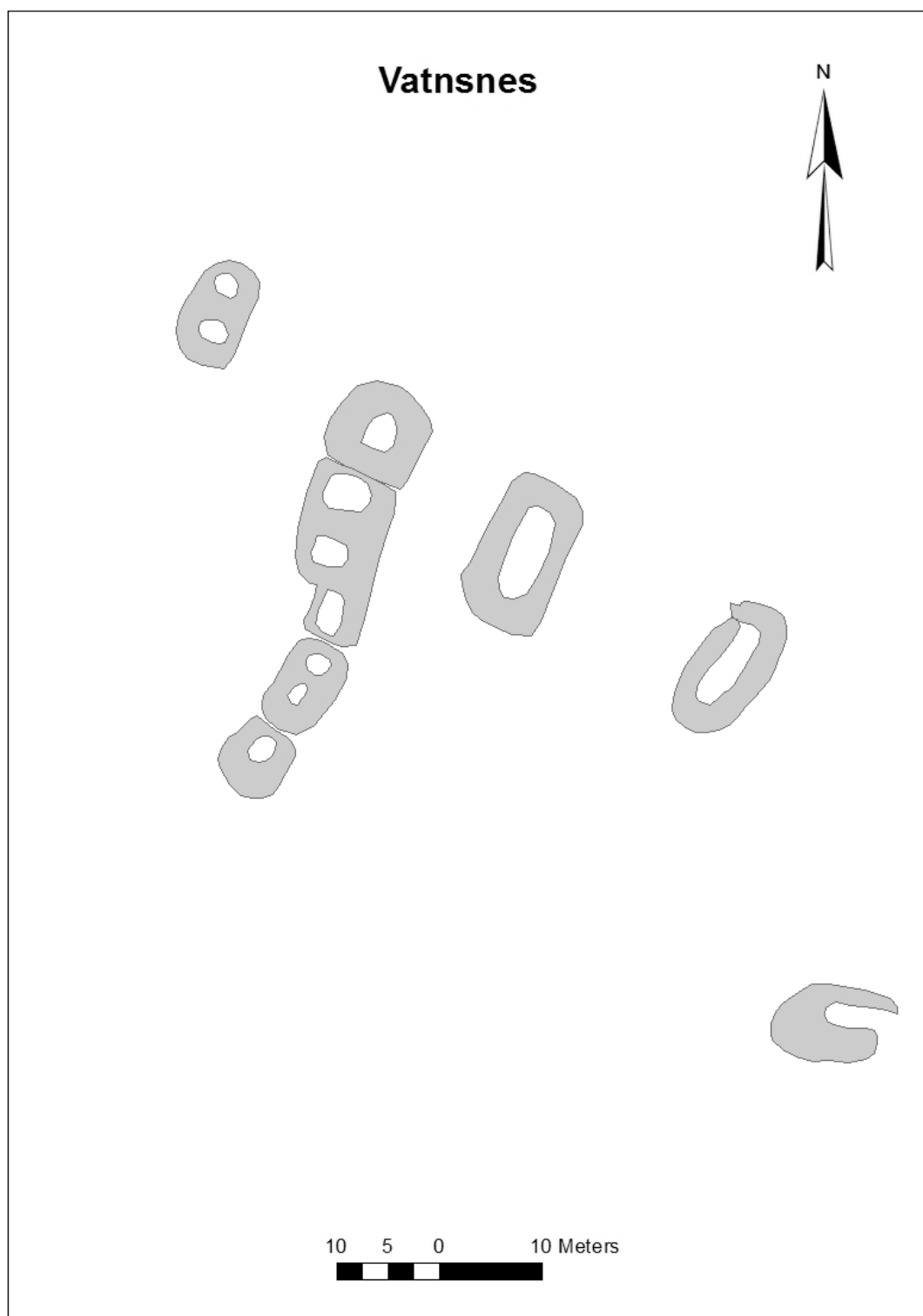


Map 39. Main Farms (Höfuðból) and their relationship to main roads.

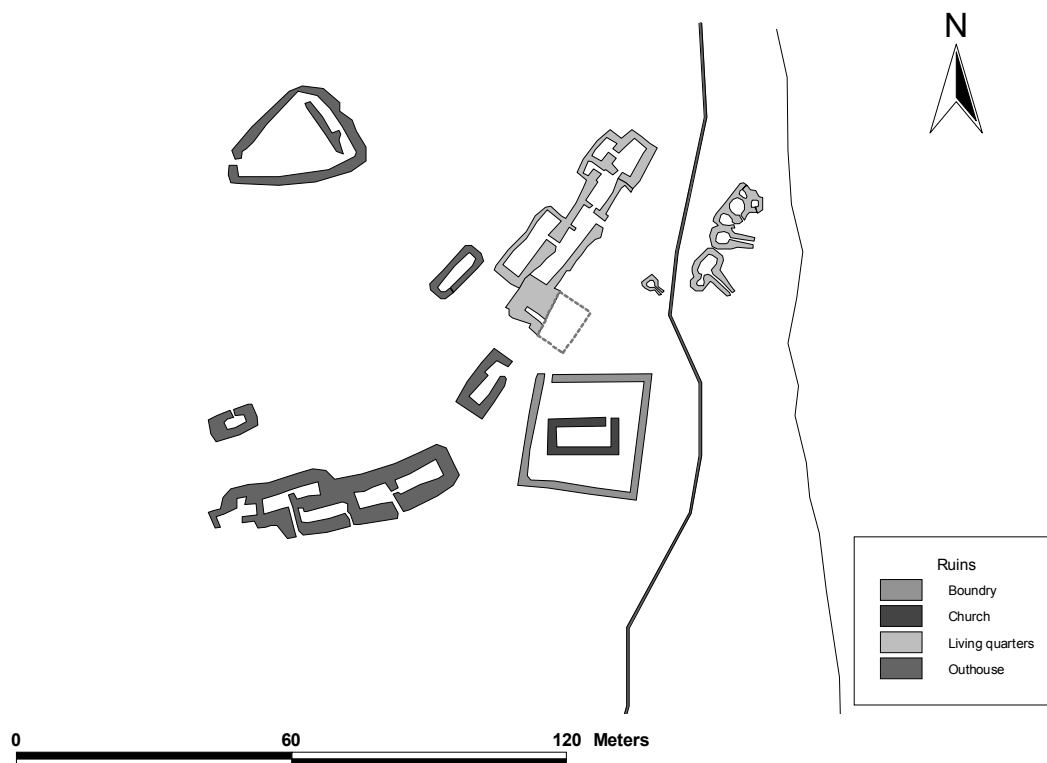


Map 40. Abandoned and occupied farms in the 18th century.

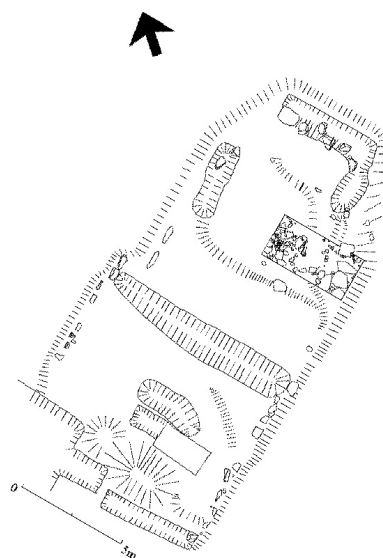
Appendix 2. Site plans



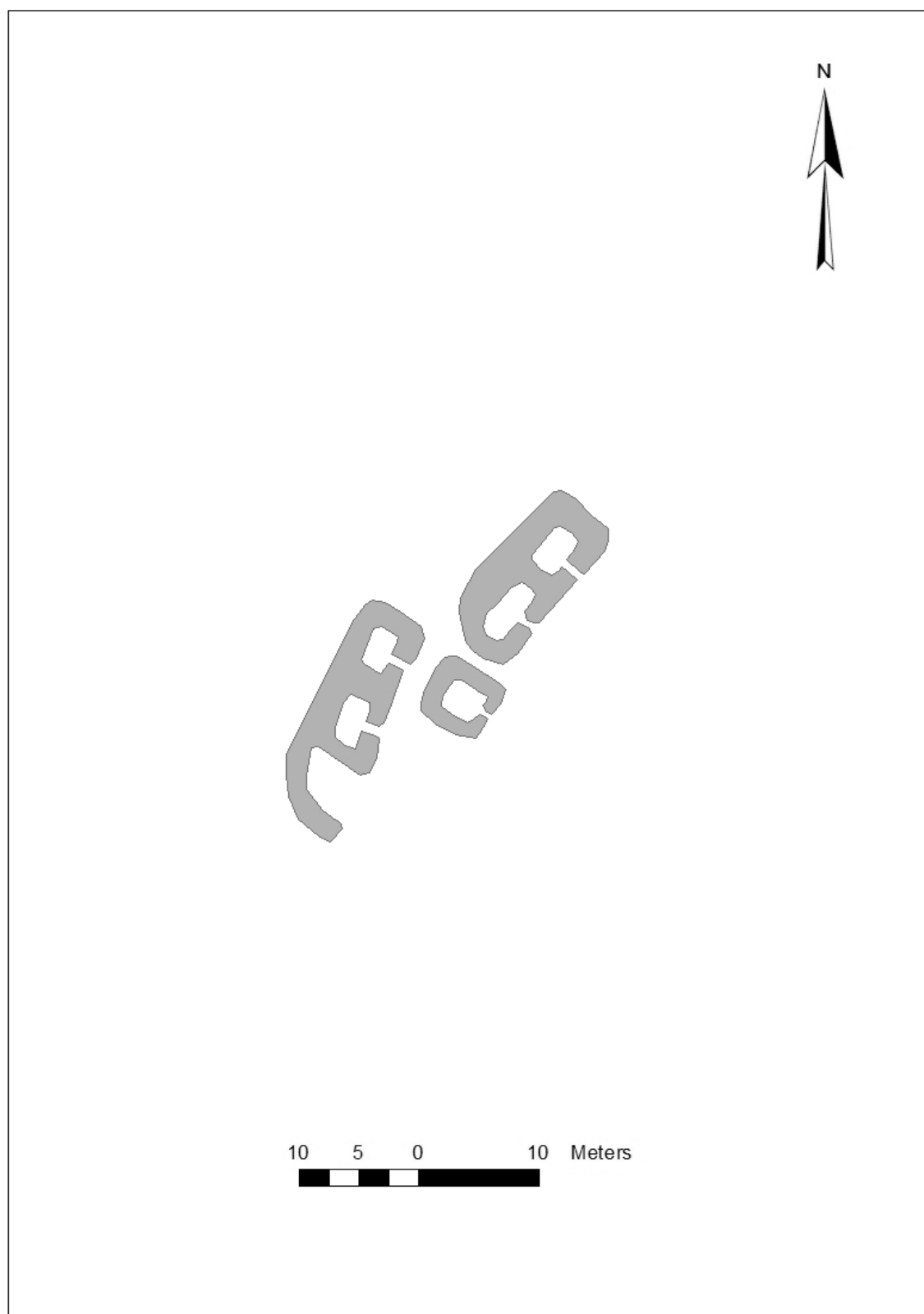
Plan 1. The ruins at Vatnsnes in Bolungarvík.



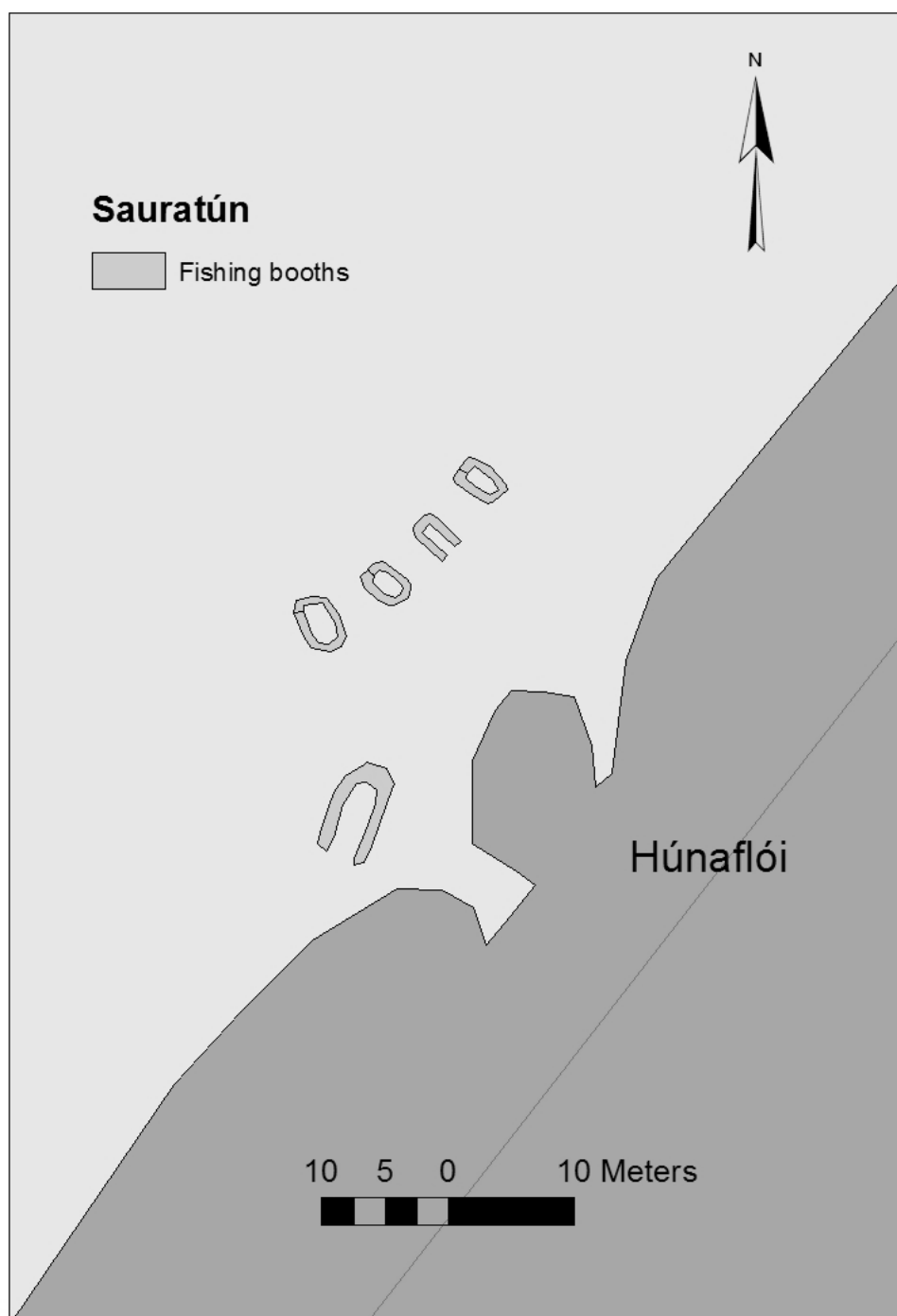
Plan 2. Quassiarsuk (Brattahlíð) in Greenland.



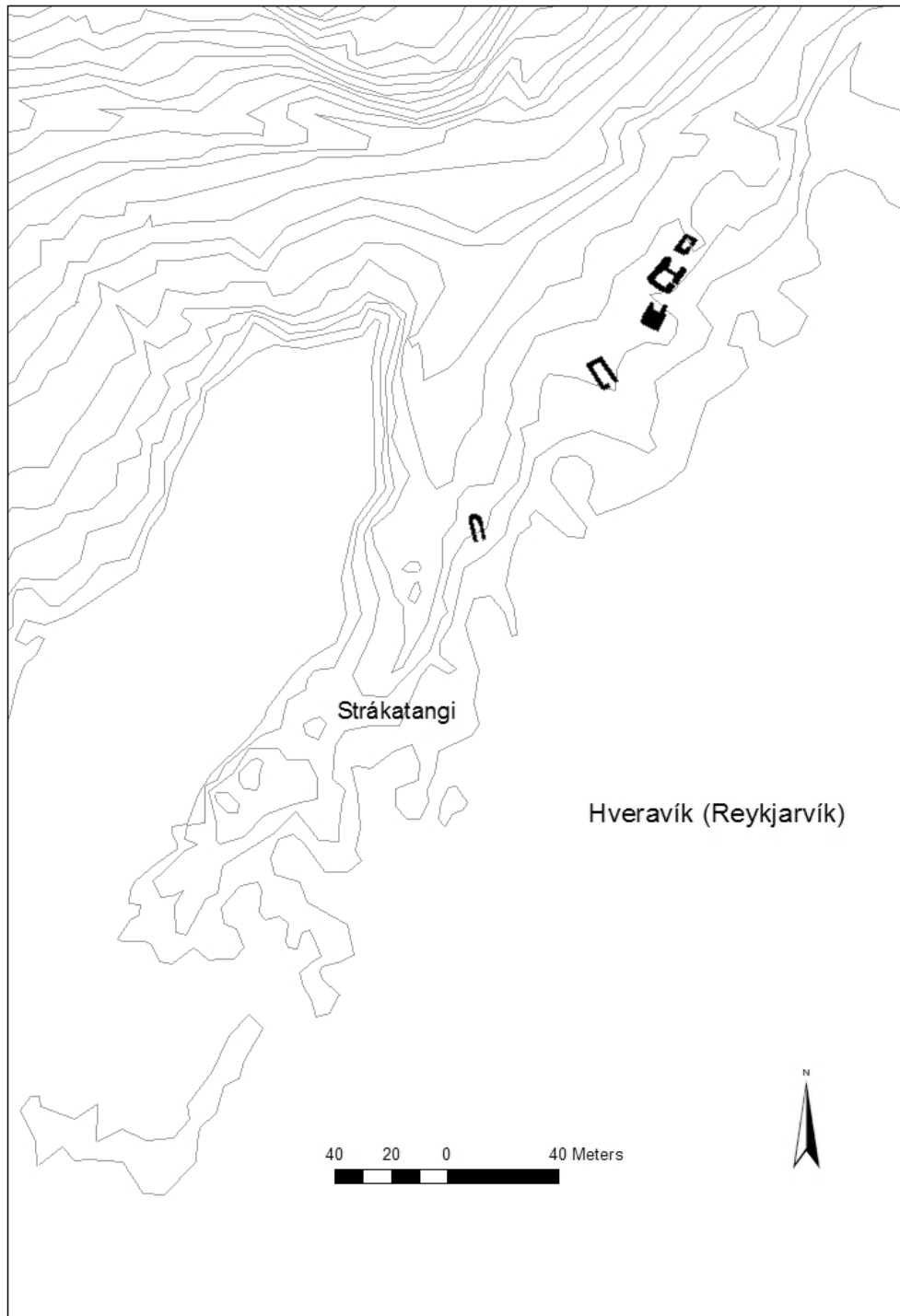
Plan 3. Ø28b in Quassiarsuk.



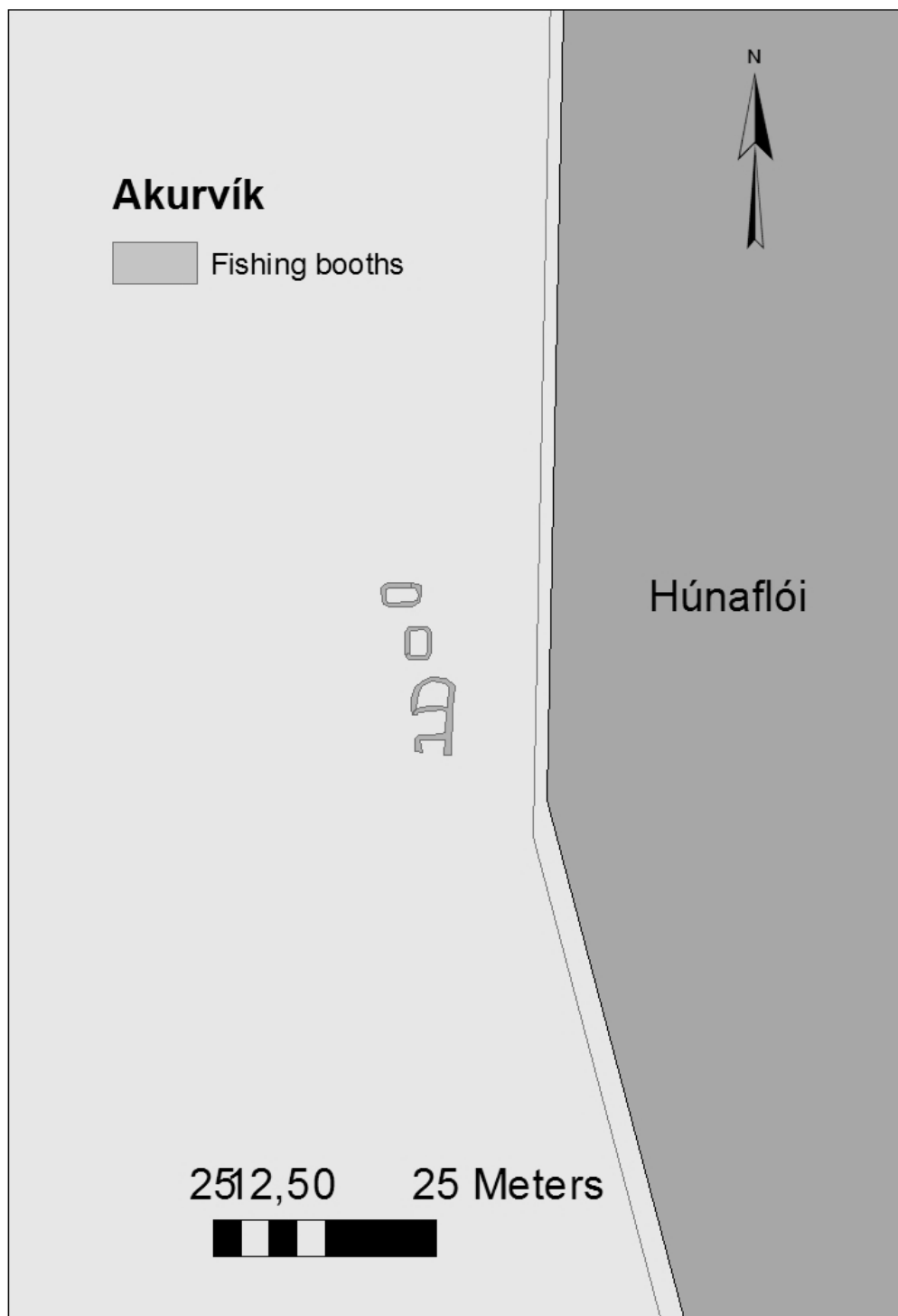
Plan 4. Skreflur.



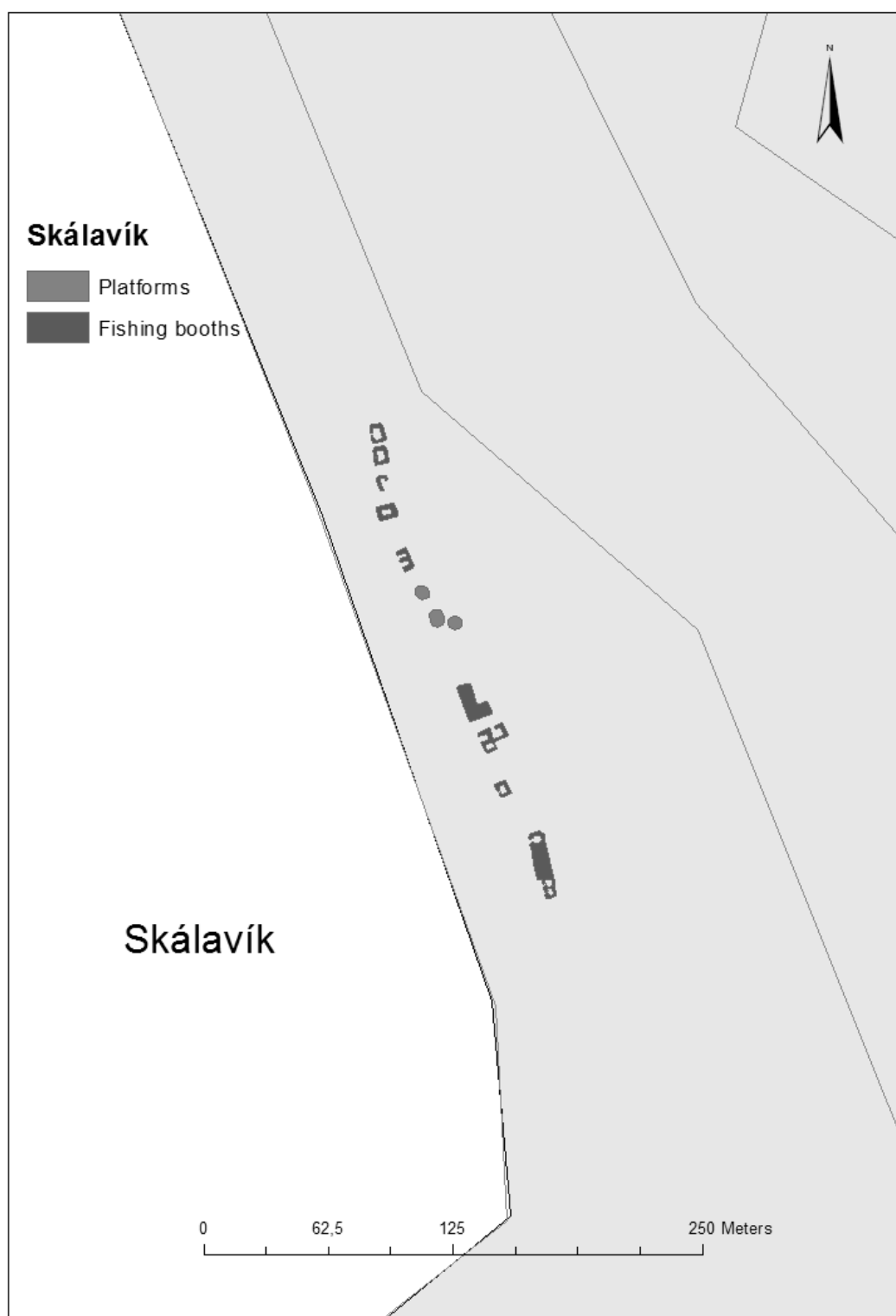
Plan 5. Sauratún.



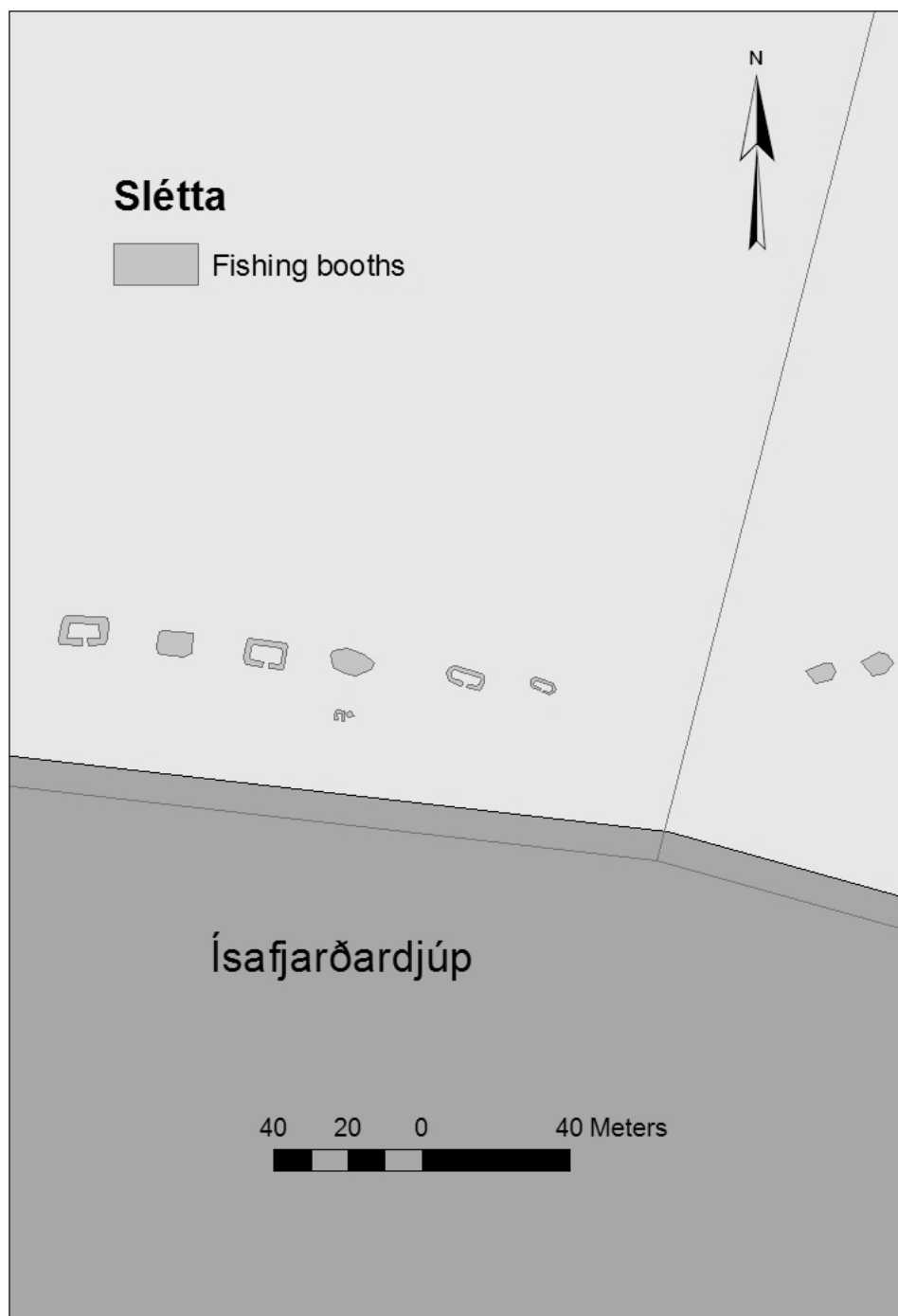
Plan 6. The Strákatangi site.



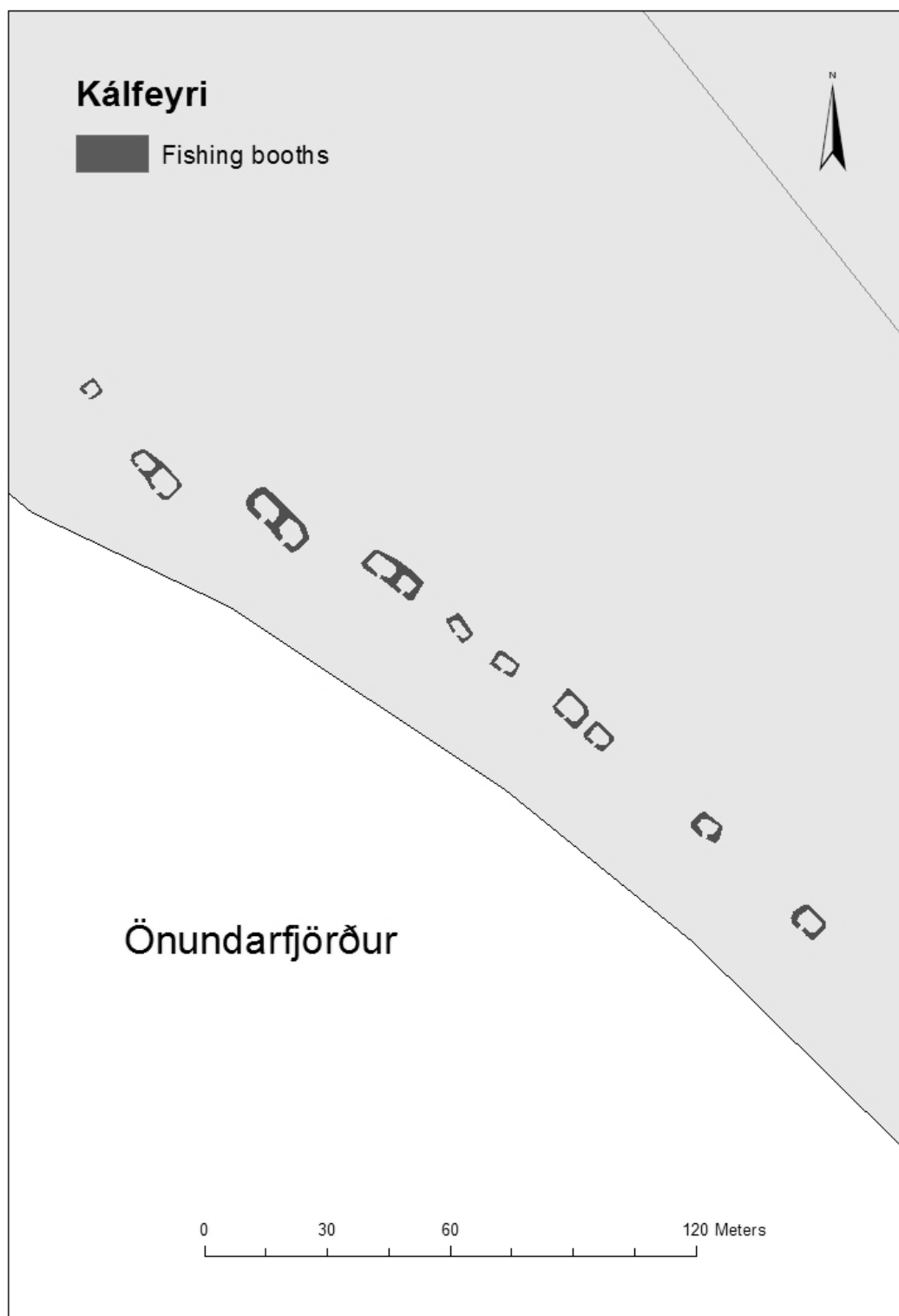
Plan 7. The Akurvík site.



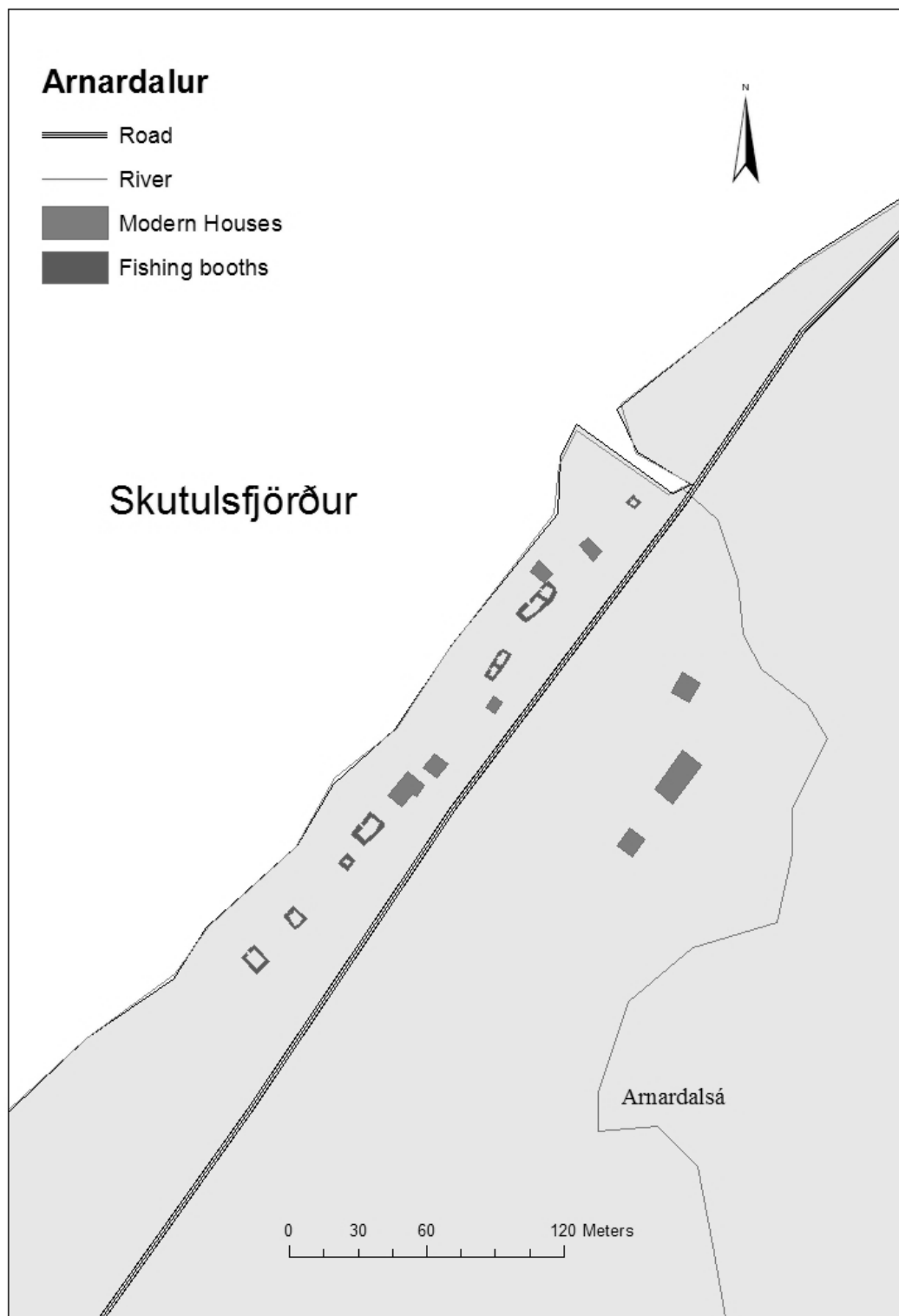
Plan 8. The fishing station at Skálavík.



Plan 9. The fishing site at Slétta in Ísafjarðardjúp.



Plan 10. The fishing station at Kálfeyri.



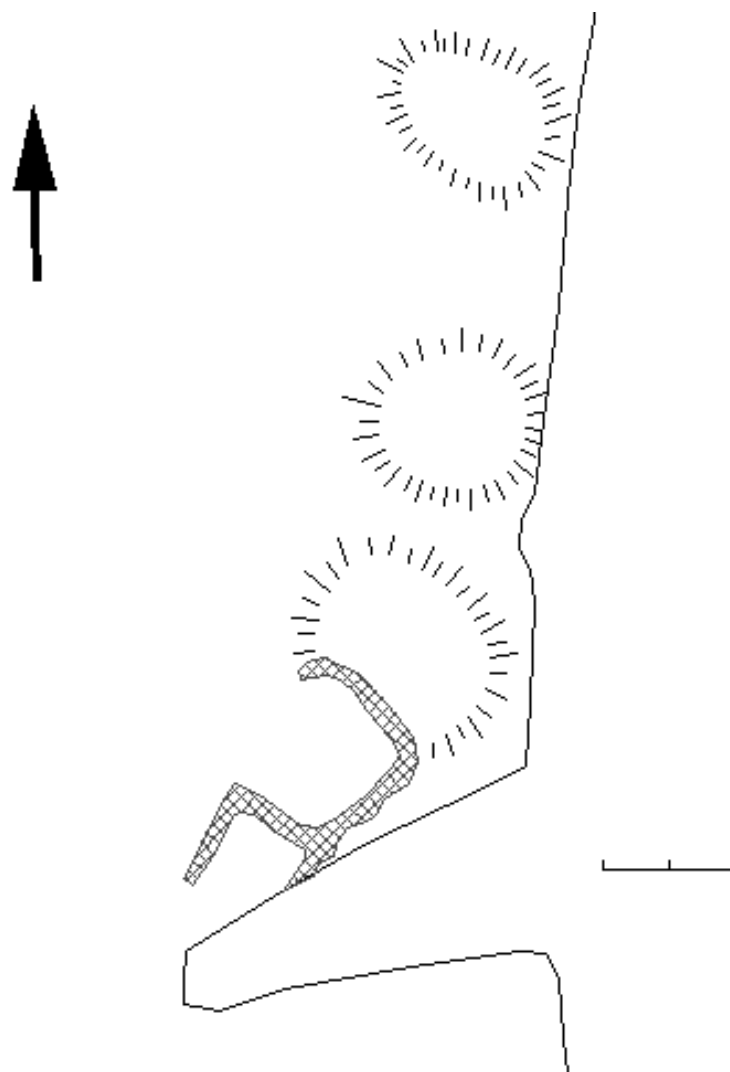
Plan 11. The fishing station at Arnardalur.



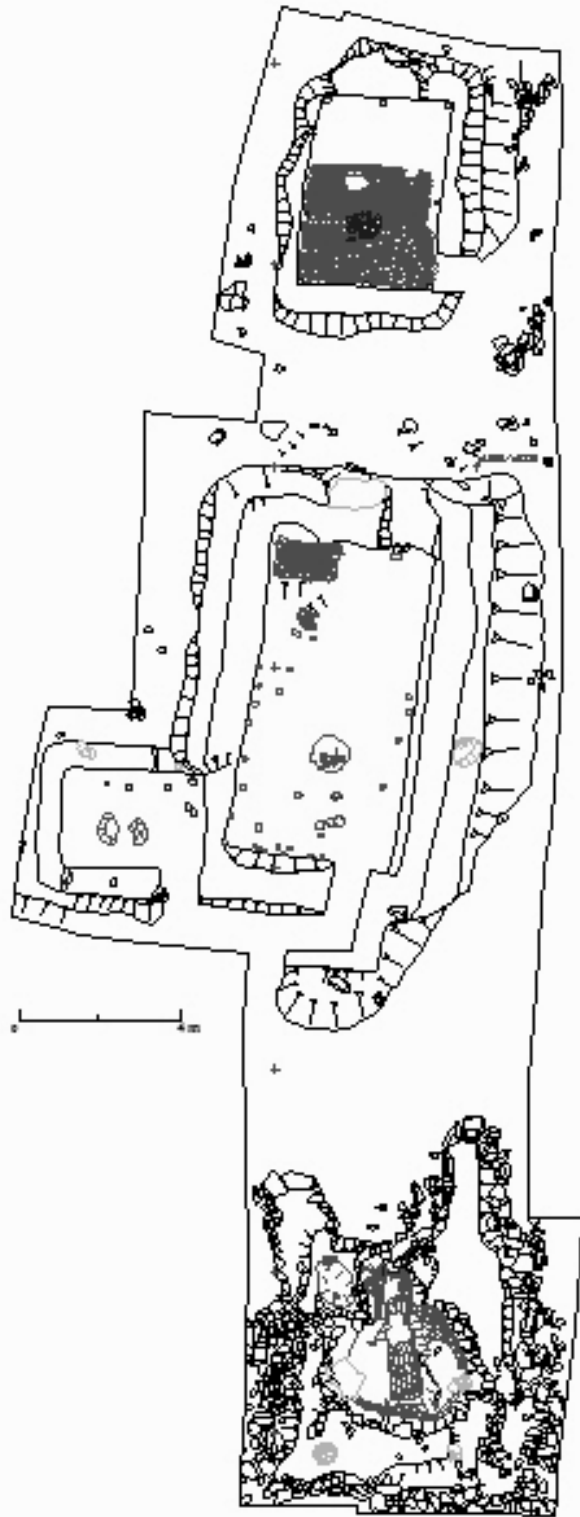
Plan 12. The excavated booth at Sauratún at the end of the season.



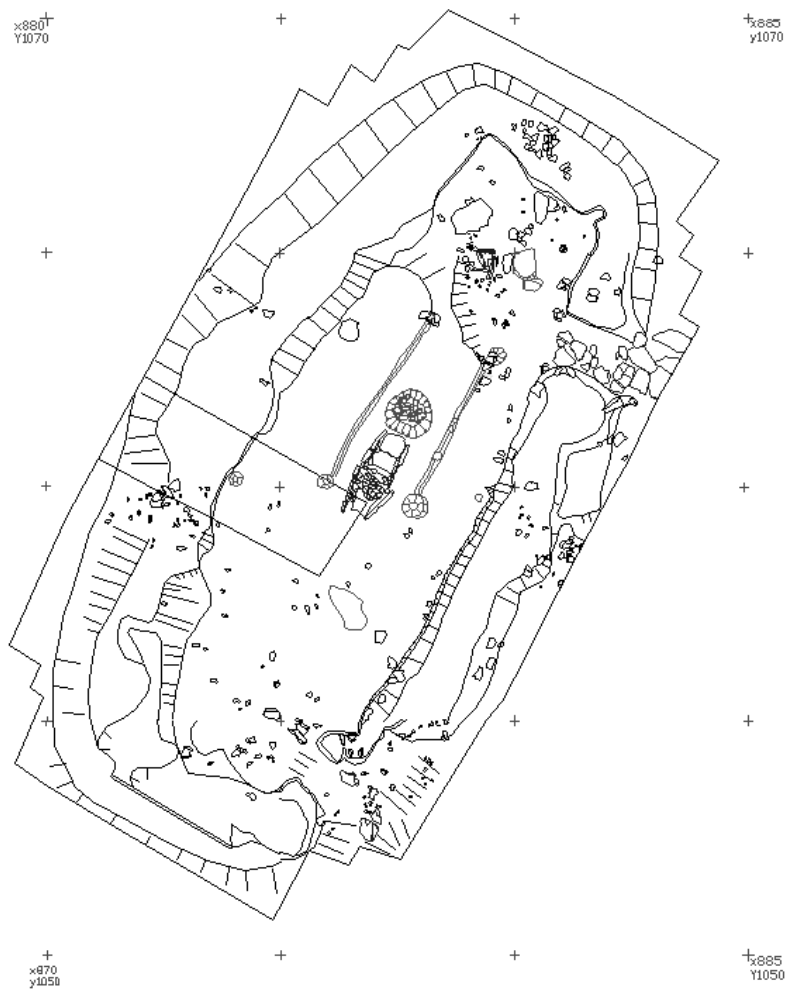
Plan 13. The excavated booth at the Skálavík site at the end of the season.



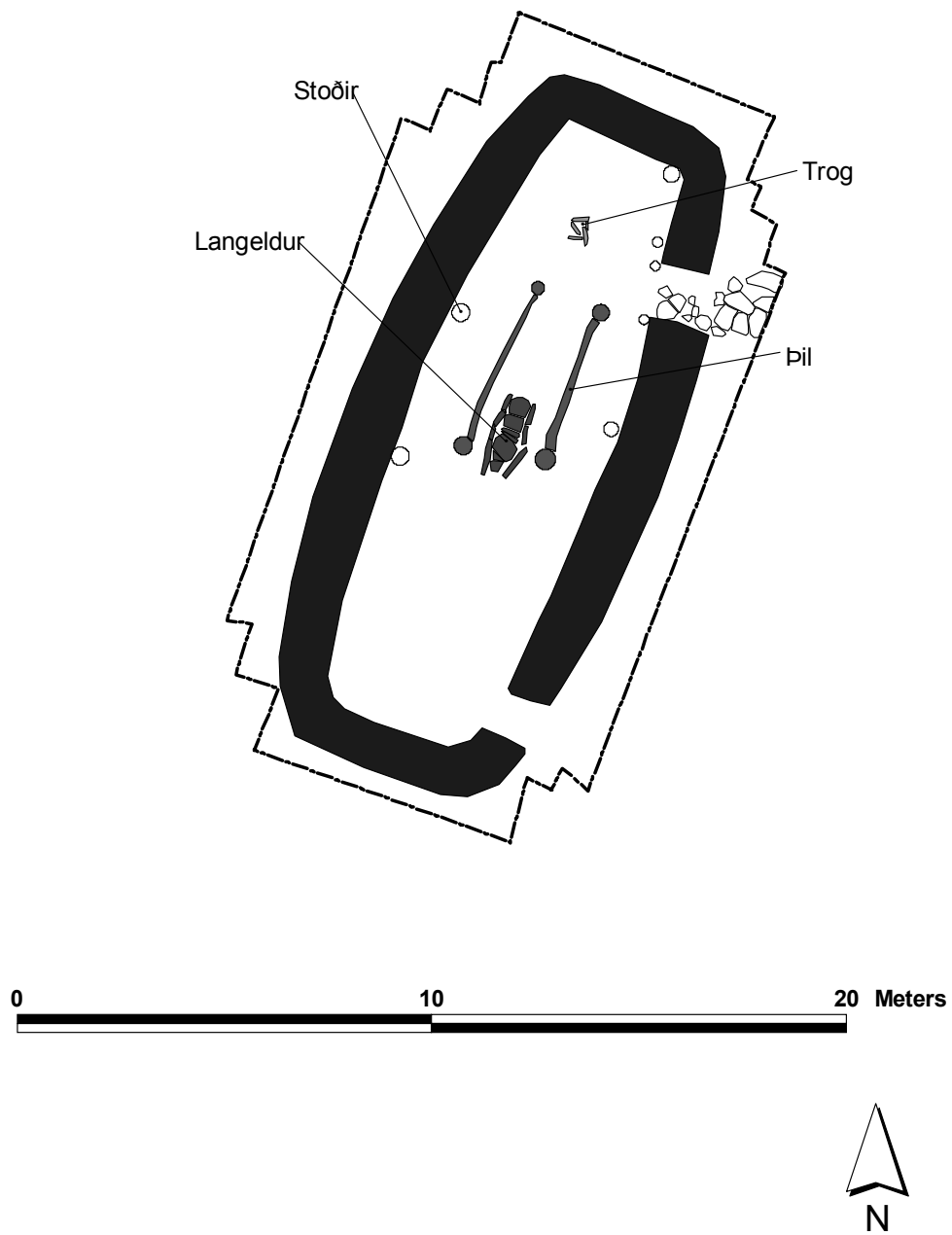
Plan 14. The excavated booth at the Akurvík site.



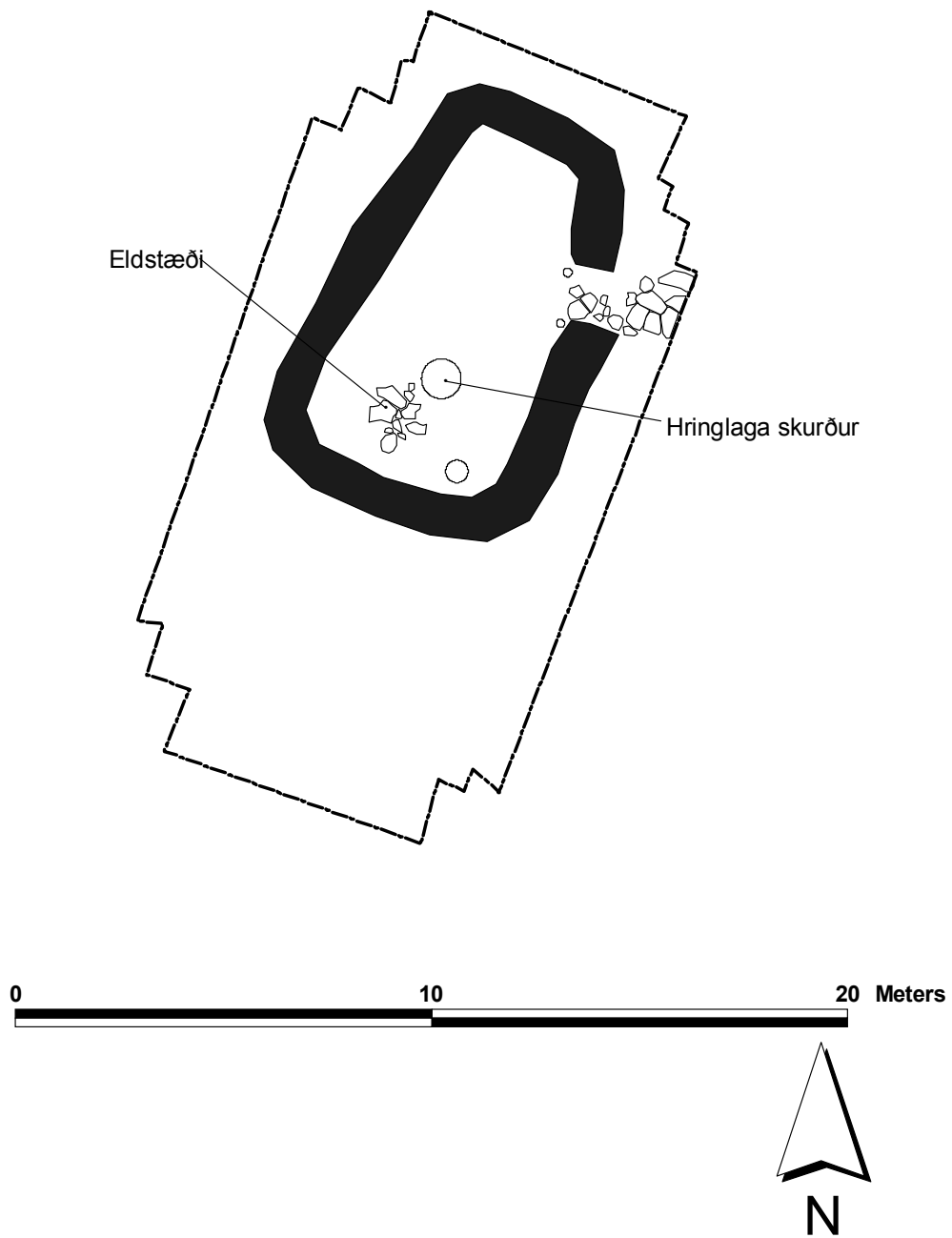
Plan. 15. The Strákatangi site at the end of the 2008 season.



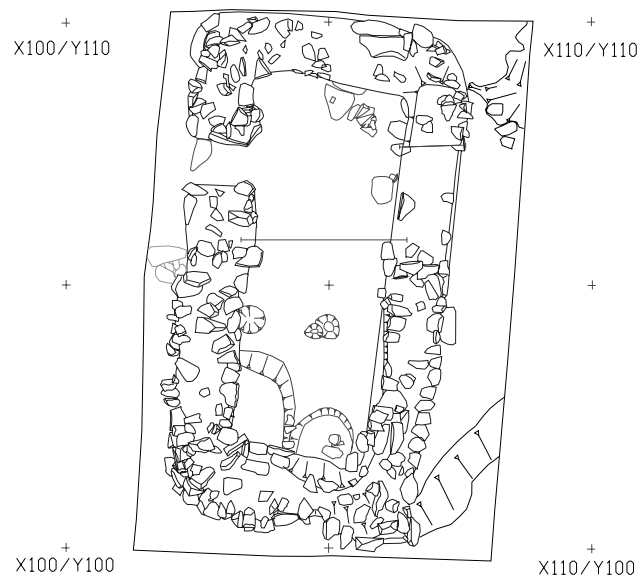
Plan 16. Final plan of the longhouse at Vatnsfjörður



Plan 17. Phase one at Vatnsfjörður.



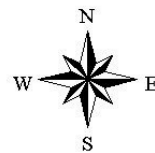
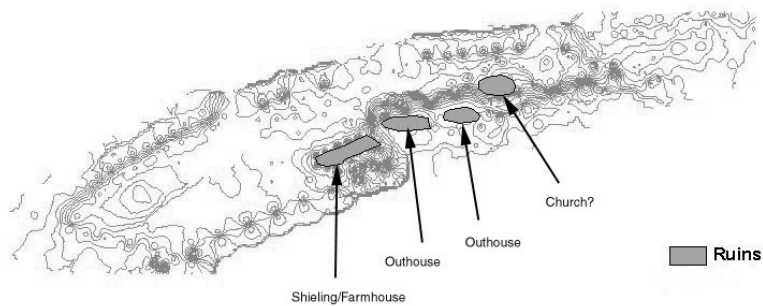
Plan 18. Phase two at Vatnsfjörður.



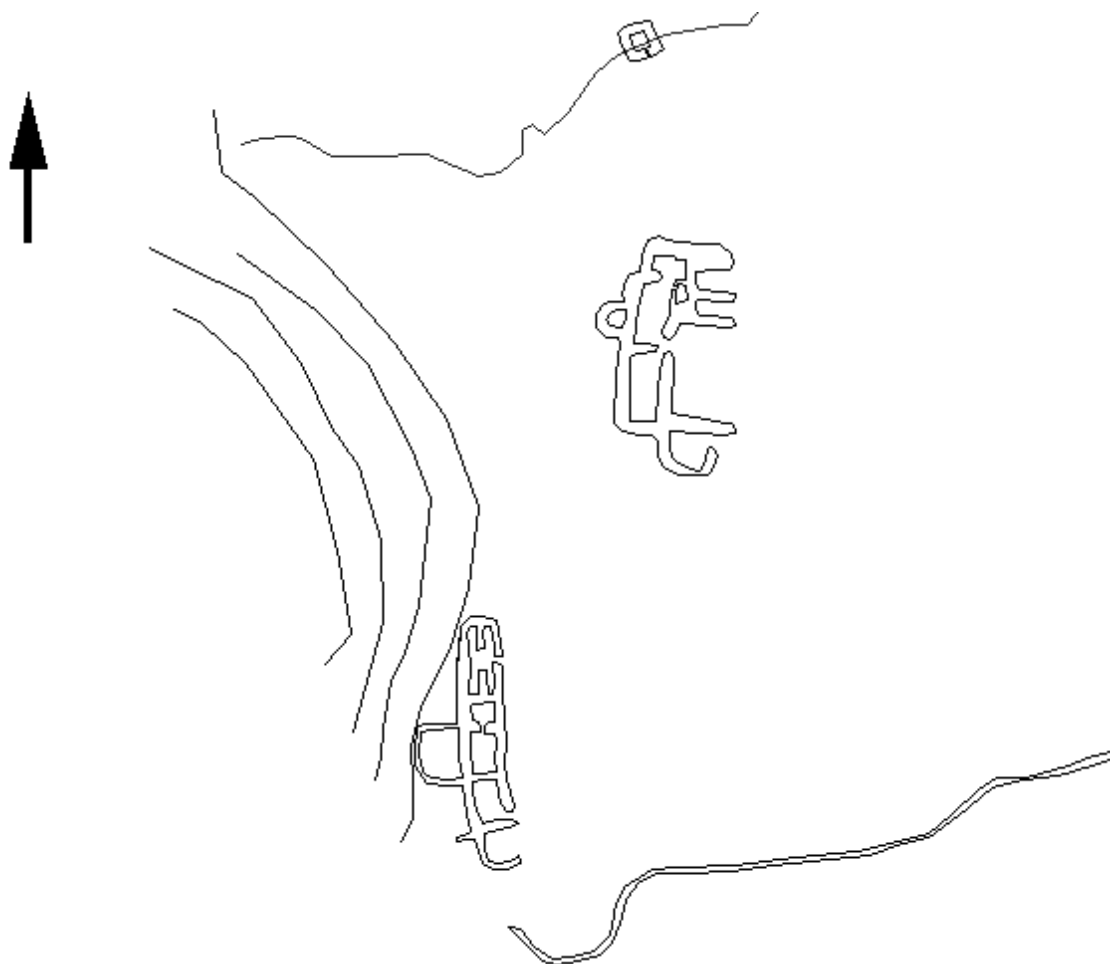
Plan 19. The Hrútey site at the end of excavation.

Strandsýsla Urriðasel

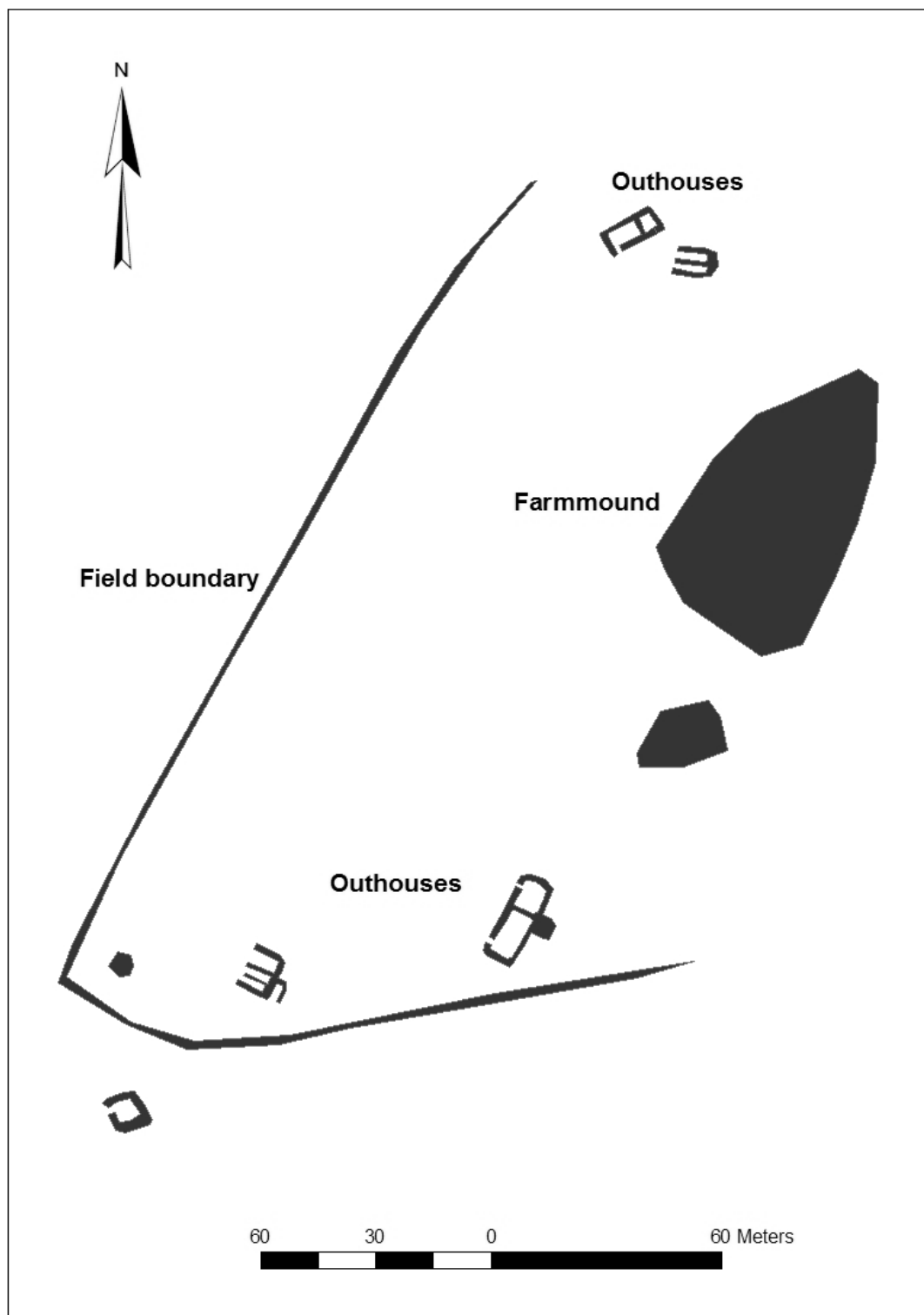
Contour map



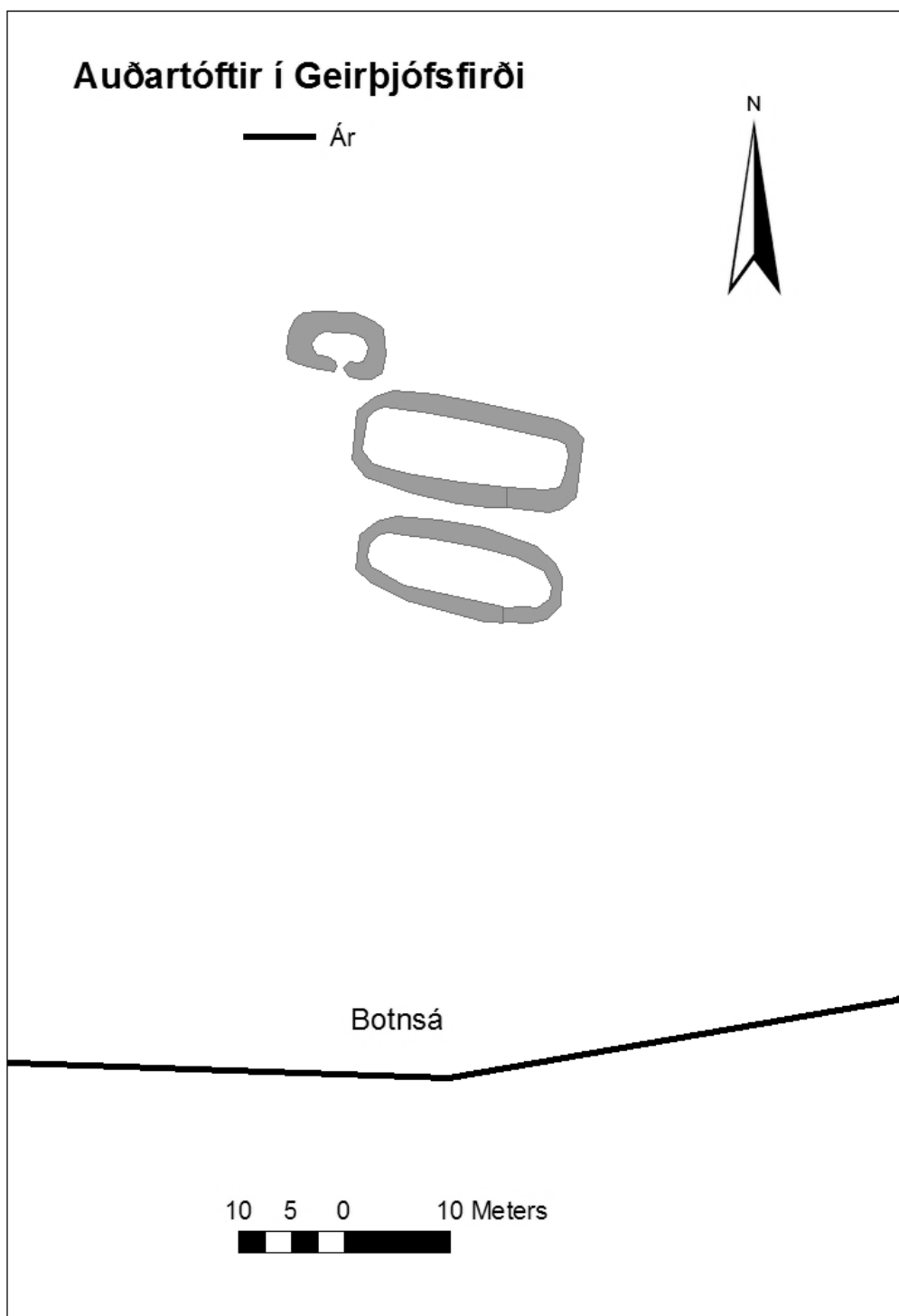
Plan 20. Urriðasel.



Plan 21. A typical layout of a 19th century poor farm. The farmhouse is in the south and outhouses to the northeast.



Plan 22. Layout of a middle ranking farm in Vestfirðir.



Plan 23. Layout of Auðartóftir in Geirpjófsfirði fjord.

Appendix 3. Statistical Analysis

Appendix 3.1

Ísafjarðar- og Strandasýsla. Factor Analysis.

Communalities

	Initial	Extraction
COWS	1,000	,847
Winter old cow	1,000	,989
HEIFERE	1,000	,977
CALFS	1,000	,669
Young bulls	1,000	,756
MILK_EWE	1,000	,834
WEATHER	1,000	,818
LAMB	1,000	,773
HORSES	1,000	,799
Work Horse	1,000	,885
PHILLY	1,000	,951
STALLION	1,000	,960

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,511	37,591	37,591	4,511	37,591	37,591
2	1,159	9,662	47,253	1,159	9,662	47,253
3	1,094	9,118	56,371	1,094	9,118	56,371
4	1,019	8,491	64,862	1,019	8,491	64,862
5	,978	8,151	73,013	,978	8,151	73,013
6	,809	6,746	79,759	,809	6,746	79,759
7	,688	5,732	85,490	,688	5,732	85,490
8	,583	4,862	90,352			
9	,531	4,428	94,780			
10	,285	2,371	97,151			
11	,175	1,462	98,614			
12	,166	1,386	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,905	-,111	-,083	,034	-,043	-,076	-,022
Winter old cow	,186	,033	-,553	,072	,755	,086	,256
HEIFERE	,392	,288	-,050	-,470	-,225	,663	,162
CALFS	,598	-,262	,167	,322	,014	,286	,170

Young bulls	,464	-,537	,396	,205	,003	,044	,228
MILK_EWE	,897	,101	,006	-,070	,016	-,087	-,083
WEATHER	,877	-,103	-,111	-,053	-,061	-,136	-,036
LAMB	,658	,198	-,253	-,195	-,222	-,386	,028
HORSES	,726	-,287	-,152	-,153	,068	,114	-,354
Work Horse	,508	,549	,311	,135	,006	-,183	,421
PHILLY	,287	,310	,599	-,148	,519	,029	-,350
STALLION	,238	,409	-,201	,732	-,168	,225	-,284

Extraction Method: Principal Component Analysis.
a 7 components extracted.

Appendix 3.2

Ísafjarðarsýsla. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,863
Winter old cow	1,000	,995
HEIFERE	1,000	,933
CALFS	1,000	,704
Young bulls	1,000	,782
MILK_EWE	1,000	,861
WEATHER	1,000	,875
LAMB	1,000	,870
HORSES	1,000	,797
Work Horse	1,000	,925
PHILLY	1,000	,983
STALLION	1,000	,954

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,737	39,477	39,477	4,737	39,477	39,477
2	1,223	10,188	49,665	1,223	10,188	49,665
3	1,078	8,984	58,648	1,078	8,984	58,648
4	1,005	8,373	67,022	1,005	8,373	67,022
5	,959	7,989	75,011	,959	7,989	75,011
6	,837	6,974	81,984	,837	6,974	81,984
7	,704	5,871	87,855	,704	5,871	87,855
8	,563	4,694	92,549			
9	,370	3,087	95,636			
10	,253	2,110	97,746			
11	,153	1,277	99,023			
12	,117	,977	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,918	,033	-,061	,009	,010	-,116	-,032
Winter old cow	,138	,222	-,256	,860	,220	,186	-,195
HEIFERE	,449	,322	,064	-,226	-,104	,738	,130
CALFS	,621	-,267	,112	,136	-,430	,166	-,057
Young bulls	,502	-,573	-,030	-,011	-,241	-,077	-,369
MILK_EWE	,922	,026	,001	-,016	,056	-,058	,057
WEATHER	,903	,076	-,140	-,065	,095	-,144	-,007
LAMB	,671	,373	-,232	-,247	,320	-,251	,001
HORSES	,746	-,132	-,314	,079	-,188	,054	,283
Work Horse	,492	,117	,624	-,075	,290	,105	-,425
PHILLY	,267	-,555	,362	,177	,498	,063	,434
STALLION	,220	,429	,547	,295	-,417	-,324	,239

Extraction Method: Principal Component Analysis.
a. 7 components extracted.

Appendix 3.3

Strandasýsla. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,815
Winter old cow	1,000	,872
HEIFERE	1,000	,939
CALFS	1,000	,795
Young bulls	1,000	,867
MILK_EWE	1,000	,871
WEATHER	1,000	,815
LAMB	1,000	,814
HORSES	1,000	,848
Work Horse	1,000	,869
PHILLY	1,000	,920
STALLION	1,000	,972

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,246	35,380	35,380	4,246	35,380	35,380
2	1,406	11,713	47,092	1,406	11,713	47,092
3	1,342	11,183	58,275	1,342	11,183	58,275
4	1,069	8,906	67,181	1,069	8,906	67,181

5	,828	6,899	74,081	,828	6,899	74,081
6	,799	6,658	80,739	,799	6,658	80,739
7	,708	5,901	86,640	,708	5,901	86,640
8	,562	4,685	91,325			
9	,416	3,466	94,791			
10	,271	2,260	97,051			
11	,232	1,930	98,981			
12	,122	1,019	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,847	-,116	-,258	,115	4,405E-02	4,909E-02	-1,756E-02
Winter old cow	,464	-,251	,160	-,617	-,271	,179	,285
HEIFERE	,270	-,216	,519	,545	,305	,303	,263
CALFS	,468	,533	-,183	2,113E-02	-,384	,330	-4,012E-02
Young bulls	,256	,258	-,624	,418	-,136	-4,401E-02	,389
MILK_EWE	,914	-9,543E-02	6,056E-02	-3,799E-02	2,240E-02	-7,495E-02	-,121
WEATHER	,796	-,287	-,181	9,845E-02	8,012E-02	-,205	-9,084E-02
LAMB	,595	,341	,214	-5,319E-02	,139	,489	-,192
HORSES	,718	-,523	-,205	-,108	4,410E-02	-4,307E-03	5,272E-02
Work Horse	,637	,391	,220	7,110E-02	3,726E-02	-,371	-,344
PHILLY	,365	,135	,620	,149	-,417	-,325	,287
STALLION	,279	,529	-2,881E-02	-,387	,539	-,179	,375

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.4

Ísafjarðar- and Strandasýslur. Cow rent (Leigukúgildi) Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	Leigukúgildi(a)		Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,582(a)	,339	,337	9,68

a Predictors: (Constant), Leigukúgildi/cow value

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22378,244	1	22378,244	238,811	,000(a)
	Residual	43667,506	466	93,707		
	Total	66045,750	467			

a Predictors: (Constant), Leigukúgildi

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,755	,778		4,829	,000
	Leigukúgildi	3,307	,214	,582	15,453	,000

a Dependent Variable: VALUE

Casewise Diagnostics(a)

Case Number	Std. Residual	VALUE
42	3,204	48
57	5,810	60
70	5,810	60
79	4,102	60
83	3,419	60
95	3,761	60
101	3,213	58
108	4,786	60
124	4,587	68
252	3,204	48
272	4,786	60

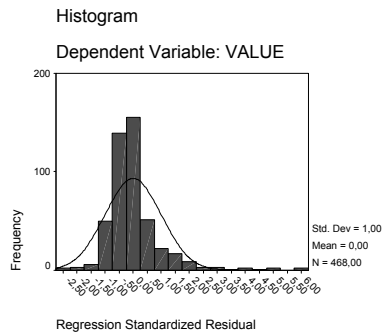
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,76	46,74	13,58	6,92	468
Residual	-23,60	56,24	-6,29E-15	9,67	468
Std. Predicted Value	-1,420	4,790	,000	1,000	468
Std. Residual	-2,437	5,810	,000	,999	468

a Dependent Variable: VALUE

Charts



Appendix 3.5

Ísafjarðarsýsla. Domestic animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	WEATHER		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	Work Horse		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a. Dependent Variable: VALUE

Model Summary(d)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,584(a)	,342	,340	10,47
2	,606(b)	,367	,363	10,28

3	,619(c)	,384	,378	10,17

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, WEATHER

c Predictors: (Constant), COWS, WEATHER, Work Horse

d Dependent Variable: VALUE

ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18043,368	1	18043,368	164,455	,000(a)
	Residual	34780,017	317	109,716		
	Total	52823,386	318			
2	Regression	19402,849	2	9701,424	91,730	,000(b)
	Residual	33420,537	316	105,761		
	Total	52823,386	318			
3	Regression	20263,289	3	6754,430	65,345	,000(c)
	Residual	32560,097	315	103,365		
	Total	52823,386	318			

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, WEATHER

c Predictors: (Constant), COWS, WEATHER, Work Horse

d Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,872	,981		3,947	,000		
	COWS	3,029	,236	,584	12,824	,000	1,000	1,000
2	(Constant)	3,879	,963		4,027	,000		
	COWS	1,793	,415	,346	4,316	,000	,312	3,210
	WEATHER	,167	,047	,287	3,585	,000	,312	3,210
3	(Constant)	3,409	,966		3,529	,000		
	COWS	1,486	,424	,287	3,501	,001	,292	3,426
	WEATHER	,167	,046	,288	3,635	,000	,312	3,210
	Work Horse	2,233	,774	,141	2,885	,004	,825	1,212

a Dependent Variable: VALUE

Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Winter old cow	,057(a)	1,249	,213	,070	,982	1,018	,982
	HEIFERE	,062(a)	1,297	,196	,073	,902	1,108	,902
	CALFS	,080(a)	1,487	,138	,083	,712	1,405	,712
	Young bulls	,033(a)	,669	,504	,038	,830	1,205	,830
	MILK_EWE	,222(a)	2,660	,008	,148	,293	3,411	,293
	WEATHER	,287(a)	3,585	,000	,198	,312	3,210	,312
	LAMB	,174(a)	3,030	,003	,168	,615	1,627	,615

2	HORSES	-,014(a)	-,227	,820	-,013	,559	1,788	,559
	Work Horse	,140(a)	2,820	,005	,157	,825	1,212	,825
	PHILLY	,112(a)	2,429	,016	,135	,967	1,034	,967
	STALLION	,014(a)	,309	,758	,017	,965	1,037	,965
	Winter old cow							
		,054(b)	1,199	,231	,067	,982	1,018	,311
	HEIFERE	,037(b)	,770	,442	,043	,880	1,136	,304
	CALFS	,079(b)	1,496	,136	,084	,712	1,405	,277
	Young bulls	,007(b)	,143	,886	,008	,811	1,233	,305
	MILK_EWE	,104(b)	1,110	,268	,062	,227	4,413	,227
3	LAMB	,102(b)	1,597	,111	,090	,488	2,049	,247
	HORSES	-,039(b)	-,653	,514	-,037	,552	1,813	,268
	Work Horse	,141(b)	2,885	,004	,160	,825	1,212	,292
	PHILLY	,103(b)	2,266	,024	,127	,964	1,038	,311
	STALLION	,016(b)	,344	,731	,019	,965	1,037	,308
	Winter old cow							
		,059(c)	1,321	,188	,074	,981	1,020	,291
	HEIFERE							
		,017(c)	,351	,726	,020	,861	1,162	,292
	CALFS	,073(c)	1,386	,167	,078	,710	1,408	,263
	Young bulls	,006(c)	,121	,904	,007	,811	1,234	,288
	MILK_EWE	,051(c)	,541	,589	,031	,217	4,607	,217
	LAMB	,093(c)	1,470	,143	,083	,487	2,055	,247
	HORSES	,008(c)	,130	,897	,007	,511	1,959	,238
	PHILLY	,084(c)	1,850	,065	,104	,939	1,064	,292
	STALLION							
		-,001(c)	-,023	,981	-,001	,949	1,054	,290

a Predictors in the Model: (Constant), COWS

b Predictors in the Model: (Constant), COWS, WEATHER

c Predictors in the Model: (Constant), COWS, WEATHER, Work Horse

d Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS	WEATHER	Work Horse
1	Correlations	COWS	1,000		
	Covariances	COWS	5,579E-02		
2	Correlations	COWS	1,000	-,830	
		WEATHER	-,830	1,000	
	Covariances	COWS	,173	-1,604E-02	
		WEATHER	-1,604E-02	2,166E-03	
3	Correlations	COWS	1,000	-,804	-,251
		WEATHER	-,804	1,000	,003
	Covariances	Work Horse	-,251	,003	1,000
		COWS	,180	-1,569E-02	-8,251E-02
		WEATHER	-1,569E-02	2,117E-03	1,070E-04
		Work Horse	-8,251E-02	1,070E-04	,599

a Dependent Variable: VALUE

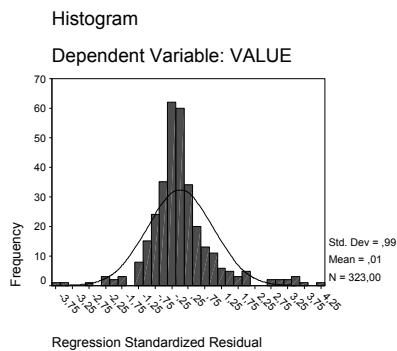
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,41	42,26	13,98	7,96	323
Residual	-37,52	42,08	5,74E-02	10,08	323

Std. Predicted Value	-1,321	3,546	,003	,997	323
Std. Residual	-3,690	4,139	,006	,991	323

a. Dependent Variable: VALUE

Charts



Appendix 3.6

Strandasýsla. Domestic animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	PHILLY		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a. Dependent Variable: VALUE

Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,531(a)	,282	,277	7,98

2	,557(b)	,310	,300	7,85

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, PHILLY

c Dependent Variable: VALUE

ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3581,973	1	3581,973	56,229	,000(a)
	Residual	9109,517	143	63,703		
	Total	12691,490	144			
2	Regression	3936,452	2	1968,226	31,923	,000(b)
	Residual	8755,038	142	61,655		
	Total	12691,490	144			

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, PHILLY

c Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,716	1,024		6,557	,000		
	MILK_EWE	,232	,031	,531	7,499	,000	1,000	1,000
2	(Constant)	6,707	1,008		6,655	,000		
	MILK_EWE	,208	,032	,476	6,481	,000	,901	1,110
	PHILLY	2,997	1,250	,176	2,398	,018	,901	1,110

a Dependent Variable: VALUE

Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	,106(a)	1,036	,302	,087	,479	2,090	,479
	Winter old cow	-,121(a)	-1,546	,124	-,129	,816	1,225	,816
	HEIFERE	,141(a)	1,957	,052	,162	,948	1,055	,948
	CALFS	,025(a)	,332	,741	,028	,906	1,103	,906
	Young bulls	,007(a)	,096	,924	,008	,977	1,023	,977
	WEATHER	-,016(a)	-,159	,874	-,013	,522	1,917	,522
	LAMB	-,146(a)	-1,777	,078	-,148	,736	1,359	,736
	HORSES	,089(a)	,908	,365	,076	,525	1,905	,525
	Work Horse	,096(a)	1,056	,293	,088	,611	1,636	,611
	PHILLY	,176(a)	2,398	,018	,197	,901	1,110	,901
	STALLION	,091(a)	1,263	,209	,105	,966	1,035	,966
	COWS	,139(b)	1,373	,172	,115	,471	2,124	,433

Winter old cow	-,135(b)	-1,752	,082	-,146	,812	1,232	,761
HEIFERE	,110(b)	1,514	,132	,126	,908	1,102	,863
CALFS	,012(b)	,161	,872	,014	,901	1,109	,834
Young bulls	,024(b)	,334	,739	,028	,968	1,033	,874
WEATHER	,000(b)	-,003	,998	,000	,519	1,925	,482
LAMB	-,150(b)	-1,864	,064	-,155	,735	1,360	,685
HORSES	,135(b)	1,384	,169	,116	,508	1,969	,462
Work Horse	,053(b)	,585	,560	,049	,585	1,710	,585
STALLION	,091(b)	1,282	,202	,107	,966	1,035	,873

a Predictors in the Model: (Constant), MILK_EWE

b Predictors in the Model: (Constant), MILK_EWE, PHILLY

c Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE	PHILLY
1	Correlations	MILK_EWE	1,000	
2	Covariances	MILK_EWE	9,603E-04	
	Correlations	MILK_EWE	1,000	-,314
		PHILLY	-,314	1,000
	Covariances	MILK_EWE	1,031E-03	-1,262E-02
		PHILLY	-1,262E-02	1,562

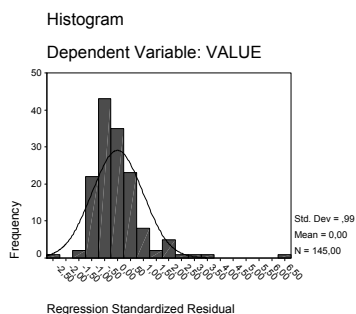
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,71	31,60	12,57	5,23	145
Residual	-21,07	49,55	-,31E-15	7,80	145
Std. Predicted Value	-1,122	3,639	,000	1,000	145
Std. Residual	-2,683	6,310	,000	,993	145

a Dependent Variable: VALUE

Charts



Appendix 3.7

Ísafjarðar- and Strandasýsla. Benefits. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_TROU(a)		Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,224(a)	,050	,048	11,60

a Predictors: (Constant), COW_TROU

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3320,412	1	3320,412	24,668	,000(a)
	Residual	62725,338	466	134,604		
	Total	66045,750	467			

a Predictors: (Constant), COW_TROU

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	12,439	,584		21,310	,000	11,292	13,586
	COW_TROU	1,322	,266	,224	4,967	,000	,799	1,846

a Dependent Variable: VALUE

Casewise Diagnostics(a)

Case Number	Std. Residual	VALUE
13	4,099	60
42	3,065	48
52	4,099	60
57	3,074	60
70	4,099	60
79	3,529	60
83	3,302	60
108	4,099	60
118	3,065	48
124	4,789	68
272	4,099	60

434	4,099	60

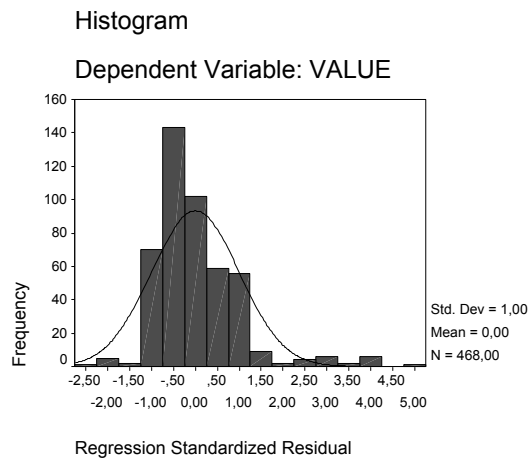
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12,44	28,31	13,58	2,67	468
Residual	-28,31	55,56	7,14E-15	11,59	468
Std. Predicted Value	-,429	5,522	,000	1,000	468
Std. Residual	-2,440	4,789	,000	,999	468

a Dependent Variable: VALUE

Charts



Appendix 3.8

Ísafjarðar- and Strandasýslur. Stranding Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,325(a)	,106	,104	11,26

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6985,469	1	6985,469	55,117	,000(a)
	Residual	59060,281	466	126,739		
	Total	66045,750	467			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	11,900	,568		20,963	,000		
	COW_STR	2,079	,280	,325	7,424	,000	1,000	1,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_STR
1	Correlations	COW_STR	1,000
	Covariances	COW_STR	7,842E-02

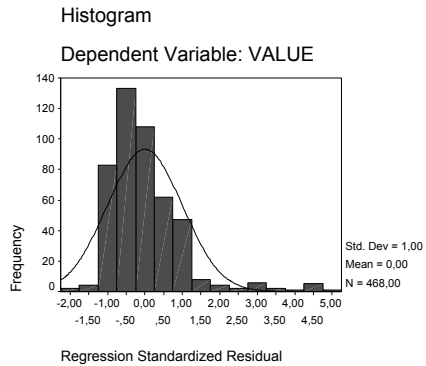
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11,90	36,85	13,58	3,87	468
Residual	-24,37	56,10	-4,93E-15	11,25	468
Std. Predicted Value	-,435	6,015	,000	1,000	468
Std. Residual	-2,165	4,983	,000	,999	468

a Dependent Variable: VALUE

Charts



Appendix 3.9

Ísafjarðar- and Strandasýsla. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,216(a)	,046	,044	11,63

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3069,137	1	3069,137	22,710	,000(a)
	Residual	62976,613	466	135,143		
	Total	66045,750	467			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12,583	,577		21,812	,000		
	COW_DRIF	1,571	,330	,216	4,766	,000	1,000	1,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_DRIF
1	Correlations	COW_DRIF	1,000
	Covariances	COW_DRIF	,109

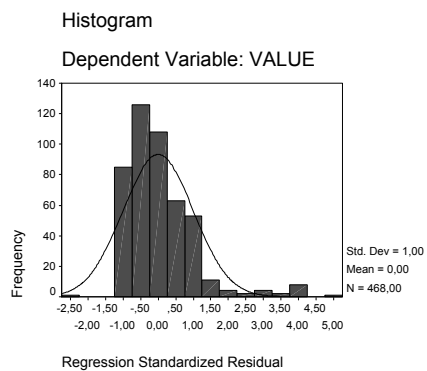
a. Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12,58	29,86	13,58	2,56	468
Residual	-28,29	55,42	-3,66E-15	11,61	468
Std. Predicted Value	-,390	6,349	,000	1,000	468
Std. Residual	-2,433	4,767	,000	,999	468

a. Dependent Variable: VALUE

Charts



Appendix 3.10

Ísafjarðarsýsla. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	,	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,166(a)	,027	,024	12,69

a. Predictors: (Constant), COW_DRIF

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1460,384	1	1460,384	9,071	,003(a)
	Residual	51679,170	321	160,994		
	Total	53139,554	322			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	13,529	,726		18,638	,000		
	COW_DRIF	1,506	,500	,166	3,012	,003	1,000	1,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_DRIF
1	Correlations	COW_DRIF	1,000
	Covariances	COW_DRIF	,250

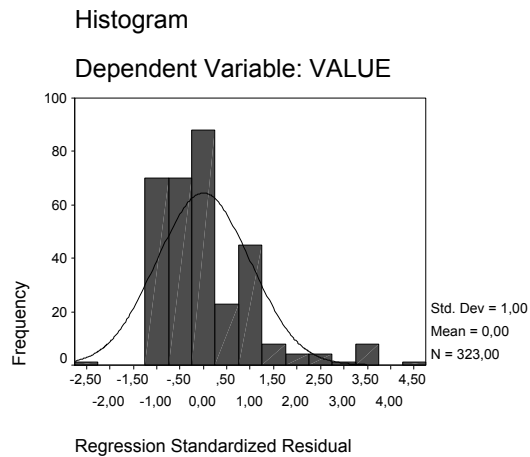
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	13,53	30,09	14,04	2,13	323
Residual	-28,59	54,47	2,97E-15	12,67	323
Std. Predicted Value	-,239	7,538	,000	1,000	323
Std. Residual	-2,253	4,293	,000	,998	323

a Dependent Variable: VALUE

Charts



Appendix 3.11

Ísafjarðarsýsla stranding. Multivariate Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)		Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,319(a)	,102	,099	12,19

a. Predictors: (Constant), COW_STR

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5409,721	1	5409,721	36,382	,000(a)
	Residual	47729,833	321	148,691		
	Total	53139,554	322			

a. Predictors: (Constant), COW_STR

b. Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12,598	,719		17,517	,000		
	COW_STR	2,203	,365	,319	6,032	,000	1,000	1,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_STR
1	Correlations	COW_STR	1,000
	Covariances	COW_STR	,133

a Dependent Variable: VALUE

Residuals Statistics(a)

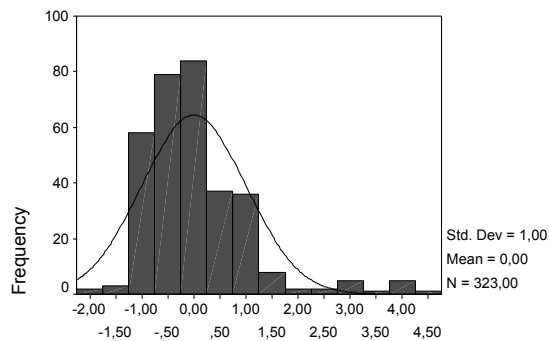
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12,60	39,03	14,04	4,10	323
Residual	-25,81	55,40	-.7,26E-16	12,17	323
Std. Predicted Value	-,351	6,097	,000	1,000	323
Std. Residual	-2,117	4,543	,000	,998	323

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Regression Standardized Residual

Appendix 3.12

Strandasýsla. Stranding Multivaritae Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,398(a)	,158	,153	8,64

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2011,480	1	2011,480	26,933	,000(a)
	Residual	10680,010	143	74,685		
	Total	12691,490	144			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,189	,852		11,958	,000
	COW_STR	2,057	,396	,398	5,190	,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_STR
1	Correlations	COW_STR	1,000
	Covariances	COW_STR	,157

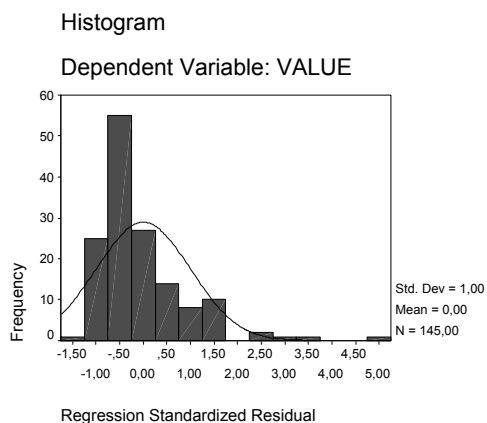
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,19	28,70	12,57	3,74	145
Residual	-12,47	43,64	-3,50E-15	8,61	145
Std. Predicted Value	-,638	4,316	,000	1,000	145
Std. Residual	-1,443	5,050	,000	,997	145

a Dependent Variable: VALUE

Charts



Appendix 3.13

Strandasýsla. Driftwood Multivariate Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,444(a)	,197	,191	8,44

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2501,650	1	2501,650	35,107	,000(a)
	Residual	10189,840	143	71,258		
	Total	12691,490	144			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,676	,855		11,322	,000
	COW_DRIF	2,222	,375	,444	5,925	,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_DRIF
1	Correlations	COW_DRIF	1,000
	Covariances	COW_DRIF	,141

a Dependent Variable: VALUE

Casewise Diagnostics(a)

Case Number	Std. Residual	VALUE
70	3,066	40
111	5,172	60
135	3,224	48

a Dependent Variable: VALUE

Residuals Statistics(a)

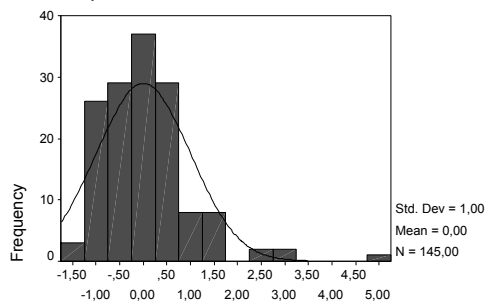
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9,68	29,67	12,57	4,17	145
Residual	-12,79	43,66	9,07E-16	8,41	145
Std. Predicted Value	-,695	4,103	,000	1,000	145
Std. Residual	-1,515	5,172	,000	,997	145

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.14

Ísafjarðar- Strandasýsla. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,420(a)	,177	,175	10,812

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11653,341	1	11653,341	99,682	,000(a)
	Residual	54361,168	465	116,906		
	Total	66014,510	466			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,039	,614		16,344	,000
	FISH_COW	2,188	,219	,420	9,984	,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			FISH_COW
1	Correlations	FISH_COW	1,000
	Covariances	FISH_COW	,048

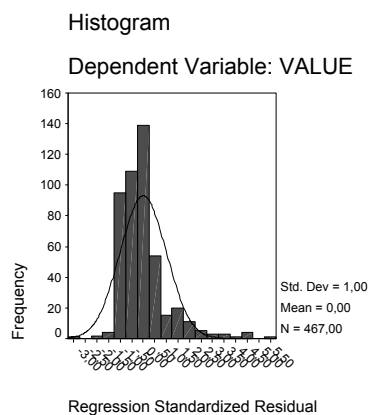
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,04	36,30	13,60	5,001	467
Residual	-31,92	57,96	,00	10,801	467
Std. Predicted Value	-,711	4,540	,000	1,000	467
Std. Residual	-2,952	5,361	,000	,999	467

a Dependent Variable: VALUE

Charts



Appendix 3.15

Ísafjarðarsýsla. Fishing Multivariate Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,420(a)	,176	,174	11,693

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9352,909	1	9352,909	68,410	,000(a)
	Residual	43750,085	320	136,719		
	Total	53102,994	321			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,290	,795		12,944	,000
	FISH_COW	2,197	,266	,420	8,271	,000

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			FISH_COW
1	Correlations	FISH_COW	1,000
	Covariances	FISH_COW	,071

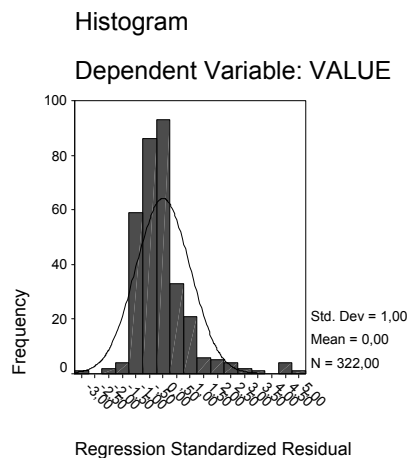
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,29	36,65	14,06	5,398	322
Residual	-32,26	57,71	,00	11,674	322
Std. Predicted Value	-,698	4,186	,000	1,000	322
Std. Residual	-2,759	4,936	,000	,998	322

a Dependent Variable: VALUE

Charts



Appendix 3.16

Strandasýsla. Fishing Multivariate Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,412(a)	,170	,164	8,583

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2157,321	1	2157,321	29,285	,000(a)
	Residual	10534,169	143	73,666		
	Total	12691,490	144			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,569	,903		10,593	,000
	FISH_COW	2,104	,389	,412	5,412	,000

a Dependent Variable: VALUE

Residuals Statistics(a)

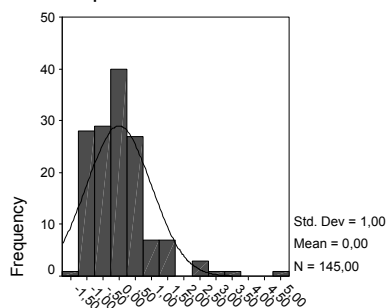
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9,57	28,50	12,57	3,871	145
Residual	-12,09	44,12	,00	8,553	145
Std. Predicted Value	-,776	4,116	,000	1,000	145
Std. Residual	-1,408	5,140	,000	,997	145

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Regression Standardized Residual

Appendix 3.17.

Rangarvallarsýsla. Factor Analysis

	Initial	Extraction
COWS	1,000	,924

Winter old cow	1,000	,972
HEIFERE	1,000	,964
CALFS	1,000	,998
Young bulls	1,000	,988
MILK_EWE	1,000	,977
WEATHER	1,000	,977
LAMB	1,000	,968
HORSES	1,000	,954
Work Horse	1,000	,944
PHILLY	1,000	,991
STALLION	1,000	,978

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,814	65,115	65,115	7,814	65,115	65,115
2	1,466	12,218	77,333	1,466	12,218	77,333
3	1,023	8,521	85,854	1,023	8,521	85,854
4	,565	4,706	90,561	,565	4,706	90,561
5	,303	2,522	93,083	,303	2,522	93,083
6	,267	2,229	95,312	,267	2,229	95,312
7	,197	1,646	96,958	,197	1,646	96,958
8	,143	1,190	98,148			
9	,114	,950	99,097			
10	,045	,379	99,476			
11	,037	,308	99,785			
12	,026	,215	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,891	,167	,196	-,098	,047	,227	,025
Winter old cow	,114	,860	,402	,228	-,045	,070	-,008
HEIFERE	,884	,236	-,086	,102	-,136	-,056	,294
CALFS	,684	-,394	-,279	,433	-,194	,249	-,097
Young bulls	,285	-,615	,699	-,003	,121	,111	,114
MILK_EWE	,958	-,012	,160	-,121	-,050	-,025	-,128
WEATHER	,906	-,118	,096	-,245	-,193	-,149	-,116
LAMB	,938	,196	,120	-,101	-,073	,012	-,141
HORSES	,948	-,136	-,081	-,085	-,060	-,105	,092
Work Horse	,935	-,083	-,166	,077	,059	-,093	,129
PHILLY	,831	-,011	,045	,376	,307	-,222	-,116
STALLION	,771	,180	-,403	-,256	,285	,204	,001

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.18

Rangárvallasýsla/Eyjafjallasveit. Domestic Animals Multivariate Regression.

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,813(a)	,660	,650	10,599
2	,837(b)	,701	,681	10,110

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, MILK_EWE

c Dependent Variable: VALUE

ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6991,163	1	6991,163	62,231	,000(a)
	Residual	3594,955	32	112,342		
	Total	10586,118	33			
2	Regression	7417,426	2	3708,713	36,283	,000(b)
	Residual	3168,692	31	102,216		
	Total	10586,118	33			

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, MILK_EWE

c Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,833	2,957		,282	,780		
	COWS	1,925	,244	,813	7,889	,000	1,000	1,000
2	(Constant)	2,057	2,884		,713	,481		
	COWS	1,035	,494	,437	2,095	,044	,222	4,505
	MILK_EWE	,159	,078	,426	2,042	,050	,222	4,505

a Dependent Variable: VALUE

Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Winter old cow	,065(a)	,603	,551	,108	,918	1,089	,918
	HEIFERE	,062(a)	,365	,718	,065	,384	2,607	,384
	CALFS	-,058(a)	-,487	,630	-,087	,769	1,301	,769
	Young bulls	,075(a)	,688	,497	,123	,915	1,093	,915
	MILK_EWE	,426(a)	2,042	,050	,344	,222	4,505	,222
	WEATHER	,140(a)	,862	,395	,153	,405	2,469	,405
	LAMB	,089(a)	,399	,693	,072	,220	4,551	,220
	HORSES	,154(a)	,898	,376	,159	,362	2,762	,362
	Work Horse	,135(a)	,859	,397	,152	,433	2,311	,433
	PHILLY	-,027(a)	-,190	,851	-,034	,528	1,893	,528
	STALLION	,113(a)	,795	,433	,141	,533	1,877	,533
2	Winter old cow	,129(b)	1,228	,229	,219	,855	1,170	,193
	HEIFERE	-,057(b)	-,330	,744	-,060	,338	2,957	,196
	CALFS	-,165(b)	-1,391	,174	-,246	,663	1,508	,192
	Young bulls	,025(b)	,237	,815	,043	,861	1,161	,209
	WEATHER	-,395(b)	-1,447	,158	-,255	,125	7,991	6,858E-02
	LAMB	-,531(b)	-1,728	,094	-,301	9,610E-02	10,406	9,610E-02
	HORSES	-,143(b)	-,631	,533	-,114	,190	5,254	,117
	Work Horse	-,060(b)	-,322	,750	-,059	,290	3,444	,149
	PHILLY	-,192(b)	-1,279	,211	-,227	,420	2,383	,176
	STALLION	,053(b)	,381	,706	,069	,506	1,977	,209

a Predictors in the Model: (Constant), COWS

b Predictors in the Model: (Constant), COWS, MILK_EWE

c Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS	MILK_EWE
1	Correlations	COWS	1,000	
	Covariances	COWS	5,955E-02	
2	Correlations	COWS	1,000	-,882
		MILK_EWE	-,882	1,000
	Covariances	COWS	,244	-3,389E-02
		MILK_EWE	-3,389E-02	6,048E-03

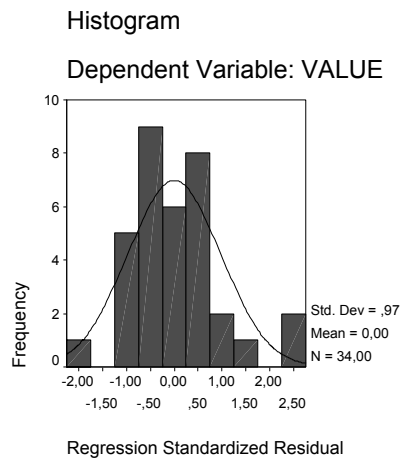
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2,06	62,01	19,24	14,992	34
Residual	-19,40	26,69	,00	9,799	34
Std. Predicted Value	-1,146	2,853	,000	1,000	34
Std. Residual	-1,919	2,640	,000	,969	34

a Dependent Variable: VALUE

Charts



Appendix 3.19

Píngeyjarsýsla. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,905
Winter old cow	1,000	,988
HEIFERE	1,000	,855
CALFS	1,000	,911
Young bulls	1,000	,976
MILK_EWE	1,000	,984
WEATHER	1,000	,925
LAMB	1,000	,951
HORSES	1,000	,951
Work Horse	1,000	,934
PHILLY	1,000	,980
STALLION	1,000	,929

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,779	39,826	39,826	4,779	39,826	39,826
2	2,110	17,583	57,409	2,110	17,583	57,409
3	1,391	11,595	69,004	1,391	11,595	69,004
4	1,115	9,294	78,299	1,115	9,294	78,299
5	,775	6,461	84,759	,775	6,461	84,759
6	,565	4,708	89,468	,565	4,708	89,468
7	,552	4,602	94,070	,552	4,602	94,070
8	,405	3,374	97,444			
9	,152	1,267	98,711			
10	,100	,835	99,545			
11	,041	,339	99,884			
12	,014	,116	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,919	,001	-,036	,039	,099	,051	-,211
Winter old cow	,255	,009	-,779	,164	,236	,463	,139
HEIFERE	,224	-,665	,316	-,476	,037	,104	,154
CALFS	,236	,427	,543	,488	,292	,109	-,208
Young bulls	,182	,644	,348	-,247	,369	,054	,455
MILK_EWE	,959	,002	-,069	-,185	-,039	-,036	-,152
WEATHER	,952	,048	,044	,052	-,108	-,029	-,006
LAMB	,908	,063	-,143	-,262	-,060	-,139	,103
HORSES	,583	,707	-,065	-,188	-,253	,031	-,084
Work Horse	,507	-,571	-,036	,056	,542	-,211	-,089
PHILLY	,531	-,179	-,068	,623	-,204	-,264	,402
STALLION	,449	-,455	,481	,168	-,266	,431	,062

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.20

Þingeyjarsýsla. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method

1			Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	Work Horse		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
	HEIFERE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(d)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,727(a)	,529	,510	7,617
2	,785(b)	,616	,583	7,025
3	,856(c)	,733	,698	5,979

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, Work Horse

c Predictors: (Constant), COWS, Work Horse, HEIFERE

d Dependent Variable: VALUE

ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1630,202	1	1630,202	28,098	,000(a)
	Residual	1450,465	25	58,019		
	Total	3080,667	26			
2	Regression	1896,224	2	948,112	19,211	,000(b)
	Residual	1184,442	24	49,352		
	Total	3080,667	26			
3	Regression	2258,503	3	752,834	21,061	,000(c)
	Residual	822,164	23	35,746		

Total	3080,667	26			

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, Work Horse

c Predictors: (Constant), COWS, Work Horse, HEIFERE

d Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,357	2,711		,500	,621
	COWS	4,945	,933	,727	5,301	,000
2	(Constant)	1,235	2,501		,494	,626
	COWS	3,765	,999	,554	3,769	,001
	Work Horse	2,797	1,205	,341	2,322	,029
3	(Constant)	1,973	2,141		,921	,366
	COWS	3,670	,851	,540	4,313	,000
	Work Horse	3,957	1,088	,483	3,636	,001
	HEIFERE	-6,749	2,120	-,368	-3,184	,004

a Dependent Variable: VALUE

Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Winter old cow	,018(a)	,126	,901	,026	,924
	HEIFERE	-,228(a)	-1,699	,102	-,328	,975
	CALFS	,102(a)	,706	,487	,143	,923
	Young bulls	-,112(a)	-,807	,427	-,163	,990
	MILK_EWE	-,252(a)	-,863	,397	-,173	,223
	WEATHER	-,032(a)	-,133	,895	-,027	,344
	LAMB	-,396(a)	-1,848	,077	-,353	,373
	HORSES	-,183(a)	-1,143	,264	-,227	,730
	Work Horse	,341(a)	2,322	,029	,428	,741
	PHILLY	-,018(a)	-,118	,907	-,024	,830
	STALLION	-,113(a)	-,756	,457	-,153	,855
	GOATS	,048(a)	,289	,775	,059	,717
	KIDS	,054(a)	,368	,716	,075	,922
2	Winter old cow	,011(b)	,079	,938	,016	,924
	HEIFERE	-,368(b)	-3,184	,004	-,553	,866
	CALFS	,171(b)	1,285	,212	,259	,885
	Young bulls	-,054(b)	-,407	,687	-,085	,948
	MILK_EWE	-,294(b)	-1,100	,283	-,224	,222
	WEATHER	-,047(b)	-,214	,833	-,045	,344
	LAMB	-,365(b)	-1,841	,079	-,358	,371
	HORSES	,082(b)	,407	,688	,085	,408
	PHILLY	-,054(b)	-,382	,706	-,079	,819
	STALLION	-,158(b)	-1,152	,261	-,233	,840
	GOATS	-,131(b)	-,779	,444	-,160	,578
	KIDS	-,009(b)	-,063	,950	-,013	,884
3	Winter old cow	-,077(c)	-,657	,518	-,139	,874
	CALFS	,101(c)	,858	,400	,180	,849

Young bulls	-.083(c)	-,743	,466	-,156	,942
MILK_EWE	-,127(c)	-,530	,601	-,112	,209
WEATHER	-,052(c)	-,280	,782	-,060	,344
LAMB	-,231(c)	-1,275	,215	-,262	,345
HORSES	-,079(c)	-,443	,662	-,094	,374
PHILLY	-,103(c)	-,854	,402	-,179	,807
STALLION	-,020(c)	-,157	,876	-,034	,722
GOATS	,131(c)	,791	,437	,166	,430
KIDS	,105(c)	,870	,394	,182	,811

a Predictors in the Model: (Constant), COWS

b Predictors in the Model: (Constant), COWS, Work Horse

c Predictors in the Model: (Constant), COWS, Work Horse, HEIFERE

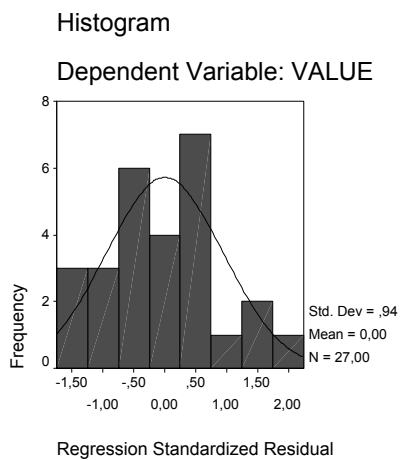
d Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1,97	36,44	13,44	9,320	27
Residual	-9,31	13,35	,00	5,623	27
Std. Predicted Value	-1,231	2,467	,000	1,000	27
Std. Residual	-1,558	2,232	,000	,941	27

a Dependent Variable: VALUE

Charts



Appendix 3.21

Arnfarðaströnd. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,879
Winter old cow	1,000	,882
HEIFERE	1,000	,877
CALFS	1,000	,962
Young bulls	1,000	,982

MILK_EWE	1,000	,958
WEATHER	1,000	,931
LAMB	1,000	,958
HORSES	1,000	,935
Work Horse	1,000	,906
PHILLY	1,000	,981
STALLION	1,000	,976

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,044	33,700	33,700	4,044	33,700	33,700
2	1,762	14,683	48,383	1,762	14,683	48,383
3	1,611	13,423	61,806	1,611	13,423	61,806
4	1,380	11,500	73,307	1,380	11,500	73,307
5	,958	7,982	81,289	,958	7,982	81,289
6	,869	7,245	88,534	,869	7,245	88,534
7	,602	5,018	93,552	,602	5,018	93,552
8	,378	3,153	96,705			
9	,160	1,330	98,035			
10	,143	1,190	99,225			
11	8,000E-02	,667	99,892			
12	1,298E-02	,108	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,869	,214	,209	,137	5,089E-02	-9,196E-02	6,255E-02
Winter old cow	,199	,550	-,609	7,572E-02	,249	-,203	-,246
HEIFERE	,255	,415	-,479	,624	-9,449E-02	-7,912E-02	-8,106E-02
CALFS	9,104E-02	,765	-4,170E-02	-,347	-,118	,320	,362
Young bulls	-,156	,320	,635	5,825E-02	,387	,293	-,461
MILK_EWE	,947	-,216	9,446E-02	7,332E-02	-1,459E-02	1,889E-02	1,322E-03
WEATHER	,915	-,122	,139	7,652E-02	-,215	-3,479E-02	-7,497E-02
LAMB	,941	-,247	9,101E-02	1,981E-02	-1,748E-02	2,687E-02	-2,413E-02
HORSES	,669	6,932E-02	-,271	-,302	,309	,470	3,859E-02
Work Horse	-8,464E-03	,567	,527	,226	-,505	8,580E-03	-2,868E-02
PHILLY	-,137	-3,181E-02	,259	,711	,469	5,969E-02	,406
STALLION	,255	,322	,328	-,428	,323	-,631	,119

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.22

Arnþjardarströnd. Domestic Animals Multivariate Regression.

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	HEIFERE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	LAMB		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	WEATHER		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(d)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,714(a)	,510	,489	8,62
2	,815(b)	,664	,634	7,30
3	,853(c)	,727	,688	6,73

a Predictors: (Constant), HEIFERE

b Predictors: (Constant), HEIFERE, LAMB

c Predictors: (Constant), HEIFERE, LAMB, WEATHER

d Dependent Variable: VALUE

ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1779,366	1	1779,366	23,961	,000(a)
	Residual	1707,994	23	74,261		
	Total	3487,360	24			
2	Regression	2316,118	2	1158,059	21,752	,000(b)
	Residual	1171,242	22	53,238		

3	Total	3487,360	24			
	Regression	2535,117	3	845,039	18,636	,000(c)
	Residual	952,243	21	45,345		
	Total	3487,360	24			

a Predictors: (Constant), HEIFERE

b Predictors: (Constant), HEIFERE, LAMB

c Predictors: (Constant), HEIFERE, LAMB, WEATHER

d Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9,207	1,903		4,838	,000		
	HEIFERE	16,470	3,365	,714	4,895	,000	1,000	1,000
2	(Constant)	2,535	2,648		,957	,349		
	HEIFERE	15,641	2,861	,678	5,468	,000	,992	1,008
	LAMB	,232	,073	,394	3,175	,004	,992	1,008
3	(Constant)	3,178	2,461		1,291	,211		
	HEIFERE	17,385	2,757	,754	6,306	,000	,910	1,099
	LAMB	,523	,149	,888	3,521	,002	,205	4,888
	WEATHER	-,309	,140	-,565	-2,198	,039	,197	5,078

a Dependent Variable: VALUE

Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	,218(a)	1,454	,160	,296	,905	1,104	,905
	Winter old cow	,172(a)	1,010	,323	,211	,737	1,357	,737
	CALFS	-,045(a)	-,299	,768	-,064	,986	1,014	,986
	Young bulls	,039(a)	,257	,799	,055	,974	1,027	,974
	MILK_EWE	,377(a)	2,974	,007	,535	,988	1,012	,988
	WEATHER	,241(a)	1,678	,108	,337	,954	1,048	,954
	LAMB	,394(a)	3,175	,004	,561	,992	1,008	,992
	HORSES	,261(a)	1,881	,073	,372	,994	1,006	,994
	Work Horse	,065(a)	,434	,669	,092	,989	1,011	,989
	PHILLY	,014(a)	,094	,926	,020	,978	1,023	,978
	STALLION	-,039(a)	-,257	,799	-,055	,970	1,031	,970
2	COWS	-,216(b)	-1,097	,285	-,233	,391	2,560	,391
	Winter old cow	,186(b)	1,314	,203	,276	,736	1,358	,731
	CALFS	,002(b)	,012	,991	,003	,973	1,028	,973
	Young bulls	,098(b)	,770	,450	,166	,953	1,049	,953
	MILK_EWE	-,262(b)	-,405	,690	-,088	3,791E-02	26,377	3,791E-02
	WEATHER	-,565(b)	-2,198	,039	-,432	,197	5,078	,197
	HORSES	,053(b)	,341	,736	,074	,666	1,501	,665
	Work Horse	,096(b)	,761	,455	,164	,984	1,017	,980

3	PHILLY	,057(b)	,442	,663	,096	,967	1,034	,967
	STALLION	-,112(b)	-,871	,394	-,187	,941	1,063	,941
	COWS	-,102(c)	-,523	,606	-,116	,354	2,828	,178
	Winter old cow	,121(c)	,875	,392	,192	,691	1,448	,185
	CALFS	,025(c)	,211	,835	,047	,964	1,037	,195
	Young bulls	,114(c)	,973	,342	,213	,950	1,053	,196
	MILK_EWE	,058(c)	,094	,926	,021	3,562E-02	28,077	3,562E-02
	HORSES	-,005(c)	-,033	,974	-,007	,643	1,555	,165
	Work Horse	,193(c)	1,661	,112	,348	,888	1,126	,178
	PHILLY	-,004(c)	-,031	,975	-,007	,913	1,095	,186
	STALLION	-,084(c)	-,701	,491	-,155	,929	1,076	,194

a Predictors in the Model: (Constant), HEIFERE

b Predictors in the Model: (Constant), HEIFERE, LAMB

c Predictors in the Model: (Constant), HEIFERE, LAMB, WEATHER

d Dependent Variable: VALUE

Coefficient Correlations(a)

Model			HEIFERE	LAMB	WEATHER
1	Correlations	HEIFERE	1,000		
	Covariances	HEIFERE	11,320		
2	Correlations	HEIFERE	1,000	-,091	
		LAMB	-,091	1,000	
3	Covariances	HEIFERE	8,184	-,019	
		LAMB	-,019	,005	
	Correlations	HEIFERE	1,000	,217	-,288
		LAMB	,217	1,000	-,891
		WEATHER	-,288	-,891	1,000
	Covariances	HEIFERE	7,599	,089	-,111
		LAMB	,089	,022	-1,859E-02
		WEATHER	-,111	-,019	1,974E-02

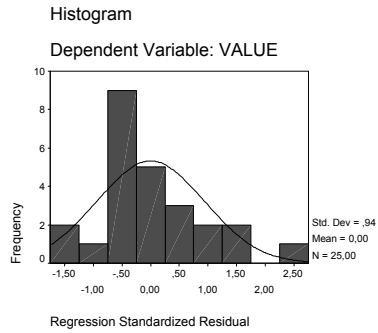
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2,98	41,29	13,16	10,28	25
Residual	-9,89	16,90	3,55E-17	6,30	25
Std. Predicted Value	-,990	2,737	,000	1,000	25
Std. Residual	-1,468	2,510	,000	,935	25

a Dependent Variable: VALUE

Charts



Appendix 3.23

Arnfarðarströnd fishing. Multivariate Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,436(a)	,190	,155	11,079

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	664,180	1	664,180	5,411	,029(a)
	Residual	2823,180	23	122,747		
	Total	3487,360	24			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,584	3,939		1,417	,170
	FISH_COW	2,428	1,044	,436	2,326	,029

a Dependent Variable: VALUE

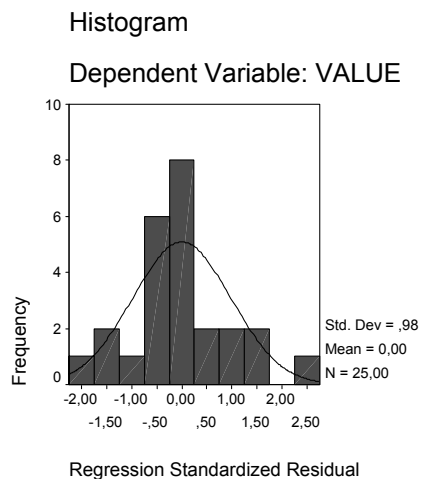
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5,58	22,58	13,16	5,261	25

Residual	-20,15	27,85	,00	10,846	25
Std. Predicted Value	-1,440	1,791	,000	1,000	25
Std. Residual	-1,819	2,513	,000	,979	25

a. Dependent Variable: VALUE

Charts



Appendix 3.24

Dýrafjörður. Factor Analysis

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
COWS	3,33	2,70	27
Winter old cow	,22	,42	27
HEIFERE	,26	,45	27
CALFS	,48	,70	27
Young bulls	,19	,48	27
MILK_EWE	23,78	17,65	27
WEATHER	25,19	21,98	27
LAMB	20,93	14,70	27
HORSES	1,15	1,32	27
Work Horse	1,04	1,02	27
PHILLY	,11	,32	27
STALLION	,19	,40	27

Communalities

	Initial	Extraction
COWS	1,000	,963
Winter old cow	1,000	,994

HEIFERE	1,000	,925
CALFS	1,000	,938
Young bulls	1,000	,940
MILK_EWE	1,000	,967
WEATHER	1,000	,971
LAMB	1,000	,978
HORSES	1,000	,954
Work Horse	1,000	,987
PHILLY	1,000	,946
STALLION	1,000	,913

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,143	51,189	51,189	6,143	51,189	51,189
2	1,670	13,919	65,108	1,670	13,919	65,108
3	1,285	10,705	75,812	1,285	10,705	75,812
4	,778	6,486	82,298	,778	6,486	82,298
5	,710	5,915	88,214	,710	5,915	88,214
6	,540	4,503	92,717	,540	4,503	92,717
7	,349	2,909	95,626	,349	2,909	95,626
8	,227	1,889	97,515			
9	,174	1,449	98,963			
10	8,231E-02	,686	99,649			
11	3,360E-02	,280	99,929			
12	8,495E-03	7,079E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,940	9,455E-02	1,191E-04	-,249	3,045E-02	-7,787E-02	4,026E-02
Winter old cow	,651	-1,876E-02	,150	,220	-,536	-,459	-3,310E-02
HEIFERE	,788	-9,029E-02	-,202	,448	4,899E-02	,126	-,190
CALFS	,673	-,460	-,228	,176	-,199	,363	-,139
Young bulls	,173	-,572	,689	,192	,248	-9,175E-02	-3,638E-02
MILK_EWE	,946	5,977E-02	1,022E-02	-,210	,156	2,352E-02	-2,513E-03
WEATHER	,875	,190	6,702E-02	-,220	,165	-,164	-,250
LAMB	,957	5,365E-02	-1,249E-02	-,170	,172	2,648E-02	-2,883E-02
HORSES	,618	-,565	,294	-,174	-,134	,136	,315
Work Horse	,637	9,090E-02	-,458	,367	,292	-,179	,333
PHILLY	,111	,636	,612	,335	,136	,154	3,188E-02
STALLION	,599	,583	,138	-3,865E-02	-,338	,255	,121

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.25

Dýraffjörður. Domestic Animals Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	STALLION, HORSES, Work Horse, PHILLY, Winter old cow, Young bulls, WEATHER, CALFS, HEIFERE, MILK_EWE, COWS, LAMB(a)		Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,914(a)	,836	,696	10,18

a Predictors: (Constant), STALLION, HORSES, Work Horse, PHILLY, Winter old cow, Young bulls, WEATHER, CALFS, HEIFERE, MILK_EWE, COWS, LAMB

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7413,379	12	617,782	5,957	,001(a)
	Residual	1451,806	14	103,700		
	Total	8865,185	26			

a Predictors: (Constant), STALLION, HORSES, Work Horse, PHILLY, Winter old cow, Young bulls, WEATHER, CALFS, HEIFERE, MILK_EWE, COWS, LAMB

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2,213	4,518		-,490	,632		
	COWS	1,328	3,301	,194	,402	,694	,050	19,971
	Winter old cow	-9,145	6,756	-,210	-1,354	,197	,487	2,054

HEIFERE	7,016	10,717	,170	,655	,523	,174	5,743
CALFS	-3,351	5,178	-,127	-,647	,528	,304	3,294
Young bulls	-13,715	6,017	-,359	-2,279	,039	,472	2,121
MILK_EWE	,223	,815	,213	,274	,788	,019	51,912
WEATHER	,203	,318	,241	,637	,534	,082	12,218
LAMB	,137	1,134	,109	,121	,906	,014	69,724
HORSES	2,337	3,145	,167	,743	,470	,231	4,331
Work Horse	3,061	3,275	,169	,934	,366	,359	2,789
PHILLY	2,262	8,522	,039	,265	,795	,535	1,868
STALLION	,177	8,318	,004	,021	,983	,368	2,719

a Dependent Variable: VALUE

Coefficient Correlations(a)

	STALLION	HORSES	Work Horse	PHILLY	Winter old cow	Young bulls	WEATHER	CALFS	HEIFERE	MILK_EWE	COWS	LAMB
STALLION	1,000	,147	,247	-,497	-,241	,302	,232	-,046	-,053	-,046	-,235	-,051
HORSES	,147	1,000	,389	,123	-,138	-,541	,578	-,139	-,074	-,052	-,496	-,072
Work Horse	,247	,389	1,000	,053	-,033	-,027	,442	,177	-,478	-,138	-,417	,039
PHILLY	-,497	,123	,053	1,000	,089	-,354	-,026	,362	-,218	-,129	-,009	,139
Winter old cow	-,241	-,138	-,033	,089	1,000	-,140	-,137	,064	-,300	-,127	-,241	,300
Young bulls	,302	-,541	-,027	-,354	-,140	1,000	-,279	-,061	,075	,032	,336	-,058
WEATHER	,232	,578	,442	-,026	-,137	-,279	1,000	,193	-,236	-,060	-,621	-,129
CALFS	-,046	-,139	,177	,362	,064	-,061	,193	1,000	-,599	-,259	-,186	,233
HEIFERE	-,053	-,074	-,478	-,218	-,300	,075	-,236	-,599	1,000	,452	,416	-,534
MILK_EWE	-,046	-,052	-,138	-,129	-,127	,032	-,060	-,259	,452	1,000	,076	-,886
COWS	-,235	-,496	-,417	-,009	-,241	,336	-,621	-,186	,416	,076	1,000	-,237
LAMB	-,051	-,072	,039	,139	,300	-,058	-,129	,233	-,534	-,886	-,237	1,000
STALLION	69,197	3,834	6,723	-35,206	-13,523	15,137	,612	-1,980	4,690	-,313	6,467	-,478
HORSES	3,834	9,891	4,007	3,286	-2,943	-10,230	,578	-2,267	2,479	-,132	5,147	-,257
Work Horse	6,723	4,007	10,727	1,470	-,735	-,531	,459	3,000	16,793	-,369	4,504	,145
PHILLY	-35,206	3,286	1,470	72,627	5,132	-18,142	6,959E-02	15,958	19,919	-,893	-,249	1,339
Winter old cow	-13,523	-2,943	-,735	5,132	45,644	-5,686	-,293	2,240	21,749	-,699	5,366	2,299
Young bulls	15,137	-10,230	-,531	-18,142	-5,686	36,208	-,534	-1,915	4,839	,158	6,675	-,399
WEATHER	,612	,578	,459	-6,959E-02	-,293	-,534	,101	,318	-,802	1,543E-02	-,652	4,656E-02
CALFS	-1,980	-2,267	3,000	15,958	2,240	-1,915	,318	26,808	33,227	1,095	3,173	1,370
HEIFERE	-4,690	-2,479	-16,793	-19,919	-21,749	4,839	-,802	-33,227	114,852	3,953	14,732	-6,493
MILK_EWE	-,313	-,132	-,369	-,893	-,699	,158	1,543E-02	-1,095	3,953	,665	,205	-,820
COWS	-6,467	-5,147	-4,504	-,249	-5,366	6,675	-,652	-3,173	14,732	,205	10,900	-,886
LAMB	-,478	-,257	,145	1,339	2,299	-,399	4,656E-02	1,370	6,493	-,820	-,886	1,286

a Dependent Variable: VALUE

Residuals Statistics(a)

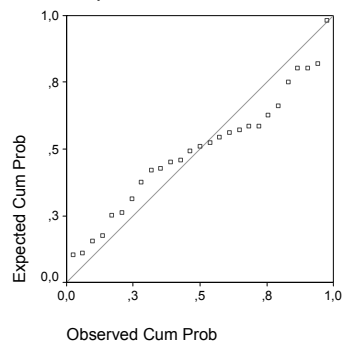
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3,33	61,86	17,26	16,89	27
Residual	-12,79	21,67	2,76E-15	7,47	27
Std. Predicted Value	-1,219	2,641	,000	1,000	27
Std. Residual	-1,256	2,128	,000	,734	27

a Dependent Variable: VALUE

Charts

Normal P-P Plot of Regression Stand

Dependent Variable: VALUE



Appendix 3.26

Dýrafjörður Stranding. Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,473(a)	,224	,193	16,59

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1983,056	1	1983,056	7,204	,013(a)
	Residual	6882,129	25	275,285		
	Total	8865,185	26			

a Predictors: (Constant), COW_STR
b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,202	3,390		4,189	,000
	COW_STR	3,302	1,230	,473	2,684	,013

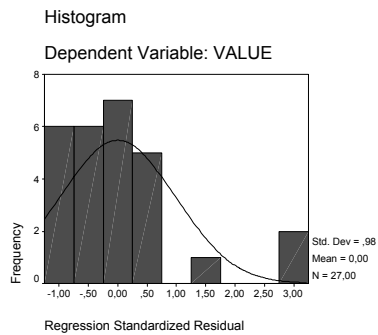
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14,20	53,83	17,26	8,73	27
Residual	-14,20	45,80	1,18E-15	16,27	27
Std. Predicted Value	-,350	4,187	,000	1,000	27
Std. Residual	-,856	2,760	,000	,981	27

a Dependent Variable: VALUE

Charts



Appendix 3.27

Dýrafförður. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,709(a)	,502	,482	13,288

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4450,883	1	4450,883	25,207	,000(a)
	Residual	4414,303	25	176,572		
	Total	8865,185	26			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,065	2,931		3,434	,002
	FISH_COW	4,223	,841	,709	5,021	,000

a Dependent Variable: VALUE

Casewise Diagnostics(a)

Case Number	Std. Residual	VALUE
21	3,758	60

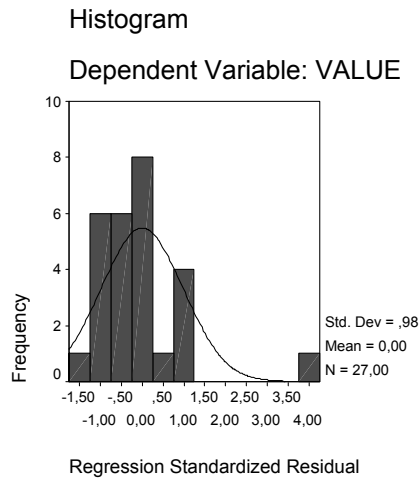
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,07	60,74	17,26	13,084	27
Residual	-18,51	49,93	,00	13,030	27
Std. Predicted Value	-,550	3,323	,000	1,000	27
Std. Residual	-1,393	3,758	,000	,981	27

a Dependent Variable: VALUE

Charts



Appendix 3.28

Mýrþingsókn. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,887
Winter old cow	1,000	,999
HEIFERE	1,000	,998
CALFS	1,000	,997
Young bulls	1,000	,989
MILK_EWE	1,000	,954
WEATHER	1,000	,932
LAMB	1,000	,961
HORSES	1,000	,857
Work Horse	1,000	,956
PHILLY	1,000	,999

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,196	47,234	47,234	5,196	47,234	47,234
2	1,479	13,446	60,681	1,479	13,446	60,681
3	1,071	9,740	70,421	1,071	9,740	70,421
4	,953	8,663	79,083	,953	8,663	79,083
5	,831	7,554	86,638	,831	7,554	86,638
6	,642	5,835	92,472	,642	5,835	92,472
7	,360	3,273	95,746	,360	3,273	95,746
8	,252	2,294	98,040			
9	,131	1,189	99,229			

10	6,769E-02	,615	99,844		
11	1,715E-02	,156	100,000		

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,921	-8,662E-02	2,817E-02	6,721E-02	-,150	-5,931E-02	-1,856E-02
Winter old cow	2,604E-02	-,472	,609	,520	7,288E-03	,360	-6,781E-02
HEIFERE	,325	,384	,505	-,508	,363	,260	,178
CALFS	,700	,135	-,164	4,440E-02	,524	3,585E-02	-,430
Young bulls	,573	-7,534E-02	-,577	6,543E-02	1,003E-02	,533	,183
MILK_EWE	,937	5,388E-02	,160	-2,794E-02	-,156	-,150	-2,905E-02
WEATHER	,925	-,215	-9,194E-02	4,447E-02	-4,363E-03	-9,430E-02	,106
LAMB	,913	-3,055E-02	,217	-,108	-,222	-,137	3,359E-02
HORSES	,795	-,379	-4,949E-02	-5,709E-03	,220	-,126	,124
Work Horse	,457	,673	2,986E-02	5,807E-02	-,459	,235	-,159
PHILLY	,132	,656	2,067E-02	,629	,265	-,186	,227

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.29

Mýraþingsókn Domestic animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,816(a)	,667	,658	11,03

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9251,832	1	9251,832	75,989	,000(a)
	Residual	4626,568	38	121,752		
	Total	13878,400	39			

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-5,684E-02	2,915		-,019	,985		
	COWS	5,616	,644	,816	8,717	,000	1,000	1,000

a Dependent Variable: VALUE

Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Winter old cow	-,002(a)	-,026	,979	-,004	,992	1,008	,992
	HEIFERE	,097(a)	1,023	,313	,166	,966	1,035	,966
	CALFS	,020(a)	,174	,863	,029	,699	1,431	,699
	Young bulls	,004(a)	,038	,970	,006	,774	1,292	,774
	MILK_EWE	,141(a)	,764	,449	,125	,259	3,861	,259
	WEATHER	,230(a)	1,343	,187	,216	,292	3,421	,292
	LAMB	,227(a)	1,332	,191	,214	,295	3,385	,295
	HORSES	,241(a)	1,768	,085	,279	,447	2,238	,447
	Work Horse	,140(a)	1,374	,178	,220	,822	1,217	,822
	PHILLY	,149(a)	1,625	,113	,258	,994	1,006	,994
	STALLION	-,130(a)	-1,369	,179	-,220	,954	1,048	,954

a Predictors in the Model: (Constant), COWS

b Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS
1	Correlations	COWS	1,000
	Covariances	COWS	,415

a Dependent Variable: VALUE

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	COWS

1	1	1,801	1,000	,10	,10
	2	,199	3,009	,90	,90

a Dependent Variable: VALUE

Residuals Statistics(a)

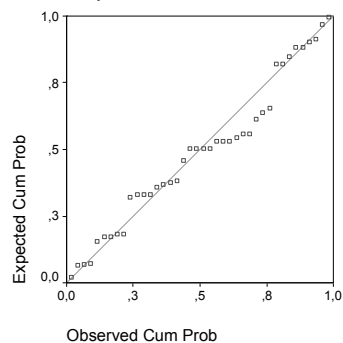
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-5,68E-02	61,72	20,30	15,40	40
Residual	-22,41	31,98	-3,55E-16	10,89	40
Std. Predicted Value	-1,322	2,689	,000	1,000	40
Std. Residual	-2,031	2,898	,000	,987	40

a Dependent Variable: VALUE

Charts

Normal P-P Plot of Regression Stand

Dependent Variable: VALUE



Appendix 3.30

Mýrþingsókn. Stranding Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,328(a)	,108	,084	18,05

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1494,931	1	1494,931	4,587	,039(a)
	Residual	12383,469	38	325,881		
	Total	13878,400	39			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18,178	3,021		6,017	,000
	COW_STR	3,690	1,723	,328	2,142	,039

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_STR
1	Correlations	COW_STR	1,000
	Covariances	COW_STR	2,969

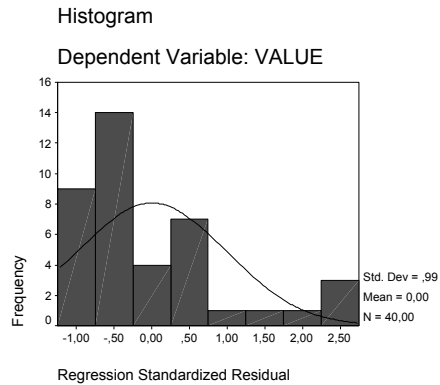
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	18,18	47,70	20,30	6,19	40
Residual	-19,56	41,82	-6,22E-16	17,82	40
Std. Predicted Value	-,343	4,426	,000	1,000	40
Std. Residual	-1,083	2,317	,000	,987	40

a Dependent Variable: VALUE

Charts



Appendix 3.31

Mýrþingsókn Fishing. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,443(a)	,196	,175	17,131

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2726,426	1	2726,426	9,290	,004(a)
	Residual	11151,974	38	293,473		
	Total	13878,400	39			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16,354	3,002		5,448	,000
	FISH_COW	3,358	1,102	,443	3,048	,004

a Dependent Variable: VALUE

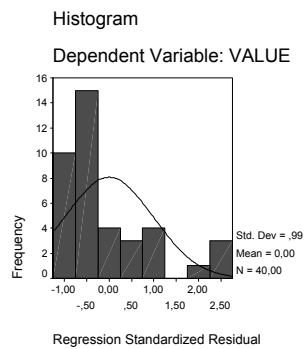
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N

Predicted Value	16,35	53,29	20,30	8,361	40
Residual	-17,07	43,65	,00	16,910	40
Std. Predicted Value	-,472	3,946	,000	1,000	40
Std. Residual	-,996	2,548	,000	,987	40

a. Dependent Variable: VALUE

Charts



Appendix 3.32

Önundarfjörður. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,963
Winter old cow	1,000	,962
HEIFERE	1,000	,988
CALFS	1,000	,833
Young bulls	1,000	,957
MILK_EWE	1,000	,965
WEATHER	1,000	,934
LAMB	1,000	,940
HORSES	1,000	,945
Work Horse	1,000	,938
PHILLY	1,000	,994
STALLION	1,000	,972

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,138	51,151	51,151	6,138	51,151	51,151
2	1,716	14,303	65,454	1,716	14,303	65,454
3	1,269	10,577	76,031	1,269	10,577	76,031

4	,872	7,263	83,294	,872	7,263	83,294
5	,566	4,715	88,009	,566	4,715	88,009
6	,448	3,734	91,743	,448	3,734	91,743
7	,381	3,178	94,921	,381	3,178	94,921
8	,333	2,777	97,698			
9	,162	1,351	99,048			
10	,063	,524	99,572			
11	,039	,323	99,895			
12	,013	,105	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,933	-,148	,003	-,207	,069	-,104	-,114
Winter old cow	,488	,716	-,010	,237	-,128	-,084	,363
HEIFERE	,571	-,143	-,606	-,042	,274	,439	,069
CALFS	,795	,199	-,234	,196	,052	-,174	-,185
Young bulls	,665	-,241	,132	,460	-,380	,286	,040
MILK_EWE	,964	-,071	,111	-,103	-,047	,006	-,070
WEATHER	,913	-,081	,187	-,046	-,134	-,039	-,192
LAMB	,959	-,058	,101	-,052	-,058	-,022	-,003
HORSES	,791	-,134	-,382	,035	,178	-,275	,216
Work Horse	,495	,347	,390	-,602	-,011	,174	,166
PHILLY	,240	-,431	,671	,300	,436	,005	,144
STALLION	,127	,852	,155	,228	,278	,132	-,244

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.33

Önundarfjörður Domestic Animals. Multivariate Regression.

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

2			Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	PHILLY		
	Work Horse		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(d)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,561(a)	,315	,297	10,657
2	,644(b)	,415	,383	9,986
3	,694(c)	,482	,439	9,525

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, PHILLY

c Predictors: (Constant), MILK_EWE, PHILLY, Work Horse

d Dependent Variable: VALUE

ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1986,464	1	1986,464	17,490	,000(a)
	Residual	4315,936	38	113,577		
	Total	6302,400	39			
2	Regression	2613,066	2	1306,533	13,103	,000(b)
	Residual	3689,334	37	99,712		
	Total	6302,400	39			
3	Regression	3036,487	3	1012,162	11,157	,000(c)
	Residual	3265,913	36	90,720		
	Total	6302,400	39			

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, PHILLY

c Predictors: (Constant), MILK_EWE, PHILLY, Work Horse

d Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		

1	(Constant)	4,802	3,123		1,537	,133
	MILK_EWE	,383	,092	,561	4,182	,000
2	(Constant)	4,208	2,936		1,433	,160
	MILK_EWE	,322	,089	,472	3,611	,001
	PHILLY	6,695	2,671	,328	2,507	,017
3	(Constant)	3,641	2,813		1,294	,204
	MILK_EWE	,212	,099	,311	2,143	,039
	PHILLY	7,118	2,555	,348	2,786	,008
	Work Horse	4,760	2,203	,303	2,160	,037

a Dependent Variable: VALUE

Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	COWS	-,243(a)	-,684	,498	-,112	,145
	Winter old cow	,029(a)	,195	,846	,032	,845
	CALFS	-,273(a)	-1,530	,135	-,244	,548
	Young bulls	,240(a)	1,430	,161	,229	,623
	WEATHER	,112(a)	,260	,797	,043	9,855E-02
	HORSES	-,225(a)	-1,225	,228	-,197	,525
	Work Horse	,273(a)	1,796	,081	,283	,737
	PHILLY	,328(a)	2,507	,017	,381	,926
	STALLION	,069(a)	,509	,614	,083	,996
2	COWS	-,216(b)	-,647	,522	-,107	,145
	Winter old cow	,128(b)	,899	,375	,148	,787
	CALFS	-,188(b)	-1,080	,287	-,177	,521
	Young bulls	,163(b)	1,000	,324	,164	,595
	WEATHER	,039(b)	,095	,925	,016	9,801E-02
	HORSES	-,170(b)	-,972	,338	-,160	,516
	Work Horse	,303(b)	2,160	,037	,339	,733
	STALLION	,106(b)	,834	,410	,138	,983
3	COWS	-,263(c)	-,828	,413	-,139	,144
	Winter old cow	,078(c)	,562	,578	,095	,762
	CALFS	-,145(c)	-,863	,394	-,144	,513
	Young bulls	,274(c)	1,746	,090	,283	,551
	WEATHER	,173(c)	,441	,662	,074	9,558E-02
	HORSES	-,071(c)	-,401	,691	-,068	,472
	STALLION	,044(c)	,349	,729	,059	,923

a Predictors in the Model: (Constant), MILK_EWE

b Predictors in the Model: (Constant), MILK_EWE, PHILLY

c Predictors in the Model: (Constant), MILK_EWE, PHILLY, Work Horse

d Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE	PHILLY	Work Horse
1	Correlations	MILK_EWE	1,000		
	Covariances	MILK_EWE	8,397E-03		
2	Correlations	MILK_EWE	1,000	-,273	

3	Covariances	PHILLY	-,273	1,000	
		MILK_EWE	7,963E-03	-,065	
		PHILLY	-6,497E-02	7,134	
	Correlations	MILK_EWE	1,000	-,273	-,513
		PHILLY	-,273	1,000	,077
		Work Horse	-,513	,077	1,000
	Covariances	MILK_EWE	9,827E-03	-,069	-,112
		PHILLY	-6,906E-02	6,529	,431
		Work Horse	-,112	,431	4,853

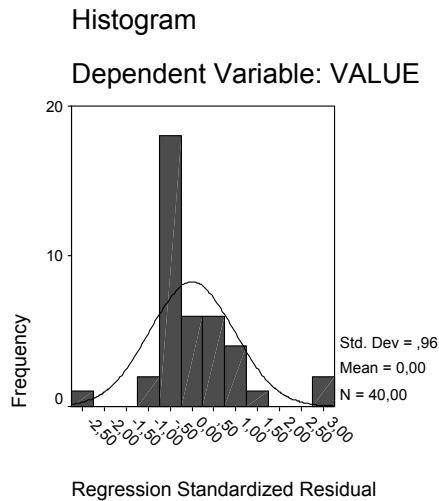
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,64	41,63	15,80	8,824	40
Residual	-25,40	26,55	,00	9,151	40
Std. Predicted Value	-1,378	2,928	,000	1,000	40
Std. Residual	-2,667	2,788	,000	,961	40

a Dependent Variable: VALUE

Charts



Appendix 3.34

Önundarfjörður fishing. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,318(a)	,101	,077	12,212

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	635,546	1	635,546	4,262	,046(a)
	Residual	5666,854	38	149,128		
	Total	6302,400	39			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,221	2,077		6,847	,000
	FISH_COW	2,178	1,055	,318	2,064	,046

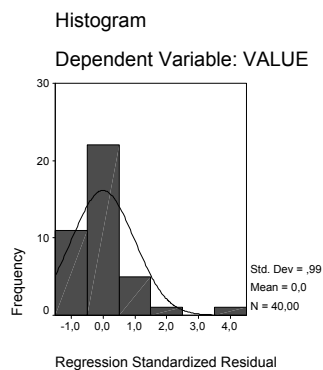
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14,22	31,65	15,80	4,037	40
Residual	-14,22	53,78	,00	12,054	40
Std. Predicted Value	-,391	3,925	,000	1,000	40
Std. Residual	-1,165	4,404	,000	,987	40

a Dependent Variable: VALUE

Charts



Appendix 3.35

Súgandafförður. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,956
Winter old cow	1,000	1,000
HEIFERE	1,000	1,000
CALFS	1,000	,999
Young bulls	1,000	1,000
MILK_EWE	1,000	,995
WEATHER	1,000	,995
LAMB	1,000	,995
HORSES	1,000	,998

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,568	61,869	61,869	5,568	61,869	61,869
2	1,108	12,306	74,175	1,108	12,306	74,175
3	1,076	11,956	86,131	1,076	11,956	86,131
4	,755	8,389	94,520	,755	8,389	94,520
5	,196	2,176	96,696	,196	2,176	96,696
6	,153	1,704	98,400	,153	1,704	98,400
7	,082	,912	99,312	,082	,912	99,312
8	,058	,640	99,953			
9	,004	4,721E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,963	-,025	,061	-,133	-,071	-,041	-,023
Winter old cow	-,207	-,317	,909	,145	,032	,027	,087
HEIFERE	,355	,851	,159	,317	,046	,146	,026
CALFS	,699	-,161	-,010	,668	-,087	-,153	-,087
Young bulls	,852	-,250	-,247	,130	,357	,020	,070
MILK_EWE	,947	,125	-,028	-,146	-,094	-,139	,182
WEATHER	,832	,118	,372	-,322	,131	-,042	-,166
LAMB	,969	,104	,098	-,161	-,097	,001	,008
HORSES	,855	-,392	-,103	,035	-,130	,291	-,012

Extraction Method: Principal Component Analysis.
a. 7 components extracted.

Appendix 3.36

Súgandaffjörður Milk Ewes Multivariate Regression.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,874(a)	,764	,744	4,212

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	688,074	1	688,074	38,791	,000(a)
	Residual	212,855	12	17,738		
	Total	900,929	13			

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-9,892E-02	2,098		-,047	,963
	MILK_EWE	,416	,067	,874	6,228	,000

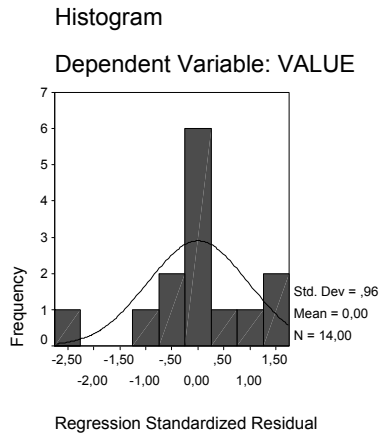
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,10	26,95	10,93	7,275	14
Residual	-9,89	6,21	,00	4,046	14
Std. Predicted Value	-1,516	2,202	,000	1,000	14
Std. Residual	-2,348	1,473	,000	,961	14

a Dependent Variable: VALUE

Charts



Appendix 3.37

Súgandafjörður. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,619(a)	,384	,332	6,802

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	345,733	1	345,733	7,473	,018(a)
	Residual	555,195	12	46,266		
	Total	900,929	13			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,674	2,393		2,789	,016
	FISH_COW	1,985	,726	,619	2,734	,018

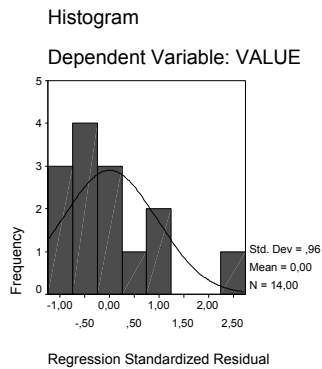
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,67	20,57	10,93	5,157	14
Residual	-6,67	17,33	,00	6,535	14
Std. Predicted Value	-,825	1,870	,000	1,000	14
Std. Residual	-,981	2,547	,000	,961	14

a. Dependent Variable: VALUE

Charts



Appendix 3.38

Bolungarvík. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,961
Winter old cow	1,000	,990
HEIFERE	1,000	,998
CALFS	1,000	,986
Young bulls	1,000	,997
MILK_EWE	1,000	,966
WEATHER	1,000	,894
LAMB	1,000	,985
HORSES	1,000	,888
Work Horse	1,000	,982
PHILLY	1,000	,985
STALLION	1,000	,979

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,286	44,046	44,046	5,286	44,046	44,046
2	2,037	16,974	61,020	2,037	16,974	61,020

3	1,372	11,433	72,453	1,372	11,433	72,453
4	1,143	9,523	81,976	1,143	9,523	81,976
5	,900	7,497	89,473	,900	7,497	89,473
6	,566	4,715	94,189	,566	4,715	94,189
7	,308	2,570	96,759	,308	2,570	96,759
8	,192	1,600	98,359			
9	,111	,928	99,287			
10	4,896E-02	,408	99,695			
11	2,685E-02	,224	99,919			
12	9,776E-03	8,147E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,944	-3,579E-02	-1,045E-02	5,738E-02	-6,062E-02	-,139	-,205
Winter old cow	-2,536E-02	,426	,664	,496	-,180	,288	-7,159E-02
HEIFERE	,489	-,166	-8,134E-02	1,110E-02	,757	,386	5,155E-02
CALFS	,519	-,301	-,426	,228	-,460	,377	,195
Young bulls	,301	,282	-,131	,787	,237	-,328	,164
MILK_EWE	,948	8,370E-02	1,300E-02	-9,369E-02	1,816E-02	-6,270E-02	-,214
WEATHER	,942	-8,831E-03	2,315E-03	-6,136E-02	-2,584E-02	-1,038E-02	4,984E-02
LAMB	,972	-3,371E-02	8,787E-02	5,433E-02	-4,056E-02	6,915E-02	-,148
HORSES	,840	-,339	4,169E-03	-4,703E-02	-,124	-,150	,168
Work Horse	,221	,934	-6,975E-02	-,165	-6,224E-02	,155	2,689E-02
PHILLY	,289	,813	-,396	-,261	9,873E-03	-5,548E-02	,109
STALLION	,474	3,501E-03	,745	-,330	2,562E-02	-8,006E-02	,288

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.39

Bolungarvík. Domestic animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	Young bulls		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

2			Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
4	HEIFERE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
	CALFS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(e)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,759(a)	,577	,557	8,56
2	,861(b)	,742	,717	6,84
3	,893(c)	,798	,767	6,21
4	,919(d)	,844	,811	5,60

a Predictors: (Constant), Young bulls

b Predictors: (Constant), Young bulls, COWS

c Predictors: (Constant), Young bulls, COWS, HEIFERE

d Predictors: (Constant), Young bulls, COWS, HEIFERE, CALFS

e Dependent Variable: VALUE

ANOVA(e)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2194,716	1	2194,716	29,969	,000(a)
	Residual	1611,117	22	73,233		
	Total	3805,833	23			
2	Regression	2823,772	2	1411,886	30,191	,000(b)
	Residual	982,062	21	46,765		
	Total	3805,833	23			
3	Regression	3035,655	3	1011,885	26,277	,000(c)

4	Residual	770,178	20	38,509		
	Total	3805,833	23			
	Regression	3210,876	4	802,719	25,635	,000(d)
	Residual	594,958	19	31,314		
	Total	3805,833	23			

a Predictors: (Constant), Young bulls

b Predictors: (Constant), Young bulls, COWS

c Predictors: (Constant), Young bulls, COWS, HEIFERE

d Predictors: (Constant), Young bulls, COWS, HEIFERE, CALFS

e Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7,694	1,816		4,236	,000		
	Young bulls	21,784	3,979	,759	5,474	,000	1,000	1,000
2	(Constant)	,478	2,445		,196	,847		
	Young bulls	17,828	3,358	,621	5,309	,000	,897	1,115
	COWS	2,762	,753	,429	3,668	,001	,897	1,115
3	(Constant)	7,481E-02	2,225		,034	,974		
	Young bulls	18,340	3,055	,639	6,003	,000	,892	1,121
	COWS	3,316	,723	,515	4,586	,000	,801	1,248
	HEIFERE	-9,663	4,119	-,254	-2,346	,029	,864	1,157
4	(Constant)	,159	2,007		,079	,938		
	Young bulls	18,634	2,758	,650	6,758	,000	,890	1,123
	COWS	2,550	,728	,396	3,502	,002	,642	1,557
	HEIFERE	-9,457	3,716	-,248	-2,545	,020	,864	1,157
	CALFS	4,784	2,022	,243	2,366	,029	,779	1,284

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			Young bulls	COWS	HEIFERE	CALFS
1	Correlations	Young bulls	1,000			
	Covariances	Young bulls	15,834			
2	Correlations	Young bulls	1,000	-,321		
		COWS	-,321	1,000		
	Covariances	Young bulls	11,275	-,812		
		COWS	-,812	,567		
3	Correlations	Young bulls	1,000	-,279	-,071	
		COWS	-,279	1,000	-,327	
		HEIFERE	-,071	-,327	1,000	
	Covariances	Young bulls	9,332	-,617	-,899	
		COWS	-,617	,523	-,973	
		HEIFERE	-,899	-,973	16,970	
4	Correlations	Young bulls	1,000	-,270	-,070	,045
		COWS	-,270	1,000	-,303	-,445
		HEIFERE	-,070	-,303	1,000	,023
		CALFS	,045	-,445	,023	1,000
	Covariances	Young bulls	7,604	-,542	-,720	,252
		COWS	-,542	,530	-,820	-,655
		HEIFERE	-,720	-,820	13,806	,176

|
 a Dependent Variable: VALUE

CALFS

| ,252 |

-,655 |

,176 |

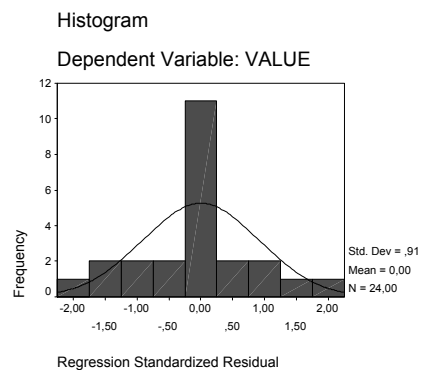
4,090 |

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	,16	54,96	10,42	11,82	24
Residual	-10,08	11,09	2,22E-16	5,09	24
Std. Predicted Value	-,868	3,770	,000	1,000	24
Std. Residual	-1,802	1,982	,000	,909	24

a Dependent Variable: VALUE

Charts



Appendix 3.40

Bolungarvík. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,631(a)	,398	,370	10,206

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.

1	Regression	1514,206	1	1514,206	14,537	,001(a)
	Residual	2291,627	22	104,165		
	Total	3805,833	23			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,637	2,576		1,800	,086
	FISH_COW	3,853	1,011	,631	3,813	,001

a Dependent Variable: VALUE

Residuals Statistics(a)

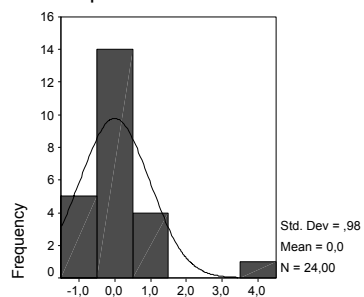
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4,64	23,90	10,42	8,114	24
Residual	-14,05	36,10	,00	9,982	24
Std. Predicted Value	-,712	1,662	,000	1,000	24
Std. Residual	-1,377	3,537	,000	,978	24

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.41

Skutulsfjörður. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,986
Winter old cow	1,000	,991

HEIFERE	1,000	,999
CALFS	1,000	,962
Young bulls	1,000	,987
MILK_EWE	1,000	,964
WEATHER	1,000	,963
LAMB	1,000	,968
HORSES	1,000	,983
Work Horse	1,000	,970
PHILLY	1,000	,994
STALLION	1,000	,980

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,652	47,096	47,096	5,652	47,096	47,096
2	1,816	15,135	62,231	1,816	15,135	62,231
3	1,232	10,266	72,497	1,232	10,266	72,497
4	1,109	9,245	81,742	1,109	9,245	81,742
5	,800	6,667	88,408	,800	6,667	88,408
6	,762	6,350	94,759	,762	6,350	94,759
7	,374	3,118	97,877	,374	3,118	97,877
8	,120	1,004	98,880			
9	7,681E-02	,640	99,520			
10	4,132E-02	,344	99,865			
11	1,278E-02	,106	99,971			
12	3,456E-03	2,880E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,942	4,345E-02	-,101	-3,454E-02	1,237E-02	-,291	-3,043E-02
Winter old cow	,129	,231	-,667	,567	5,943E-02	,389	-3,602E-03
HEIFERE	,448	,540	,361	-3,463E-02	-,348	,345	,369
CALFS	,817	-,272	,181	8,228E-02	,277	,319	-4,463E-02
Young bulls	,509	-,692	-,183	-,187	,148	-,110	,383
MILK_EWE	,965	3,684E-02	-6,166E-02	2,877E-02	-,108	-4,621E-02	-,108
WEATHER	,970	-6,065E-02	-4,986E-02	-2,200E-02	9,348E-02	7,409E-02	-2,831E-02
LAMB	,973	-2,123E-02	-,111	1,876E-02	8,359E-02	-1,649E-02	-1,143E-02
HORSES	,586	-,438	,201	6,216E-02	-,592	7,880E-02	-,217
Work Horse	,505	,627	-,161	,200	-,111	-,487	7,899E-02
PHILLY	,130	2,401E-03	,693	,621	,308	-,127	7,857E-03
STALLION	,429	,572	,124	-,559	,302	,163	-,151

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.42

Skutulsfjörður. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,831(a)	,691	,671	5,476

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1071,309	1	1071,309	35,725	,000(a)
	Residual	479,802	16	29,988		
	Total	1551,111	17			

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,268	2,456		-,109	,914
	COWS	2,846	,476	,831	5,977	,000

a Dependent Variable: VALUE

Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Winter old cow	,146(a)	1,049	,311	,261	,994
	HEIFERE	,141(a)	,963	,351	,241	,913
	CALFS	,051(a)	,276	,787	,071	,597
	Young bulls	-,096(a)	-,585	,567	-,149	,748
	MILK_EWE	,305(a)	,811	,430	,205	,140

WEATHER	,359(a)	1,190	,252	,294	,207
HORSES	,102(a)	,626	,541	,159	,757
Work Horse	-,064(a)	-,346	,734	-,089	,590
PHILLY	,155(a)	1,118	,281	,277	,994
STALLION	-,140(a)	-,917	,374	-,230	,835

a Predictors in the Model: (Constant), COWS

b Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS
1	Correlations	COWS	1,000
	Covariances	COWS	,227

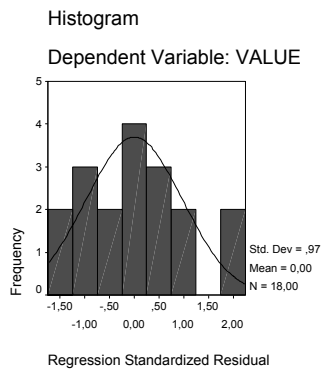
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,27	25,34	12,22	7,938	18
Residual	-8,27	10,35	,00	5,313	18
Std. Predicted Value	-1,573	1,653	,000	1,000	18
Std. Residual	-1,510	1,889	,000	,970	18

a Dependent Variable: VALUE

Charts



Appendix 3.43

Skutulsfjörður fishing. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,375(a)	,141	,079	9,479

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	206,134	1	206,134	2,294	,152(a)
	Residual	1257,866	14	89,848		
	Total	1464,000	15			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,337	2,951		3,503	,004
	FISH_COW	1,152	,760	,375	1,515	,152

a Dependent Variable: VALUE

Residuals Statistics(a)

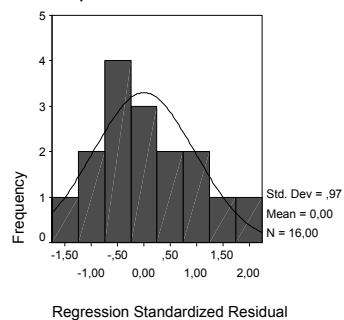
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,34	20,70	13,00	3,707	16
Residual	-12,64	19,66	,00	9,157	16
Std. Predicted Value	-,718	2,077	,000	1,000	16
Std. Residual	-1,334	2,074	,000	,966	16

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.44

Eyrasókn. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,984
Winter old cow	1,000	,955
HEIFERE	1,000	,982
CALFS	1,000	,972
Young bulls	1,000	,940
MILK_EWE	1,000	,959
WEATHER	1,000	,940
HORSES	1,000	,915
Work Horse	1,000	,981
PHILLY	1,000	,972
STALLION	1,000	,977

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,771	43,372	43,372	4,771	43,372	43,372
2	1,631	14,825	58,197	1,631	14,825	58,197
3	1,474	13,401	71,598	1,474	13,401	71,598
4	1,307	11,880	83,478	1,307	11,880	83,478
5	,591	5,373	88,851	,591	5,373	88,851
6	,491	4,468	93,319	,491	4,468	93,319
7	,312	2,833	96,152	,312	2,833	96,152
8	,232	2,106	98,258			
9	,124	1,126	99,384			
10	,045	,407	99,790			
11	,023	,210	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,722	,232	,434	4,444E-02	-,399	-,245	1,742E-02
Winter old cow	,448	-3,187E-02	-6,350E-02	,846	5,238E-02	8,275E-02	,153
HEIFERE	,666	-,102	-,347	-,344	-,176	,504	6,189E-02
CALFS	,545	-,273	,552	-6,981E-02	,539	3,112E-02	1,012E-02
Young bulls	,569	,379	-,428	-,405	,225	-,210	-,174
MILK_EWE	,925	7,425E-02	,194	-,141	-,140	-,134	4,836E-02
WEATHER	,958	5,588E-02	-,113	-4,866E-02	3,488E-02	3,162E-02	3,351E-02
HORSES	,857	-,376	7,469E-02	-,106	3,797E-02	-1,590E-02	,141

Work Horse	5,432E-02	,894	-,251	9,401E-02	,184	-4,422E-03	,269
PHILLY	,687	-5,109E-03	-,343	,509	2,050E-02	1,737E-02	-,350
STALLION	4,761E-03	,631	,662	1,233E-02	-6,429E-03	,325	-,189

Extraction Method: Principal Component Analysis.
a 7 components extracted.

Appendix 3.45

Eyrasókn. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	Work Horse		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,593(a)	,352	,318	6,453
2	,754(b)	,569	,521	5,409

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, Work Horse

c Dependent Variable: VALUE

ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	429,848	1	429,848	10,324	,005(a)
	Residual	791,104	19	41,637		
	Total	1220,952	20			
2	Regression	694,305	2	347,152	11,865	,001(b)
	Residual	526,647	18	29,258		
	Total	1220,952	20			

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, Work Horse
c Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,091	2,558		2,381	,028
	MILK_EWE	,309	,096	,593	3,213	,005
2	(Constant)	8,953	2,346		3,816	,001
	MILK_EWE	,322	,081	,620	3,999	,001
	Work Horse	-6,055	2,014	-,466	-3,006	,008

a Dependent Variable: VALUE

Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	COWS	-,126(a)	-,355	,727	-,083	,284
	Winter old cow	-,037(a)	-,191	,851	-,045	,938
	HEIFERE	,103(a)	,451	,657	,106	,687
	CALFS	,281(a)	1,301	,210	,293	,706
	Young bulls	-,261(a)	-1,255	,226	-,284	,763
	WEATHER	-,071(a)	-,186	,854	-,044	,248
	Work Horse	-,466(a)	-3,006	,008	-,578	,997
	PHILLY	,111(a)	,513	,614	,120	,755
2	COWS	-,085(b)	-,284	,780	-,069	,284
	Winter old cow	,012(b)	,075	,941	,018	,928
	HEIFERE	,071(b)	,368	,717	,089	,685
	CALFS	,111(b)	,560	,583	,135	,630
	Young bulls	-,039(b)	-,193	,849	-,047	,621
	WEATHER	,111(b)	,341	,737	,082	,239
	PHILLY	,156(b)	,866	,398	,206	,750

a Predictors in the Model: (Constant), MILK_EWE

b Predictors in the Model: (Constant), MILK_EWE, Work Horse

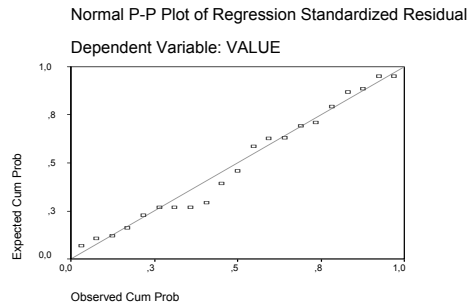
c Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,29	23,46	12,95	5,892	21
Residual	-8,05	9,05	,00	5,132	21
Std. Predicted Value	-1,639	1,784	,000	1,000	21
Std. Residual	-1,488	1,673	,000	,949	21

a Dependent Variable: VALUE

Charts



Appendix 3.36

Eyrasókn Fishing. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,493(a)	,243	,203	6,976

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	296,277	1	296,277	6,088	,023(a)
	Residual	924,676	19	48,667		
	Total	1220,952	20			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,718	2,009		4,837	,000
	FISH_COW	1,941	,787	,493	2,467	,023

a Dependent Variable: VALUE

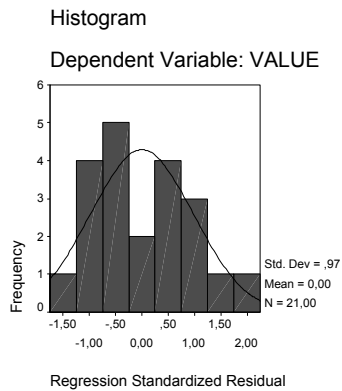
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9,72	19,42	12,95	3,849	21
Residual	-9,72	14,28	,00	6,800	21

Std. Predicted Value	-,840	1,681	,000	1,000	21
Std. Residual	-1,393	2,047	,000	,975	21

a. Dependent Variable: VALUE

Charts



Appendix 3.37

Ögursveit. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,935
Winter old cow	1,000	,968
HEIFERE	1,000	,995
CALFS	1,000	,951
Young bulls	1,000	,920
MILK_EWE	1,000	,942
WEATHER	1,000	,927
HORSES	1,000	,922
Work Horse	1,000	,950
PHILLY	1,000	,996
STALLION	1,000	,974

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,623	42,026	42,026	4,623	42,026	42,026
2	1,634	14,857	56,883	1,634	14,857	56,883
3	1,348	12,251	69,134	1,348	12,251	69,134
4	1,010	9,179	78,313	1,010	9,179	78,313
5	,824	7,494	85,807	,824	7,494	85,807
6	,593	5,392	91,199	,593	5,392	91,199

7	,449	4,077	95,277	,449	4,077	95,277
8	,284	2,582	97,858			
9	,168	1,528	99,387			
10	4,473E-02	,407	99,793			
11	2,274E-02	,207	100,000			

Extraction Method: Principal Component Analysis.

Appendix 3.38

Ögursveit. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	HORSES		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,798(a)	,636	,613	4,44
2	,871(b)	,758	,726	3,74

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, HORSES

c Dependent Variable: VALUE

ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	552,088	1	552,088	27,981	,000(a)
	Residual	315,690	16	19,731		
	Total	867,778	17			
2	Regression	657,848	2	328,924	23,502	,000(b)
	Residual	209,930	15	13,995		

Total	867,778	17			

a Predictors: (Constant), COWS
b Predictors: (Constant), COWS, HORSES
c Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4,675	2,068		2,260	,038		
	COWS	3,614	,683	,798	5,290	,000	1,000	1,000
2	(Constant)	4,282	1,748		2,450	,027		
	COWS	2,540	,695	,561	3,653	,002	,685	1,461
	HORSES	3,836	1,395	,422	2,749	,015	,685	1,461

a Dependent Variable: VALUE

Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Winter old cow	-,043(a)	-,274	,788	-,071	,972	1,029	,972
	HEIFERE	-,004(a)	-,023	,982	-,006	,956	1,046	,956
	CALFS	,064(a)	,323	,751	,083	,615	1,625	,615
	Young bulls	,180(a)	,774	,451	,196	,431	2,318	,431
	MILK_EWE	,353(a)	1,039	,315	,259	,197	5,089	,197
	WEATHER	,008(a)	,021	,983	,005	,164	6,094	,164
	LAMB	,051(a)	,305	,764	,079	,857	1,167	,857
	HORSES	,422(a)	2,749	,015	,579	,685	1,461	,685
	Work Horse	-,152(a)	-,977	,344	-,245	,946	1,057	,946
	PHILLY	-,138(a)	-,903	,381	-,227	,991	1,009	,991
	STALLION	-,009(a)	-,056	,956	-,014	,998	1,002	,998
2	Winter old cow	-,085(b)	-,644	,530	-,170	,959	1,043	,657
	HEIFERE	,006(b)	,041	,968	,011	,955	1,047	,660
	CALFS	,161(b)	,974	,346	,252	,590	1,696	,423
	Young bulls	,180(b)	,925	,371	,240	,431	2,318	,360
	MILK_EWE	,315(b)	1,108	,287	,284	,196	5,101	,184
	WEATHER	,194(b)	,593	,563	,157	,157	6,365	,134
	LAMB	-,028(b)	-,192	,850	-,051	,821	1,219	,651
	Work Horse	-,023(b)	-,157	,878	-,042	,818	1,223	,576
	PHILLY	-,186(b)	-1,509	,153	-,374	,974	1,027	,669
	STALLION	-,047(b)	-,357	,726	-,095	,986	1,014	,677

a Predictors in the Model: (Constant), COWS
b Predictors in the Model: (Constant), COWS, HORSES
c Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS	HORSES

1	Correlations	COWS	1,000	
	Covariances	COWS	,467	
2	Correlations	COWS	1,000	-,562
		HORSES	-,562	1,000
	Covariances	COWS	,484	-,545
		HORSES	-,545	1,947

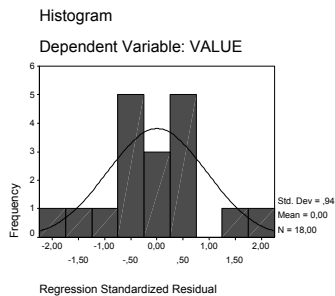
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4,28	24,65	14,11	6,22	18
Residual	-6,82	7,72	-,987E-17	3,51	18
Std. Predicted Value	-1,580	1,695	,000	1,000	18
Std. Residual	-1,824	2,063	,000	,939	18

a Dependent Variable: VALUE

Charts



Appendix 3.39 Ögursveit Fishing. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,789(a)	,623	,599	4,522

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	540,606	1	540,606	26,438	,000(a)
	Residual	327,172	16	20,448		
	Total	867,778	17			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,854	1,477		5,994	,000
	FISH_COW	2,783	,541	,789	5,142	,000

a Dependent Variable: VALUE

Residuals Statistics(a)

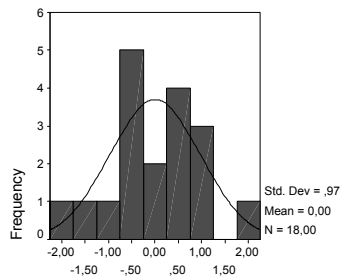
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,85	25,55	14,11	5,639	18
Residual	-8,85	9,15	,00	4,387	18
Std. Predicted Value	-,932	2,029	,000	1,000	18
Std. Residual	-1,958	2,023	,000	,970	18

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.40

Vatnsfjarðarsveit. Factor Analysis

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
COWS	2,58	1,77	19
Winter old cow	,21	,42	19

HEIFERE	,16	,37	19
CALFS	,89	,94	19
Young bulls	,42	,61	19
MILK_EWE	25,95	19,42	19
WEATHER	18,21	16,14	19
HORSES	1,37	1,54	19
Work Horse	,53	,70	19
PHILLY	,26	,73	19
STALLION	5,26E-02	,23	19

Communalities

	Initial	Extraction
COWS	1,000	,994
Winter old cow	1,000	,988
HEIFERE	1,000	,980
CALFS	1,000	,962
Young bulls	1,000	,904
MILK_EWE	1,000	,985
WEATHER	1,000	,942
HORSES	1,000	,976
Work Horse	1,000	,955
PHILLY	1,000	,995
STALLION	1,000	,995

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,423	49,298	49,298	5,423	49,298	49,298
2	2,119	19,268	68,566	2,119	19,268	68,566
3	1,074	9,761	78,328	1,074	9,761	78,328
4	1,009	9,173	87,501	1,009	9,173	87,501
5	,499	4,540	92,041	,499	4,540	92,041
6	,360	3,269	95,310	,360	3,269	95,310
7	,193	1,751	97,061	,193	1,751	97,061
8	,162	1,470	98,531			
9	8,967E-02	,815	99,346			
10	6,033E-02	,548	99,894			
11	1,161E-02	,106	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,911	-3,312E-03	-2,592E-02	,136	-,164	-,330	-8,958E-02

Winter old cow	-4,402E-02	,462	,778	-,378	,104	-,109	3,297E-02
HEIFERE	,245	,837	-,124	,310	-,149	,281	7,919E-02
CALFS	,811	-,389	-,279	-9,700E-02	-,110	-,132	,190
Young bulls	,888	-5,035E-02	,192	-7,506E-02	-,107	,224	9,028E-02
MILK_EWE	,934	,170	2,450E-02	5,153E-02	1,188E-02	1,269E-02	-,285
WEATHER	,946	,147	7,057E-02	4,529E-02	2,469E-02	9,610E-02	-8,981E-02
HORSES	,648	,657	-6,362E-02	,100	,160	-,220	,189
Work Horse	,572	-,610	,422	2,174E-03	-,245	,110	7,917E-02
PHILLY	,727	-,346	-9,925E-02	-8,518E-02	,556	,138	2,578E-02
STALLION	-,197	-,278	,374	,845	,141	-6,004E-02	3,214E-02

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.41

Vatnsfjarðarsveit. Domestic animals Multivariate Regression.

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,556(a)	,309	,268	7,66

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	445,444	1	445,444	7,601	,013(a)
	Residual	996,240	17	58,602		
	Total	1441,684	18			

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,089	2,983		2,041	,057		
	MILK_EWE	,256	,093	,556	2,757	,013	1,000	1,000

a Dependent Variable: VALUE

Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	-,751(a)	-1,959	,068	-,440	,237	4,221	,237
	Winter old cow	-,178(a)	-,878	,393	-,214	,999	1,001	,999
	HEIFERE	,143(a)	,647	,527	,160	,865	1,156	,865
	CALFS	-,076(a)	-,288	,777	-,072	,608	1,644	,608
	Young bulls	-,093(a)	-,270	,790	-,067	,362	2,760	,362
	WEATHER	,154(a)	,296	,771	,074	,159	6,299	,159
	HORSES	-,153(a)	-,553	,588	-,137	,554	1,805	,554
	Work Horse	-,321(a)	-1,495	,154	-,350	,823	1,215	,823
	PHILLY	,052(a)	,195	,848	,049	,619	1,616	,619
	STALLION	-,250(a)	-1,235	,234	-,295	,965	1,036	,965

a Predictors in the Model: (Constant), MILK_EWE

b Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE
1	Correlations	MILK_EWE	1,000
	Covariances	MILK_EWE	8,635E-03

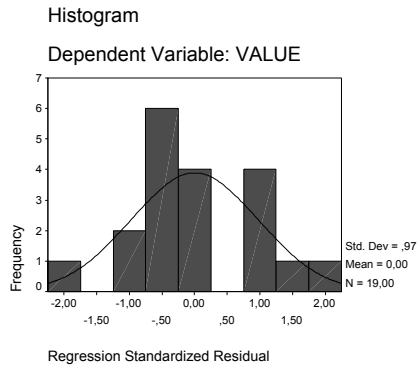
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,09	26,07	12,74	4,97	19
Residual	-16,08	13,56	-,35E-17	7,44	19
Std. Predicted Value	-1,336	2,681	,000	1,000	19
Std. Residual	-2,101	1,771	,000	,972	19

a Dependent Variable: VALUE

Charts



Appendix 3.42

Vatnsfjarðarsveit. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,681(a)	,464	,432	6,743

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	668,655	1	668,655	14,705	,001(a)
	Residual	773,030	17	45,472		
	Total	1441,684	18			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,158	1,807		5,069	,000
	FISH_COW	3,238	,844	,681	3,835	,001

a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N

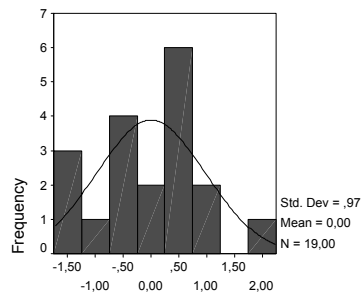
Predicted Value	9,16	28,58	12,74	6,095	19
Residual	-9,16	14,84	,00	6,553	19
Std. Predicted Value	-,587	2,600	,000	1,000	19
Std. Residual	-1,358	2,201	,000	,972	19

a. Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.43

Langadalsströnd. Factor Analysis

Correlation Matrix

	COWS	Winter old cow	HEIFERE	CALFS	Young bulls	MILK_EWE	WEATHER	HORSES	Work Horse	PHILLY	STALLION
COWS	1,000	,027	-,150	,459	,542	,877	,769	,648	,273	,282	,027
Winter old cow	,027	1,000	-,226	-,188	-,039	,195	,145	,284	-,079	,552	-,200
HEIFERE	-,150	-,226	1,000	-,176	,012	,035	-,005	-,284	,535	-,014	,113
CALFS	,459	-,188	-,176	1,000	,004	,409	,411	,353	,119	-,292	,376
Young bulls	,542	-,039	,012	,004	1,000	,499	,315	,456	,000	,271	,077
MILK_EWE	,877	,195	,035	,409	,499	1,000	,839	,692	,326	,281	,241
WEATHER	,769	,145	-,005	,411	,315	,839	1,000	,598	,373	,228	,249
HORSES	,648	,284	-,284	,353	,456	,692	,598	1,000	-,120	,220	,170
Work Horse	,273	-,079	,535	,119	,000	,326	,373	-,120	1,000	,336	,237
PHILLY	,282	,552	-,014	-,292	,271	,281	,228	,220	,336	1,000	-,340
STALLION	,027	-,200	,113	,376	,077	,241	,249	,170	,237	-,340	1,000

Communalities

	Initial	Extraction
COWS	1,000	,956
Winter old cow	1,000	,941
HEIFERE	1,000	,993
CALFS	1,000	,986

Young bulls	1,000	,959
MILK_EWE	1,000	,935
WEATHER	1,000	,928
HORSES	1,000	,855
Work Horse	1,000	,958
PHILLY	1,000	,940
STALLION	1,000	,992

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,009	36,446	36,446	4,009	36,446	36,446
2	2,034	18,490	54,936	2,034	18,490	54,936
3	1,752	15,927	70,864	1,752	15,927	70,864
4	1,022	9,293	80,157	1,022	9,293	80,157
5	,779	7,079	87,236	,779	7,079	87,236
6	,490	4,455	91,691	,490	4,455	91,691
7	,357	3,242	94,933	,357	3,242	94,933
8	,258	2,347	97,280			
9	,153	1,387	98,667			
10	,110	1,003	99,670			
11	3,628E-02	,330	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,915	-6,706E-03	-3,995E-02	-,142	-,304	2,534E-02	-5,522E-02
Winter old cow	,194	-,727	1,151E-02	,495	,307	-,131	,133
HEIFERE	-8,598E-02	,337	,787	-,167	,128	-,411	,199
CALFS	,484	,544	-,360	,302	-,267	7,619E-02	,398
Young bulls	,568	-,136	9,430E-03	-,718	,230	,173	,141
MILK_EWE	,950	3,343E-02	7,554E-02	4,344E-03	1,655E-02	-,150	-5,541E-02
WEATHER	,876	9,798E-02	8,634E-02	,167	-6,441E-02	-,140	-,302
HORSES	,785	-,167	-,358	-2,009E-02	,207	-,174	9,068E-02
Work Horse	,320	,276	,808	,231	-,125	,239	-4,249E-03
PHILLY	,346	-,719	,452	7,733E-02	-1,843E-02	,288	9,994E-02
STALLION	,246	,668	-4,299E-02	,188	,623	,234	-7,267E-02

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.44

Langadalsströnd. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	Work Horse		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	WEATHER		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
4	HORSES		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
5	HEIFERE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a. Dependent Variable: VALUE

Model Summary(f)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	,575(a)	,331	,296	8,61
2	,682(b)	,465	,406	7,90
3	,792(c)	,628	,562	6,79
4	,861(d)	,742	,678	5,82
5	,907(e)	,822	,763	4,99

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, Work Horse

c Predictors: (Constant), MILK_EWE, Work Horse, WEATHER

d Predictors: (Constant), MILK_EWE, Work Horse, WEATHER, HORSES

e Predictors: (Constant), MILK_EWE, Work Horse, WEATHER, HORSES, HEIFERE

f Dependent Variable: VALUE

ANOVA(f)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	695,809	1	695,809	9,393	,006(a)
	Residual	1407,429	19	74,075		
	Total	2103,238	20			
2	Regression	978,582	2	489,291	7,831	,004(b)
	Residual	1124,656	18	62,481		
	Total	2103,238	20			
3	Regression	1320,055	3	440,018	9,551	,001(c)
	Residual	783,183	17	46,070		
	Total	2103,238	20			
4	Regression	1560,929	4	390,232	11,513	,000(d)
	Residual	542,309	16	33,894		
	Total	2103,238	20			
5	Regression	1729,668	5	345,934	13,890	,000(e)
	Residual	373,570	15	24,905		
	Total	2103,238	20			

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, Work Horse

c Predictors: (Constant), MILK_EWE, Work Horse, WEATHER

d Predictors: (Constant), MILK_EWE, Work Horse, WEATHER, HORSES

e Predictors: (Constant), MILK_EWE, Work Horse, WEATHER, HORSES, HEIFERE

f Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5,591	3,746		1,492	,152		
	MILK_EWE	,285	,093	,575	3,065	,006	1,000	1,000
2	(Constant)	4,143	3,507		1,181	,253		
	MILK_EWE	,222	,090	,449	2,462	,024	,894	1,119
	Work Horse	3,631	1,707	,388	2,127	,047	,894	1,119
3	(Constant)	1,831	3,129		,585	,566		
	MILK_EWE	,522	,135	1,056	3,876	,001	,295	3,387
	Work Horse	4,415	1,494	,472	2,956	,009	,861	1,162
	WEATHER	-,442	,162	-,755	-2,723	,014	,284	3,515
4	(Constant)	,415	2,736		,152	,881		
	MILK_EWE	,342	,134	,691	2,554	,021	,220	4,546
	Work Horse	6,519	1,505	,696	4,332	,001	,624	1,603

5	WEATHER	-.505	,141	-.863	-3,575	,003	,277	3,616
	HORSES	3,704	1,389	,551	2,666	,017	,377	2,652
	(Constant)	,636	2,347		,271	,790		
	MILK_EWE	,387	,116	,783	3,335	,005	,215	4,650
	Work Horse	8,266	1,454	,883	5,685	,000	,491	2,037
	WEATHER	-.563	,123	-.962	-4,573	,000	,267	3,739
	HORSES	3,154	1,210	,469	2,607	,020	,366	2,736
	HEIFERE	-7,086	2,722	-.354	-2,603	,020	,642	1,559

a Dependent Variable: VALUE

Excluded Variables(f)

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	-.132(a)	-.331	,744	-.078	,231	4,322	,231
	Winter old cow	,176(a)	,916	,372	,211	,962	1,040	,962
	HEIFERE	-.002(a)	-.010	,992	-.002	,999	1,001	,999
	CALFS	-.107(a)	-.512	,615	-.120	,833	1,201	,833
	Young bulls	-.046(a)	-.208	,838	-.049	,751	1,331	,751
	WEATHER	-.597(a)	-1,835	,083	-.397	,295	3,385	,295
	HORSES	,061(a)	,230	,821	,054	,521	1,919	,521
	Work Horse	,388(a)	2,127	,047	,448	,894	1,119	,894
	PHILLY	,271(a)	1,420	,173	,317	,921	1,085	,921
	STALLION	,026(a)	,132	,896	,031	,942	1,062	,942
2	COWS	-.111(b)	-.301	,767	-.073	,231	4,325	,223
	Winter old cow	,239(b)	1,378	,186	,317	,939	1,065	,845
	HEIFERE	-.296(b)	-1,476	,158	-.337	,692	1,445	,619
	CALFS	-.101(b)	-.522	,608	-.126	,833	1,201	,755
	Young bulls	,039(b)	,188	,853	,046	,722	1,385	,645
	WEATHER	-.755(b)	-2,723	,014	-.551	,284	3,515	,284
	HORSES	,428(b)	1,612	,125	,364	,388	2,578	,352
	PHILLY	,181(b)	,968	,347	,229	,854	1,170	,829
	STALLION	-.040(b)	-.218	,830	-.053	,914	1,094	,865
	COWS	,003(c)	,010	,992	,003	,227	4,407	,164
3	Winter old cow	,237(c)	1,624	,124	,376	,939	1,065	,284
	HEIFERE	-.416(c)	-2,661	,017	-.554	,662	1,511	,272
	CALFS	-.039(c)	-.230	,821	-.057	,816	1,226	,279
	Young bulls	-.053(c)	-.288	,777	-.072	,696	1,437	,232
	HORSES	,551(c)	2,666	,017	,555	,377	2,652	,220
	PHILLY	,151(c)	,939	,362	,229	,850	1,176	,283
	STALLION	-.016(c)	-.102	,920	-.026	,911	1,098	,284
	COWS	-.068(d)	-.247	,809	-.064	,225	4,451	,144
	Winter old cow	,186(d)	1,452	,167	,351	,916	1,092	,220
	HEIFERE	-.354(d)	-2,603	,020	-.558	,642	1,559	,215
4	CALFS	-.074(d)	-.513	,615	-.131	,809	1,236	,219
	Young bulls	-.106(d)	-.676	,509	-.172	,685	1,461	,191

5	PHILLY	,072(d)	,501	,624	,128	,807	1,239	,220
	STALLION	-,053(d)	-,383	,707	-,099	,902	1,109	,220
	COWS	-,373(e)	-1,552	,143	-,383	,187	5,334	,125
	Winter old cow	,141(e)	1,242	,234	,315	,890	1,123	,214
	CALFS	-,144(e)	-1,184	,256	-,302	,775	1,290	,213
	Young bulls	-,067(e)	-,490	,632	-,130	,675	1,481	,189
	PHILLY	,008(e)	,061	,952	,016	,773	1,293	,214
	STALLION	-,039(e)	-,331	,745	-,088	,900	1,112	,215

a Predictors in the Model: (Constant), MILK_EWE

b Predictors in the Model: (Constant), MILK_EWE, Work Horse

c Predictors in the Model: (Constant), MILK_EWE, Work Horse, WEATHER

d Predictors in the Model: (Constant), MILK_EWE, Work Horse, WEATHER, HORSES

e Predictors in the Model: (Constant), MILK_EWE, Work Horse, WEATHER, HORSES, HEIFERE

f Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE	Work Horse	WEATHER	HORSES	HEIFERE
1	Correlations	MILK_EWE	1,000				
	Covariances	MILK_EWE	8,622E-03				
2	Correlations	MILK_EWE	1,000	-,326			
		Work Horse	-,326	1,000			
	Covariances	MILK_EWE	8,136E-03	-5,017E-02			
		Work Horse	-5,017E-02	2,913			
3	Correlations	MILK_EWE	1,000	-,026	-,818		
		Work Horse	-,026	1,000	-,193		
		WEATHER	-,818	-,193	1,000		
	Covariances	MILK_EWE	1,816E-02	-5,240E-03	-1,792E-02		
		Work Horse	-5,240E-03	2,231	-4,678E-02		
		WEATHER	-1,792E-02	-4,678E-02	2,639E-02		
4	Correlations	MILK_EWE	1,000	-,284	-,612	-,505	
		Work Horse	-,284	1,000	-,250	,525	
		WEATHER	-,612	-,250	1,000	-,167	
		HORSES	-,505	,525	-,167	1,000	
	Covariances	MILK_EWE	1,793E-02	-5,723E-02	-1,158E-02	-9,395E-02	
		Work Horse	-5,723E-02	2,264	-5,307E-02	1,097	
		WEATHER	-1,158E-02	-5,307E-02	1,998E-02	-3,283E-02	
		HORSES	-9,395E-02	1,097	-3,283E-02	1,930	
5	Correlations	MILK_EWE	1,000	-,180	-,622	-,518	-,149
		Work Horse	-,180	1,000	-,301	,378	-,462
		WEATHER	-,622	-,301	1,000	-,130	,181
		HORSES	-,518	,378	-,130	1,000	,175
		HEIFERE	-,149	-,462	,181	,175	1,000
	Covariances	MILK_EWE	1,348E-02	-3,040E-02	-8,899E-03	-7,270E-02	-4,725E-02
		Work Horse	-3,040E-02	2,114	-5,396E-02	,664	-1,827
		WEATHER	-8,899E-03	-5,396E-02	1,518E-02	-1,941E-02	6,069E-02
		HORSES	-7,270E-02	,664	-1,941E-02	1,463	,575
		HEIFERE	-4,725E-02	-1,827	6,069E-02	,575	7,412

a Dependent Variable: VALUE

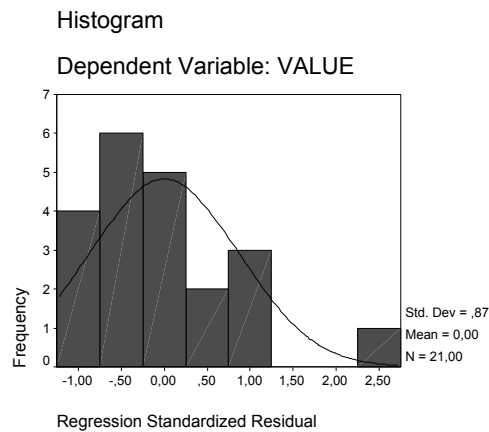
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	,64	42,01	15,52	9,30	21
Residual	-5,98	11,36	2,37E-15	4,32	21

Std. Predicted Value	-1,601	2,848	,000	1,000	21
Std. Residual	-1,199	2,277	,000	,866	21

a. Dependent Variable: VALUE

Charts



Appendix 3.45

Langadalströnd. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,094(a)	,009	-,043	10,475

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18,639	1	18,639	,170	,685(a)
	Residual	2084,599	19	109,716		
	Total	2103,238	20			

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,835	2,831		5,239	,000
	FISH_COW	,452	1,097	,094	,412	,685

a. Dependent Variable: VALUE

Casewise Diagnostics(a)

Case Number	Std. Residual	VALUE
6	3,166	48

a. Dependent Variable: VALUE

Residuals Statistics(a)

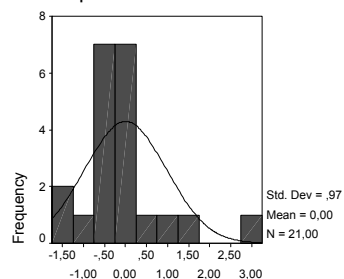
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14,84	18,00	15,52	,965	21
Residual	-14,84	33,16	,00	10,209	21
Std. Predicted Value	-,713	2,564	,000	1,000	21
Std. Residual	-1,416	3,166	,000	,975	21

a. Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.46

Snæfjallaströnd. Factor Analysis

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
COWS	4,33	3,28	9
Winter old cow	,44	,73	9
HEIFERE	,33	,71	9
CALFS	1,67	1,32	9
Young bulls	,56	,53	9

MILK_EWE	29,11	20,07	9
WEATHER	22,89	20,61	9
HORSES	,89	1,36	9
Work Horse	,89	,78	9
PHILLY	,11	,33	9
STALLION	,11	,33	9

Communalities

	Initial	Extraction
COWS	1,000	,996
Winter old cow	1,000	,999
HEIFERE	1,000	,998
CALFS	1,000	,990
Young bulls	1,000	,998
MILK_EWE	1,000	,999
WEATHER	1,000	,999
HORSES	1,000	,997
Work Horse	1,000	1,000
PHILLY	1,000	1,000
STALLION	1,000	1,000

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,408	49,168	49,168	5,408	49,168	49,168
2	2,186	19,877	69,044	2,186	19,877	69,044
3	1,564	14,223	83,267	1,564	14,223	83,267
4	1,201	10,920	94,187	1,201	10,920	94,187
5	,481	4,375	98,563	,481	4,375	98,563
6	,078	,713	99,276	,078	,713	99,276
7	,055	,499	99,775	,055	,499	99,775
8	,025	,225	100,000			
9	1,560E-15	1,419E-14	100,000			
10	2,157E-17	1,961E-16	100,000			
11	-3,074E-16	-2,794E-15	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,908	-,100	,165	-,231	,253	-,107	-,079
Winter old cow	,341	,474	,078	-,795	,050	,106	,081

HEIFERE	,294	-,944	,126	-,020	-,054	-,015	,004
CALFS	,813	,176	,487	-,226	,021	-,084	-,049
Young bulls	,503	,482	,453	,193	-,518	-,038	,012
MILK_EWE	,925	-,313	,126	,093	,085	-,012	,121
WEATHER	,832	-,466	,167	,060	-,112	,200	-,076
HORSES	,880	-,103	-,391	,211	-,027	-,038	,116
Work Horse	,145	,481	,522	,588	,350	,072	,022
PHILLY	,750	,346	-,549	,111	3,533E-05	,013	-,051
STALLION	,750	,346	-,549	,111	3,533E-05	,013	-,051

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.47

Snaefjallaströnd. Domestic Animals Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COWS(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,568(a)	,322	,226	16,009

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	853,965	1	853,965	3,332	,111(a)
	Residual	1794,035	7	256,291		
	Total	2648,000	8			

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,012	9,189		,654	,534
	COWS	3,151	1,726	,568	1,825	,111

a Dependent Variable: VALUE

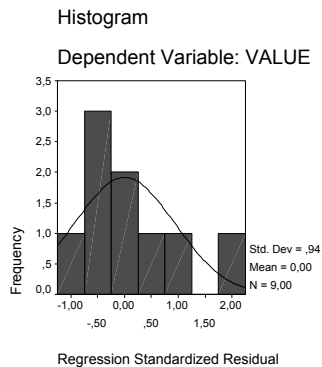
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,01	34,37	19,67	10,332	9

Residual	-18,62	28,78	,00	14,975	9
Std. Predicted Value	-1,322	1,423	,000	1,000	9
Std. Residual	-1,163	1,798	,000	,935	9

a. Dependent Variable: VALUE

Charts



Appendix 3.48

Snæfjallaströnd. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,576(a)	,332	,248	14,908

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	882,057	1	882,057	3,969	,082(a)
	Residual	1778,043	8	222,255		
	Total	2660,100	9			

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		

1	(Constant)	6,135	8,118		,756	,471
	FISH_COW	3,062	1,537	,576	1,992	,082

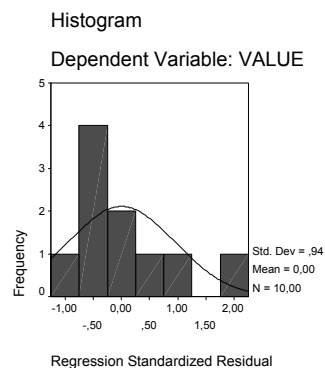
a. Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,13	33,69	19,30	9,900	10
Residual	-18,38	29,37	,00	14,056	10
Std. Predicted Value	-1,330	1,454	,000	1,000	10
Std. Residual	-1,233	1,970	,000	,943	10

a. Dependent Variable: VALUE

Charts



Appendix 3.49

Grunnavíkursveit. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,994
Winter old cow	1,000	,992
HEIFERE	1,000	,981
CALFS	1,000	,999
Young bulls	1,000	,995
MILK_EWE	1,000	,993
WEATHER	1,000	,985
HORSES	1,000	,986
Work Horse	1,000	,999
PHILLY	1,000	,997

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues	Extraction Sums of Squared Loadings

	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,932	59,321	59,321	5,932	59,321	59,321
2	1,722	17,224	76,544	1,722	17,224	76,544
3	1,086	10,856	87,400	1,086	10,856	87,400
4	,660	6,603	94,003	,660	6,603	94,003
5	,264	2,638	96,641	,264	2,638	96,641
6	,197	1,969	98,610	,197	1,969	98,610
7	,061	,611	99,221	,061	,611	99,221
8	,051	,507	99,728			
9	,023	,230	99,958			
10	,004	4,162E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,958	4,027E-02	5,355E-02	1,031E-02	-,268	-2,067E-02	-2,508E-03
Winter old cow	,777	-,329	-,234	,444	,113	4,415E-03	,125
HEIFERE	,775	-,496	1,082E-02	-,277	,233	2,829E-02	5,987E-02
CALFS	,562	,301	,730	,127	-9,399E-02	,171	7,552E-02
Young bulls	,583	,674	,250	-,227	,193	-,224	1,821E-02
MILK_EWE	,928	-3,762E-02	-,267	7,134E-02	-,184	-,134	-4,173E-02
WEATHER	,910	,258	-,263	-,111	-5,618E-02	-7,101E-02	4,126E-02
HORSES	,839	-,217	-9,612E-02	-,417	-1,917E-02	,220	-5,216E-02
Work Horse	,774	-,367	,371	,280	,137	-6,305E-02	-,161
PHILLY	,403	,757	-,381	,220	,152	,202	-6,175E-02

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.50

Grunnavíkursveit. Domestic Animals Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE(a)		Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,098(a)	,010	-,038	5,726

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6,703	1	6,703	,204	,656(a)
	Residual	688,515	21	32,786		
	Total	695,217	22			

a. Predictors: (Constant), MILK_EWE

b. Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,285	1,445		5,735	,000
	MILK_EWE	,028	,063	,098	,452	,656

a. Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE
1	Correlations	MILK_EWE	1,000
	Covariances	MILK_EWE	3,912E-03

a. Dependent Variable: VALUE

Residuals Statistics(a)

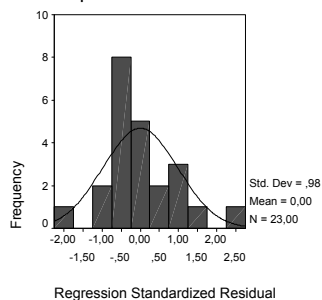
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,28	10,35	8,65	,552	23
Residual	-10,35	15,72	,00	5,594	23
Std. Predicted Value	-,666	3,074	,000	1,000	23
Std. Residual	-1,807	2,745	,000	,977	23

a. Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.51

Grunnavik. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,145(a)	,021	-,026	5,693

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14,547	1	14,547	,449	,510(a)
	Residual	680,670	21	32,413		
	Total	695,217	22			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,064	1,477		5,461	,000
	FISH_COW	,308	,459	,145	,670	,510

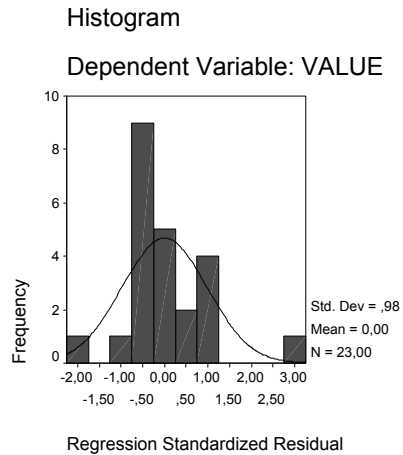
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,06	11,14	8,65	,813	23
Residual	-11,14	15,94	,00	5,562	23
Std. Predicted Value	-,723	3,058	,000	1,000	23
Std. Residual	-1,957	2,799	,000	,977	23

a Dependent Variable: VALUE

Charts



Appendix 3.52

Aðalvík. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,992
Winter old cow	1,000	1,000
CALFS	1,000	1,000
Young bulls	1,000	,999
MILK_EWE	1,000	,984
WEATHER	1,000	,989
HORSES	1,000	,999
Work Horse	1,000	,999

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,772	59,650	59,650	4,772	59,650	59,650
2	1,576	19,698	79,348	1,576	19,698	79,348
3	,586	7,322	86,670	,586	7,322	86,670
4	,428	5,356	92,026	,428	5,356	92,026
5	,342	4,277	96,303	,342	4,277	96,303
6	,190	2,371	98,674	,190	2,371	98,674
7	,068	,855	99,528	,068	,855	99,528
8	,038	,472	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7

COWS	,939	-,105	,078	-,171	-,043	,205	-,142
Winter old cow	,681	,494	-,250	-,424	,207	-,030	,079
CALFS	,724	-,163	-,582	,315	-,007	,100	,026
Young bulls	,514	-,741	,245	,015	,331	,100	,076
MILK_EWE	,964	,113	,055	,051	,026	-,136	-,133
WEATHER	,918	,089	,153	,205	,073	-,258	,034
HORSES	,797	-,375	,072	-,165	-,424	-,031	,103
Work Horse	,482	,764	,295	,221	-,040	,201	,075

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.53

Aðalvík. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	WEATHER		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	Work Horse		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	HORSES		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(d)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,591(a)	,349	,320	5,59
2	,724(b)	,525	,479	4,89

3	,785(c)	,616	,558	4,50

a Predictors: (Constant), WEATHER

b Predictors: (Constant), WEATHER, Work Horse

c Predictors: (Constant), WEATHER, Work Horse, HORSES

d Dependent Variable: VALUE

ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	368,983	1	368,983	11,819	,002(a)
	Residual	686,851	22	31,220		
	Total	1055,833	23			
2	Regression	553,988	2	276,994	11,591	,000(b)
	Residual	501,845	21	23,897		
	Total	1055,833	23			
3	Regression	650,021	3	216,674	10,679	,000(c)
	Residual	405,812	20	20,291		
	Total	1055,833	23			

a Predictors: (Constant), WEATHER

b Predictors: (Constant), WEATHER, Work Horse

c Predictors: (Constant), WEATHER, Work Horse, HORSES

d Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5,259	1,464		3,591	,002		
	WEATHER	,235	,068	,591	3,438	,002	1,000	1,000
2	(Constant)	5,285	1,281		4,125	,000		
	WEATHER	,344	,071	,864	4,811	,000	,702	1,424
	Work Horse	-8,891	3,195	-,500	-2,782	,011	,702	1,424
3	(Constant)	6,279	1,266		4,960	,000		
	WEATHER	,491	,094	1,233	5,201	,000	,342	2,926
	Work Horse	-11,691	3,214	-,657	-3,638	,002	,589	1,696
	HORSES	-3,161	1,453	-,435	-2,176	,042	,482	2,076

a Dependent Variable: VALUE

Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	-,125(a)	-,447	,659	-,097	,395	2,530	,395
	Winter old cow	-,024(a)	-,110	,913	-,024	,676	1,479	,676
	CALFS	,186(a)	,860	,399	,184	,640	1,563	,640
	Young bulls	,404(a)	2,303	,032	,449	,804	1,244	,804
	MILK_EWE	-,498(a)	-1,049	,306	-,223	,130	7,668	,130
	HORSES	-,143(a)	-,623	,540	-,135	,574	1,743	,574

2	Work Horse	-,500(a)	-2,782	,011	-,519	,702	1,424	,702
	COWS	-,172(b)	-,708	,487	-,156	,393	2,542	,325
	Winter old cow	,155(b)	,795	,436	,175	,607	1,648	,593
	CALFS	,047(b)	,233	,818	,052	,592	1,689	,425
	Young bulls	,183(b)	,845	,408	,186	,488	2,050	,361
3	MILK_EWE	-,371(b)	-,881	,389	-,193	,129	7,769	,128
	HORSES	-,435(b)	-2,176	,042	-,437	,482	2,076	,342
	COWS	,286(c)	,948	,355	,213	,212	4,710	,212
	Winter old cow	,184(c)	1,030	,316	,230	,604	1,656	,322
	CALFS	,115(c)	,619	,543	,141	,576	1,737	,284
	Young bulls	,293(c)	1,484	,154	,322	,464	2,156	,266
	MILK_EWE	-,011(c)	-,026	,980	-,006	,105	9,539	,105

a Predictors in the Model: (Constant), WEATHER

b Predictors in the Model: (Constant), WEATHER, Work Horse

c Predictors in the Model: (Constant), WEATHER, Work Horse, HORSES

d Dependent Variable: VALUE

Coefficient Correlations(a)

Model			WEATHER	Work Horse	HORSES
1	Correlations	WEATHER	1,000		
	Covariances	WEATHER	4,686E-03		
2	Correlations	WEATHER	1,000	-,546	
		Work Horse	-,546	1,000	
3	Covariances	WEATHER	5,109E-03	-,125	
		Work Horse	-,125	10,211	
	Correlations	WEATHER	1,000	-,636	-,716
		Work Horse	-,636	1,000	,401
		HORSES	-,716	,401	1,000
	Covariances	WEATHER	8,913E-03	-,193	-9,827E-02
		Work Horse	-,193	10,327	1,870
		HORSES	-9,827E-02	1,870	2,111

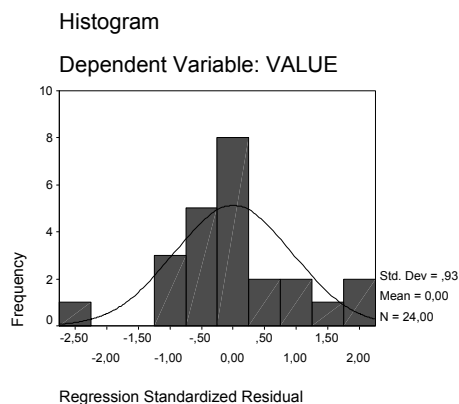
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,50	20,58	8,42	5,32	24
Residual	-10,21	9,72	3,70E-17	4,20	24
Std. Predicted Value	-1,678	2,288	,000	1,000	24
Std. Residual	-2,266	2,158	,000	,933	24

a Dependent Variable: VALUE

Charts



Appendix 3.54

Aðalvík. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,786(a)	,618	,601	4,280

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	652,899	1	652,899	35,648	,000(a)
	Residual	402,934	22	18,315		
	Total	1055,833	23			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,125	1,131		3,646	,001
	FISH_COW	2,289	,383	,786	5,971	,000

a Dependent Variable: VALUE

Residuals Statistics(a)

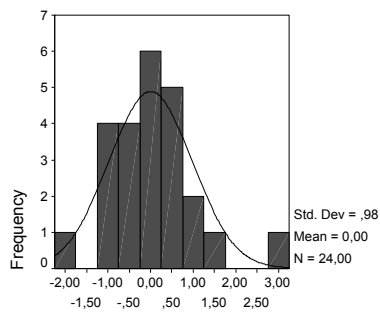
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4,13	20,15	8,42	5,328	24
Residual	-7,57	11,87	,00	4,186	24
Std. Predicted Value	-,805	2,202	,000	1,000	24
Std. Residual	-1,769	2,775	,000	,978	24

a. Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.55

Trékyllisvík. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,902
Winter old cow	1,000	,954
HEIFERE	1,000	,873
CALFS	1,000	,949
Young bulls	1,000	,990
MILK_EWE	1,000	,872
WEATHER	1,000	,940
LAMB	1,000	,970
HORSES	1,000	,908
Work Horse	1,000	,892
PHILLY	1,000	,996
STALLION	1,000	,996

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %

1	3,660	30,502	30,502	3,660	30,502	30,502
2	2,205	18,373	48,875	2,205	18,373	48,875
3	1,533	12,775	61,649	1,533	12,775	61,649
4	1,442	12,019	73,669	1,442	12,019	73,669
5	1,051	8,755	82,423	1,051	8,755	82,423
6	,842	7,014	89,437	,842	7,014	89,437
7	,511	4,257	93,695	,511	4,257	93,695
8	,380	3,169	96,864			
9	,224	1,864	98,728			
10	,095	,793	99,521			
11	,057	,479	100,000			
12	3,422E-16	2,852E-15	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,924	,175	,060	,051	,008	-,061	-,086
Winter old cow	-,164	-,033	,266	,444	,740	,299	-,146
HEIFERE	,207	-,254	,558	,592	,091	-,189	,246
CALFS	,313	-,137	-,446	,622	-,314	,250	,293
Young bulls	,464	-,149	-,093	-,536	,442	-,092	,503
MILK_EWE	,902	,057	-,011	,084	,047	,205	-,053
WEATHER	,898	-,058	,034	-,257	,143	,000	-,207
LAMB	,319	-,179	,504	-,285	-,323	,628	,047
HORSES	,615	-,344	,356	,132	-,231	-,451	-,102
Work Horse	,510	-,149	-,736	,180	,139	,021	-,124
PHILLY	,176	,972	,088	,084	-,022	-,030	,069
STALLION	,176	,972	,088	,084	-,022	-,030	,069

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.56

Trékyllisvík. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

2			Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
3	HEIFERE	,	Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
4	PHILLY	,	Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
5	CALFS	,	Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
6		COWS	Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
	Young bulls	,	Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(g)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,514(a)	,264	,238	6,522
2	,612(b)	,374	,328	6,124

3	,717(c)	,514	,458	5,501
4	,771(d)	,595	,530	5,122
5	,742(e)	,551	,499	5,287
6	,794(f)	,631	,572	4,889

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, HEIFERE

c Predictors: (Constant), COWS, HEIFERE, PHILLY

d Predictors: (Constant), COWS, HEIFERE, PHILLY, CALFS

e Predictors: (Constant), HEIFERE, PHILLY, CALFS

f Predictors: (Constant), HEIFERE, PHILLY, CALFS, Young bulls

g Dependent Variable: VALUE

ANOVA(g)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	427,615	1	427,615	10,053	,004(a)
	Residual	1191,051	28	42,538		
	Total	1618,667	29			
2	Regression	605,936	2	302,968	8,077	,002(b)
	Residual	1012,731	27	37,509		
	Total	1618,667	29			
3	Regression	831,770	3	277,257	9,161	,000(c)
	Residual	786,897	26	30,265		
	Total	1618,667	29			
4	Regression	962,668	4	240,667	9,172	,000(d)
	Residual	655,999	25	26,240		
	Total	1618,667	29			
5	Regression	891,928	3	297,309	10,637	,000(e)
	Residual	726,739	26	27,952		
	Total	1618,667	29			
6	Regression	1020,998	4	255,250	10,677	,000(f)
	Residual	597,669	25	23,907		
	Total	1618,667	29			

a Predictors: (Constant), COWS

b Predictors: (Constant), COWS, HEIFERE

c Predictors: (Constant), COWS, HEIFERE, PHILLY

d Predictors: (Constant), COWS, HEIFERE, PHILLY, CALFS

e Predictors: (Constant), HEIFERE, PHILLY, CALFS

f Predictors: (Constant), HEIFERE, PHILLY, CALFS, Young bulls

g Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,427	1,714		4,334	,000
	COWS	2,131	,672	,514		
2	(Constant)	6,668	1,646		4,051	,000
	COWS	1,910	,639	,461		
	HEIFERE	4,983	2,285	,336		
3	(Constant)	7,003	1,484		4,719	,000
	COWS	1,322	,613	,319		
	HEIFERE	5,835	2,076	,394		
	PHILLY	16,389	6,000	,401		
4	(Constant)	7,093	1,382		5,131	,000
	COWS	,972	,592	,234		

5	HEIFERE	5,449	1,941	,368	2,807	,010
	PHILLY	18,047	5,636	,441	3,202	,004
	CALFS	8,780	3,931	,298	2,233	,035
	(Constant)	8,522	1,108		7,691	,000
6	HEIFERE	5,984	1,975	,404	3,030	,005
	PHILLY	21,478	5,402	,525	3,976	,000
	CALFS	10,486	3,913	,356	2,680	,013
	(Constant)	7,347	1,143		6,428	,000
	HEIFERE	6,314	1,832	,426	3,447	,002
	PHILLY	22,653	5,021	,554	4,512	,000
	CALFS	11,496	3,645	,390	3,154	,004
	Young bulls	4,251	1,830	,287	2,324	,029

a Dependent Variable: VALUE

Excluded Variables(g)

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Winter old cow	-,040(a)	-,240	,812	-,046	,992
	HEIFERE	,336(a)	2,180	,038	,387	,975
	CALFS	,276(a)	1,705	,100	,312	,937
	Young bulls	-,030(a)	-,170	,866	-,033	,879
	MILK_EWE	,146(a)	,571	,573	,109	,413
	WEATHER	-,254(a)	-,949	,351	-,180	,369
	LAMB	,000(a)	,001	,999	,000	,939
	HORSES	-,065(a)	-,317	,753	-,061	,651
	Work Horse	-,037(a)	-,204	,840	-,039	,834
	PHILLY	,339(a)	2,085	,047	,372	,890
	STALLION	,339(a)	2,085	,047	,372	,890
2	Winter old cow	-,156(b)	-,973	,340	-,187	,899
	CALFS	,242(b)	1,570	,129	,294	,926
	Young bulls	,025(b)	,147	,884	,029	,858
	MILK_EWE	,101(b)	,416	,681	,081	,410
	WEATHER	-,209(b)	-,825	,417	-,160	,366
	LAMB	-,024(b)	-,149	,883	-,029	,934
	HORSES	-,295(b)	-1,442	,161	-,272	,532
	Work Horse	,031(b)	,178	,860	,035	,806
	PHILLY	,401(b)	2,732	,011	,472	,870
	STALLION	,401(b)	2,732	,011	,472	,870
3	Winter old cow	-,173(c)	-1,213	,237	-,236	,898
	CALFS	,298(c)	2,233	,035	,408	,910
	Young bulls	,138(c)	,900	,377	,177	,801
	MILK_EWE	,145(c)	,671	,508	,133	,407
	WEATHER	,019(c)	,077	,939	,015	,318
	LAMB	,051(c)	,346	,732	,069	,901
	HORSES	-,075(c)	-,349	,730	-,070	,419
	Work Horse	,178(c)	1,116	,275	,218	,727
	STALLION	,(c)	,	,	,	,000
4	Winter old cow	-,156(d)	-1,166	,255	-,232	,894

5	Young bulls	,240(d)	1,687	,105	,326	,744
	MILK_EWE	,047(d)	,225	,824	,046	,386
	WEATHER	,268(d)	1,089	,287	,217	,265
	LAMB	,090(d)	,661	,515	,134	,887
	HORSES	-,012(d)	-,060	,953	-,012	,410
	Work Horse	,036(d)	,212	,834	,043	,581
	STALLION	,(d)	,	,	,	,000
	Winter old cow	-,181(e)	-1,332	,195	-,257	,909
	Young bulls	,287(e)	2,324	,029	,421	,970
	MILK_EWE	,190(e)	1,324	,197	,256	,813
6	WEATHER	,252(e)	2,014	,055	,374	,989
	LAMB	,147(e)	1,111	,277	,217	,979
	HORSES	,157(e)	1,062	,298	,208	,789
	Work Horse	,139(e)	,896	,379	,176	,727
	STALLION	,(e)	,	,	,	,000
	COWS	,234(e)	1,642	,113	,312	,795
	Winter old cow	-,158(f)	-1,253	,222	-,248	,903
	MILK_EWE	,060(f)	,387	,702	,079	,643
	WEATHER	,142(f)	,985	,335	,197	,716
	LAMB	,118(f)	,957	,348	,192	,969
	HORSES	,094(f)	,667	,511	,135	,755
	Work Horse	,041(f)	,268	,791	,055	,659
	STALLION	,(f)	,	,	,	,000
	COWS	,106(f)	,676	,505	,137	,610

a Predictors in the Model: (Constant), COWS

b Predictors in the Model: (Constant), COWS, HEIFERE

c Predictors in the Model: (Constant), COWS, HEIFERE, PHILLY

d Predictors in the Model: (Constant), COWS, HEIFERE, PHILLY, CALFS

e Predictors in the Model: (Constant), HEIFERE, PHILLY, CALFS

f Predictors in the Model: (Constant), HEIFERE, PHILLY, CALFS, Young bulls

g Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS	HEIFERE	PHILLY	CALFS	Young bulls
1	Correlations	COWS	1,000				
2	Covariances	COWS	,452				
	Correlations	COWS	1,000	-,158			
		HEIFERE	-,158	1,000			
	Covariances	COWS	,409	-,231			
		HEIFERE	-,231	5,222			
3	Correlations	COWS	1,000	-,199	-,351		
		HEIFERE	-,199	1,000	,150		
		PHILLY	-,351	,150	1,000		
	Covariances	COWS	,376	-,254	-1,293		
		HEIFERE	-,254	4,311	1,872		
		PHILLY	-1,293	1,872	35,998		
4	Correlations	COWS	1,000	-,168	-,371	-,264	
		HEIFERE	-,168	1,000	,137	-,089	
		PHILLY	-,371	,137	1,000	,132	
		CALFS	-,264	-,089	,132	1,000	
	Covariances	COWS	,351	-,193	-1,237	-,615	
		HEIFERE	-,193	3,768	1,495	-,679	
		PHILLY	-1,237	1,495	31,760	2,917	
		CALFS	-,615	-,679	2,917	15,454	
5	Correlations	HEIFERE		1,000	,081	-,140	
		PHILLY		,081	1,000	,038	

6	Covariances	CALFS					
		HEIFERE					
		PHILLY					
		CALFS					
	Correlations	HEIFERE					
		PHILLY					
		CALFS					
		Young bulls					
	Covariances	HEIFERE					
		PHILLY					
		CALFS					
		Young bulls					

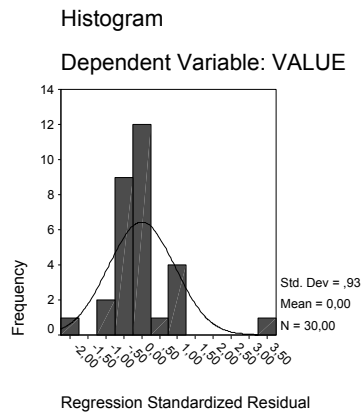
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	7,35	30,00	11,33	5,934	30
Residual	-9,66	16,65	,00	4,540	30
Std. Predicted Value	-,672	3,146	,000	1,000	30
Std. Residual	-1,976	3,406	,000	,928	30

a Dependent Variable: VALUE

Charts



Appendix 3.57

Trékyllisvík. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,406(a)	,164	,135	6,950

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	266,213	1	266,213	5,511	,026(a)
	Residual	1352,454	28	48,302		
	Total	1618,667	29			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,627	1,714		5,032	,000
	COW_DRIF	1,657	,706	,406	2,348	,026

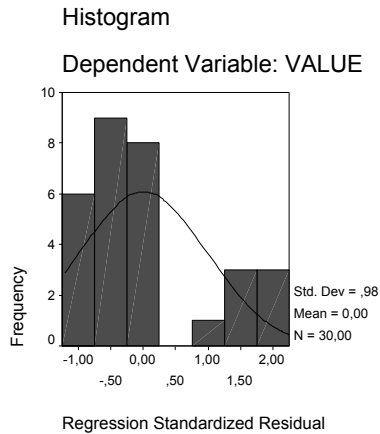
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,63	18,57	11,33	3,030	30
Std. Predicted Value	-,893	2,388	,000	1,000	30
Standard Error of Predicted Value	1,295	3,333	1,732	,476	30
Adjusted Predicted Value	7,63	20,53	11,31	3,125	30
Residual	-7,94	15,37	,00	6,829	30
Std. Residual	-1,143	2,212	,000	,983	30
Stud. Residual	-1,163	2,282	,002	1,023	30
Deleted Residual	-8,53	16,37	,03	7,414	30
Stud. Deleted Residual	-1,171	2,484	,023	1,061	30
Mahal. Distance	,040	5,703	,967	1,235	30
Cook's Distance	,000	,369	,044	,077	30
Centered Leverage Value	,001	,197	,033	,043	30

a Dependent Variable: VALUE

Charts



Appendix 3.58

Trékyllisvík. Stranding Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	,	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,399(a)	,159	,129	6,971

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	258,065	1	258,065	5,311	,029(a)
	Residual	1360,602	28	48,593		
	Total	1618,667	29			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,753	1,695		5,163	,000
	COW_STR	1,613	,700	,399	2,305	,029

a Dependent Variable: VALUE

Residuals Statistics(a)

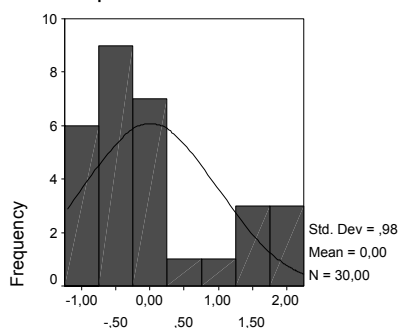
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,75	18,43	11,33	2,983	30
Std. Predicted Value	-,865	2,379	,000	1,000	30
Standard Error of Predicted Value	1,303	3,332	1,739	,471	30
Adjusted Predicted Value	7,79	20,33	11,30	3,072	30
Residual	-7,98	15,25	,00	6,850	30
Std. Residual	-1,145	2,187	,000	,983	30
Stud. Residual	-1,165	2,255	,002	1,023	30
Deleted Residual	-8,33	16,21	,03	7,428	30
Stud. Deleted Residual	-1,173	2,448	,022	1,059	30
Mahal. Distance	,047	5,660	,967	1,222	30
Cook's Distance	,000	,371	,043	,076	30
Centered Leverage Value	,002	,195	,033	,042	30

a. Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.59

Trékyllisvík. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,441(a)	,194	,165	6,825

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	314,407	1	314,407	6,750	,015(a)
	Residual	1304,260	28	46,581		
	Total	1618,667	29			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,091	1,763		4,588	,000
	FISH_COW	1,835	,706	,441	2,598	,015

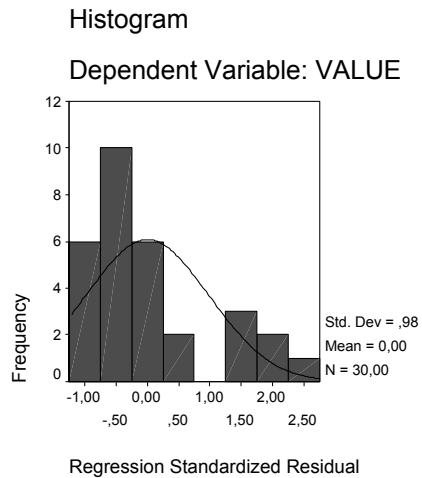
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,09	19,10	11,33	3,293	30
Residual	-7,76	15,91	,00	6,706	30
Std. Predicted Value	-,985	2,359	,000	1,000	30
Std. Residual	-1,137	2,331	,000	,983	30

a Dependent Variable: VALUE

Charts



Appendix 3.60

Kaldrananes. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,937
Winter old cow	1,000	,995
HEIFERE	1,000	,938
CALFS	1,000	,921
Young bulls	1,000	,972
MILK_EWE	1,000	,926
WEATHER	1,000	,938
LAMB	1,000	,857
HORSES	1,000	,917
Work Horse	1,000	,903
PHILLY	1,000	,990
STALLION	1,000	,966

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,189	34,912	34,912	4,189	34,912	34,912
2	2,200	18,337	53,249	2,200	18,337	53,249
3	1,331	11,095	64,344	1,331	11,095	64,344
4	1,136	9,467	73,811	1,136	9,467	73,811
5	1,053	8,774	82,585	1,053	8,774	82,585
6	,791	6,592	89,177	,791	6,592	89,177
7	,560	4,663	93,839	,560	4,663	93,839
8	,293	2,443	96,282			

9	,252	2,098	98,381			
10	,081	,677	99,058			
11	,057	,474	99,532			
12	,056	,468	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,858	-,161	-,107	-,311	-,177	,152	,111
Winter old cow	-,172	,242	-,577	-,010	,635	-,002	,412
HEIFERE	,390	-,382	,412	,049	,469	-,498	-,008
CALFS	,087	,637	,565	-,362	,049	,198	,125
Young bulls	,520	,403	-,482	-,081	,246	,079	-,485
MILK_EWE	,957	-,020	-,060	-,042	-,038	,029	,050
WEATHER	,891	-,088	,079	,196	-,124	-,027	,275
LAMB	,799	,064	,242	,154	,298	-,081	-,190
HORSES	,596	-,613	-,292	-,277	-,114	,098	,046
Work Horse	,433	,828	,122	-,053	,038	,075	,070
PHILLY	,003	-,436	,263	,396	,358	,667	-,030
STALLION	,321	,371	-,165	,774	-,295	-,083	,066

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.61

Kaldrananes. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).
2	HORSES		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,687(a)	,472	,451	4,54
2	,753(b)	,567	,531	4,20

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, HORSES

c Dependent Variable: VALUE

ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	460,842	1	460,842	22,335	,000(a)
	Residual	515,825	25	20,633		
	Total	976,667	26			
2	Regression	553,816	2	276,908	15,717	,000(b)
	Residual	422,850	24	17,619		
	Total	976,667	26			

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, HORSES

c Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,751	1,869		1,472	,154		
	MILK_EWE	,321	,068	,687	4,726	,000	1,000	1,000
2	(Constant)	3,769	1,783		2,114	,045		
	MILK_EWE	,214	,078	,457	2,732	,012	,644	1,554
	HORSES	1,651	,719	,385	2,297	,031	,644	1,554

a Dependent Variable: VALUE

Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	,044(a)	,152	,880	,031	,259	3,859	,259
	Winter old cow	-,085(a)	-,574	,571	-,116	,980	1,021	,980
	HEIFERE	,186(a)	1,217	,235	,241	,888	1,126	,888
	CALFS	-,104(a)	-,708	,486	-,143	,998	1,002	,998
	Young bulls	-,191(a)	-1,162	,257	-,231	,772	1,296	,772
	WEATHER	,218(a)	,855	,401	,172	,329	3,039	,329

2	LAMB	-,289(a)	-1,479	,152	-,289	,528	1,894	,528
	HORSES	,385(a)	2,297	,031	,425	,644	1,554	,644
	Work Horse	-,148(a)	-,922	,366	-,185	,828	1,208	,828
	PHILLY	,119(a)	,816	,422	,164	1,000	1,000	1,000
	STALLION	,051(a)	,330	,744	,067	,919	1,089	,919
	COWS	-,343(b)	-1,133	,269	-,230	,195	5,133	,195
	Winter old cow	-,066(b)	-,478	,637	-,099	,976	1,025	,640
	HEIFERE	,162(b)	1,141	,266	,231	,883	1,133	,609
	CALFS	,039(b)	,257	,800	,054	,806	1,241	,519
	Young bulls	-,155(b)	-1,011	,323	-,206	,763	1,311	,514
	WEATHER	,163(b)	,684	,501	,141	,325	3,073	,295
	LAMB	-,181(b)	-,932	,361	-,191	,483	2,070	,330
	Work Horse	,185(b)	,881	,387	,181	,413	2,420	,287
	PHILLY	,078(b)	,565	,578	,117	,980	1,020	,631
	STALLION	,212(b)	1,418	,170	,284	,774	1,292	,507

a Predictors in the Model: (Constant), MILK_EWE
b Predictors in the Model: (Constant), MILK_EWE, HORSES
c Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE	HORSES
1	Correlations	MILK_EWE	1,000	
2	Covariances	MILK_EWE	4,620E-03	
		MILK_EWE	1,000	-,597
	Covariances	HORSES	-,597	1,000
		MILK_EWE	6,129E-03	-,034
		HORSES	-3,360E-02	,517

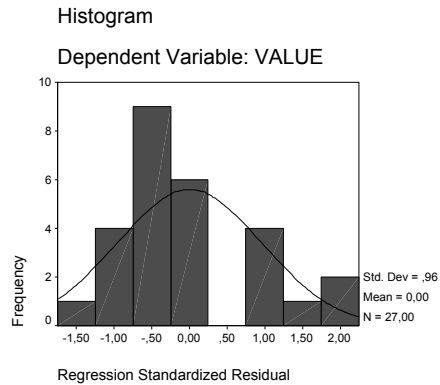
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,77	22,93	10,56	4,62	27
Residual	-6,93	8,23	2,63E-16	4,03	27
Std. Predicted Value	-1,471	2,682	,000	1,000	27
Std. Residual	-1,651	1,961	,000	,961	27

a Dependent Variable: VALUE

Charts



Appendix 3.62

Kaldrananes. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,506(a)	,256	,225	5,484

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	248,067	1	248,067	8,248	,008(a)
	Residual	721,818	24	30,076		
	Total	969,885	25			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,495	1,312		6,474	,000
	COW_DRIF	1,369	,477	,506	2,872	,008

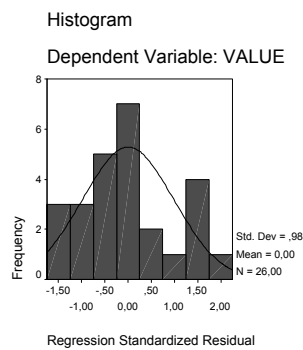
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8,49	20,82	10,65	3,150	26
Std. Predicted Value	-,685	3,226	,000	1,000	26
Standard Error of Predicted Value	1,094	3,698	1,437	,508	26
Adjusted Predicted Value	7,92	21,50	10,65	3,247	26
Residual	-8,49	10,03	,00	5,373	26
Std. Residual	-1,549	1,829	,000	,980	26
Stud. Residual	-1,595	1,909	,000	1,017	26
Deleted Residual	-9,01	10,93	,00	5,799	26
Stud. Deleted Residual	-1,652	2,030	,011	1,046	26
Mahal. Distance	,034	10,409	,962	2,002	26
Cook's Distance	,000	,208	,040	,056	26
Centered Leverage Value	,001	,416	,038	,080	26

a. Dependent Variable: VALUE

Charts



Appendix 3.63

Kaldrananes. Stranding Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	,	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,362(a)	,131	,095	5,925

a. Predictors: (Constant), COW_STR

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127,271	1	127,271	3,625	,069(a)
	Residual	842,613	24	35,109		
	Total	969,885	25			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,237	1,380		6,693	,000
	COW_STR	,996	,523	,362	1,904	,069

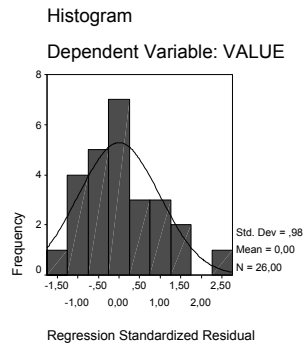
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9,24	18,20	10,65	2,256	26
Std. Predicted Value	-,628	3,344	,000	1,000	26
Standard Error of Predicted Value	1,201	4,130	1,540	,584	26
Adjusted Predicted Value	8,39	16,50	10,57	2,087	26
Residual	-9,24	14,76	,00	5,806	26
Std. Residual	-1,559	2,492	,000	,980	26
Stud. Residual	-1,603	2,562	,006	1,016	26
Deleted Residual	-9,77	15,61	,08	6,258	26
Stud. Deleted Residual	-1,661	2,943	,026	1,069	26
Mahal. Distance	,065	11,183	,962	2,173	26
Cook's Distance	,001	,254	,040	,061	26
Centered Leverage Value	,003	,447	,038	,087	26

a Dependent Variable: VALUE

Charts



Appendix 3.64

Kaldrananes. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,579(a)	,335	,308	5,183

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	325,214	1	325,214	12,107	,002(a)
	Residual	644,670	24	26,861		
	Total	969,885	25			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,069	1,447		4,884	,000
	FISH_COW	1,664	,478	,579	3,480	,002

a Dependent Variable: VALUE

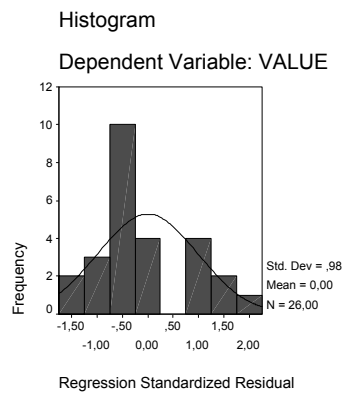
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N

Predicted Value	7,07	22,05	10,65	3,607	26
Residual	-7,39	10,27	,00	5,078	26
Std. Predicted Value	-,994	3,159	,000	1,000	26
Std. Residual	-1,426	1,982	,000	,980	26

a. Dependent Variable: VALUE

Charts



Appendix 3.65

Staðarhreppur. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,976
Winter old cow	1,000	,957
HEIFERE	1,000	,945
CALFS	1,000	,921
Young bulls	1,000	,827
MILK_EWE	1,000	,976
WEATHER	1,000	,942
LAMB	1,000	,935
HORSES	1,000	,956
Work Horse	1,000	,990
PHILLY	1,000	,996
STALLION	1,000	,945

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,869	32,238	32,238	3,869	32,238	32,238
2	2,571	21,428	53,666	2,571	21,428	53,666
3	1,356	11,300	64,967	1,356	11,300	64,967

4	1,222	10,183	75,149	1,222	10,183	75,149
5	1,027	8,562	83,711	1,027	8,562	83,711
6	,788	6,569	90,281	,788	6,569	90,281
7	,531	4,427	94,708	,531	4,427	94,708
8	,301	2,505	97,213			
9	,198	1,651	98,864			
10	,110	,917	99,781			
11	2,446E-02	,204	99,985			
12	1,816E-03	1,513E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,954	-6,328E-02	-2,177E-02	-,137	-2,489E-02	,201	-2,632E-02
Winter old cow	,177	,294	-,605	,449	-,305	,368	,210
HEIFERE	,146	,565	,404	-,476	-,232	,268	-,297
CALFS	,694	-,474	5,947E-02	-,194	,132	-,281	,279
Young bulls	,447	-,623	,421	,239	6,129E-02	1,585E-02	2,890E-02
MILK_EWE	,633	,703	-4,866E-02	,191	,107	-,156	-7,899E-02
WEATHER	,715	-,377	-6,788E-02	-,324	-,197	,359	,100
LAMB	,674	,545	5,429E-02	,304	,155	-,231	-,103
HORSES	,870	-,212	-,207	,140	,129	-1,515E-02	-,274
Work Horse	,234	,730	,408	-,117	6,539E-02	3,563E-02	,466
PHILLY	-,191	7,397E-02	-,158	-,120	,874	,389	5,481E-03
STALLION	-9,965E-02	-,178	,633	,632	-4,462E-03	,319	-3,085E-02

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.66

Staðarhreppur. Domestic animals. Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,564(a)	,318	,275	9,008

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	604,785	1	604,785	7,453	,015(a)
	Residual	1298,326	16	81,145		
	Total	1903,111	17			

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,183	3,630		1,152	,266
	MILK_EWE	,259	,095	,564	2,730	,015

a Dependent Variable: VALUE

Residuals Statistics(a)

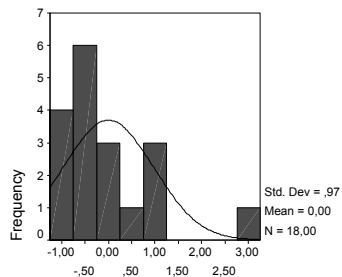
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4,18	21,04	12,22	5,965	18
Residual	-8,33	27,78	,00	8,739	18
Std. Predicted Value	-1,348	1,478	,000	1,000	18
Std. Residual	-,925	3,084	,000	,970	18

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.67

Staðarhreppur. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,497(a)	,247	,200	9,466

a Predictors: (Constant), COW_DRIF

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	469,402	1	469,402	5,238	,036(a)
	Residual	1433,709	16	89,607		
	Total	1903,111	17			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,381	2,553		3,674	,002
	COW_DRIF	2,557	1,117	,497	2,289	,036

a Dependent Variable: VALUE

Appendix 3.68

Staðarhreppur. Stranding Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,497(a)	,247	,200	9,466

a Predictors: (Constant), COW_STR

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	469,402	1	469,402	5,238	,036(a)
	Residual	1433,709	16	89,607		
	Total	1903,111	17			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9,381	2,553		3,674	,002
	COW_STRA	2,557	1,117	,497	2,289	,036

a Dependent Variable: VALUE

Appendix 3.69

Staðarhreppur. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,310(a)	,096	,043	10,104

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	184,462	1	184,462	1,807	,197(a)
	Residual	1735,538	17	102,090		
	Total	1920,000	18			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,326	2,631		3,924	,001
	FISH_COW	1,590	1,183	,310	1,344	,197

a Dependent Variable: VALUE

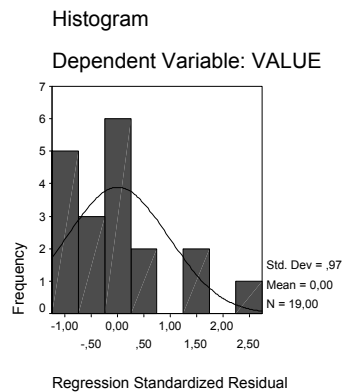
Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,33	19,87	12,00	3,201	19

Residual	-10,33	26,49	,00	9,819	19
Std. Predicted Value	-,523	2,458	,000	1,000	19
Std. Residual	-1,022	2,622	,000	,972	19

a. Dependent Variable: VALUE

Charts



Appendix 3.70

Tröllatunguhreppur. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,955
Winter old cow	1,000	,970
HEIFERE	1,000	,973
CALFS	1,000	,983
Young bulls	1,000	,991
MILK_EWE	1,000	,993
WEATHER	1,000	,949
LAMB	1,000	,930
HORSES	1,000	,941
Work Horse	1,000	,978
PHILLY	1,000	,972
STALLION	1,000	,974

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,428	45,231	45,231	5,428	45,231	45,231
2	2,124	17,698	62,929	2,124	17,698	62,929
3	1,603	13,355	76,284	1,603	13,355	76,284
4	1,420	11,833	88,117	1,420	11,833	88,117

5	,436	3,634	91,751	,436	3,634	91,751
6	,336	2,797	94,548	,336	2,797	94,548
7	,263	2,188	96,736	,263	2,188	96,736
8	,171	1,424	98,160			
9	,142	1,187	99,347			
10	,056	,469	99,816			
11	,018	,150	99,966			
12	,004	3,433E-02	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,927	,017	-,169	,010	,026	-,152	,204
Winter old cow	,512	-,625	-,397	-,029	-,206	,318	,122
HEIFERE	,540	-,095	,759	,157	,219	,156	-,011
CALFS	,520	,621	-,309	,309	-,156	,057	-,330
Young bulls	,132	,550	-,421	,586	,298	,191	,159
MILK_EWE	,986	-,006	-,105	,006	,044	-,075	,043
WEATHER	,904	-,114	-,017	,062	,154	-,300	-,024
LAMB	,937	-,015	-,041	-,168	-,058	,042	-,130
HORSES	,710	-,628	-,074	-,008	,091	,090	-,141
Work Horse	,562	,640	,078	-,367	-,287	,004	,169
PHILLY	,421	,145	,730	,431	-,216	,076	,049
STALLION	,247	,444	,101	-,776	,256	,190	-,041

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.71

Tröllatunguhreppur. Domestic animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

2	Winter old cow		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,726(a)	,528	,503	6,36
2	,925(b)	,856	,840	3,61

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, Winter old cow

c Dependent Variable: VALUE

ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	858,216	1	858,216	21,230	,000(a)
	Residual	768,069	19	40,425		
	Total	1626,286	20			
2	Regression	1392,154	2	696,077	53,514	,000(b)
	Residual	234,132	18	13,007		
	Total	1626,286	20			

a Predictors: (Constant), MILK_EWE

b Predictors: (Constant), MILK_EWE, Winter old cow

c Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,117	2,155		,982	,338		
	MILK_EWE	,266	,058	,726	4,608	,000	1,000	1,000
2	(Constant)	,764	1,240		,616	,546		
	MILK_EWE	,392	,038	1,070	10,261	,000	,735	1,360
	Winter old cow	-11,774	1,838	-,668	-6,407	,000	,735	1,360

a Dependent Variable: VALUE

Excluded Variables(c)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance

1	COWS	-,085(a)	-,144	,887	-,034	7,505E-02	13,324	7,505E-02
	Winter old cow	-,668(a)	-6,407	,000	-,834	,735	1,360	,735
	HEIFERE	,314(a)	1,898	,074	,408	,800	1,250	,800
	CALFS	,127(a)	,680	,505	,158	,733	1,365	,733
	Young bulls	,043(a)	,263	,795	,062	,968	1,033	,968
	WEATHER	,287(a)	,746	,465	,173	,171	5,834	,171
	LAMB	-,137(a)	-,342	,736	-,080	,163	6,120	,163
	HORSES	-,633(a)	-3,601	,002	-,647	,494	2,024	,494
	Work Horse	,459(a)	2,911	,009	,566	,718	1,394	,718
	PHILLY	,370(a)	2,503	,022	,508	,890	1,123	,890
	STALLION	,267(a)	1,736	,100	,379	,951	1,052	,951
2	COWS	-,074(b)	-,222	,827	-,054	7,505E-02	13,324	7,319E-02
	HEIFERE	,169(b)	1,735	,101	,388	,754	1,326	,555
	CALFS	-,115(b)	-1,036	,315	-,244	,647	1,545	,476
	Young bulls	-,108(b)	-1,159	,263	-,271	,908	1,101	,677
	WEATHER	,188(b)	,864	,400	,205	,171	5,865	,156
	LAMB	-,009(b)	-,038	,970	-,009	,162	6,170	,159
	HORSES	-,200(b)	-1,246	,230	-,289	,300	3,334	,300
	Work Horse	,187(b)	1,639	,119	,369	,565	1,771	,417
	PHILLY	,185(b)	1,979	,064	,433	,787	1,270	,585
	STALLION	,086(b)	,883	,390	,209	,851	1,175	,642

a Predictors in the Model: (Constant), MILK_EWE

b Predictors in the Model: (Constant), MILK_EWE, Winter old cow

c Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE	Winter old cow
1	Correlations	MILK_EWE	1,000	
	Covariances	MILK_EWE	3,331E-03	
2	Correlations	MILK_EWE	1,000	-,514
		Winter old cow	-,514	1,000
	Covariances	MILK_EWE	1,457E-03	-3,609E-02
		Winter old cow	-3,609E-02	3,377

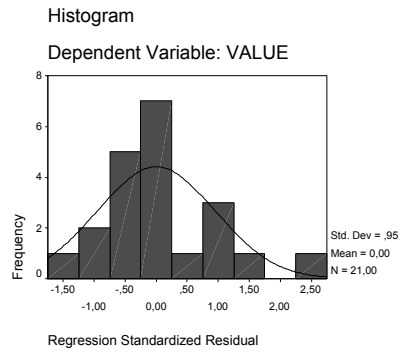
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1,61	25,05	9,71	8,34	21
Residual	-6,00	9,61	2,11E-15	3,42	21
Std. Predicted Value	-1,357	1,838	,000	1,000	21
Std. Residual	-1,664	2,664	,000	,949	21

a Dependent Variable: VALUE

Charts



Appendix 3.72

Tröllatunguhreppur. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,580(a)	,336	,301	7,537

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	546,881	1	546,881	9,626	,006(a)
	Residual	1079,404	19	56,811		
	Total	1626,286	20			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,604	1,926		3,428	,003
	COW_DRIF	2,840	,915	,580	3,103	,006

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_DRIF
1	Correlations	COW_DRIF	1,000

Covariances	COW_DRIF	,838

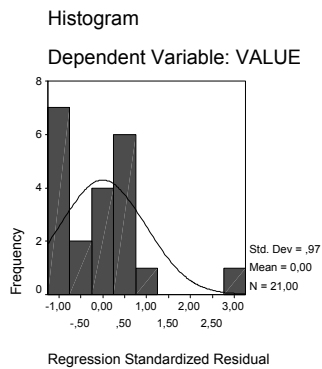
a. Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,60	23,64	9,71	5,229	21
Residual	-6,60	23,40	,00	7,346	21
Std. Predicted Value	-,595	2,664	,000	1,000	21
Std. Residual	-,876	3,104	,000	,975	21

a. Dependent Variable: VALUE

Charts



Appendix 2.73

Tröllatunguhreppur. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,589(a)	,347	,313	7,474

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	564,941	1	564,941	10,113	,005(a)

Residual	1061,345	19	55,860		
Total	1626,286	20			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,832	1,866		3,662	,002
	FISH_COW	2,882	,906	,589	3,180	,005

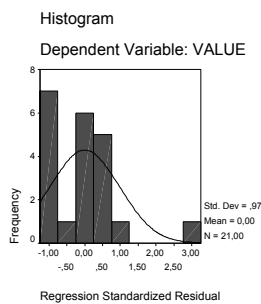
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6,83	24,13	9,71	5,315	21
Residual	-6,83	23,17	,00	7,285	21
Std. Predicted Value	-,542	2,712	,000	1,000	21
Std. Residual	-,914	3,100	,000	,975	21

a Dependent Variable: VALUE

Charts



Appendix 3.74

Bitruhreppur. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,940
Winter old cow	1,000	,948
HEIFERE	1,000	,985
CALFS	1,000	,986
Young bulls	1,000	,963
MILK_EWE	1,000	,946
WEATHER	1,000	,947

LAMB	1,000	,940
HORSES	1,000	,992
Work Horse	1,000	,940
PHILLY	1,000	,983
STALLION	1,000	,960

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,317	44,309	44,309	5,317	44,309	44,309
2	1,821	15,175	59,484	1,821	15,175	59,484
3	1,575	13,127	72,610	1,575	13,127	72,610
4	1,120	9,330	81,940	1,120	9,330	81,940
5	,783	6,521	88,462	,783	6,521	88,462
6	,508	4,234	92,695	,508	4,234	92,695
7	,406	3,385	96,080	,406	3,385	96,080
8	,211	1,759	97,840			
9	,139	1,162	99,002			
10	5,033E-02	,419	99,421			
11	3,954E-02	,329	99,751			
12	2,988E-02	,249	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,930	-,104	,118	-7,058E-03	-,213	6,688E-02	-1,577E-02
Winter old cow	,538	-5,253E-02	,540	,477	-,118	-,336	,100
HEIFERE	,212	-,343	,572	-,282	,640	-7,153E-02	-3,727E-02
CALFS	,662	,500	8,492E-02	,310	3,703E-02	,115	-,424
Young bulls	,372	,739	-,266	-,170	,396	8,370E-02	,121
MILK_EWE	,924	-,129	-5,965E-02	-,242	-3,103E-02	2,711E-02	-,110
WEATHER	,785	-,217	-,309	-,213	1,928E-02	-,372	5,729E-02
LAMB	,884	-,328	-3,211E-02	-,102	-1,838E-02	8,803E-02	-,178
HORSES	,635	8,876E-02	,461	-,346	-,263	,326	,269
Work Horse	,571	-,261	-,732	2,315E-02	2,305E-02	-9,479E-03	8,906E-02
PHILLY	,373	-,450	-,121	,650	,286	,299	,180
STALLION	,648	,666	2,858E-02	,175	4,815E-02	-,149	,201

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

Appendix 3.75

Bitruhreppur. Domestic Animals. Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	COWS		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,435(a)	,189	,156	9,68

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	545,577	1	545,577	5,822	,023(a)
	Residual	2342,720	25	93,709		
	Total	2888,296	26			

a Predictors: (Constant), COWS

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9,195	2,841		3,236	,003		
	COWS	2,740	1,136	,435	2,413	,023	1,000	1,000

a Dependent Variable: VALUE

Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Winter old cow	-,142(a)	-,662	,514	-,134	,719	1,391	,719
	HEIFERE	-,109(a)	-,588	,562	-,119	,967	1,034	,967
	CALFS	-,197(a)	-,882	,387	-,177	,656	1,525	,656
	Young bulls	-,027(a)	-,147	,884	-,030	,982	1,018	,982
	MILK_EWE	-,306(a)	-,890	,383	-,179	,277	3,610	,277

WEATHER	-,311(a)	-1,249	,224	-,247	,512	1,955	,512
LAMB	-,599(a)	-1,945	,064	-,369	,308	3,251	,308
HORSES	,183(a)	,717	,480	,145	,507	1,972	,507
Work Horse	-,206(a)	-1,011	,322	-,202	,782	1,279	,782
PHILLY	-,187(a)	-,978	,338	-,196	,889	1,125	,889
STALLION	-,111(a)	-,513	,613	-,104	,712	1,404	,712

a Predictors in the Model: (Constant), COWS

b Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COWS
1	Correlations	COWS	1,000
	Covariances	COWS	1,290

a Dependent Variable: VALUE

Residuals Statistics(a)

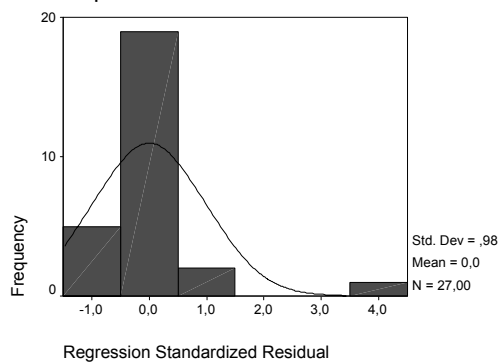
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9,19	28,38	14,37	4,58	27
Residual	-9,41	42,59	-6,58E-17	9,49	27
Std. Predicted Value	-1,130	3,057	,000	1,000	27
Std. Residual	-,973	4,399	,000	,981	27

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.76

Bitruhreppur. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,454(a)	,206	,175	9,576

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	595,742	1	595,742	6,496	,017(a)
	Residual	2292,554	25	91,702		
	Total	2888,296	26			

a Predictors: (Constant), COW_DRIF

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,892	2,293		4,750	,000
	COW_DRIF	3,354	1,316	,454	2,549	,017

a Dependent Variable: VALUE

Coefficient Correlations(a)

Model			COW_DRIF
1	Correlations	COW_DRIF	1,000
	Covariances	COW_DRIF	1,731

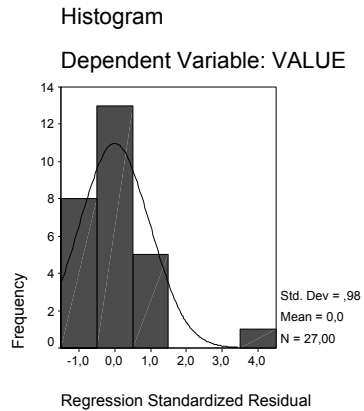
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10,89	24,31	14,37	4,787	27
Residual	-10,89	39,05	,00	9,390	27
Std. Predicted Value	-,727	2,076	,000	1,000	27
Std. Residual	-1,137	4,077	,000	,981	27

a Dependent Variable: VALUE

Charts



Appendix 3.77

Bitruhreppur. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,538(a)	,289	,258	9,485

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	842,582	1	842,582	9,365	,006(a)
	Residual	2069,418	23	89,975		
	Total	2912,000	24			

a Predictors: (Constant), FISH_COW

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11,297	2,151		5,252	,000
	FISH_COW	4,082	1,334	,538	3,060	,006

a Dependent Variable: VALUE

Casewise Diagnostics(a)

Case Number	Std. Residual	VALUE
16	3,843	60

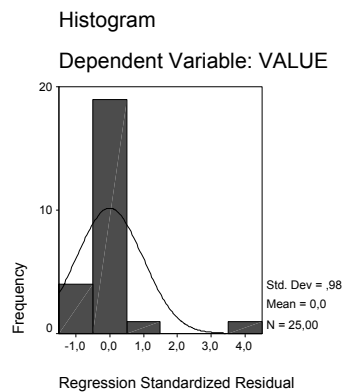
a. Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11,30	31,71	14,40	5,925	25
Residual	-11,71	36,46	,00	9,286	25
Std. Predicted Value	-,524	2,921	,000	1,000	25
Std. Residual	-1,234	3,843	,000	,979	25

a. Dependent Variable: VALUE

Charts



Appendix 3.78

Bæjarhreppur. Factor Analysis

Communalities

	Initial	Extraction
COWS	1,000	,951
Winter old cow	1,000	,911
HEIFERE	1,000	,978
CALFS	1,000	,954
Young bulls	1,000	,946
MILK_EWE	1,000	,928
WEATHER	1,000	,967
LAMB	1,000	,932
HORSES	1,000	,969
Work Horse	1,000	,960
PHILLY	1,000	,979
STALLION	1,000	,996

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,835	40,292	40,292	4,835	40,292	40,292
2	2,148	17,899	58,191	2,148	17,899	58,191
3	1,270	10,586	68,777	1,270	10,586	68,777
4	1,207	10,059	78,836	1,207	10,059	78,836
5	,945	7,877	86,713	,945	7,877	86,713
6	,679	5,657	92,370	,679	5,657	92,370
7	,386	3,217	95,587	,386	3,217	95,587
8	,282	2,347	97,934			
9	,133	1,107	99,042			
10	,068	,563	99,605			
11	2,458E-02	,205	99,809			
12	2,288E-02	,191	100,000			

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
COWS	,897	-3,692E-02	-,241	6,204E-03	,226	,179	-6,458E-02
Winter old cow	,685	-,155	,462	-8,749E-02	,224	-,255	,285
HEIFERE	7,058E-02	,637	-,114	,477	-,268	,433	,260
CALFS	,275	,637	-,169	-,484	,382	,153	-,202
Young bulls	,377	,527	-,111	-,639	-,274	2,795E-03	,176
MILK_EWE	,954	-6,966E-02	-1,427E-02	5,510E-02	-8,998E-02	-3,300E-02	2,683E-03
WEATHER	,934	-,235	-,126	,152	3,537E-03	1,568E-02	-1,868E-02
LAMB	-,139	,561	,284	,327	,634	-1,785E-02	9,364E-02
HORSES	,871	-,376	-,121	-6,020E-02	8,340E-02	,122	,170
Work Horse	,763	,271	-7,344E-02	,414	-,117	-,152	-,301
PHILLY	,413	,606	,493	1,413E-02	-,337	-,280	-7,401E-02
STALLION	,162	-,278	,765	-,147	-7,725E-02	,503	-,165

Extraction Method: Principal Component Analysis.

a 7 components extracted.

Appendix 3.79

Bæjarhreppur. Domestic Animals Multivariate Regression

Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method

1	MILK_EWE		Stepwise (Criteria: Probability-of- F-to-enter <= ,050, Probability-of- F-to-remove >= ,100).

a Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,610(a)	,372	,340	9,24

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1010,615	1	1010,615	11,842	,003(a)
	Residual	1706,839	20	85,342		
	Total	2717,455	21			

a Predictors: (Constant), MILK_EWE

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7,236	3,585		2,018	,057		
	MILK_EWE	,252	,073	,610	3,441	,003	1,000	1,000

a Dependent Variable: VALUE

Excluded Variables(b)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COWS	,016(a)	,049	,962	,011	,310	3,223	,310
	Winter old cow	,098(a)	,431	,671	,098	,632	1,582	,632
	HEIFERE	,223(a)	1,278	,217	,281	,997	1,003	,997
	CALFS	,197(a)	1,108	,282	,246	,977	1,024	,977
	Young bulls	,313(a)	1,769	,093	,376	,909	1,100	,909
	WEATHER	,042(a)	,098	,923	,023	,179	5,586	,179

LAMB	,221(a)	1,240	,230	,274	,961	1,040	,961
HORSES	,102(a)	,299	,768	,069	,282	3,547	,282
Work Horse	,077(a)	,300	,768	,069	,499	2,005	,499
PHILLY	,294(a)	1,571	,133	,339	,838	1,194	,838
STALLION	,163(a)	,906	,376	,203	,981	1,020	,981

a Predictors in the Model: (Constant), MILK_EWE

b Dependent Variable: VALUE

Coefficient Correlations(a)

Model			MILK_EWE
1	Correlations	MILK_EWE	1,000
	Covariances	MILK_EWE	5,375E-03

a Dependent Variable: VALUE

Residuals Statistics(a)

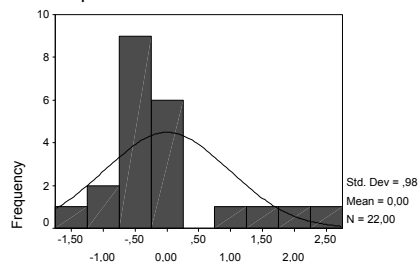
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	7,24	32,97	17,55	6,94	22
Residual	-11,80	22,76	3,23E-16	9,02	22
Std. Predicted Value	-1,486	2,223	,000	1,000	22
Std. Residual	-1,278	2,464	,000	,976	22

a Dependent Variable: VALUE

Charts

Histogram

Dependent Variable: VALUE



Appendix 3.80

Bæjarhreppur. Driftwood Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_DRIF(a)	.	Enter

a All requested variables entered.
b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,527(a)	,278	,242	9,904

a Predictors: (Constant), COW_DRIF
b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	755,591	1	755,591	7,703	,012(a)
	Residual	1961,863	20	98,093		
	Total	2717,455	21			

a Predictors: (Constant), COW_DRIF
b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12,224	2,852		4,286	,000
	COW_DRIF	3,002	1,082	,527	2,775	,012

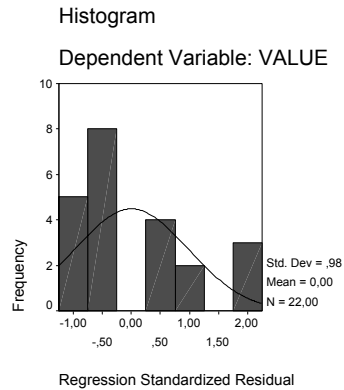
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12,22	33,24	17,55	5,998	22
Residual	-12,22	20,77	,00	9,666	22
Std. Predicted Value	-,887	2,616	,000	1,000	22
Std. Residual	-1,234	2,097	,000	,976	22

a Dependent Variable: VALUE

Charts



Appendix 3.81

Bæjarhreppur. Stranding Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COW_STR(a)	.	Enter

a All requested variables entered.

b Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,527(a)	,278	,242	9,904

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	755,591	1	755,591	7,703	,012(a)
	Residual	1961,863	20	98,093		
	Total	2717,455	21			

a Predictors: (Constant), COW_STR

b Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12,224	2,852		4,286	,000
	COW_STR	3,002	1,082	,527	2,775	,012

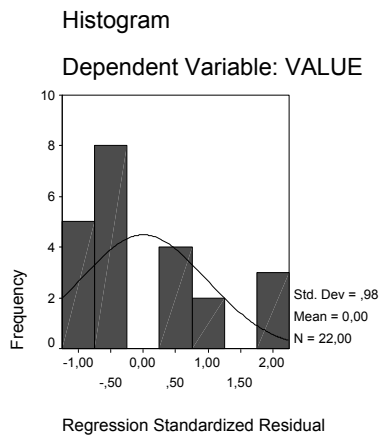
a Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12,22	33,24	17,55	5,998	22
Residual	-12,22	20,77	,00	9,666	22
Std. Predicted Value	-,887	2,616	,000	1,000	22
Std. Residual	-1,234	2,097	,000	,976	22

a. Dependent Variable: VALUE

Charts



Appendix 3.82

Bæjarhreppur. Fishing Multivariate Regression

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FISH_COW(a)	.	Enter

a. All requested variables entered.

b. Dependent Variable: VALUE

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,474(a)	,225	,186	10,265

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	610,203	1	610,203	5,791	,026(a)
	Residual	2107,251	20	105,363		
	Total	2717,455	21			

a. Predictors: (Constant), FISH_COW

b. Dependent Variable: VALUE

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11,932	3,198		3,731	,001
	FISH_COW	3,338	1,387	,474	2,407	,026

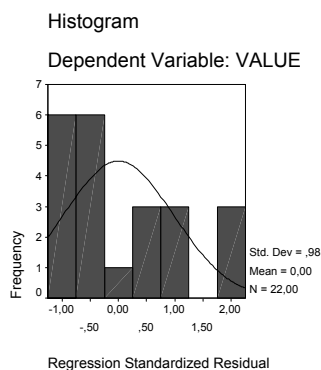
a. Dependent Variable: VALUE

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11,93	28,62	17,55	5,390	22
Residual	-11,93	19,38	,00	10,017	22
Std. Predicted Value	-1,041	2,055	,000	1,000	22
Std. Residual	-1,162	1,888	,000	,976	22

a. Dependent Variable: VALUE

Charts



Appendix 4. The Land Registry of Árni Magnússon

ID	Farm	Type	Value	Double/single	Sýsla	Hreppur
1	Meiri Bakki	Farm	12	6 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
2	Kroppstaðir	Farm	3	2 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
3	Meira Hraun	Farm	6	2 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
4	Minnahraun	Farm	3	1 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
5	Breiðaból	Farm	24	6 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
6	Minni Bakki	Farm	6	3 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
7	Meiri Hlið	Farm	24	4 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
8	Tröð	Outlying farm	6	2 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
9	Hreggnasi	Outlying farm	0	1 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
10	Ytri Búðir	Outlying farm	6	2 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
11	Minni Hlíd	Farm	8	2 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
12	Tunga	Farm	12	3 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur

13 Hóll	Farm	60	9 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
14 Landalifur	Outlying farm	0	0 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
15 Mýra Hús	Outlying farm	0	0 None	Ísafjarðarsýsla	Bolungarvíkurhreppur
16 Nýi bær	Outlying farm	0	1 None	Ísafjarðarsýsla	Bolungarvíkurhreppur
17 Stöðlar	Outlying farm	0	1 None	Ísafjarðarsýsla	Bolungarvíkurhreppur
18 Heimari Búðir	Outlying farm	6	1 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
19 Grundarhóll	Outlying farm	8	1 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
20 Geirastaðir	Outlying farm	6	0 Single	Ísafjarðarsýsla	Bolungarvíkurhreppur
21 Miðdalur	Farm	12	4 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
22 Hanhóll	Farm	12	3 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
23 Gil	Farm	12	4 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
24 Ós	Farm	24	4 Double	Ísafjarðarsýsla	Bolungarvíkurhreppur
25 Ingjaldsstaðir	Farm	20	4 single	Þingeyjarsýsla	Reykjadalshreppur
26 Fljótsbakki	Farm	20	2 single	Þingeyjarsýsla	Reykjadalshreppur
27 Glaumbæjarsel	Farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
28 Foss Sel	Farm	0	3 single	Þingeyjarsýsla	Reykjadalshreppur
29 Vað	Farm	20	3 Single	Þingeyjarsýsla	Reykjadalshreppur
30 Jódísarstaðir	Farm	16	2 Single	Þingeyjarsýsla	Reykjadalshreppur
31 Bergstaðir	Farm	12	3 Single	Þingeyjarsýsla	Reykjadalshreppur
32 Skriða	Farm	10	6 Single	Þingeyjarsýsla	Reykjadalshreppur
33 Skriðuland	Outlying farm	25	3 None	Þingeyjarsýsla	Reykjadalshreppur
34 Húsa Bakki	Farm	0	1 None	Þingeyjarsýsla	Reykjadalshreppur
35 Hellur	Farm	10	1 None	Þingeyjarsýsla	Reykjadalshreppur
36 Hraunkot	Farm	10	2 Single	Þingeyjarsýsla	Reykjadalshreppur
37 Sandur	Farm	20	3 Single	Þingeyjarsýsla	Reykjadalshreppur
38 Sýlalækur	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
39 Knútsstaðir	Farm	12	2 Single	Þingeyjarsýsla	Reykjadalshreppur
40 Nes	Churchfarm	0	1 Single	Þingeyjarsýsla	Reykjadalshreppur
41 Illstaðir	Outlying farm	0	1 None	Þingeyjarsýsla	Reykjadalshreppur
42 Neskot	Outlying farm	0	0 None	Þingeyjarsýsla	Reykjadalshreppur
43 Tjörn	Farm	20	2 Single	Þingeyjarsýsla	Reykjadalshreppur
44 Garður	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
45 Nöf	Outlying farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
46 Hafralækur	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
47 Hafralækjargerði	Outlying farm	0	1 None	Þingeyjarsýsla	Reykjadalshreppur
48 Hólmavað	Farm	15	2 Single	Þingeyjarsýsla	Reykjadalshreppur
49 Ytrafjall	Farm	28	0 Single	Þingeyjarsýsla	Reykjadalshreppur
50 Eyjólfstaðir	Outlying farm	0	0 Single	Þingeyjarsýsla	Reykjadalshreppur
51 Fjallskot	Outlying farm	0	1 None	Þingeyjarsýsla	Reykjadalshreppur
52 Syðrafjall	Farm	16	2 Single	Þingeyjarsýsla	Reykjadalshreppur
53 Fjallskot	Outlying farm	0	0 None	Þingeyjarsýsla	Reykjadalshreppur
54 Mýlastaðir	Farm	20	1 Single	Þingeyjarsýsla	Reykjadalshreppur
55 Sýrnes	Farm	30	2 Single	Þingeyjarsýsla	Reykjadalshreppur
56 Hólkot	Farm	10	2 Single	Þingeyjarsýsla	Reykjadalshreppur
57 Höskulldstaðir	Farm	24	2 Single	Þingeyjarsýsla	Reykjadalshreppur
58 Helgastaðir	Church farm	0	0 Single	Þingeyjarsýsla	Reykjadalshreppur
59 Helgastaðakot	Outlying farm	0	1 None	Þingeyjarsýsla	Reykjadalshreppur
60 Bessastaðir	Outlying farm	0	0 None	Þingeyjarsýsla	Reykjadalshreppur

61 Hamar	Farm	20	3 Single	Þingeyjarsýsla	Reykjadalshreppur
62 Glaumbær	Farm	30	2 Single	Þingeyjarsýsla	Reykjadalshreppur
63 Einarssstaðir	Church farm	90	6 Single	Þingeyjarsýsla	Reykjadalshreppur
64 Vallnakot	Outlying farm	0	4 Single	Þingeyjarsýsla	Reykjadalshreppur
65 Láfsgerði	Outlying farm	0	3 None	Þingeyjarsýsla	Reykjadalshreppur
66 Skógaflátir	Outlying farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
67 Kviindisdalur	Farm	20	5 Single	Þingeyjarsýsla	Reykjadalshreppur
68 Breidamýri	Farm	40	4 Single	Þingeyjarsýsla	Reykjadalshreppur
69 Hólar	Farm	20	5 Single	Þingeyjarsýsla	Reykjadalshreppur
70 Daðstaðir	Farm	28	4 Single	Þingeyjarsýsla	Reykjadalshreppur
71 Narfastaðir	Farm	30	4 Single	Þingeyjarsýsla	Reykjadalshreppur
72 Stafn	Farm	10	3 Single	Þingeyjarsýsla	Reykjadalshreppur
73 Viðjar	Farm	12	3 Single	Þingeyjarsýsla	Reykjadalshreppur
74 Máskot	Farm	5	0 Single	Þingeyjarsýsla	Reykjadalshreppur
75 Hallbjarnarstaðir	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
76 Hjalli	Farm	0	2 Single	Þingeyjarsýsla	Reykjadalshreppur
77 Litlulaugar	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
78 Stórulaugar	Farm	60	6 Double	Þingeyjarsýsla	Reykjadalshreppur
79 Öndólfssstaðir	Farm	0	5 Single	Þingeyjarsýsla	Reykjadalshreppur
80 Halldórsstaðir	Farm	26	4 Single	Þingeyjarsýsla	Reykjadalshreppur
81 Halldórstaðapartur	Outlying farm	6	2 Single	Þingeyjarsýsla	Reykjadalshreppur
82 Fagranes	Farm	30	0 Single	Þingeyjarsýsla	Reykjadalshreppur
83 Múli	Church farm	0	6 Single	Þingeyjarsýsla	Reykjadalshreppur
84 Kraunastaðir	Outlying farm	0	2 Single	Þingeyjarsýsla	Reykjadalshreppur
85 Tumsa	Outlying farm	0	3 Single	Þingeyjarsýsla	Reykjadalshreppur
86 Fótaskinn	Outlying farm	0	2 Single	Þingeyjarsýsla	Reykjadalshreppur
87 Grímshús	Outlying farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
88 Grenjaðarstaður	Church farm	0	87 Single	Þingeyjarsýsla	Reykjadalshreppur
89 Hjallthús	Outlying farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
90 Holtagerði	Outlying farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
91 Oddstaðir	Outlying farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
92 Grenjaðastaða Sel	Outlying farm	0	1 None	Þingeyjarsýsla	Reykjadalshreppur
93 Brúár	Farm	20	2 Single	Þingeyjarsýsla	Reykjadalshreppur
94 Ásgeirstaðir	Farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
95 Birningstaðir	Farm	20	2 Single	Þingeyjarsýsla	Reykjadalshreppur
96 Halldórsstaðir	Farm	40	2 Single	Þingeyjarsýsla	Reykjadalshreppur
97 Þverá	Church farm	40	2 Single	Þingeyjarsýsla	Reykjadalshreppur
98 Auðnir	Outlying farm	0	2 Single	Þingeyjarsýsla	Reykjadalshreppur
99 Ljótsstaðir	Farm	15	3 Single	Þingeyjarsýsla	Reykjadalshreppur
100 Brettingstaðir	Farm	10	3 None	Þingeyjarsýsla	Reykjadalshreppur
101 Hólkot	Farm	8	1 None	Þingeyjarsýsla	Reykjadalshreppur
102 Hamar	Farm	12	1 Single	Þingeyjarsýsla	Reykjadalshreppur
103 Hólar	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
104 Kasthvammur	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
105 Þeistar Reykir	Farm	20	3 None	Þingeyjarsýsla	Reykjadalshreppur
106 Geitargerði	Farm	0	2 None	Þingeyjarsýsla	Reykjadalshreppur
107 Langavatn	Farm	20	2 Single	Þingeyjarsýsla	Reykjadalshreppur
108 Presthvammur	Farm	24	3 Single	Þingeyjarsýsla	Reykjadalshreppur

109 Klömbur	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
110 Brekka	Farm	16	4 Single	Þingeyjarsýsla	Reykjadalshreppur
111 Hraun	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
112 Miðhvamur	Farm	20	4 Single	Þingeyjarsýsla	Reykjadalshreppur
113 Ysti Hvamur	Farm	20	2 Single	Þingeyjarsýsla	Reykjadalshreppur
114 Hagi	Farm	20	3 Single	Þingeyjarsýsla	Reykjadalshreppur
115 Núpar	Farm	30	3 Single	Þingeyjarsýsla	Reykjadalshreppur
116 Árból	Farm	20	2 Single	Þingeyjarsýsla	Reykjadalshreppur
117 Helluvað	Farm	12	2 None	Þingeyjarsýsla	Mývatn
118 Gautlönd	Farm	16	1 Single	Þingeyjarsýsla	Mývatn
119 Baldursheimur	Farm	12	3 Double	Þingeyjarsýsla	Mývatn
120 Sveinströnd	Farm	12	4 Single	Þingeyjarsýsla	Mývatn
121 Litluströnd	Outlying farm	0	2 Single	Þingeyjarsýsla	Mývatn
122 Þorláksskot	Outlying farm	0	1 None	Þingeyjarsýsla	Mývatn
123 Arnarvatn	Farm	15	4 Single	Þingeyjarsýsla	Mývatn
124 Haganes	farm	20	4 Single	Þingeyjarsýsla	Mývatn
125 Skútustaðir	Chruch farm	30	5 Double	Þingeyjarsýsla	Mývatn
126 Álfagerði	Outlying farm	0	2 Single	Þingeyjarsýsla	Mývatn
127 Kirkjubær	Outlying farm	0	4 None	Þingeyjarsýsla	Mývatn
128 Grænavatn	Farm	30	4 Single	Þingeyjarsýsla	Mývatn
129 Þuríðarnes	Outlying farm	0	2 None	Þingeyjarsýsla	Mývatn
130 Garður	Farm	8	2 Single	Þingeyjarsýsla	Mývatn
131 Briamsnes	Farm	12	4 Single	Þingeyjarsýsla	Mývatn
132 Kálfaströnd	Farm	12	4 Single	Þingeyjarsýsla	Mývatn
133 Geiteyjarströnd	Farm	12	6 Single	Þingeyjarsýsla	Mývatn
134 Vogar	Farm	30	7 Double	Þingeyjarsýsla	Mývatn
135 Reykjahlíð	Church farm	30	8 Single	Þingeyjarsýsla	Mývatn
136 Gröf	Outlying farm	0	5 Single	Þingeyjarsýsla	Mývatn
137 Fagranes	Farm	8	4 Single	Þingeyjarsýsla	Mývatn
138 Grímstaðir	Farm	20	6 Single	Þingeyjarsýsla	Mývatn
139 Syðri Neslönd	Farm	10	3 None	Þingeyjarsýsla	Mývatn
140 Ytri Neslönd	Farm	10	2 Single	Þingeyjarsýsla	Mývatn
141 Vindbelgur	Farm	12	1 Single	Þingeyjarsýsla	Mývatn
142 Geirastaðir	Farm	12	2 Single	Þingeyjarsýsla	Mývatn
143 Hofstaðir	Farm	40	5 Double	Þingeyjarsýsla	Mývatn
144 Hokinsdalur	Farm	24	6 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
145 Laugaból	Farm	28	4 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
146 Horn	Farm	25	5 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
147 Skógar	Farm	12	2 Double	Ísafjarðarsýsla	Arnarfjarðarhreppur
148 Kirkjuból	Farm	24	5 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
149 Ós	Farm	12	3 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
150 Dynjandi	Farm	18	5 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
151 Borg	Farm	12	3 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
152 Rauðstaðir	Farm	12	2 Single	Ísafjarðarsýsla	Arnfjarðarströnd
153 Hjallkárseyri	Farm	12	4 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
154 Gljúfurá	Farm	18	4 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
155 Karlstaðir	Farm	12	3 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
156 Hrafnseyri	Church farm	0	6 Single	Ísafjarðarsýsla	Arnarfjarðarströnd

157 Rani	Outlying farm	0	0 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
158 Bæli	Outlying farm	0	1 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
159 Neðrahús	Outlying farm	0	2 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
160 Sjávarhús	Outlying farm	0	0 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
161 Auðkúla	Farm	48	4 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
162 Tjaldanes	Farm	24	6 Double	Ísafjarðarsýsla	Arnarfjarðarhreppur
163 Baulhús	Farm	0	4 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
164 Álfamýri	Church farm	0	0 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
165 Álfamýrarhús	Outlying farm	0	3 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
166 Stapadalur	Farm	12	4 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
167 Hrafnabjörg	Farm	12	4 Single	Ísafjarðarsýsla	Arnarfjarðarströnd
168 Lokinhamrar	Farm	24	8 Double	Ísafjarðarsýsla	Arnarfjarðarströnd
169 Selvogar	Farm	24	6 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
170 Höfn	Farm	12	0 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
171 Hraun	Church farm	60	12 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
172 Skálará	Farm	8	3 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
173 Saurar	Farm	12	4 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
174 Arnarnúpur	Farm	30	4 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
175 Sveinseyri	Farm	24	5 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
176 Haukadalur	Farm	60	0 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
177 Meðaldalur	Farm	36	6 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
178 Gata	Outlying farm	0	1 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
179 Hólar	Farm	12	3 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
180 Kirkjuból	Farm	24	7 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
181 Hof	Farm	6	2 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
182 Múli	Farm	6	1 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
183 Bakki	Farm	12	2 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
184 Brekka	Farm	24	6 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
185 Sandar	Church farm	0	5 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
186 Sandahús	Outlying farm	0	2 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
187 Stekkur	Outlying farm	0	0 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
188 Þyngseyri	Village	0	0 None	Ísafjarðarsýsla	Dýrafjarðarhreppur
189 Hvammur	Farm	60	0 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
190 Hvammshús neðra	Outlying farm	0	0 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
191 Innrahús	Outlying farm	4	1 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
192 Ytrahús	Outlying farm	4	1 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
193 Ketilseyri	Farm	24	6 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur
194 Kjaransstaðir	Farm	12	1 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
195 Drangar	Farm	12	2 Single	Ísafjarðarsýsla	Dýrafjarðarhreppur
196 Botn	Farm	12	3 Double	Ísafjarðarsýsla	Mýraþingsókn
197 Lambadalur innri	Farm	30	3 Double	Ísafjarðarsýsla	Mýraþingsókn
198 Lambadalur ytri	Farm	60	5 Double	Ísafjarðarsýsla	Mýraþingsókn
199 Næfranes	Farm	18	3 Single	Ísafjarðarsýsla	Mýraþingsókn
200 Höfði	Farm	30	4 Double	Ísafjarðarsýsla	Mýraþingsókn
201 Hjarðadalur fremri	Farm	12	5 Double	Ísafjarðarsýsla	Mýraþingsókn
202 Hjarðadardalur neðri	Farm	60	7 Double	Ísafjarðarsýsla	Mýraþingsókn
203 Gemplufell	Farm	24	3 Double	Ísafjarðarsýsla	Mýraþingsókn
204 Grandi	Farm	12	3 Double	Ísafjarðarsýsla	Dýrafjarðarhreppur

205 Lækjarós	Farm	0	2 Single	Ísafjarðarsýsla	Mýrabingsókn
206 Mýrar	Church farm	45	6 Double	Ísafjarðarsýsla	Mýrabingsókn
207 Mýrahús	Outlying farm	20	2 Single	Ísafjarðarsýsla	Mýrabingsókn
208 Stórigarður	Farm	12	3 Double	Ísafjarðarsýsla	Mýrabingsókn
209 Litligarður	Farm	6	2 Single	Ísafjarðarsýsla	Mýrabingsókn
210 Fell	Farm	12	2 Double	Ísafjarðarsýsla	Mýrabingsókn
211 Lækur	Farm	12	3 Single	Ísafjarðarsýsla	Mýrabingsókn
212 Klukkuland	Farm	24	4 Double	Ísafjarðarsýsla	Mýrabingsókn
213 Kotnúpur	Farm	10	4 Single	Ísafjarðarsýsla	Mýrabingsókn
214 Núpur	Church farm	60	6 Single	Ísafjarðarsýsla	Mýrabingsókn
215 Innra hús	Outlying farm	0	2 Single	Ísafjarðarsýsla	Mýrabingsókn
216 Rani	Outlying farm	0	3 Single	Ísafjarðarsýsla	Mýrabingsókn
217 Ytra hús	Outlying farm	0	2 Single	Ísafjarðarsýsla	Mýrabingsókn
218 Nesjabær	Outlying farm	0	2 Single	Ísafjarðarsýsla	Mýrabingsókn
219 Alviðra	Outlying farm	0	2 Single	Ísafjarðarsýsla	Mýrabingsókn
220 Alviðra	Farm	58	7 Double	Ísafjarðarsýsla	Mýrabingsókn
221 Alviðruhús	Farm	20	2 Double	Ísafjarðarsýsla	Mýrabingsókn
222 Gerðhamrar	Farm	24	3 Double	Ísafjarðarsýsla	Mýrabingsókn
223 Arnarnes	Farm	18	3 Single	Ísafjarðarsýsla	Mýrabingsókn
224 Birnustaðir	Farm	6	0 Single	Ísafjarðarsýsla	Mýrabingsókn
225 Lambamúli	Outlying farm	0	0	Ísafjarðarsýsla	Mýrabingsókn
226 Fjallaskagi	Farm	12	4 Single	Ísafjarðarsýsla	Mýrabingsókn
227 Sæból	Church farm	60	3 Single	Ísafjarðarsýsla	Mýrabingsókn
228 Efra hús	Outlying farm	10	2 Double	Ísafjarðarsýsla	Mýrabingsókn
229 Neðra hús	Outlying farm	10	2	Ísafjarðarsýsla	Mýrabingsókn
230 Krókshús	Outlying farm	10	2 Single	Ísafjarðarsýsla	Mýrabingsókn
231 Álfadalur	Farm	36	8 Double	Ísafjarðarsýsla	Mýrabingsókn
232 Hraun	Farm	12	4 Single	Ísafjarðarsýsla	Mýrabingsókn
233 Háls	Farm	12	4 Single	Ísafjarðarsýsla	Mýrabingsókn
234 Brekka	Farm	47	6 Double	Ísafjarðarsýsla	Mýrabingsókn
235 Villingadalur	Farm	18	4 Double	Ísafjarðarsýsla	Mýrabingsókn
236 Mosdalur	Farm	12	2 Single	Ísafjarðarsýsla	Önundarfjörður
237 Kirkjuból	Farm	48	6 Double	Ísafjarðarsýsla	Önundarfjörður
238 Dalshús heimari	Outlying farm	10	2 Single	Ísafjarðarsýsla	Önundarfjörður
239 Dalshús Ytri	Outlying farm	6	2 Single	Ísafjarðarsýsla	Önundarfjörður
240 Tunga	Farm	12	3 Double	Ísafjarðarsýsla	Önundarfjörður
241 Grafargil	Farm	12	4 Double	Ísafjarðarsýsla	Önundarfjörður
242 Þorfinnstaðir	Farm	24	3 Double	Ísafjarðarsýsla	Önundarfjörður
243 Hjarðardalur Ytri	Farm	68	6 Double	Ísafjarðarsýsla	Önundarfjörður
244 Hjarðadalur Innri	Farm	18	3 Double	Ísafjarðarsýsla	Önundarfjörður
245 Holt	Church farm	0	0 Single	Ísafjarðarsýsla	Önundarfjörður
246 Melavaðshús	Outlying farm	0	1	Ísafjarðarsýsla	Önundarfjörður
247 Melavaðshús innri	Farm	0	1	Ísafjarðarsýsla	Önundarfjörður
248 Arnkelsbrekka	Farm	0	0	Ísafjarðarsýsla	Önundarfjörður
249 Vaðlar	Farm	12	6 Double	Ísafjarðarsýsla	Önundarfjörður
250 Tröð	Farm	18	6 Double	Ísafjarðarsýsla	Önundarfjörður
251 Kirkjuból	Farm	18	6 Double	Ísafjarðarsýsla	Önundarfjörður
252 Mosvellir	Farm	24	8 Double	Ísafjarðarsýsla	Önundarfjörður

253 Vífilsmýrar	Farm	18	7 Double	Ísafjarðarsýsla	Önundarfjörður
254 Hóll	Farm	18	5 Double	Ísafjarðarsýsla	Önundarfjörður
255 Tunga	Farm	18	4 Single	Ísafjaðrarsýsla	Önundarfjörður
256 Hestur	Farm	24	8 Double	Ísafjarðarsýsla	Önundarfjörður
257 Hesthús efra	Outlying farm	12	4 Single	Ísafjarðarsýsla	Önundarfjörður
258 Hesthús neðra	Farm	12	4 Single	Ísafjarðarsýsla	Önundarfjörður
259 Múli	Farm	12	1	Ísafjarðarsýsla	Önundarfjörður
260 Efsta Ból	Farm	12	5 Double	Ísafjarðarsýsla	Önundarfjörður
261 Kroppstaðir	Farm	18	6 Double	Ísafjarðarsýsla	Önundarfjörður
262 Kirkjuból	Farm	30	3 Double	Ísafjarðarsýsla	Önundarfjörður
263 Kirkjubóls hús	Outlying farm	10	1 Single	Ísafjarðarsýsla	Önundarfjörður
264 Tanna Nes	Farm	24	6 Double	Ísafjarðarsýsla	Önundarfjörður
265 Veðrará Innri	Farm	12	3 Single	Ísafjarðarsýsla	Önundarfjörður
266 Miðá	Outlying farm	4	0	Ísafjarðarsýsla	Önundarfjörður
267 Veðrará Ytri	Farm	0	2 Double	Ísafjarðarsýsla	Önundarfjörður
268 Breiðidalur fremri	Farm	12	3 Double	Ísafjarðarsýsla	Önundarfjörður
269 Breiðidalur neðri	Farm	24	5 Double	Ísafjarðarsýsla	Önundarfjörður
270 Kirkjuból	Farm	12	3 Single	Ísafjarðarsýsla	Önundarfjörður
271 Kalldá	Farm	12	4 Double	Ísafjarðarsýsla	Önundarfjörður
272 Hóll á Hvítarströnd	Farm	12	3 Single	Ísafjarðarsýsla	Önundarfjörður
273 Hvilft	Farm	24	4 Single	Ísafjarðarsýsla	Önundarfjörður
274 Garðar	Outlying farm	6	2 Single	Ísafjarðarsýsla	Önundarfjörður
275 Eyri	Farm	24	6 Double	Ísafjarðarsýsla	Önundarfjörður
276 Staður	Church farm	16	10 Single	Ísafjarðarsýsla	Súgandafjörður
277 Staðarhús	Outlying farm	0	2 Single	Ísafjarðarsýsla	Súgandafjörður
278 Staðarhús	Outlying farm	0	1	Ísafjarðarsýsla	Súgandafjörður
279 Vatnadalur	Farm	8	2 Single	Ísafjarðarsýsla	Súgandafjörður
280 Vatnadalur Neðri	Farm	8	1 Single	Ísafjarðarsýsla	Súgandafjörður
281 Bær	Farm	24	6 Double	Ísafjarðarsýsla	Súgandafjörður
282 Suðureyri	Farm	24	3 Double	Ísafjarðarsýsla	Súgandafjörður
283 Kvíarnes	Farm	8	2 Double	Ísafjarðarsýsla	Súgandafjörður
284 Botn	Farm	24	6 Double	Ísafjarðarsýsla	Súgandafjörður
285 Gilsbrekka	Farm	3	2 Single	Ísafjarðarsýsla	Súgandafjörður
286 Selárdalur	Farm	12	3 Double	Ísafjarðarsýsla	Súgandafjörður
287 Norðureyri	Farm	6	1 Single	Ísafjarðarsýsla	Súgandafjörður
288 Göltur	Farm	12	1 Double	Ísafjarðarsýsla	Súgandafjörður
289 Keflavík	Farm	8	0 Single	Ísafjarðarsýsla	Súgandafjörður
290 Hnífsdalur neðri	Farm	24	0 Double	Ísafjarðarsýsla	Skutulsfjörður
291 Búð	Outlying farm	0	2 Single	Ísafjarðarsýsla	Skutulsfjörður
292 Hraun	Outlying farm	0	0 Single	Ísafjarðarsýsla	Skutulsfjörður
293 Hnífsdalur fremri	Farm	12	6 Double	Ísafjarðarsýsla	Skutulsfjörður
294 Bakki	Farm	8	1 Double	Ísafjarðarsýsla	Skutulsfjörður
295 Eyri	Church farm	24	0 Single	Ísafjarðarsýsla	Skutulsfjörður
296 Stekkjanes	Outlying farm	0	1 Single	Ísafjarðarsýsla	Skutulsfjörður
297 Seljaland	Farm	12	4 Double	Ísafjarðarsýsla	Skutulsfjörður
298 Tunga	Farm	24	5 Double	Ísafjarðarsýsla	Skutulsfjörður
299 Hafrafell	Farm	8	2 Double	Ísafjarðarsýsla	Skutulsfjörður
300 Engidalur	Farm	18	5 Double	Ísafjarðarsýsla	Skutulsfjörður

301 Fossar	Farm	8	2 Double	Ísafjarðarsýsla	Skutulsfjörður
302 Kirkjuból	Church farm	30	3 Double	Ísafjarðarsýsla	Skutulsfjörður
303 Seljabrekka	Outlying farm	4	2	Ísafjarðarsýsla	Skutulsfjörður
304 Arnardalur fremri	Farm	12	4 Double	Ísafjarðarsýsla	Skutulsfjörður
305 Arnardalur neðri	Farm	24	4 Double	Ísafjarðarsýsla	Skutulsfjörður
306 Ytrahús	Outlying farm	6	2 Single	Ísafjarðarsýsla	Skutulsfjörður
307 Fremrahús	Outlying farm	6	2 Double	Ísafjarðarsýsla	Skutulsfjörður
308 Súðavík	Church farm	30	9 Single	Ísafjarðarsýsla	Eyrarsókn
309 Trauð	Outlying farm	6	3 Single	Ísafjarðarsýsla	Eyrarsókn
310 Saurar	Outlying farm	6	2 Single	Ísafjarðarsýsla	Eyrarsókn
311 Eyrardalur	Farm	12	2 Double	Ísafjarðarsýsla	Eyrarsókn
312 Hlíð	Farm	18	2 Double	Ísafjarðarsýsla	Eyrarsókn
313 Dvergasteinn	Farm	18	5	Ísafjarðarsýsla	Eyrarsókn
314 Svarthamar	Farm	12	3 Single	Ísafjarðarsýsla	Eyrarsókn
315 Svarfhóll	Farm	24	6 Double	Ísafjarðarsýsla	Eyrarsókn
316 Seljaland	Farm	12	1 Single	Ísafjarðarsýsla	Eyrarsókn
317 Hattardalur minni	Farm	12	3 Double	Ísafjarðarsýsla	Eyrarsókn
318 Hattardalur meiri	Farm	18	5	Ísafjarðarsýsla	Eyrarsókn
319 Hattardalshús	Outlying farm	6	2 Single	Ísafjarðarsýsla	Eyrarsókn
320 Kambsnes	Farm	6	2 Single	Ísafjarðarsýsla	Eyrarsókn
321 Eyri	Church farm	24	0 Single	Ísafjarðarsýsla	Eyrarsókn
322 Traðir	Outlying farm	0	1 Single	Ísafjarðarsýsla	Eyrarsókn
323 Uppsali	Farm	12	3 Double	Ísafjarðarsýsla	Eyrarsókn
324 Kleifar	Farm	12	2 Single	Ísafjarðarsýsla	Eyrarsókn
325 Folaftur	Farm	24	2 Single	Ísafjarðarsýsla	Eyrarsókn
326 Hestur	Farm	8	1 Single	Ísafjarðarsýsla	Eyrarsókn
327 Eiði	Farm	6	2 Single	Ísafjarðarsýsla	Eyrarsókn
328 Hestfjörður	Farm	6	0	Ísafjarðarsýsla	Eyrarsókn
329 Hvítarnes	Farm	24	5 Double	Ísafjarðarsýsla	Ögurssveit
330 Eyri	Farm	18	5 Double	Ísafjarðarsýsla	Ögurssveit
331 Kleifar	Farm	6	2 Single	Ísafjarðarsýsla	Ögurssveit
332 Borg	Farm	8	2 Single	Ísafjarðarsýsla	Ögurssveit
333 Kálfavík	Farm	16	5 Double	Ísafjarðarsýsla	Ögurssveit
334 Hjallar	Farm	12	3 Single	Ísafjarðarsýsla	Ögurssveit
335 Skarð	Farm	8	3 Single	Ísafjarðarsýsla	Ögurssveit
336 Ögur	Church farm	24	7 Double	Ísafjarðarsýsla	Ögurssveit
337 Garðstaðir	Outlying farm	0	3 Single	Ísafjarðarsýsla	Ögurssveit
338 Strandasel	Farm	12	5 Single	Ísafjarðarsýsla	Ögurssveit
339 Blámýrar	Farm	12	6 Double	Ísafjarðarsýsla	Ögurssveit
340 Laugaból	Farm	18	5 Double	Ísafjarðarsýsla	Ögurssveit
341 Efstidalur	Farm	12	3	Ísafjarðarsýsla	Ögurssveit
342 Eiríksstaðir	Farm	6	2	Ísafjarðarsýsla	Ögurssveit
343 Birnustaðir	Farm	12	2 Single	Ísafjarðarsýsla	Ögurssveit
344 Hrafnabjörg	Farm	18	3 Single	Ísafjarðarsýsla	Ögurssveit
345 Þernuvík	Farm	24	6 Single	Ísafjarðarsýsla	Ögurssveit
346 Vigur	Farm	24	4 Single	Ísafjarðarsýsla	Ögurssveit
347 Látur	Farm	24	4 Double	Ísafjarðarsýsla	Vatnsfjarðarsveit
348 Stekkjarkot	Outlying farm	0	0	Ísafjarðarsýsla	Vatnsfjarðarsveit

349 Eyri	Farm	12	2 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
350 Heydalur	Farm	24	4 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
351 Botn	Farm	12	3 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
352 Hörgshlíð	Farm	12	3	Ísafjarðarsýsla	Vatnsfjarðarsveit
353 Kellda	Farm	6	4 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
354 Skálavík	Farm	24	2 Double	Ísafjarðarsýsla	Vatnsfjarðarsveit
355 Vatnsfjörður	Church farm	0	0 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
356 Sveinhús	Outlying farm	0	2 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
357 Borgarey	Farm	24	0 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
358 Miðhús	Farm	12	0	Ísafjarðarsýsla	Vatnsfjarðarsveit
359 Hálshús	Farm	12	2 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
360 Þúfur	Farm	8	1 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
361 Reykjafjörður	Farm	30	3 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
362 Svansvík	Farm	16	3 Double	Ísafjarðarsýsla	Vatnsfjarðarsveit
363 Vogar	Farm	8	2 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
364 Bjarnastaðir	Farm	12	3 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
365 Eyri	Farm	6	3 Single	Ísafjarðarsýsla	Vatnsfjarðarsveit
366 Gervidalur	Farm	12	0 Single	Ísafjarðarsýsla	Langadalströnd
367 Múli	Farm	24	7 Double	Ísafjarðarsýsla	Langadalströnd
368 Laugarból	Farm	30	4 Double	Ísafjarðarsýsla	Langadalströnd
369 Arngerðareyri	Farm	24	5 Single	Ísafjarðarsýsla	Langadalströnd
370 Brekka	Farm	0	6 Single	Ísafjarðarsýsla	Langadalströnd
371 Kirkjuból	Church farm	48	4 Single	Ísafjarðarsýsla	Langadalströnd
372 Bakkasel	Outlying farm	0	2	Ísafjarðarsýsla	Langadalströnd
373 Fremri Bakki	Farm	12	4 Single	Ísafjarðarsýsla	Langadalströnd
374 Neðri bakki	Farm	8	2 Single	Ísafjarðarsýsla	Langadalströnd
375 Lágidalur	Farm	12	2 Single	Ísafjarðarsýsla	Langadalströnd
376 Tunga	Farm	16	2 Single	Ísafjarðarsýsla	Langadalströnd
377 Rauðamýri	Farm	10	2 Double	Ísafjarðarsýsla	Langadalströnd
378 Nauteyri	Farm	16	4 Single	Ísafjarðarsýsla	Langadalströnd
379 Hafnardalur	Farm	12	2 Single	Ísafjarðarsýsla	Langadalströnd
380 Hallstaðir	Farm	8	2 Single	Ísafjarðarsýsla	Langadalströnd
381 Hamar	Farm	16	2 Double	Ísafjarðarsýsla	Langadalströnd
382 Melgraseyri	Farm	18	6 Single	Ísafjarðarsýsla	Langadalströnd
383 Hraundalur	Outlying farm	12	3	Ísafjarðarsýsla	Langadalströnd
384 Laugaland	Farm	16	3 Single	Ísafjarðarsýsla	Langadalströnd
385 Skjaldfönn	Farm	16	1 Single	Ísafjarðarsýsla	Langadalströnd
386 Ámúli	Farm	16	5 Single	Ísafjarðarsýsla	Langadalströnd
387 Lónseyri	Farm	24	4	Ísafjarðarsýsla	Snæfjallaströnd
388 Bæir	Farm	24	6 Double	Ísafjarðarsýsla	Snæfjallaströnd
389 Unaðsdalur	Farm	24	1 Double	Ísafjarðarsýsla	Snæfjallaströnd
390 Tyrðilmýri	Farm	9	2 Single	Ísafjarðarsýsla	Snæfjallaströnd
391 Æðey	Farm	60	3 Double	Ísafjarðarsýsla	Snæfjallaströnd
392 Skarð	Farm	12	4 Double	Ísafjarðarsýsla	Snæfjallaströnd
393 Sandeyri	Farm	24	3 Double	Ísafjarðarsýsla	Snæfjallaströnd
394 Snæfjöll	Church farm	0	0 Single	Ísafjarðarsýsla	Snæfjallaströnd
395 Gullhús	Outlying farm	0	1 Single	Ísafjarðarsýsla	Snæfjallaströnd
396 Nes	Farm	16	2 Double	Ísafjarðarsýsla	Grunnavíkursveit

397 Kellingarstaðir	Farm	16	4 Double	Ísafjarðarsýsla	Grunnavíkursveit
398 Faxastaðir	Farm	4	1 Single	Ísafjarðarsýsla	Grunnavíkursveit
399 Staður	Church farm	0	0 Double	Ísafjarðarsýsla	Grunnavíkursveit
400 Kollsá	Farm	4	2	Ísafjarðarsýsla	Grunnavíkursveit
401 Höfðaströnd	Farm	16	1 Single	Ísafjarðarsýsla	Grunnavíkursveit
402 Höfði	Farm	8	3 Double	Ísafjarðarsýsla	Grunnavíkursveit
403 Dynjandi	Farm	16	4 Double	Ísafjarðarsýsla	Grunnavíkursveit
404 Leira	Farm	8	3	Ísafjarðarsýsla	Grunnavíkursveit
405 Kjós	Farm	8	3	Ísafjarðarsýsla	Grunnavíkursveit
406 Hrafnfjarðareyri	Farm	4	2	Ísafjarðarsýsla	Grunnavíkursveit
407 Álfstaðir	Farm	4	0	Ísafjarðarsýsla	Grunnavíkursveit
408 Kvíar	Farm	6	0	Ísafjarðarsýsla	Grunnavíkursveit
409 Steig	Farm	8	0 Single	Ísafjarðarsýsla	Grunnavíkursveit
410 Steinólfsstaðir	Farm	6	0 Double	Ísafjarðarsýsla	Grunnavíkursveit
411 Marðareyri	Farm	6	2 Single	Ísafjarðarsýsla	Grunnavíkursveit
412 Hesteyri	Farm	24	0 Double	Ísafjarðarsýsla	Aðalvíkursveit
413 Langivöllur	Outlying farm	6	2	Ísafjarðarsýsla	Aðalvíkursveit
414 Slétta	Farm	16	2 Double	Ísfjarðarsýsla	Aðalvíkursveit
415 Skáladalur	Farm	8	1 Single	Ísafjarðarsýsla	Aðalvíkursveit
416 Sæból	Farm	16	0 Single	Ísafjarðarsýsla	Aðalvíkursveit
417 Garðar	Farm	8	2 Single	Ísafjarðarsýsla	Aðalvíkursveit
418 Staður	Farm	0	0 Double	Ísafjarðarsýsla	Aðalvíkursveit
419 Lækur	Outlying farm	0	1 Single	Ísafjarðarsýsla	Aðalvíkursveit
420 Þverdalur	Farm	16	1 Double	Ísafjarðarsýsla	Aðalvíkursveit
421 Miðvík efri	Farm	16	4	Ísafjarðarsýsla	Aðalvíkursveit
422 Miðvík neðri	Farm	8	2 Single	Ísafjarðarsýsla	Aðalvíkursveit
423 Stakkadalur	Farm	8	2 Single	Ísafjarðarsýsla	Aðalvíkursveit
424 Látur	Farm	24	4 Double	Ísafjarðarsýsla	Aðalvíkursveit
425 Látrahús	Outlying farm	0	1 Single	Ísafjarðarsýsla	Aðalvíkursveit
426 Rekavík bak Látrum	Farm	4	1 Single	Ísafjarðarsýsla	Aðalvíkursveit
427 Tunga	Farm	6	1	Ísafjarðarsýsla	Aðalvíkursveit
428 Glúmstaðir	Farm	4	0	Ísafjarðarsýsla	Aðalvíkursveit
429 Atlastaðir	Farm	6	0	Ísafjarðarsýsla	Aðalvíkursveit
430 Kjaransvík	Farm	4	0	Ísafjarðarsýsla	Aðalvíkursveit
431 Hlöðuvík	Farm	6	0 Single	Ísafjarðarsýsla	Aðalvíkursveit
432 Hælavík	Farm	4	1 Single	Ísafjarðarsýsla	Aðalvíkursveit
433 Rekavík bak Höfn	Farm	4	0	Ísafjarðarsýsla	Aðalvíkursveit
434 Höfn	Farm	8	0 Double	Ísafjarðarsýsla	Aðalvíkursveit
435 Horn	Farm	6	0	Ísafjarðarsýsla	Aðalvíkursveit
436 Smiðjuvík	Farm	3	0	Ísafjarðarsýsla	Grunnavíkursveit
437 Barðsvík	Farm	6	0 Single	Ísafjarðarsýsla	Grunnavíkursveit
438 Bolungarvík	Farm	8	0 Single	Ísafjarðarsýsla	Grunnavíkursveit
439 Furufjörður	Farm	24	2	Ísafjarðarsýsla	Grunnavíkursveit
440 Þaralátursfjörður	Farm	6	0	Ísafjarðarsýsla	Grunnavíkursveit
441 Reykjarfjörður	Farm	12	1	Ísafjarðarsýsla	Grunnavíkursveit
442 Kirkjuból	Farm	10	0	Ísafjarðarsýsla	Grunnavíkursveit
443 Skjaldbjarnarvík	Farm	6	1 Single	Strandasýsla	Trékyllisvíkurhreppur
444 Drangavík	Farm	6	1	Strandasýsla	Trékyllisvíkurhreppur

445 Drangar	Farm	12	0 Single	Strandasýsla	Trékyllisvíkurhreppur
446 Engjanes	Farm	4	0	Strandasýsla	Trékyllisvíkurhreppur
447 Ófeigsfjörður	Farm	24	8	Strandasýsla	Trékyllisvíkurhreppur
448 Seljanes	Farm	8	2	Strandasýsla	Trékyllisvíkurhreppur
449 Ingólfsfjörður	Farm	12	3 Double	Strandasýsla	Trékyllisvíkurhreppur
450	Farm	8	0	Strandasýsla	Trékyllisvíkurhreppur
451 Munaðarnes	Farm	30	2 Double	Strandasýsla	Trékyllisvíkurhreppur
452 Nyrðra Fell	Farm	4	0 Single	Strandasýsla	Trékyllisvíkurhreppur
453 Innra Fell	Farm	4	0	Strandasýsla	Trékyllisvíkurhreppur
454 Krossnes	Farm	24	3 Double	Strandasýsla	Trékyllisvíkurhreppur
455 Norðurfjörður	Farm	8	1 Single	Strandasýsla	Trékyllisvíkurhreppur
456 Melar	Farm	24	4 Double	Strandasýsla	Trékyllisvíkurhreppur
457 Hlíðarhús	Outlying farm	8	0 Single	Strandasýsla	Trékyllisvíkurhreppur
458 Árnes	Farm	12	0 Single	Strandasýsla	Trékyllisvíkurhreppur
459 Bær	Farm	20	4 Double	Strandasýsla	Trékyllisvíkurhreppur
460 Fimmbogastaðir	Farm	16	4 Double	Strandasýsla	Trékyllisvíkurhreppur
461 Ávík Stærri	Farm	8	4 Double	Strandasýsla	Trékyllisvíkurhreppur
462 Ávík Minni	Farm	6	2 Single	Strandasýsla	Trékyllisvíkurhreppur
463 Reykjanes	Farm	12	4 Single	Strandasýsla	Trékyllisvíkurhreppur
464 Gjögur	Farm	4	1 Single	Strandasýsla	Trékyllisvíkurhreppur
465 Kesvogur	Farm	8	2 Double	Strandasýsla	Trékyllisvíkurhreppur
466 Naustvíkur	Farm	4	0 Single	Strandasýsla	Trékyllisvíkurhreppur
467 Reykjarfjörður	Farm	16	4 Double	Strandasýsla	Trékyllisvíkurhreppur
468 Kjós	Farm	8	2 Double	Strandasýsla	Trékyllisvíkurhreppur
469 Kambur	Farm	24	2 Double	Strandasýsla	Trékyllisvíkurhreppur
470 Veiðileysa	Farm	8	2 Single	Strandasýsla	Trékyllisvíkurhreppur
471 Byrgisvík	Farm	8	3 Single	Strandasýsla	Trékyllisvíkurhreppur
472 Kolbeinsvík	Farm	4	2	Strandasýsla	Trékyllisvíkurhreppur
473 Kaldbak	Farm	12	4 Double	Strandasýsla	Kaldrananeshreppur
474 Kleifar	Farm	8	2 Single	Strandasýsla	Kaldrananeshreppur
475 Eyjar	Farm	8	2 Single	Strandasýsla	Kaldrananeshreppur
476 Asparvík	Farm	8	3 Single	Strandasýsla	Kaldrananeshreppur
477 Brúará	Farm	4	1 Double	Strandasýsla	Kaldrananeshreppur
478 Reykjarvík	Farm	8	3 Single	Strandasýsla	Kaldrananeshreppur
479 Ásmundarnes	Farm	8	3 Single	Strandasýsla	Kaldrananeshreppur
480 Klúka	Farm	4	2 Single	Strandasýsla	Kaldrananeshreppur
481 Svanshóll	Farm	16	5 Single	Strandasýsla	Kaldrananeshreppur
482 Goðdalir	Farm	8	3 Single	Strandasýsla	Kaldrananeshreppur
483 Tungukot	Farm	4	2	Strandasýsla	Kaldrananeshreppur
484 Sunndalur	Farm	5	2 Single	Strandasýsla	Kaldrananeshreppur
485 Skarð	Farm	8	4 Single	Strandasýsla	Kaldrananeshreppur
486 Kaldrananes	Farm	20	5 Single	Strandasýsla	Kaldrananeshreppur
487 Bakki	Outlying farm	0	0 Single	Strandasýsla	Kaldrananeshreppur
488 Bjarnanes	Farm	8	3 Single	Strandasýsla	Kaldrananeshreppur
489 Bær	Farm	24	6 Single	Strandasýsla	Kaldrananeshreppur
490 Drangsnes	Farm	8	3 Double	Strandasýsla	Kaldrananeshreppur
491 Grimsey	Farm	12	2	Strandasýsla	Kaldrananeshreppur
492 Gautshamar	Farm	18	5 Double	Strandasýsla	Kaldrananeshreppur

493 Hafnarhólmur	Farm	24	7 Double	Strandasýsla	Kaldrananeshreppur
494 Kleifar	Farm	18	5 Single	Strandasýsla	Kaldrananeshreppur
495 Hella	Farm	16	3 Single	Strandasýsla	Kaldrananeshreppur
496 Sandnes	Farm	8	3 Single	Strandasýsla	Kaldrananeshreppur
497 Bassastaðir	Farm	12	3 Double	Strandasýsla	Kaldrananeshreppur
498 Bólstaður	Farm	8	4 Single	Strandasýsla	Kaldrananeshreppur
499 Gilstaðir	Farm	8	2 Single	Strandasýsla	Staðarhreppur
500 Geirmundarstaðir	Farm	12	3	Strandasýsla	Staðarhreppur
501 Grænanes	Farm	12	3 Single	Strandasýsla	Staðarhreppur
502 Staður	Church farm	0	0 Single	Strandasýsla	Staðarhreppur
503 Kolbjarnarstaðir	Outlying farm	0	3	Strandasýsla	Staðarhreppur
504 Kleppustaðir	Outlying farm	0	2 Single	Strandasýsla	Staðarhreppur
505 Aratunga	Outlying farm	0	3	Strandasýsla	Staðarhreppur
506 Hólar	Farm	8	3 Single	Strandasýsla	Staðarhreppur
507 Kirkjuból	Farm	12	3 Single	Strandasýsla	Staðarhreppur
508 Viðivellir	Farm	12	3 Single	Strandasýsla	Staðarhreppur
509 Hofstaðir	Farm	4	2	Strandasýsla	Staðarhreppur
510 Hróberg	Farm	12	4 Double	Strandasýsla	Staðarhreppur
511 Ós	Farm	24	3 Single	Strandasýsla	Staðarhreppur
512 Kálfanés	Farm	40	9 Single	Strandasýsla	Staðarhreppur
513 Skeljavík	Farm	8	3 Single	Strandasýsla	Staðarhreppur
514 Vatnshorn	Farm	24	5 Single	Strandasýsla	Staðarhreppur
515 Þiðriksvellir	Farm	16	6 Double	Strandasýsla	Staðarhreppur
516 Viðidalsá	Farm	24	5 Double	Strandasýsla	Staðarhreppur
517 Hrófá	Farm	12	4 Single	Strandasýsla	Staðarhreppur
518 Arnkötuldalur	Farm	8	3 Single	Strandasýsla	Tröllatunguhreppur
519 Tröllatunga	Farm	0	0 Single	Strandasýsla	Tröllatunguhreppur
520 Efraból	Outlying farm	0	0	Strandasýsla	Tröllatunguhreppur
521 Hlíðarsel	Outlying farm	0	2	Strandasýsla	Tröllatunguhreppur
522 Kierasteirn	Outlying farm	0	2	Strandasýsla	Tröllatunguhreppur
523 Tungugróf	Farm	8	2 Single	Strandasýsla	Tröllatunguhreppur
524 Húsavík	Farm	20	4 Single	Strandasýsla	Tröllatunguhreppur
525 Heiðarbær	Farm	12	2 Single	Strandasýsla	Tröllatunguhreppur
526 Miðdalsgröf	Farm	12	4 Single	Strandasýsla	Tröllatunguhreppur
527 Tindur	Farm	12	4 Single	Strandasýsla	Tröllatunguhreppur
528 Veitukot	Outlying farm	0	2	Strandasýsla	Tröllatunguhreppur
529 Gjestaðir	Farm	12	5 Single	Strandasýsla	Tröllatunguhreppur
530 Klúka	Farm	10	3 Single	Strandasýsla	Tröllatunguhreppur
531 Kirkjuból	Farm	24	6 Single	Strandasýsla	Tröllatunguhreppur
532 Heiðadalsá	Farm	30	5 Single	Strandasýsla	Tröllatunguhreppur
533 Haralldstaðir	Outlying farm	0	2	Strandasýsla	Tröllatunguhreppur
534 Leifsstaðir	Outlying farm	0	0	Strandasýsla	Tröllatunguhreppur
535 Smáhamrar	Farm	8	4 Single	Strandasýsla	Tröllatunguhreppur
536 Þorþ	Farm	20	7 Double	Strandasýsla	Tröllatunguhreppur
537 Hvalsá	Farm	8	3 Single	Strandasýsla	Tröllatunguhreppur
538 Kollafjarðarnes	Farm	20	3 Double	Strandasýsla	Tröllatunguhreppur
539 Hlíð	Farm	16	4 Double	Strandasýsla	Bitruhreppur
540 Fjarðarhorn litla	Farm	12	4 Single	Strandasýsla	Bitruhreppur

541 Ljufustaðir	Farm	8	4 Single	Strandasýsla	Bitruhreppur
542 Steinadalur	Farm	24	7 Single	Strandasýsla	Bitruhreppur
543 Fell	Farm	8	4 Single	Strandasýsla	Bitruhreppur
544 Miðhlíð	Outlying farm	8	4	Strandasýsla	Bitruhreppur
545 Miðhús	Outlying farm	12	4	Strandasýsla	Bitruhreppur
546 Garðakot	Outlying farm	8	4	Strandasýsla	Bitruhreppur
547 Efrafell	Outlying farm	8	4	Strandasýsla	Bitruhreppur
548 Kúkstaðir	Outlying farm	8	4	Strandasýsla	Bitruhreppur
549 Hamar	Outlying farm	8	4 Single	Strandasýsla	Bitruhreppur
550 Þrúðardalur	Farm	16	4 Single	Strandasýsla	Bitruhreppur
551 Þorsteinsstaðir	Outlying farm	0	3	Strandasýsla	Bitruhreppur
552 Fjarðarhorn stóra	Farm	16	5	Strandasýsla	Bitruhreppur
553 Broddanes	Farm	60	13 Double	Strandasýsla	Bitruhreppur
554 Broddadalsá	Farm	8	4 Single	Strandasýsla	Bitruhreppur
555 Skriðingsenni	Farm	16	4 Single	Strandasýsla	Bitruhreppur
556 Brekka	Farm	16	5 Single	Strandasýsla	Bitruhreppur
557 Hvítahlíð	Farm	16	4 Single	Strandasýsla	Bitruhreppur
558 Gröf	Farm	8	4 Single	Strandasýsla	Bitruhreppur
559 Einfætugil	Farm	16	4 Single	Strandasýsla	Bitruhreppur
560 Óspakseyri	Farm	24	5 Double	Strandasýsla	Bitruhreppur
561 Kjóstastaðir	Farm	12	3 Single	Strandasýsla	Bitruhreppur
562 Hóll	Farm	12	0	Strandasýsla	Bitruhreppur
563 Brunngil	Farm	16	4 Single	Strandasýsla	Bitruhreppur
564 Þóroddsstaðir	Farm	16	4 Single	Strandasýsla	Bitruhreppur
565 Þambarvellir	Farm	16	4 Single	Strandasýsla	Bitruhreppur
566 Skálholtsvík	Farm	30	4	Strandasýsla	Bæjarhreppur
567 Guðlaugsvík	Farm	30	6 Single	Strandasýsla	Bæjarhreppur
568 Kolbítsá	Farm	20	5 Single	Strandasýsla	Bæjarhreppur
569 Borgir	Farm	8	3 Single	Strandasýsla	Bæjarhreppur
570 Stóra Hvalsá	Farm	16	6 Single	Strandasýsla	Bæjarhreppur
571 Sauðanes	Outlying farm	0	1	Strandasýsla	Bæjarhreppur
572 Litla Hvalsá	Farm	8	2 Single	Strandasýsla	Bæjarhreppur
573 Kollsá	Farm	16	2 Double	Strandasýsla	Bæjarhreppur
574 Prestbakki	Farm	30	6 Single	Strandasýsla	Bæjarhreppur
575 Hrafnadalur	Farm	16	6 Single	Strandasýsla	Bæjarhreppur
576 Ljótunarstaðir	Farm	16	6 Single	Strandasýsla	Bæjarhreppur
577 Bær	Farm	48	8 Single	Strandasýsla	Bæjarhreppur
578 Holt	Outlying farm	3	1 Single	Strandasýsla	Bæjarhreppur
579 Sel	Outlying farm	3	1 Single	Strandasýsla	Bæjarhreppur
580 Hlaðhamar	Farm	16	5 Single	Strandasýsla	Bæjarhreppur
581 Laxárdalur	Farm	16	6 Single	Strandasýsla	Bæjarhreppur
582 Kétseyri	Farm	24	3 Single	Strandasýsla	Bæjarhreppur
583 Borðeyri	Farm	12	3 Single	Strandasýsla	Bæjarhreppur
584 Valdasteinseyri	Farm	12	4 Single	Strandasýsla	Bæjarhreppur
585 Fjarðarhorn	Farm	24	4 Double	Strandasýsla	Bæjarhreppur
586 Fagrabrekka	Farm	8	2	Strandasýsla	Bæjarhreppur
587 Melar	Farm	30	2 Single	Strandasýsla	Bæjarhreppur
588 Eystri Skógar	Farm	0	0 Single	Rangárvallasýsla	Eyjafjallasveit

589	Ytri Skógar	Farm	60	0 Double	Rangárvallasýsla	Eyjafjallasveit	
590	Drangshlíð	Farm	40	4 Double	Rangárvallasýsla	Eyjafjallasveit	
591	Skarðshlíð	Farm	20	2 Double	Rangárvallasýsla	Eyjafjallasveit	
592	Hrútafell	Farm	40	1 Double	Rangárvallasýsla	Eyjafjallasveit	
593	Hrútafellskot	Farm	5	0 Single	Rangárvallasýsla	Eyjafjallasveit	
594	Bakkarnir	Outlying farm	2	1	Rangárvallasýsla	Eyjafjallasveit	
595	Hólar	Church farm	26	0 Single	Rangárvallasýsla	Eyjafjallasveit	
596	Syðra Hólakot	Outlying farm	0	2	Rangárvallasýsla	Eyjafjallasveit	
597	Vestur Hjáleiga	Outlying farm	0	0	Rangárvallasýsla	Eyjafjallasveit	
598	Efri Hólakot	Outlying farm	0	1 Single	Rangárvallasýsla	Eyjafjallasveit	
599	Hörðuskáli	Farm	13	0	Rangárvallasýsla	Eyjafjallasveit	
600	Efra Bakkakot	Farm	6	0 Single	Rangárvallasýsla	Eyjafjallasveit	
601	Syðra Bakkakot	Farm	4	0 Single	Rangárvallasýsla	Eyjafjallasveit	
602	Raufarfell eystra	Farm	55	8 Double	Rangárvallasýsla	Eyjafjallasveit	
603	Raufarfell ytra	Farm	40	7 Double	Rangárvallasýsla	Eyjafjallasveit	
604	Selkot	Farm	5	2 Single	Rangárvallasýsla	Eyjafjallasveit	
605	Klömbur	Church farm	10	1 Single	Rangárvallasýsla	Eyjafjallasveit	
606	Stóraborg	Farm	40	0 Single	Rangárvallasýsla	Eyjafjallasveit	
607	Borgarkot	Outlying farm	5	0	Rangárvallasýsla	Eyjafjallasveit	
608	Minniborg	Outlying farm	10	2 Double	Rangárvallasýsla	Eyjafjallasveit	
609	Sitjandi	Outlying farm	6	1	Rangárvallasýsla	Eyjafjallasveit	
610	Lambafell	Farm	20	4 Double	Rangárvallasýsla	Eyjafjallasveit	
611	Miðbæli	Farm	30	5 Single	Rangárvallasýsla	Eyjafjallasveit	
612	Gíslakot	Outlying farm	10	3 Single	Rangárvallasýsla	Eyjafjallasveit	
613	Ystabæli	Farm	10	2 Double	Rangárvallasýsla	Eyjafjallasveit	
614	Ystabælistkot	Farm	10	2 Double	Rangárvallasýsla	Eyjafjallasveit	
615	Svartbæli	Farm	40	0 Doubel	Rangárvallasýsla	Eyjafjallasveit	
616	Núpakot	Church farm	10	4 Double	Rangárvallasýsla	Eyjafjallasveit	
617	Hlíð	Farm	20	4 Double	Rangárvallasýsla	Eyjafjallasveit	
618	Leirur	Farm	20	0 Single	Rangárvallasýsla	Eyjafjallasveit	
619	Berjanes	Farm	27	0 Double	Rangárvallasýsla	Eyjafjallasveit	
620	Berjaneskot	Outlying farm	10	0 Single	Rangárvallasýsla	Eyjafjallasveit	
621	Steinar	Farm	60	9 Double	Rangárvallasýsla	Eyjafjallasveit	
ID	Farm	Cows	Winter old cow	Heifere	Calfs	Young bulls	Milk ewe
	1 Meiri Bakki	5	0	0	0	0	28
	2 Kroppstaðir	0	0	0	0	0	0
	3 Meira Hraun	2	1	0	0	0	11
	4 Minnahraun	2	1	0	0	0	14
	5 Breiðaból	5	0	0	1	0	22
	6 Minni Bakki	4	0	0	1	0	21
	7 Meiri Hlíð	4	0	0	2	0	11
	8 Tröð	2	2	0	0	0	12
	9 Hreggnasi	0	0	0	0	0	0
	10 Ytri Búðir	2	0	0	0	0	7
	11 Minni Hlíð	3	0	0	1	0	15
	12 Tunga	4	0	0	2	0	28
	13 Hóll	5	1	0	1	2	24
	14 Landalifur	0	0	0	0	0	0

15 Mýra Hús	0	0	0	0	0	0
16 Nýi bær	0	0	0	0	0	0
17 Stöðlar	0	0	0	0	0	0
18 Heimari Búðir	4	0	0	0	0	23
19 Grundarhóll	4	0	0	0	0	22
20 Geirastaðir	2	0	0	0	0	15
21 Miðdalur	6	0	1	1	0	32
22 Hanhóll	5	0	1	0	1	25
23 Gil	3	0	1	1	0	27
24 Ós	5	0	0	0	0	34
25 Ingjaldsstaðir	3	0	0	0	0	33
26 Fljótsbakki	2	0	0	0	0	35
27 Glaumbæjarsel	0	0	0	0	0	0
28 Foss Sel	2	0	0	0	0	13
29 Vað	2	0	0	0	0	30
30 Jódísarstaðir	1	1	0	0	0	14
31 Bergstaðir	1	0	0	0	0	15
32 Skriða	4	1	0	0	0	37
33 Skriðuland	0	0	0	0	0	0
34 Húsa Bakki	0	0	0	0	0	0
35 Hellur	0	0	0	0	0	0
36 Hraunkot	1	0	0	0	0	14
37 Sandur	3	0	1	1	1	40
38 Sýlalækur	3	0	0	1	2	31
39 Knútsstaðir	2	1	0	0	0	35
40 Nes	5	1	0	1	3	70
41 Illstaðir	0	0	0	0	0	0
42 Neskot	0	0	0	0	0	0
43 Tjörn	1	1	0	1	0	35
44 Garður	4	0	0	2	2	30
45 Nöf	0	0	0	0	0	0
46 Hafralækur	5	0	0	0	0	26
47 Hafralækjargerði	0	0	0	0	0	0
48 Hólmavað	4	0	0	0	0	28
49 Ytrafjall	5	1	0	1	0	32
50 Eyjólfstaðir	1	0	0	0	0	13
51 Fjallskot	0	0	0	0	0	0
52 Syðrafjall	5	0	0	1	1	31
53 Fjallskot	0	0	0	0	0	0
54 Mýlastaðir	2	1	0	0	0	35
55 Sýrnes	3	1	0	0	0	24
56 Hólkot	2	0	0	0	0	26
57 Höskuldstaðir	2	0	0	0	0	25
58 Helgastaðir	6	0	0	0	0	50
59 Helgastaðakot	0	0	0	0	0	0
60 Bessastaðir	0	0	0	0	0	0
61 Hamar	3	0	0	0	0	35
62 Glaumbær	2	0	0	0	0	30
63 Einarsstaðir	6	2	0	1	1	80
64 Vallnakot	2	0	0	1	0	30

65 Láfsgærði	0	0	0	0	0	0
66 Skógaflatir	0	0	0	0	0	0
67 Kviindisdalur	3	0	0	0	0	50
68 Breidamýri	1	2	1	0	0	30
69 Hólar	3	0	0	1	0	50
70 Daðstaðir	2	0	0	0	0	38
71 Narfastaðir	2	0	0	0	2	48
72 Stafn	2	0	0	0	0	53
73 Viðjar	1	0	0	1	0	31
74 Máskot	1	0	0	0	0	17
75 Hallbjarnarstaðir	4	0	1	0	1	20
76 Hjalli	2	0	0	0	0	24
77 Litlulaugar	3	0	0	0	0	18
78 Stórulaugar	6	1	0	1	0	48
79 Öndólfssstaðir	2	0	0	1	0	18
80 Halldórsstaðir	4	0	0	2	0	35
81 Halldórstaðapartur	1	0	1	1	0	12
82 Fagranes	4	0	1	0	0	58
83 Múli	6	0	0	1	1	60
84 Kraunastaðir	2	0	0	0	0	18
85 Tumsa	1	0	0	0	0	11
86 Fótaskinn	1	0	0	0	0	15
87 Grímshús	0	0	0	0	0	0
88 Grenjaðarstaður	12	0	0	3	2	106
89 Hjallthús	0	0	0	0	0	0
90 Holtagerði	0	0	0	0	0	0
91 Oddstaðir	0	0	0	0	0	0
92 Grenjaðastaða Sel	0	0	0	0	0	0
93 Brúár	4	1	1	0	0	30
94 Ásgeirstaðir	0	0	0	0	0	0
95 Birningstaðir	3	0	0	0	1	38
96 Halldórsstaðir	4	0	0	0	0	50
97 Þverá	4	0	0	0	1	63
98 Auðnir	1	0	0	0	0	16
99 Ljótssstaðir	2	0	1	0	0	35
100 Brettingstaðir	0	0	0	0	0	0
101 Hólkot	0	0	0	0	0	0
102 Hamar	2	1	0	0	0	30
103 Hólar	4	0	0	1	1	70
104 Kasthvammur	3	1	0	0	0	40
105 Þeistar Reykir	0	0	0	0	0	0
106 Geitargerði	0	0	0	0	0	0
107 Langavatn	2	0	0	0	0	30
108 Presthvammur	3	0	0	1	1	30
109 Klömbur	3	0	0	0	0	36
110 Brekka	2	0	0	0	1	17
111 Hraun	4	0	0	0	0	27
112 Miðhvammur	3	0	0	0	0	30
113 Ysti Hvammur	1	0	1	1	0	26
114 Hagi	4	0	1	0	0	32

115 Núpar	3	0	1	0	0	40
116 Árból	2	0	0	1	0	26
117 Helluvað	0	0	0	0	0	0
118 Gautlönd	4	0	2	0	0	60
119 Baldursheimur	2	0	1	0	0	60
120 Sveinströnd	2	0	0	1	1	39
121 Litluströnd	1	0	1	0	0	20
122 Þorláksskot	0	0	0	0	0	0
123 Arnarvatn	5	0	0	0	0	80
124 Haganes	3	0	0	0	0	70
125 Skútustaðir	5	1	0	0	0	65
126 Álftagerði	2	0	0	1	0	30
127 Kirkjubær	0	0	0	0	0	0
128 Grænavatn	4	0	0	2	0	40
129 Þuriðarnes	0	0	0	0	0	0
130 Garður	2	0	1	0	0	36
131 Briamsnes	2	0	0	0	0	13
132 Kálfaströnd	4	0	0	1	1	50
133 Geiteyjarströnd	4	0	2	0	0	53
134 Vogar	4	0	0	0	0	40
135 Reykjahlíð	4	0	0	2	0	48
136 Gröf	2	0	0	0	0	22
137 Fagranes	2	0	0	0	0	40
138 Grímstaðir	4	1	0	0	0	58
139 Syðri Neslönd	0	0	0	0	0	0
140 Ytri Neslönd	2	1	0	0	0	28
141 Vindbelgur	2	0	0	0	0	19
142 Geirastaðir	2	0	0	0	0	36
143 Hofstaðir	4	0	0	0	0	55
144 Hokinsdalur	4	0	1	0	0	51
145 Laugaból	3	0	0	1	0	24
146 Horn	4	0	1	1	0	33
147 Skógar	3	1	0	0	0	43
148 Kirkjuból	6	0	0	0	0	80
149 Ós	2	0	0	0	0	16
150 Dynjandi	4	0	0	0	1	33
151 Borg	3	1	0	1	0	33
152 Rauðstaðir	3	0	0	0	2	19
153 Hjallkárseyri	4	0	0	1	0	40
154 Gljúfurá	4	0	1	0	0	32
155 Karlstaðir	2	0	0	0	0	23
156 Hrafnseyri	6	0	0	2	1	30
157 Rani	1	0	0	1	0	7
158 Bæli	2	0	0	0	0	9
159 Neðrahús	4	0	0	0	0	23
160 Sjávarhús	1	0	0	0	0	2
161 Auðkúla	6	2	2	1	0	39
162 Tjaldanes	5	0	1	0	0	45
163 Baulhús	4	0	0	0	0	30
164 Álftamýri	5	0	0	1	0	51

165 Álfamýrarhús	3	0	0	0	0	23
166 Stapadalur	7	0	0	0	0	56
167 Hrafnabjörg	3	0	0	0	0	35
168 Lokinhamrar	6	0	0	0	0	97
169 Selvogar	4	0	0	0	0	30
170 Höfn	3	0	0	0	1	35
171 Hraun	12	1	1	2	0	77
172 Skálará	4	0	0	0	0	17
173 Saurar	3	1	0	0	0	13
174 Arnarnúpur	6	1	1	0	0	35
175 Sveinseyri	3	0	0	0	0	32
176 Haukadalur	9	1	1	2	0	64
177 Meðaldalur	5	0	0	0	0	26
178 Gata	0	0	0	0	0	0
179 Hólar	2	0	0	0	0	21
180 Kirkjuból	3	0	0	0	0	23
181 Hof	2	0	0	0	1	13
182 Múli	2	0	0	1	0	14
183 Bakki	2	0	0	0	1	22
184 Brekka	6	0	0	0	0	39
185 Sandar	6	1	1	2	2	39
186 Sandahús	2	0	0	0	0	7
187 Stekkur	1	1	0	0	0	9
188 Þyngeyri	0	0	0	0	0	0
189 Hvammur	5	0	1	1	0	31
190 Hvammshús neðra	1	0	0	1	0	6
191 Innrahús	2	0	0	1	0	10
192 Ytrahús	1	0	0	1	0	12
193 Ketilseyri	2	0	1	1	0	26
194 Kjaransstaðir	2	0	0	0	0	14
195 Drangar	2	0	1	1	0	27
196 Botn	3	0	0	3	1	24
197 Lambadalur innri	3	0	0	0	0	31
198 Lambadalur ytri	5	1	0	1	0	47
199 Næfranes	5	0	0	1	0	36
200 Höfði	3	1	1	1	0	36
201 Hjarðadalur fremri	5	1	0	0	0	25
202 Hjarðadardalur neðri	7	1	1	1	0	42
203 Gemplufell	4	0	1	1	0	27
204 Grandi	2	0	0	0	0	15
205 Lækjarós	4	0	0	1	0	48
206 Mýrar	6	2	0	2	0	40
207 Mýrahús	3	0	0	1	0	24
208 Stórigarður	2	0	0	1	0	6
209 Litligarður	4	0	0	1	0	15
210 Fell	2	0	0	1	0	10
211 Lækur	3	0	0	0	0	18
212 Klukkuland	4	0	0	1	1	44
213 Kotnúpur	0	0	0	0	0	0
214 Núpur	10	0	0	2	4	45

215 Innra hús	3	1	0	1	0	18
216 Rani	0	0	0	0	0	0
217 Ytra hús	2	0	0	0	0	12
218 Nesjabær	0	0	0	0	0	0
219 Alviðra	0	0	0	0	0	0
220 Alviðra	11	0	0	1	1	59
221 Alviðruhús	1	0	1	0	0	14
222 Gerðhamrar	5	0	1	2	2	45
223 Arnarnes	3	0	0	0	1	30
224 Birnustaðir	2	0	1	1	0	18
225 Lambamúli	0	0	0	0	0	0
226 Fjallaskagi	3	0	1	1	1	30
227 Sæból	8	3	0	1	1	33
228 Efra hús	1	0	0	0	0	18
229 Neðra hús	0	0	0	0	0	0
230 Krókshús	2	0	0	0	0	14
231 Álfadalur	7	1	1	1	0	46
232 Hraun	4	0	0	0	0	23
233 Háls	4	0	0	0	1	18
234 Brekka	9	2	1	2	0	53
235 Villingadalur	5	1	0	0	0	34
236 Mosdalur	3	0	0	0	0	25
237 Kirkjuból	5	0	0	0	0	39
238 Dalshús heimari	2	0	0	0	0	11
239 Dalshús Ytri	3	0	0	1	1	17
240 Tunga	5	1	0	1	0	38
241 Grafargil	5	1	0	1	0	31
242 Þorfinnstaðir	4	0	0	0	0	24
243 Hjarðardalur Ytri	9	1	0	2	2	67
244 Hjarðadalur Innri	5	0	0	1	0	26
245 Holt	12	1	3	3	1	80
246 Melavaðshús	0	0	0	0	0	0
247 Melavaðshús innri	0	0	0	0	0	0
248 Arnkelsbrekka	0	0	0	0	0	0
249 Vaðlar	6	0	0	1	0	33
250 Tröð	6	0	0	1	0	52
251 Kirkjuból	6	0	0	1	0	27
252 Mosvellir	7	0	0	0	0	35
253 Vífilsmýrar	8	0	1	1	0	45
254 Hóll	6	1	0	1	0	41
255 Tunga	2	1	0	1	0	24
256 Hestur	4	2	0	2	0	36
257 Hesthús efra	4	0	0	1	0	16
258 Hesthús neðra	4	0	0	1	0	17
259 Múli	0	0	0	0	0	3
260 Efsta Ból	5	0	1	1	0	30
261 Kroppstaðir	6	0	0	2	0	31
262 Kirkjuból	7	1	0	2	1	53
263 Kirkjubóls hús	3	0	0	1	0	14
264 Tanna Nes	5	0	0	1	0	37

265 Veðrará Innri	3	0	0	0	0	17
266 Miðá	0	0	0	0	0	0
267 Veðrará Ytri	3	0	0	1	0	14
268 Breiðidalur fremri	4	0	0	1	0	27
269 Breiðidalur neðri	5		1	1	1	48
270 Kirkjuból	2	1	0	0	0	22
271 Kalldá	3	0	0	0	0	24
272 Hóll á Hviltarströnd	3	0	0	1	0	18
273 Hvilft	5	0	0	1	0	34
274 Garðar	3	0	0	1	0	24
275 Eyri	8	0	0	1	1	68
276 Staður	5	0	0	0	0	40
277 Staðarhús	5	0	0	0	0	24
278 Staðarhús	0	0	0	0	0	0
279 Vatnadalur	4	1	0	1	0	20
280 Vatnadalur Neðri	2	1	0	0	0	18
281 Bær	7	0	1	1	1	49
282 Suðureyri	6	0	0	0	1	43
283 Kvíarnes	4	0	0	0	1	28
284 Botn	11	0	0	2	4	65
285 Gilsbrekka	3	0	0	0	0	10
286 Selárdalur	5	0	0	0	0	30
287 Norðureyri	3	0	0	0	1	15
288 Göltur	5	1	0	0	0	15
289 Keflavík	2	0	0	1	0	14
290 Hnífsdalur neðri	8	0	2	1	0	44
291 Búð	2	0	0	0	0	18
292 Hraun	3	0	0	0	0	11
293 Hnífsdalur fremri	6	0	1	1	0	43
294 Bakki	3	0	0	0	0	17
295 Eyri	9	0	0	3	3	50
296 Stekkjanes	1	0	0	0	0	13
297 Seljaland	7	0	0	2	0	39
298 Tunga	7	2	0	1	0	42
299 Hafrafell	3	0	0	0	0	24
300 Engidalur	8	0	0	0	1	31
301 Fossar	2	0	0	0	0	8
302 Kirkjuból	7	0	1	2	0	44
303 Seljabrekka	0	0	0	0	0	0
304 Arnardalur fremri	4	0	0	1	0	26
305 Arnardalur neðri	5	0	0	0	0	28
306 Ytrahús	3	0	0	1	0	14
307 Fremrahús	1	1	1	1	0	15
308 Súðavík	5	0	0	2	0	45
309 Trauð	2	0	0	0	0	20
310 Saurar	3	0	0	1	0	20
311 Eyrardalur	2	0	0	2	1	26
312 Hlíð	4	1	0	2	0	28
313 Dvergasteinn	0	0	0	0	0	0
314 Svarthamar	3	2	0	0	0	19

315 Svarfhóll	5	1	0	2	1	41
316 Seljaland	3	1	0	1	0	14
317 Hattardalur minni	6	0	0	0	1	30
318 Hattardalur meiri	0	0	0	0	0	0
319 Hattardalshús	3	0	0	0	1	20
320 Kambsnes	2	0	0	0	2	20
321 Eyri	5	1	2	1	2	60
322 Traðir	1	1	0	1	0	12
323 Uppsalar	5	1	0	0	0	29
324 Kleifar	2	0	1	1	1	22
325 Folaftotur	4	0	1	1	0	33
326 Hestur	3	0	0	0	0	22
327 Eiði	2	0	0	0	0	6
328 Hestfjörður	0	0	0	0	0	0
329 Hvítarnes	5	0	1	1	2	44
330 Eyri	2	1	0	0	0	34
331 Kleifar	2	2	0	0	0	14
332 Borg	2	0	0	1	0	14
333 Kálfavík	4	0	0	0	1	28
334 Hjallar	2	1	0	0	0	16
335 Skarð	2	0	1	1	0	15
336 Ögur	6	0	0	2	1	51
337 Garðstaðir	1	0	0	0	0	17
338 Strandasel	2	0	0	1	1	29
339 Blámýrar	3	0	0	2	1	34
340 Laugaból	3	1	1	2	0	34
341 Efstidalur	0	0	0	0	0	0
342 Eiríksstaðir	0	0	0	0	0	0
343 Birnustaðir	2	1	0	0	0	11
344 Hrafnabjörg	3	0	0	1	1	24
345 Þernuvík	4	0	0	2	1	35
346 Vigur	4	0	0	1	1	42
347 Látur	6	0	0	3	2	78
348 Stekkjarkot	0	0	0	0	0	0
349 Eyri	3	1	0	1	1	32
350 Heydalur	3	0	0	2	1	26
351 Botn	4	0	0	2	0	28
352 Hörgshlíð	0	0	0	0	0	0
353 Kellda	2	1	0	0	0	18
354 Skálavík	2	0	0	0	0	34
355 Vatnsfjörður	6	0	0	2	1	39
356 Sveinhús	2	0	0	0	0	11
357 Borgarey	2	0	0	1	0	17
358 Miðhús	0	0	0	0	0	0
359 Hálshús	3	0	0	2	1	25
360 Þúfur	2	0	0	1	0	20
361 Reykjafjörður	5	0	1	1	1	59
362 Svansvík	3	1	1	0	1	40
363 Vogar	3	0	0	1	0	21
364 Bjarnastaðir	2	0	1	1	0	27

365 Eyri	1	1	0	0	0	18
366 Gervidalur	1	1	0	1	0	14
367 Múli	2	0	2	1	0	46
368 Laugarból	9	1	0	2	2	90
369 Arngerðareyri	4	0	0	2	1	50
370 Brekka	2	0	1	0	2	20
371 Kirkjuból	4	1	0	0	1	47
372 Bakkasel	0	0	0	0	0	0
373 Fremri Bakki	4	0	0	2	1	32
374 Neðri bakki	2	1	0	1	0	40
375 Lágidalur	2	1	0	0	0	20
376 Tunga	5	0	0	1	2	50
377 Rauðamýri	5	0	0	1	0	55
378 Nauteyri	4	0	0	2	0	19
379 Hafnardalur	2	0	0	2	0	30
380 Hallstaðir	3	0	0	1	0	24
381 Hamar	5	0	0	2	0	44
382 Melgraseyri	7	0	0	1	1	55
383 Hraundalur	0	0	0	0	0	0
384 Laugaland	3	2	0	1	0	40
385 Skjaldfönn	2	0	0	2	0	22
386 Ámúli	4	0	1	1	0	35
387 Lónseyri	0	0	0	0	0	0
388 Bæir	9	1	0	3	1	57
389 Unaðsdalur	4	0	0	1	0	21
390 Tyrðilmýri	2	0	0	1	1	14
391 Æðey	8	2	0	4	1	32
392 Skarð	3	0	0	2	1	33
393 Sandeyri	8	0	2	2	0	57
394 Snæfjöll	4	0	1	2	1	39
395 Gullhús	1	1	0	0	0	9
396 Nes	5	1	0	0	0	43
397 Kellingarstaðir	5	1	0	0	0	50
398 Faxastaðir	2	0	0	0	0	15
399 Staður	10	2	1	1	1	73
400 Kollsá	0	0	0	0	0	0
401 Höfðaströnd	5	0	0	1	3	34
402 Höfði	3	1	0	1	1	23
403 Dynjandi	6	0	0	2	1	15
404 Leira	0	0	0	0	0	0
405 Kjós	0	0	0	0	0	0
406 Hrafnfjarðareyri	0	0	0	0	0	0
407 Álfstaðir	0	0	0	0	0	0
408 Kvíar	0	0	0	0	0	0
409 Steig	2	0	0	1	1	7
410 Steinólfsstaðir	2	0	0	0	0	12
411 Marðareyri	1	1	0	0	0	12
412 Hesteyri	7	0	0	2	1	33
413 Langivöllur	0	0	0	0	0	0
414 Slétta	2	1	0	1	0	38

415 Skáladalur	2	1	0	0	0	12
416 Sæból	5	0	0	0	1	20
417 Garðar	3	1	0	1	0	23
418 Staður	10	2	0	1	0	41
419 Lækur	2	0	0	0	0	7
420 Þverdalur	5	2	0	1	0	30
421 Miðvík efri	0	0	0	0	0	0
422 Miðvík neðri	3	0	0	1	1	11
423 Stakkadalur	1	1	0	0	0	7
424 Látur	7	2	0	2	1	29
425 Látrahús	1	0	0	1	0	12
426 Rekavík bak Látrum	2	0	0	1	0	3
427 Tunga	0	0	0	0	0	0
428 Glúmstaðir	0	0	0	0	0	0
429 Atlastaðir	0	0	0	0	0	0
430 Kjaransvík	0	0	0	0	0	0
431 Hlöðuvík	2	0	0	1	0	12
432 Hælavík	1	0	0	1	0	6
433 Rekavík bak Höfn	0	0	0	0	0	0
434 Höfn	5	0	0	0	1	25
435 Horn	0	0	0	0	0	0
436 Smiðjuvík	0	0	0	0	0	0
437 Barðsvík	2	0	0	1	0	6
438 Bolungarvík	2	1	0	1	0	9
439 Furufjörður	0	0	0	0	0	0
440 Þaralátursfjörður	0	0	0	0	0	0
441 Reykjarfjörður	0	0	0	0	0	0
442 Kirkjuból	0	0	0	0	0	0
443 Skjaldbjarnarvík	1	0	0	0	0	2
444 Drangavík	0	0	0	0	0	0
445 Drangar	2	0	0	0	0	1
446 Engjanes	0	0	0	0	0	0
447 Ófeigsfjörður	0	0	0	0	0	0
448 Seljanes	0	0	0	0	0	0
449 Ingólfsfjörður	1	0	0	0	2	9
450	0	0	0	0	0	2
451 Munaðarnes	5	0	0	0	0	22
452 Nyrðra Fell	2	0	0	0	0	9
453 Innra Fell	0	0	0	0	0	0
454 Krossnes	4	0	1	1	0	29
455 Norðurfjörður	0	0	0	0	0	16
456 Melar	4	0	1	0	1	15
457 Hlíðarhús	0	0	0	0	0	0
458 Árnes	6	0	0	0	1	32
459 Bær	3	0	0	1	0	19
460 Fimmbogastaðir	5	0	1	0	0	29
461 Ávík Stærri	1	1	1	0	0	9
462 Ávík Minni	2	0	0	0	0	6
463 Reykjanes	3	0	0	0	1	20
464 Gjögur	0	0	0	0	0	12

465 Kesvogur	2	0	0	0	0	7
466 Naustvíkur	1	0	1	0	0	8
467 Reykjarfjörður	3	0	0	0	1	35
468 Kjós	3	0	0	0	0	15
469 Kambur	1	0	2	0	0	7
470 Veiðileysa	4	0	0	0	1	7
471 Byrgisvík	2	0	0	0	0	10
472 Kolbeinsvík	0	0	0	0	0	10
473 Kaldbak	4	0	0	0	0	38
474 Kleifar	2	0	0	1	0	17
475 Eyjar	2	0	0	0	0	22
476 Asparvík	2	0	0	0	0	16
477 Brúará	2	0	0	0	0	15
478 Reykjarvík	3	0	0	1	0	26
479 Ásmundarnes	2	0	0	0	0	13
480 Klúka	2	0	0	0	0	10
481 Svanshóll	4	0	1	1	0	35
482 Goðdalir	1	0	1	0	0	20
483 Tungukot	0	0	0	0	0	0
484 Sunndalur	1	1	0	0	1	15
485 Skarð	4	0	1		1	35
486 Kaldrananes	9	0	0	0	1	51
487 Bakki	1	0	0	0	0	6
488 Bjarnanes	5	0	0	0	1	34
489 Bær	5	0	1	0	0	42
490 Drangsnes	2	0	0	0	0	20
491 Grímsey	0	0	0	0	0	0
492 Gautshamar	3	0	0	0	1	43
493 Hafnarhólmur	4	0	0	0	1	35
494 Kleifar	3	0	1	0	0	23
495 Hella	2	0	1	0	0	26
496 Sandnes	2	0	0	0	0	25
497 Bassastaðir	4	0	1	0	1	40
498 Bólstaður	3	0	0	1	0	21
499 Gilstaðir	2	0	0	1	2	28
500 Geirmundarstaðir	0	0	0	0	0	0
501 Grænanes	4	0	2	0	0	47
502 Staður	9	0	0	2	1	0
503 Kolbjarnarstaðir	0	0	0	0	0	0
504 Kleppustaðir	2	0	0	0	1	16
505 Aratunga	0	0	0	0	0	0
506 Hólar	3	0	0	0	1	30
507 Kirkjuból	5	2	0	0	0	58
508 Víðivellir	2	0	0	0	0	26
509 Hofstaðir	0	0	0	0	0	0
510 Hróberg	6	0	0	1	0	58
511 Ós	6	0	0	1	1	47
512 Kálfanes	2	0	0	0	0	31
513 Skeljavík	3	1	0	0	0	42
514 Vatnshorn	4	0	0	2	1	44

515 Þiðriksvellir	2	0	0	0	0	49
516 Viðidalsá	6	0	1	0	0	65
517 Hrófá	3	0	0	1	0	45
518 Arnkötuldalur	3	0	0	0	0	27
519 Tröllatunga	5	2	0	1	0	69
520 Efraból	0	0	0	0	0	0
521 Hlíðarsel	0	0	0	0	0	0
522 Kierasteirn	0	0	0	0	0	0
523 Tungugröf	2	1	0	0	0	24
524 Húsavík	4	0	0	1	1	40
525 Heiðarbær	1	0	1	0	0	21
526 Miðdalsgröf	2	0	0	1	0	26
527 Tindur	2	0	0	0	0	29
528 Veitukot	0	0	0	0	0	0
529 Gjestaðir	3	0	0	2	2	44
530 Klúka	2	0	0	1	0	26
531 Kirkjuból	3	0	0	1	0	50
532 Heiðadalsá	4	0	2	1	0	62
533 Haralldstaðir	0	0	0	0	0	0
534 Leifsstaðir	0	0	0	0	0	0
535 Smáhamrar	1	0	0	1	0	24
536 Þorp	6	1	1	0	0	82
537 Hvalsá	1	0	0	0	0	22
538 Kollafjarðarnes	5	0	0	1	0	54
539 Hlíð	3	1	2	0	0	44
540 Fjarðarhorn litla	2	0	0	1	0	28
541 Ljúfustaðir	3	0	1	1	0	29
542 Steinadalur	7	2	0	2	0	50
543 Fell	0	0	0	0	0	0
544 Miðhlíð	0	0	0	0	0	0
545 Miðhús	0	0	0	0	0	0
546 Garðakot	0	0	0	0	0	0
547 Efrafell	0	0	0	0	0	0
548 Kúkstaðir	0	0	0	0	0	0
549 Hamar	2	1	0	1	0	19
550 Þrúðardalur	2	0	0	1	0	12
551 Þorsteinsstaðir	0	0	0	0	0	0
552 Fjarðarhorn stóra	0	0	0	0	0	0
553 Broddanes	3	0	0	0	0	18
554 Broddadalsá	2	0	0	0	0	32
555 Skriðingsenni	4	0	0	0	0	40
556 Brekka	3	0	0	1	0	28
557 Hvítahlíð	2	1	0	1	0	36
558 Gröf	3	0	0	0	0	30
559 Einfætugil	2	0	0	0	0	33
560 Óspakseyri	3	0	0	1	0	52
561 Kjóastaðir	2	0	0	0	0	33
562 Hóll	0	0	0	0	0	0
563 BrunnGil	2	1	0	0	0	25
564 Þóróddsstaðir	3	0	0	2	1	51

565 Þambarvellir	3	0	0	0	0	50
566 Skálholtsvík	0	0	0	0	0	0
567 Guðlaugsvík	3	0	1	1	0	29
568 Kolbitsá	3	0	0	1	1	51
569 Borgir	2	0	0	0	0	35
570 Stóra Hvalsá	3	0	0	0	0	52
571 Sauðanes	0	0	0	0	0	0
572 Litla Hvalsá	1	1	0	0	0	20
573 Kollsá	4	1	0	0	0	58
574 Prestbakki	3	1	0	0	0	58
575 Hrafnadalur	5	1	0	1	0	50
576 Ljótunarstaðir	3	0	0	0	0	29
577 Bær	5	1	1	1	1	82
578 Holt	1	0	1	0	0	9
579 Sel	3	0	0	1	0	30
580 Hlaðhamar	3	0	1	0	0	37
581 Laxárdalur	2	0	0	0	0	27
582 Kétseyri	2	1	0	0	0	83
583 Borðeyri	3	0	0	0	0	45
584 Valdasteinseyri	2	0	1	0	0	36
585 Fjarðarhorn	3	0	1	0	0	66
586 Fagrabrekka	0	0	0	0	0	0
587 Melar	7	1	0	0	0	102
588 Eystri Skógar	10	0	1	3	3	44
589 Ytri Skógar	15	0	1	2	4	99
590 Drangshlíð	20	0	1	0	3	78
591 Skarðshlíð	12	1	2	2	0	43
592 Hrótafell	20	0	10	6	2	142
593 Hrótafellskot	6	0	0	0	0	13
594 Bakkarnir	0	0	0	0	0	0
595 Hólar	13	0	0	0	1	41
596 Syðra Hólakot	0	0	0	0	0	0
597 Vestur Hjáleiga	0	0	0	0	0	0
598 Efri Hólakot	3	0	0	1	0	9
599 Hörðuskáli	0	0	0	0	0	0
600 Efra Bakkakot	6	1	1	1	2	9
601 Syðra Bakkakot	5	2	0	0	0	10
602 Raufarfell eystra	28	0	8	2	0	195
603 Raufarfell ytra	16	0	2	5	0	94
604 Selkot	7	2	1	0	0	18
605 Klömbur	5	0	1	1	0	0
606 Stóraborg	7	1	3	0	0	31
607 Borgarkot	0	0	0	0	0	0
608 Minniborg	10	0	2	1	0	43
609 Sitjandi	0	0	0	0	0	0
610 Lambafell	12	3	2	1	0	105
611 Miðbæli	8	2	2	0	0	54
612 Gíslakot	5	1	1	0	0	16
613 Ystabæli	11	4	1	0	0	11
614 Ystabælskot	11	0	4	1	0	34

	615 Svartbæli	13	7	4	0	0	64
	616 Núpakot	12	0	2	1	0	30
	617 Hlíð	14	0	4	3	1	92
	618 Leirur	9	0	1	0	5	88
	619 Berjanes	12	4	3	0	0	50
	620 Berjaneskot	4	1	1	0	0	19
	621 Steinar	31	5	8	1	1	127
ID	Farm	Weather	Lamb	Horses	Work Horse	Philly	Stallion
	1 Meiri Bakki	39	23	2	0	0	1
	2 Kroppstaðir	0	0	0	0	0	0
	3 Meira Hraun	12	11	0	1	0	0
	4 Minnahraun	9	14	1	0	0	0
	5 Breiðaból	22	23	2	0	0	0
	6 Minni Bakki	39	21	1	1	1	0
	7 Meiri Hlíð	17	14	2	0	0	0
	8 Tröð	11	15	0	1	0	1
	9 Hreggnasi	0	0	0	0	0	0
	10 Ytri Búðir	8	5	0	0	0	0
	11 Minni Hlíð	10	14	1	0	0	0
	12 Tunga	36	23	2	0	0	0
	13 Hóll	29	19	1	1	1	0
	14 Landalifur	0	0	0	0	0	0
	15 Mýra Hús	0	0	0	0	0	0
	16 Nýi bær	0	0	0	0	0	0
	17 Stöðlar	0	0	0	0	0	0
	18 Heimari Búðir	13	12	0	0	0	0
	19 Grundarhóll	9	11	0	1	1	0
	20 Geirastaðir	21	10	0	2	2	0
	21 Miðdalur	50	28	2	0	0	1
	22 Hanhóll	29	25	2	0	0	0
	23 Gil	20	19	1	1	1	0
	24 Ós	29	22	3	1	1	1
	25 Ingjaldsstaðir	24	20	1	2	0	0
	26 Fljótsbakki	9	30	0	2	0	0
	27 Glaumbæjarsel	0	0	0	0	0	0
	28 Foss Sel	4	7	0	1	0	0
	29 Vað	16	16	0	3	0	0
	30 Jódísarstaðir	4	5	0	1	0	0
	31 Bergstaðir	6	10	1	0	0	0
	32 Skriða	31	20	1	1	0	1
	33 Skriðuland	0	0	0	0	0	0
	34 Húsa Bakki	0	0	0	0	0	0
	35 Hellur	0	0	0	0	0	0
	36 Hraunkot	6	12	0	1	0	0
	37 Sandur	30	40	1	2	0	0
	38 Sýlalækur	31	29	2	0	2	0
	39 Knútsstaðir	26	19	0	1	0	0
	40 Nes	42	60	4	2	3	0
	41 Illstaðir	0	0	0	0	0	0

42 Neskot	0	0	0	0	0	0
43 Tjörn	20	25	1	1	0	0
44 Garður	21	30	1	0	2	1
45 Nöf	0	0	0	0	0	0
46 Hafralækur	14	20	0	3	0	2
47 Hafralækjargerði	0	0	0	0	0	0
48 Hólmavað	11	15	2	1	0	0
49 Ytrafjall	26	29	3	2	0	0
50 Eyjólsstaðir	8	11	1	1	0	0
51 Fjallskot	0	0	0	0	0	0
52 Syðrafjall	31	25	1	2	0	1
53 Fjallskot	0	0	0	0	0	0
54 Mýlastaðir	19	13	2	0	0	0
55 Sýrnes	23	20	1	1	0	0
56 Hólkot	17	20	1	1	0	0
57 Höskulldstaðir	13	12	1	0	0	0
58 Helgastaðir	37	39	4	1	0	0
59 Helgastaðakot	0	0	0	0	0	0
60 Bessastaðir	0	0	0	0	0	0
61 Hamar	14	26	1	1	0	0
62 Glaumbær	26	20	2	0	0	0
63 Einarstaðir	36	0	11	3	0	1
64 Vallnakot	7	15	0	2	0	0
65 Láfsgerði	0	0	0	0	0	0
66 Skógaflatir	0	0	0	0	0	0
67 Kvíndisdalur	26	20	0	1	1	1
68 Breidamýri	15	12	0	2	0	1
69 Hólar	34	20	2	1	0	0
70 Daðstaðir	11	12	0	1	0	0
71 Narfastaðir	24	23	0	2	0	1
72 Stafrn	46	14	0	2	0	0
73 Viðjar	13	3	0	1	0	0
74 Máskot	6	10	0	1	0	0
75 Hallbjarnarstaðir	46	20	4	0	0	0
76 Hjalli	11	20	1	1	0	0
77 Litlulaugar	8	0	4	1	0	0
78 Stórulaugar	37	46	3	3	1	0
79 Öndólsstaðir	5	5	1	0	0	1
80 Halldórsstaðir	30	30	3	1	0	0
81 Halldórstaðapartur	10	10	0	1	1	0
82 Fagranes	55	50	1	1	1	0
83 Múli	63	50	6	3	3	1
84 Kraunastaðir	7	12	0	2	0	0
85 Tumsa	6	11	0	1	0	0
86 Fótaskinn	11	13	1	0	0	1
87 Grímshús	0	0	0	0	0	0
88 Grenjaðarstaður	57	80	13	0	1	0
89 Hjallthús	0	0	0	0	0	0
90 Holtagerði	0	0	0	0	0	0
91 Oddstaðir	0	0	0	0	0	0

92 Grenjaðastaða Sel	0	0	0	0	0	0
93 Brúár	26	30	1	1	1	0
94 Ásgeirstaðir	0	0	0	0	0	0
95 Birningstaðir	30	19	2	0	1	0
96 Halldórsstaðir	40	13	1	1	1	1
97 Þverá	32	50	3	0	0	0
98 Auðnir	7	8	0	1	0	0
99 Ljótstaðir	17	23	0	2	0	0
100 Brettingstaðir	0	0	0	0	0	0
101 Hólkot	0	0	0	0	0	0
102 Hamar	15	14	1	1	0	0
103 Hólar	36	36	1	3	0	1
104 Kasthvammur	26	30	3	0	1	0
105 Þeistar Reykir	0	0	0	0	0	0
106 Geitargerði	0	0	0	0	0	0
107 Langavatn	30	13	0	2	2	0
108 Presthvammur	21	0	1	1	1	0
109 Klömbur	25	20	1	0	0	0
110 Brekka	10	10	1	1	0	0
111 Hraun	12	20	3	0	0	0
112 Miðhvammur	10	20	0	1	0	1
113 Ysti Hvammur	16	13	0	1	1	1
114 Hagi	48	0	2	2	0	2
115 Núpar	37	30	1	2	0	0
116 Árból	21	23	0	2	0	0
117 Helluvað	0	0	0	0	0	0
118 Gautlönd	50	20	0	3	0	2
119 Baldursheimur	48	34	2	2	0	0
120 Sveinströnd	41	30	2	0	0	0
121 Litluströnd	11	17	0	1	0	0
122 Þorláksskot	0	0	0	0	0	0
123 Arnarvatn	70	50	4	0	1	1
124 Haganes	46	30	4	1	0	0
125 Skútustaðir	67	37	2	3	1	0
126 Álftagerði	22	12	1	0	0	0
127 Kirkjubær	0	0	0	0	0	0
128 Grænavatn	42	16	0	3	1	1
129 Þuriðarnes	0	0	0	0	0	0
130 Garður	21	21	0	2	1	0
131 Briamsnes	8	5	1	0	0	0
132 Kálfaströnd	33	27	5	1	0	0
133 Geiteyjarströnd	18	35	0	2	0	0
134 Vogar	25	20	1	2	0	0
135 Reykjahlíð	36	16	3	0	0	0
136 Gröf	14	14	1	0	0	0
137 Fagranes	21	20	1	1	0	0
138 Grímstaðir	28	30	3	0	0	0
139 Syðri Neslönd	0	0	0	0	0	0
140 Ytri Neslönd	10	15	0	2	0	0
141 Vindbelgur	11	12	1	0	0	0

142 Geirastaðir	24	12	1	1	0	0
143 Hofstaðir	34	25	0	5	0	0
144 Hokinsdalur	55	40	0	2	0	0
145 Laugaból	15	24	1	1	0	0
146 Horn	32	34	1	2	0	0
147 Skógar	30	36	1	0	0	1
148 Kirkjuból	64	70	1	1	0	0
149 Ós	8	12	0	1	0	0
150 Dynjandi	22	24	0	2	1	0
151 Borg	13	27	3	1	0	0
152 Rauðstaðir	16	17	1	1	0	0
153 Hjallkárseyri	21	29	3	0	0	0
154 Gljúfurá	17	23	1	0	1	0
155 Karlstaðir	23	14	1	1	0	0
156 Hrafnseyri	38	24	2	2	0	1
157 Rani	9	7	0	1	0	0
158 Bæli	10	8	0	0	0	0
159 Neðrahús	24	14	0	2	0	0
160 Sjávarhús	0	1	0	0	0	0
161 Auðkúla	40	30	2	1	0	0
162 Tjaldanes	63	44	2	0	0	0
163 Baulhús	24	27	1	0	0	0
164 Álfamýri	65	38	1	1	0	0
165 Álfamýrarhús	11	16	1	0	0	0
166 Stapadalur	54	54	1	1	0	1
167 Hrafnabjörg	45	32	2	1	0	0
168 Lokinhamrar	84	95	4	0	0	0
169 Selvogar	21	26	1	0	1	1
170 Höfn	46	28	1	0	0	0
171 Hraun	99	64	2	2	0	1
172 Skálará	29	17	1	0	0	0
173 Saurar	26	14	1	0	0	0
174 Arnarnúpur	63	33	0	3	1	1
175 Sveinseyri	27	27	0	2	0	0
176 Haukadalur	55	51	5	2	0	1
177 Meðaldalur	37	26	1	1	0	0
178 Gata	0	0	0	0	0	0
179 Hólar	8	14	1	1	0	0
180 Kirkjuból	15	22	2	2	0	0
181 Hof	28	13	2	0	0	0
182 Múli	9	14	0	1	0	0
183 Bakki	24	16	1	0	1	0
184 Brekka	36	31	2	2	0	0
185 Sandar	29	36	5	2	0	0
186 Sandahús	6	7	1	0	0	0
187 Stekkur	4	6	0	1	0	0
188 Þyngeyri	0	0	0	0	0	0
189 Hvammur	38	30	1	3	0	0
190 Hvammshús neðra	5	6	1	0	0	0
191 Innrahús	13	6	0	2	0	0

192 Ytrahús	12	12	2	0	0	0
193 Ketilseyri	17	25	0	2	0	0
194 Kjaransstaðir	7	14	0	1	0	1
195 Drangar	26	27	1	1	0	0
196 Botn	29	7	1	1	1	0
197 Lambadalur innri	57	31	1	1	1	0
198 Lambadalur ytri	64	45	2	1	0	0
199 Næfranes	37	36	2	0	0	0
200 Höfði	44	43	2	1	0	0
201 Hjarðadalur fremri	32	25	2	0	0	0
202 Hjarðadardalur neðri	26	36	1	3	1	0
203 Gemlufell	30	23	2	0	0	0
204 Grandi	6	13	0	2	0	0
205 Lækjarós	70	40	0	0	0	0
206 Mýrar	73	40	4	0	0	0
207 Mýrahús	41	24	2	1	0	0
208 Stórigarður	9	7	1	0	0	0
209 Litligarður	19	15	0	1	0	0
210 Fell	10	11	0	1	0	0
211 Lækur	23	19	1	0	0	0
212 Klukkuland	46	39	1	2	0	0
213 Kotnúpur	0	0	0	0	0	0
214 Núpur	121	40	5	1	0	0
215 Innra hús	12	18	1	0	0	0
216 Rani	0	0	0	0	0	0
217 Ytra hús	14	12	1	1	0	0
218 Nesjabær	0	0	0	0	0	0
219 Alviðra	0	0	0	0	0	0
220 Alviðra	63	55	2	3	0	0
221 Alviðruhús	11	16	0	1	0	0
222 Gerðhamrar	57	47	2	2	0	0
223 Arnarnes	33	30	0	1	0	0
224 Birnustaðir	30	17	0	1	0	0
225 Lambamúli	0	0	0	0	0	0
226 Fjallaskagi	27	27	1	0	0	0
227 Sæból	78	40	3	0	0	0
228 Efra hús	12	18	1	1	0	0
229 Neðra hús	0	0	0	0	0	0
230 Krókshús	12	14	2	0	0	0
231 Álfadalur	64	50	3	1	0	0
232 Hraun	25	22	0	1	0	1
233 Háls	25	19	0	1	0	1
234 Brekka	73	43	3	1	0	1
235 Villingadalur	44	31	2	0	0	0
236 Mosdalur	22	20	1	0	1	0
237 Kirkjuból	31	32	1	2	0	0
238 Dalshús heimari	9	11	1	0	0	0
239 Dalshús Ytri	19	16	2	0	0	0
240 Tunga	47	37	2	1	0	0
241 Grafargil	46	27	3	1	0	0

242 Þorfinnstaðir	36	26	2	0	0	0
243 Hjarðardalur Ytri	84	65	4	2	2	0
244 Hjarðadalur Innri	32	27	2	0	2	0
245 Holt	84	72	7	1	0	0
246 Melavaðshús	0	0	0	0	0	0
247 Melavaðshús innri	0	0	0	0	0	0
248 Arnkelsbrekka	0	0	0	0	0	0
249 Vaðlar	40	15	1	1	0	0
250 Tröð	61	52	3	1	0	0
251 Kirkjuból	45	27	3	0	0	0
252 Mosvellir	40	33	1	2	1	0
253 Vífilsmýrar	42	43	4	2	0	0
254 Hóll	42	38	3	2	0	0
255 Tunga	20	20	1	1	0	0
256 Hestur	43	34	1	2	0	2
257 Hesthús efra	15	14	1	1	0	0
258 Hesthús neðra	15	20	2	0	0	0
259 Múli	5	5	0	0	0	0
260 Efsta Ból	39	23	3	1	0	0
261 Kropptaðir	35	24	3	0	0	0
262 Kirkjuból	63	53	4	1	0	0
263 Kirkjubóls hús	13	10	1	0	1	0
264 Tanna Nes	33	34	4	1	2	0
265 Veðrará Innri	19	14	0	1	1	0
266 Miðá	0	0	0	0	0	0
267 Veðrará Ytri	23	14	1	0	0	0
268 Breiðidalur fremri	30	23	0	3	0	0
269 Breiðidalur neðri	50	44	2	0	1	0
270 Kirkjuból	24	22	1	0	0	0
271 Kalldá	25	24	1	1	1	0
272 Hóll á Hviltarströnd	20	17	0	1	0	0
273 Hvilft	55	23	1	1	1	0
274 Garðar	17	21	1	0	0	0
275 Eyri	103	57	0	1	1	0
276 Staður	46	40	2	0	0	0
277 Staðarhús	25	20	0	1	0	0
278 Staðarhús	0	0	0	0	0	0
279 Vatnadalur	30	20	1	1	1	0
280 Vatnadalur Neðri	23	16	0	1	0	0
281 Bær	67	51	1	1	0	0
282 Suðureyri	72	42	1	0	0	0
283 Kvíarnes	40	24	0	2	0	0
284 Botn	75	66	5	1	0	0
285 Gilsbrekka	13	16	1	1	0	0
286 Selárdalur	29	30	1	0	0	0
287 Norðureyri	21	15	1	0	0	0
288 Göltur	68	30	1	0	0	0
289 Keflavík	11	14	0	0	0	0
290 Hnífsdalur neðri	61	39	1	2	0	1
291 Búð	7	14	1	0	0	0

292 Hraun	19	11	1	1	0	0
293 Hnífsdalur fremri	41	27	3	2	0	0
294 Bakki	19	12	1	1	0	0
295 Eyri	83	50	3	0	0	0
296 Stekkjanes	12	13	0	0	0	0
297 Seljaland	56	35	1	1	0	1
298 Tunga	52	38	1	2	0	0
299 Hafrafell	11	8	2	0	0	0
300 Engidalur	32	29	1	2	0	0
301 Fossar	6	7	2	0	0	0
302 Kirkjuból	58	39	3	1	1	0
303 Seljabrekka	0	0	0	0	0	0
304 Arnardalur fremri	44	24	2	0	0	0
305 Arnardalur neðri	38	25	1	1	0	0
306 Ytrahús	18	12	0	1	1	0
307 Fremrahús	24	14	1	0	0	0
308 Súðavík	39	0	2	0	0	0
309 Trauð	13	0	0	1	0	0
310 Saurar	15	0	0	1	0	1
311 Eyrardalur	22	0	2	0	0	0
312 Hlíð	31	0	1	1	0	1
313 Dvergasteinn	0	0	0	0	0	0
314 Svarthamar	21	0	0	1	1	0
315 Svarfhóll	49	0	2	0	1	0
316 Seljaland	21	0	2	0	0	0
317 Hattardalur minni	18	0	0	1	0	1
318 Hattardalur meiri	0	0	0	0	0	0
319 Hattardalshús	16	0	0	1	0	0
320 Kambsnes	24	0	0	2	0	0
321 Eyri	99	0	4	1	1	0
322 Traðir	14	0	0	1	0	0
323 Uppsáir	20	0	2	0	0	0
324 Kleifar	25	0	1	0	0	0
325 Folaftótur	14	0	1	0	0	0
326 Hestur	24	0	0	0	0	0
327 Eiði	11	0	0	1	0	0
328 Hestfjörður	0	0	0	0	0	0
329 Hvítarnes	45	12	2	2	0	0
330 Eyri	21	0	2	1	0	0
331 Kleifar	9	0	0	1	0	0
332 Borg	11	0	1	0	1	0
333 Kálfavík	33	0	1	0	0	1
334 Hjallar	14	0	1	0	0	1
335 Skarð	11	0	0	0	0	0
336 Ögur	52	0	1	1	0	0
337 Garðstaðir	8	0	0	1	0	0
338 Strandasel	20	0	0	2	0	0
339 Blámýrar	30	0	0	3	0	0
340 Laugaból	28	0	1	1	0	1
341 Efstidalur	0	0	0	0	0	0

342 Eiríksstaðir	0	0	0	0	0	0
343 Birnustaðir	5	0	1	0	0	1
344 Hrafnabjörg	23	0	2	0	0	0
345 Þernuvík	16	0	2	0	0	0
346 Vigur	30	0	1	0	0	0
347 Látur	62	0	3	2	3	0
348 Stekkjarkot	0	0	0	0	0	0
349 Eyri	31	0	0	2	0	0
350 Heydalur	23	0	1	1	1	0
351 Botn	20	0	3	0	1	0
352 Hörgshlíð	0	0	0	0	0	0
353 Kellda	13	0	2	0	0	0
354 Skálavík	3	0	0	0	0	0
355 Vatnsfjörður	23	0	2	1	0	0
356 Sveinhús	7	0	0	1	0	1
357 Borgarey	18	0	0	0	0	0
358 Miðhús	0	0	0	0	0	0
359 Hálshús	14	0	1	1	0	0
360 Þúfur	8	0	0	1	0	0
361 Reykjafjörður	48	0	4	0	0	0
362 Svansvík	27	0	5	0	0	0
363 Vogar	19	0	2	1	0	0
364 Bjarnastaðir	21	0	2	0	0	0
365 Eyri	9	0	1	0	0	0
366 Gervidalur	9	0	2	0	0	0
367 Múli	29	0	0	4	0	1
368 Laugarból	67	0	6	1	1	0
369 Arngerðareyri	26	0	4	1	0	2
370 Brekka	0	0	1	0	1	0
371 Kirkjuból	5	0	3	2	2	0
372 Bakkasel	0	0	0	0	0	0
373 Fremri Bakki	8	0	3	0	0	0
374 Neðri bakki	24	0	2	0	0	1
375 Lágidalur	10	0	1	1	1	0
376 Tunga	42	0	2	2	1	1
377 Rauðamýri	50	0	3	1	1	0
378 Nauteyri	20	0	0	3	1	0
379 Hafnardalur	0	0	0	0	0	0
380 Hallstaðir	12	0	3	0	0	0
381 Hamar	25	0	2	1	0	1
382 Melgraseyri	28	0	1	1	0	0
383 Hraundalur	0	0	0	0	0	0
384 Laugaland	28	0	2	1	2	0
385 Skjaldfönn	20	0	2	1	0	1
386 Ámúli	22	0	2	2	1	0
387 Lónseyri	0	0	0	0	0	0
388 Bæir	44	0	4	1	1	1
389 Unaðsdalur	11	0	0	2	0	0
390 Tyrðilmýri	6	0	0	1	0	0
391 Æðey	25	0	0	1	0	0

392 Skarð	17	0	1	2	0	0
393 Sandeyri	50	0	2	0	0	0
394 Snæfjöll	51	0	1	1	0	0
395 Gullhús	2	0	0	0	0	0
396 Nes	43	0	2	0	1	0
397 Kellingarstaðir	21	0	0	1	0	0
398 Faxastaðir	8	0	3	0	0	0
399 Staður	58	0	7	3	0	0
400 Kollsá	0	0	0	0	0	0
401 Höfðaströnd	54	0	2	0	1	0
402 Höfði	16	0	0	1	1	0
403 Dynjandi	14	0	1	1	0	0
404 Leira	0	0	0	0	0	0
405 Kjós	0	0	0	0	0	0
406 Hrafnfjarðareyri	0	0	0	0	0	0
407 Álfstaðir	0	0	0	0	0	0
408 Kvíar	0	0	0	0	0	0
409 Steig	5	0	0	1	0	0
410 Steinólfsstaðir	11	0	0	0	0	0
411 Marðareyri	10	0	0	0	0	0
412 Hesteyri	42	0	2	0	0	0
413 Langivöllur	0	0	0	0	0	0
414 Slétta	57	0	1	1	0	0
415 Skáladalur	3	0	0	0	0	0
416 Sæból	35	0	2	0	0	0
417 Garðar	18	0	1	0	0	0
418 Staður	41	0	3	1	0	0
419 Lækur	10	0	0	1	0	0
420 Þverdalur	27	0	0	1	0	0
421 Miðvík efri	0	0	0	0	0	0
422 Miðvík neðri	7	0	1	0	0	0
423 Stakkadalur	6	0	1	0	0	0
424 Látur	37	0	2	0	0	0
425 Látrahús	8	0	0	0	0	0
426 Rekavík bak Látrum	5	0	1	0	0	0
427 Tunga	0	0	0	0	0	0
428 Glúmstaðir	0	0	0	0	0	0
429 Atlastaðir	0	0	0	0	0	0
430 Kjaransvík	0	0	0	0	0	0
431 Hlöðuvík	5	0	2	0	0	0
432 Hælavík	3	0	1	0	0	0
433 Rekavík bak Höfn	0	0	0	0	0	0
434 Höfn	18	0	2	0	0	0
435 Horn	0	0	0	0	0	0
436 Smiðjuvík	0	0	0	0	0	0
437 Barðsvík	4	0	1	0	0	0
438 Bolungarvík	5	0	0	2	0	0
439 Furufjörður	0	0	0	0	0	0
440 Þaralátursfjörður	0	0	0	0	0	0
441 Reykjarfjörður	0	0	0	0	0	0

442 Kirkjuból	0	0	0	0	0	0
443 Skjaldbjarnarvík	2	0	1	0	0	0
444 Drangavík	0	0	0	0	0	0
445 Drangar	0	1	1	0	0	0
446 Engjanes	0	0	0	0	0	0
447 Ófeigsfjörður	0	0	0	0	0	0
448 Seljanes	0	0	0	0	0	0
449 Ingólfsfjörður	0	0	0	0	0	0
450	0	3	0	0	0	0
451 Munaðarnes	10	0	0	0	1	1
452 Nyrðra Fell	5	1	1	0	0	0
453 Innra Fell	0	0	0	0	0	0
454 Krossnes	7	1	1	1	0	0
455 Norðurfjörður	4	4	0	0	0	0
456 Melar	18	3	1	0	0	0
457 Hlíðarhús	0	0	0	0	0	0
458 Árnes	34	3	2	0	0	0
459 Bær	7	0	1	1	0	0
460 Fimmbogastaðir	19	2	2	0	0	0
461 Ávík Stærri	0	0	0	0	0	0
462 Ávík Minni	2	0	1	0	0	0
463 Reykjanes	23	0	1	1	0	0
464 Gjögur	3	0	0	0	0	0
465 Kesvogur	0	0	2	0	0	0
466 Naustvíkur	4	0	1	0	0	0
467 Reykjarfjörður	26	0	1	1	0	0
468 Kjós	16	0	0	1	0	0
469 Kambur	5	0	2	0	0	0
470 Veiðileysa	14	0	1	1	0	0
471 Byrgisvík	5	0	0	1	0	0
472 Kolbeinsvík	2	0	0	0	0	0
473 Kaldbak	9	0	1	1	0	0
474 Kleifar	4	8	0	1	0	0
475 Eyjar	15	12	1	0	0	0
476 Asparvík	12	7	0	1	0	0
477 Brúará	2	11	0	0	0	0
478 Reykjarvík	24	12	0	1	0	0
479 Ásmundarnes	3	5	1	0	0	0
480 Klúka	4	1	1	0	0	0
481 Svanshóll	31	30	0	2	0	0
482 Goðdalir	4	13	0	1	0	0
483 Tungukot	0	0	0	0	0	0
484 Sunndalur	2	6	0	1	0	0
485 Skarð	19	25	0	1	0	0
486 Kaldrananes	35	22	5	1	0	0
487 Bakki	0	3	0	0	0	0
488 Bjarnanes	19	20	1	1	0	0
489 Bær	36	10	4	0	0	0
490 Drangsnes	6	3	1	0	0	0
491 Grímsey	0	0	0	0	0	0

492 Gautshamar	41	22	0	2	0	1
493 Hafnarhólmur	13	8	3	1	0	0
494 Kleifar	15	9	2	0	1	0
495 Hella	7	17	1	0	0	0
496 Sandnes	17	22	1	0	1	0
497 Bassastaðir	34	28	4	0	0	0
498 Bólstaður	14	8	0	2	0	0
499 Gilstaðir	0	15	0	2	0	0
500 Geirmundarstaðir	0	0	0	0	0	0
501 Grænanes	14	19	1	2	0	0
502 Staður	86	7	3	0	0	0
503 Kolbjarnarstaðir	0	0	0	0	0	0
504 Kleppustaðir	4	13	1	1	0	1
505 Aratunga	0	0	0	0	0	0
506 Hólar	5	14	1	0	0	0
507 Kirkjuból	17	22	2	1	0	0
508 Viðivellir	1	10	1	1	1	0
509 Hofstaðir	0	0	0	0	0	0
510 Hróberg	16	24	4	0	0	0
511 Ós	31	18	4	0	0	0
512 Kálfanes	8	12	0	2	0	0
513 Skeljavík	22	12	2	1	0	0
514 Vatnshorn	7	16	2	2	0	0
515 Þiðriksvellir	1	26	1	1	0	0
516 Viðidalsá	28	17	1	3	0	0
517 Hrófá	9	25	1	2	0	0
518 Arnkötuldalur	9	0	1	0	0	0
519 Tröllatunga	32	69	5	0	0	0
520 Efraból	0	0	0	0	0	0
521 Hlíðarsel	0	0	0	0	0	0
522 Kierasteirn	0	0	0	0	0	0
523 Tunguþróf	8	25	0	2	0	0
524 Húsavík	29	0	0	1	1	0
525 Heiðarbær	12	20	1	0	0	1
526 Miðdalsgröf	26	26	0	0	0	0
527 Tindur	17	29	2	0	0	0
528 Veitukot	0	0	0	0	0	0
529 Gjestaðir	15	43	0	2	0	0
530 Klúka	10	26	1	1	0	0
531 Kirkjuból	28	60	1	5	0	1
532 Heiðadalsá	34	66	2	3	4	0
533 Haralldstaðir	0	0	0	0	0	0
534 Leifsstaðir	0	0	0	0	0	0
535 Smáhamrar	21	25	0	1	0	0
536 Þorp	60	84	4	1	0	0
537 Hvalsá	6	26	1	0	0	0
538 Kollafjarðarnes	19	61	0	5	0	1
539 Hlíð	6	23	2	0	1	0
540 Fjarðarhorn litla	1	15	0	1	0	0
541 Ljufustaðir	3	15	2	0	0	0

542 Steinadalur	9	23	3	1	1	1
543 Fell	0	0	0	0	0	0
544 Miðhlið	0	0	0	0	0	0
545 Miðhús	0	0	0	0	0	0
546 Garðakot	0	0	0	0	0	0
547 Efrafell	0	0	0	0	0	0
548 Kúkstaðir	0	0	0	0	0	0
549 Hamar	0	13	0	2	2	0
550 Þrúðardalur	0	12	0	1	2	0
551 Þorsteinsstaðir	0	0	0	0	0	0
552 Fjarðarhorn stóra	0	0	0	0	0	0
553 Broddanes	0	4	2	0	0	0
554 Broddadalsá	0	9	2	0	0	0
555 Skriðingsenni	10	27	1	4	0	0
556 Brekka	1	13	2	0	0	0
557 Hvítahlíð	5	19	0	0	0	0
558 Gröf	6	17	2	1	1	0
559 Einfætugil	3	19	2	2	1	0
560 Óspakseyri	6	21	2	1	0	0
561 Kjóastaðir	4	19	0	2	1	0
562 Hóll	0	0	0	0	0	0
563 BrunnGil	1	13	3	0	0	0
564 Þóroddsstaðir	7	16	2	2	0	1
565 Þambarvellir	14	14	0	3	1	0
566 Skálholtsvík	0	0	0	0	0	0
567 Guðlaugsvík	15	29	0	2	1	0
568 Kolbitsá	22	0	2	1	1	0
569 Borgir	26	0	1	1	0	0
570 Stóra Hvalsá	21	0	3	0	0	0
571 Sauðanes	0	0	0	0	0	0
572 Litla Hvalsá	4	17	0	1	1	0
573 Kollsá	40	0	5	0	0	0
574 Prestbakki	38	0	4	1	1	1
575 Hrafnadalur	35	0	3	2	0	0
576 Ljótunarstaðir	17	0	2	1	0	0
577 Bær	54	0	5	3	2	0
578 Holt	0	3	0	1	0	0
579 Sel	13	0	1	1	0	0
580 Hlaðhamar	21	0	0	2	1	0
581 Laxárdalur	22	0	1	1	0	0
582 Kétseyri	39	0	2	3	2	0
583 Borðeyri	33	0	2	3	1	0
584 Valdasteinseyri	24	0	0	2	1	0
585 Fjarðarhorn	39	0	4	2	0	0
586 Fagrabrekka	0	0	0	0	0	0
587 Melar	106	0	9	4	0	0
588 Eystri Skógar	41	32	6	3	6	0
589 Ytri Skógar	60	38	10	8	3	1
590 Drangshlíð	60	49	9	3	1	1
591 Skarðshlíð	14	27	5	6	2	1

592	Hrútafell	99	86	25	24	11	3
593	Hrútafellskot	4	16	3	2	2	1
594	Bakkarnir	0	0	0	0	0	0
595	Hólar	0	2	6	1	0	0
596	Syðra Hólakot	0	0	0	0	0	0
597	Vestur Hjáleiga	0	0	0	0	0	0
598	Efri Hólakot	5	5	2	1	0	0
599	Hörðuskáli	0	0	0	0	0	0
600	Efra Bakkakot	1	18	2	1	0	1
601	Syðra Bakkakot	2	14	0	2	0	2
602	Raufarfell eystra	151	136	24	20	7	8
603	Raufarfell ytra	27	57	10	11	8	5
604	Selkot	10	0	2	2	4	0
605	Klömbur	0	13	2	1	0	1
606	Stóraborg	14	21	4	3	2	2
607	Borgarkot	0	0	0	0	0	0
608	Minniborg	14	33	4	5	5	0
609	Sitjandi	0	0	0	0	0	0
610	Lambafell	67	77	9	4	5	0
611	Miðbæli	16	32	9	5	4	3
612	Gíslakot	2	9	1	3	4	2
613	Ystabæli	4	29	2	3	1	1
614	Ystabælskot	8	29	7	1	0	2
615	Svartbæli	21	58	0	0	0	0
616	Núpakot	3	33	2	4	2	2
617	Hlíð	48	64	7	3	5	2
618	Leirur	33	47	5	5	6	0
619	Berjanes	9	53	7	6	6	2
620	Berjaneskot	11	16	4	1	4	0
621	Steinar	55	96	12	12	11	4
ID	Farm	Goats	Male goats	Kids	Driftwood	Stranding	
1	Meiri Bakki	0	0	0	TRUE	FALSE	
2	Kroppstaðir	0	0	0	TRUE	FALSE	
3	Meira Hraun	0	0	0	FALSE	FALSE	
4	Minnahraun	0	0	0	FALSE	FALSE	
5	Breiðaból	0	0	0	TRUE	FALSE	
6	Minni Bakki	0	0	0	TRUE	TRUE	
7	Meiri Hlíð	0	0	0	TRUE	FALSE	
8	Tröð	0	0	0	FALSE	FALSE	
9	Hreggnasi	0	0	0	FALSE	FALSE	
10	Ytri Búðir	0	0	0	FALSE	FALSE	
11	Minni Hlíð	0	0	0	FALSE	FALSE	
12	Tunga	0	0	0	FALSE	FALSE	
13	Hóll	0	0	0	TRUE	FALSE	
14	Landalifur	0	0	0	FALSE	FALSE	
15	Mýra Hús	0	0	0	FALSE	FALSE	
16	Nýi bær	0	0	0	FALSE	FALSE	
17	Stöðlar	0	0	0	FALSE	FALSE	
18	Heimari Búðir	0	0	0	FALSE	FALSE	
19	Grundarhóll	0	0	0	FALSE	FALSE	

20 Geirastaðir	0	0	0	FALSE	FALSE
21 Miðdalur	0	0	0	FALSE	FALSE
22 Hanhóll	0	0	0	FALSE	FALSE
23 Gil	0	0	0	FALSE	FALSE
24 Ós	0	0	0	TRUE	FALSE
25 Ingjaldsstaðir	4	1	2	FALSE	FALSE
26 Fljótsbakki	6	0	1	FALSE	FALSE
27 Glaumbæjarsel	0	0	0	FALSE	FALSE
28 Foss Sel	10	1	3	FALSE	FALSE
29 Vað	1	0	0	FALSE	FALSE
30 Jódísarstaðir	0	0	0	FALSE	FALSE
31 Bergstaðir	0	0	0	FALSE	FALSE
32 Skriða	5	0	0	TRUE	FALSE
33 Skriðuland	0	0	0	FALSE	FALSE
34 Húsa Bakki	0	0	0	FALSE	FALSE
35 Hellur	0	0	0	FALSE	FALSE
36 Hraunkot	0	0	0	FALSE	FALSE
37 Sandur	0	0	0	TRUE	FALSE
38 Sýlalækur	0	0	0	TRUE	FALSE
39 Knútsstaðir	0	0	0	FALSE	FALSE
40 Nes	0	0	0	FALSE	FALSE
41 Illstaðir	0	0	0	FALSE	FALSE
42 Neskot	0	0	0	FALSE	FALSE
43 Tjörn	0	0	0	FALSE	FALSE
44 Garður	0	0	0	FALSE	FALSE
45 Nöf	0	0	0	FALSE	FALSE
46 Hafralækur	0	0	0	FALSE	FALSE
47 Hafralækjargerði	0	0	0	FALSE	FALSE
48 Hólmavað	0	0	0	FALSE	FALSE
49 Ytrafjall	0	0	0	FALSE	FALSE
50 Eyjólfstaðir	0	0	0	FALSE	FALSE
51 Fjallskot	0	0	0	FALSE	FALSE
52 Syðrafjall	0	0	0	FALSE	FALSE
53 Fjallskot	0	0	0	FALSE	FALSE
54 Mýlastaðir	0	0	0	FALSE	FALSE
55 Sýrnes	0	0	0	FALSE	FALSE
56 Hólkot	0	0	0	FALSE	FALSE
57 Höskuldstaðir	0	0	0	FALSE	FALSE
58 Helgastaðir	0	0	0	FALSE	FALSE
59 Helgastaðakot	0	0	0	FALSE	FALSE
60 Bessastaðir	0	0	0	FALSE	FALSE
61 Hamar	2	1	0	FALSE	FALSE
62 Glaumbær	0	0	0	FALSE	FALSE
63 Einarstaðir	9	0	0	FALSE	FALSE
64 Vallnakot	4	0	3	FALSE	FALSE
65 Láfsgerði	0	0	0	FALSE	FALSE
66 Skógaflatir	0	0	0	FALSE	FALSE
67 Kvíindisdalur	7	0	1	FALSE	FALSE
68 Breidamýri	0	0	0	FALSE	FALSE
69 Hólar	0	0	0	FALSE	FALSE

70 Daðstaðir	0	0	0	FALSE	FALSE
71 Narfastaðir	0	0	0	FALSE	FALSE
72 Stafn	7	1	1	FALSE	FALSE
73 Viðjar	0	1	0	FALSE	FALSE
74 Máskot	0	0	0	FALSE	FALSE
75 Hallbjarnarstaðir	0	0	0	FALSE	FALSE
76 Hjalli	0	0	0	FALSE	FALSE
77 Litlulaugar	0	0	0	FALSE	FALSE
78 Stórulaugar	0	0	0	FALSE	FALSE
79 Öndólfstaðir	1	0	0	FALSE	FALSE
80 Halldórsstaðir	0	0	0	FALSE	FALSE
81 Halldórstaðapartur	0	0	0	FALSE	FALSE
82 Fagranes	0	0	0	FALSE	FALSE
83 Múli	0	0	0	FALSE	FALSE
84 Kraunastaðir	0	0	0	FALSE	FALSE
85 Tumsa	0	0	0	FALSE	FALSE
86 Fótaskinn	0	0	0	FALSE	FALSE
87 Grímshús	0	0	0	FALSE	FALSE
88 Grenjaðarstaður	0	0	0	FALSE	FALSE
89 Hjalldhús	0	0	0	FALSE	FALSE
90 Holtagerði	0	0	0	FALSE	FALSE
91 Oddstaðir	0	0	0	FALSE	FALSE
92 Grenjaðastaða Sel	0	0	0	FALSE	FALSE
93 Brúár	0	0	0	FALSE	FALSE
94 Ásgeirstaðir	0	0	0	FALSE	FALSE
95 Birningstaðir	0	0	0	FALSE	FALSE
96 Halldórsstaðir	0	0	0	FALSE	FALSE
97 Þverá	0	0	0	FALSE	FALSE
98 Auðnir	7	1	0	FALSE	FALSE
99 Ljótsstaðir	5	2	3	FALSE	FALSE
100 Brettingstaðir	0	0	0	FALSE	FALSE
101 Hólkot	0	0	0	FALSE	FALSE
102 Hamar	0	0	0	FALSE	FALSE
103 Hólar	0	0	0	FALSE	FALSE
104 Kasthvammur	0	0	0	FALSE	FALSE
105 Þeistar Reykir	0	0	0	FALSE	FALSE
106 Geitargerði	0	0	0	FALSE	FALSE
107 Langavatn	0	0	0	FALSE	FALSE
108 Presthvammur	0	0	0	FALSE	FALSE
109 Klömbur	0	0	0	FALSE	FALSE
110 Brekka	0	0	0	FALSE	FALSE
111 Hraun	0	0	0	FALSE	FALSE
112 Miðhvammur	0	0	0	FALSE	FALSE
113 Ysti Hvammur	0	0	0	FALSE	FALSE
114 Hagi	0	0	0	FALSE	FALSE
115 Núpar	0	0	0	FALSE	FALSE
116 Árból	0	0	0	FALSE	FALSE
117 Helluvað	0	0	0	FALSE	FALSE
118 Gautlönd	8	0	1	FALSE	FALSE
119 Baldursheimur	1	0	0	FALSE	FALSE

120 Sveinströnd	0	0	0	FALSE	FALSE
121 Litluströnd	0	0	0	FALSE	FALSE
122 Þorláksskot	0	0	0	FALSE	FALSE
123 Arnarvatn	4	0	0	FALSE	FALSE
124 Haganes	0	0	0	FALSE	FALSE
125 Skútustaðir	0	0	0	FALSE	FALSE
126 Álfagerði	0	0	0	FALSE	FALSE
127 Kirkjubær	0	0	0	FALSE	FALSE
128 Grænavatn	3	0	0	FALSE	FALSE
129 Þuriðarnes	0	0	0	FALSE	FALSE
130 Garður	3	0	0	FALSE	FALSE
131 Briamsnes	0	0	0	FALSE	FALSE
132 Kálfaströnd	0	0	0	FALSE	FALSE
133 Geiteyjarströnd	5	0	0	FALSE	FALSE
134 Vogar	7	0	1	FALSE	FALSE
135 Reykjahlíð	0	0	0	FALSE	FALSE
136 Gröf	0	0	0	FALSE	FALSE
137 Fagranes	0	0	0	FALSE	FALSE
138 Grímstaðir	1	0	0	FALSE	FALSE
139 Syðri Neslönd	0	0	0	FALSE	FALSE
140 Ytri Neslönd	1	0	0	FALSE	FALSE
141 Vindbelgur	0	0	0	FALSE	FALSE
142 Geirastaðir	1	0	0	FALSE	FALSE
143 Hofstaðir	4	0	0	FALSE	FALSE
144 Hokinsdalur	0	0	0	FALSE	TRUE
145 Laugaból	0	0	0	FALSE	TRUE
146 Horn	0	0	0	FALSE	FALSE
147 Skógar	0	0	0	FALSE	FALSE
148 Kirkjuból	0	0	0	FALSE	FALSE
149 Ós	0	0	0	FALSE	FALSE
150 Dynjandi	0	0	0	FALSE	TRUE
151 Borg	0	0	0	FALSE	FALSE
152 Rauðstaðir	0	0	0	FALSE	FALSE
153 Hjallkárseyri	0	0	0	FALSE	FALSE
154 Gljúfurá	0	0	0	FALSE	FALSE
155 Karlstaðir	0	0	0	FALSE	FALSE
156 Hrafnseyri	0	0	0	FALSE	TRUE
157 Rani	0	0	0	FALSE	FALSE
158 Bæli	0	0	0	FALSE	FALSE
159 Neðrahús	0	0	0	FALSE	FALSE
160 Sjávarhús	0	0	0	FALSE	FALSE
161 Auðkúla	0	0	0	FALSE	FALSE
162 Tjaldanes	0	0	0	FALSE	FALSE
163 Baulhús	0	0	0	FALSE	FALSE
164 Álftamýri	0	0	0	FALSE	FALSE
165 Álftamýrarhús	0	0	0	FALSE	FALSE
166 Stapadalur	0	0	0	FALSE	TRUE
167 Hrafnabjörg	0	0	0	FALSE	FALSE
168 Lokinhamrar	0	0	0	FALSE	FALSE
169 Selvogar	0	0	0	FALSE	TRUE

170 Höfn	0	0	0	FALSE	TRUE
171 Hraun	0	0	0	FALSE	TRUE
172 Skálará	0	0	0	FALSE	FALSE
173 Saurar	0	0	0	FALSE	FALSE
174 Arnarnúpur	0	0	0	FALSE	TRUE
175 Sveinseyri	0	0	0	FALSE	FALSE
176 Haukadalur	0	0	0	FALSE	FALSE
177 Meðaldalur	0	0	0	FALSE	FALSE
178 Gata	0	0	0	FALSE	FALSE
179 Hólar	0	0	0	FALSE	FALSE
180 Kirkjuból	0	0	0	FALSE	FALSE
181 Hof	0	0	0	FALSE	FALSE
182 Múli	0	0	0	FALSE	FALSE
183 Bakki	0	0	0	FALSE	FALSE
184 Brekka	0	0	0	FALSE	FALSE
185 Sandar	0	0	0	FALSE	FALSE
186 Sandahús	0	0	0	FALSE	FALSE
187 Stekkur	0	0	0	FALSE	FALSE
188 Þyngeyri	0	0	0	FALSE	FALSE
189 Hvammur	0	0	0	FALSE	FALSE
190 Hvammshús neðra	0	0	0	FALSE	FALSE
191 Innrahús	0	0	0	FALSE	FALSE
192 Ytrahús	0	0	0	FALSE	FALSE
193 Ketilseyri	0	0	0	FALSE	FALSE
194 Kjaransstaðir	0	0	0	FALSE	FALSE
195 Drangar	0	0	0	FALSE	FALSE
196 Botn	0	0	0	FALSE	FALSE
197 Lambadalur innri	0	0	0	FALSE	FALSE
198 Lambadalur ytri	0	0	0	FALSE	FALSE
199 Næfranes	0	0	0	FALSE	FALSE
200 Höfði	0	0	0	FALSE	FALSE
201 Hjarðadalur fremri	0	0	0	FALSE	FALSE
202 Hjarðadardalur neðri	0	0	0	FALSE	FALSE
203 Gemlufell	0	0	0	FALSE	FALSE
204 Grandi	0	0	0	FALSE	FALSE
205 Lækjarós	0	0	0	FALSE	FALSE
206 Mýrar	0	0	0	TRUE	FALSE
207 Mýrahús	0	0	0	FALSE	FALSE
208 Stórigarður	0	0	0	FALSE	FALSE
209 Litligarður	0	0	0	FALSE	FALSE
210 Fell	0	0	0	FALSE	FALSE
211 Lækur	0	0	0	FALSE	FALSE
212 Klukkuland	0	0	0	FALSE	FALSE
213 Kotnúpur	0	0	0	FALSE	FALSE
214 Núpur	0	0	0	FALSE	FALSE
215 Innra hús	0	0	0	FALSE	FALSE
216 Rani	0	0	0	FALSE	FALSE
217 Ytra hús	0	0	0	FALSE	FALSE
218 Nesjabær	0	0	0	FALSE	FALSE
219 Alviðra	0	0	0	FALSE	FALSE

220	Alviðra	0	0	0	TRUE	FALSE
221	Alviðruhús	0	0	0	TRUE	FALSE
222	Gerðhamrar	0	0	0	FALSE	FALSE
223	Arnarnes	0	0	0	FALSE	TRUE
224	Birnustaðir	0	0	0	FALSE	TRUE
225	Lambamúli	0	0	0	FALSE	FALSE
226	Fjallaskagi	0	0	0	FALSE	TRUE
227	Sæból	0	0	0	FALSE	TRUE
228	Efra hús	0	0	0	FALSE	FALSE
229	Neðra hús	0	0	0	FALSE	FALSE
230	Krókshús	0	0	0	FALSE	FALSE
231	Álfadalur	0	0	0	FALSE	FALSE
232	Hraun	0	0	0	FALSE	FALSE
233	Háls	0	0	0	FALSE	FALSE
234	Brekka	0	0	0	FALSE	FALSE
235	Villingadalur	0	0	0	FALSE	FALSE
236	Mosdalur	0	0	0	FALSE	FALSE
237	Kirkjuból	0	0	0	FALSE	FALSE
238	Dalshús heimari	0	0	0	FALSE	FALSE
239	Dalshús Ytri	0	0	0	FALSE	FALSE
240	Tunga	0	0	0	FALSE	FALSE
241	Grafargil	0	0	0	FALSE	FALSE
242	Þorfinnstaðir	0	0	0	FALSE	FALSE
243	Hjarðardalur Ytri	0	0	0	FALSE	FALSE
244	Hjarðadalur Innri	0	0	0	FALSE	FALSE
245	Holt	0	0	0	FALSE	FALSE
246	Melavaðshús	0	0	0	FALSE	FALSE
247	Melavaðshús innri	0	0	0	FALSE	FALSE
248	Arnkelsbrekka	0	0	0	FALSE	FALSE
249	Vaðlar	0	0	0	FALSE	FALSE
250	Tröð	0	0	0	FALSE	FALSE
251	Kirkjuból	0	0	0	FALSE	FALSE
252	Mosvellir	0	0	0	FALSE	FALSE
253	Vífilsmýrar	0	0	0	FALSE	FALSE
254	Hóll	0	0	0	FALSE	FALSE
255	Tunga	0	0	0	FALSE	FALSE
256	Hestur	0	0	0	FALSE	FALSE
257	Hesthús efra	0	0	0	FALSE	FALSE
258	Hesthús neðra	0	0	0	FALSE	FALSE
259	Múli	0	0	0	FALSE	FALSE
260	Efsta Ból	0	0	0	FALSE	FALSE
261	Kroppstaðir	0	0	0	FALSE	FALSE
262	Kirkjuból	0	0	0	FALSE	FALSE
263	Kirkjubóls hús	0	0	0	FALSE	FALSE
264	Tanna Nes	0	0	0	FALSE	FALSE
265	Veðrará Innri	0	0	0	FALSE	FALSE
266	Miðá	0	0	0	FALSE	FALSE
267	Veðrará Ytri	0	0	0	FALSE	FALSE
268	Breiðidalur fremri	0	0	0	FALSE	FALSE
269	Breiðidalur neðri	0	0	0	FALSE	FALSE

270 Kirkjuból	0	0	0	FALSE	FALSE
271 Kalldá	0	0	0	FALSE	FALSE
272 Höll á Hviltarströnd	0	0	0	FALSE	FALSE
273 Hvilft	0	0	0	FALSE	FALSE
274 Garðar	0	0	0	FALSE	FALSE
275 Eyri	0	0	0	TRUE	FALSE
276 Staður	0	0	0	TRUE	TRUE
277 Staðarhús	0	0	0	FALSE	FALSE
278 Staðarhús	0	0	0	FALSE	FALSE
279 Vatnadalur	0	0	0	FALSE	FALSE
280 Vatnadalur Neðri	0	0	0	FALSE	FALSE
281 Bær	0	0	0	FALSE	FALSE
282 Suðureyri	0	0	0	FALSE	FALSE
283 Kvíarnes	0	0	0	FALSE	FALSE
284 Botn	0	0	0	FALSE	FALSE
285 Gilsbrekka	0	0	0	FALSE	FALSE
286 Selárdalur	0	0	0	FALSE	FALSE
287 Norðureyri	0	0	0	FALSE	FALSE
288 Göltur	0	0	0	TRUE	FALSE
289 Keflavík	0	0	0	TRUE	TRUE
290 Hnífsdalur neðri	0	0	0	TRUE	TRUE
291 Búð	0	0	0	FALSE	FALSE
292 Hraun	0	0	0	FALSE	FALSE
293 Hnífsdalur fremri	0	0	0	FALSE	FALSE
294 Bakki	0	0	0	FALSE	FALSE
295 Eyri	0	0	0	TRUE	TRUE
296 Stekkjanes	0	0	0	FALSE	FALSE
297 Seljaland	0	0	0	FALSE	FALSE
298 Tunga	0	0	0	FALSE	FALSE
299 Hafrafell	0	0	0	FALSE	FALSE
300 Engidalur	0	0	0	FALSE	FALSE
301 Fossar	0	0	0	FALSE	FALSE
302 Kirkjuból	0	0	0	FALSE	FALSE
303 Seljabrekka	0	0	0	FALSE	FALSE
304 Arnardalur fremri	0	0	0	FALSE	FALSE
305 Arnardalur neðri	0	0	0	TRUE	TRUE
306 Ytrahús	0	0	0	FALSE	FALSE
307 Fremrahús	0	0	0	FALSE	FALSE
308 Súðavík	0	0	0	FALSE	FALSE
309 Trauð	0	0	0	FALSE	FALSE
310 Saurar	0	0	0	FALSE	FALSE
311 Eyrardalur	0	0	0	FALSE	TRUE
312 Hlíð	0	0	0	FALSE	FALSE
313 Dvergasteinn	0	0	0	FALSE	FALSE
314 Svarthamar	0	0	0	FALSE	FALSE
315 Svarfhóll	0	0	0	FALSE	FALSE
316 Seljaland	0	0	0	FALSE	FALSE
317 Hattardalur minni	0	0	0	FALSE	FALSE
318 Hattardalur meiri	0	0	0	FALSE	FALSE
319 Hattardalshús	0	0	0	FALSE	FALSE

320 Kambsnes	0	0	0	TRUE	TRUE
321 Eyri	0	0	0	FALSE	FALSE
322 Traðir	0	0	0	FALSE	FALSE
323 Uppsáir	0	0	0	FALSE	FALSE
324 Kleifar	0	0	0	FALSE	FALSE
325 Folaftotur	0	0	0	FALSE	TRUE
326 Hestur	0	0	0	FALSE	FALSE
327 Eiði	0	0	0	FALSE	FALSE
328 Hestfjörður	0	0	0	FALSE	FALSE
329 Hvítarnes	0	0	0	FALSE	FALSE
330 Eyri	0	0	0	FALSE	FALSE
331 Kleifar	0	0	0	FALSE	FALSE
332 Borg	0	0	0	FALSE	FALSE
333 Kálfavík	0	0	0	FALSE	FALSE
334 Hjallar	0	0	0	FALSE	FALSE
335 Skarð	0	0	0	FALSE	FALSE
336 Ögur	0	0	0	FALSE	TRUE
337 Garðstaðir	0	0	0	FALSE	FALSE
338 Strandasel	0	0	0	FALSE	TRUE
339 Blámýrar	0	0	0	FALSE	FALSE
340 Laugaból	0	0	0	FALSE	FALSE
341 Efstidalur	0	0	0	FALSE	FALSE
342 Eiríksstaðir	0	0	0	FALSE	FALSE
343 Birnustaðir	0	0	0	FALSE	FALSE
344 Hrafnabjörg	0	0	0	FALSE	TRUE
345 Þernuvík	0	0	0	FALSE	TRUE
346 Vigur	0	0	0	FALSE	TRUE
347 Látur	0	0	0	FALSE	TRUE
348 Stekkjarkot	0	0	0	FALSE	FALSE
349 Eyri	0	0	0	FALSE	FALSE
350 Heydalur	0	0	0	FALSE	FALSE
351 Botn	0	0	0	FALSE	FALSE
352 Hörgshlíð	0	0	0	FALSE	FALSE
353 Kellda	0	0	0	FALSE	FALSE
354 Skálavík	0	0	0	FALSE	TRUE
355 Vatnsfjörður	0	0	0	FALSE	FALSE
356 Sveinhús	0	0	0	FALSE	FALSE
357 Borgarey	0	0	0	FALSE	TRUE
358 Miðhús	0	0	0	FALSE	FALSE
359 Hálshús	0	0	0	FALSE	FALSE
360 Þúfur	0	0	0	FALSE	FALSE
361 Reykjafjörður	0	0	0	FALSE	FALSE
362 Svansvík	0	0	0	FALSE	FALSE
363 Vogar	0	0	0	FALSE	FALSE
364 Bjarnastaðir	0	0	0	FALSE	FALSE
365 Eyri	0	0	0	FALSE	FALSE
366 Gervidalur	0	0	0	FALSE	FALSE
367 Múli	0	0	0	FALSE	FALSE
368 Laugarból	0	0	0	FALSE	TRUE
369 Arngerðareyri	0	0	0	FALSE	FALSE

370 Brekka	0	0	0	FALSE	FALSE
371 Kirkjuból	0	1	2	FALSE	FALSE
372 Bakkasel	0	0	0	FALSE	FALSE
373 Fremri Bakki	0	0	0	FALSE	FALSE
374 Neðri bakki	0	0	0	FALSE	FALSE
375 Lágidalur	0	0	0	FALSE	FALSE
376 Tunga	0	0	0	FALSE	FALSE
377 Rauðamýri	0	0	0	FALSE	FALSE
378 Nauteyri	0	0	0	FALSE	FALSE
379 Hafnardalur	0	0	0	FALSE	FALSE
380 Hallstaðir	0	0	0	FALSE	FALSE
381 Hamar	0	0	0	FALSE	FALSE
382 Melgraseyri	0	0	0	FALSE	TRUE
383 Hraundalur	0	0	0	FALSE	FALSE
384 Laugaland	0	0	0	FALSE	FALSE
385 Skjaldfönn	0	0	0	FALSE	FALSE
386 Ámúli	0	0	0	FALSE	FALSE
387 Lónseyri	0	0	0	FALSE	FALSE
388 Bæir	0	0	0	FALSE	FALSE
389 Unaðsdalur	0	0	0	FALSE	FALSE
390 Tyrðilmýri	0	0	0	FALSE	FALSE
391 Æðey	0	0	0	FALSE	TRUE
392 Skarð	0	0	0	FALSE	TRUE
393 Sandeyri	0	0	0	FALSE	TRUE
394 Snæfjöll	0	0	0	FALSE	TRUE
395 Gullhús	0	0	0	FALSE	FALSE
396 Nes	0	0	0	FALSE	TRUE
397 Kellingarstaðir	0	0	0	FALSE	FALSE
398 Faxastaðir	0	0	0	FALSE	FALSE
399 Staður	0	0	0	FALSE	FALSE
400 Kollsá	0	0	0	FALSE	FALSE
401 Höfðaströnd	0	0	0	FALSE	FALSE
402 Höfði	0	0	0	FALSE	FALSE
403 Dynjandi	0	0	0	FALSE	FALSE
404 Leira	0	0	0	FALSE	FALSE
405 Kjós	0	0	0	FALSE	FALSE
406 Hrafnfjarðareyri	0	0	0	FALSE	FALSE
407 Álfstaðir	0	0	0	FALSE	FALSE
408 Kvíar	0	0	0	FALSE	TRUE
409 Steig	0	0	0	FALSE	FALSE
410 Steinólfsstaðir	0	0	0	FALSE	FALSE
411 Marðareyri	0	0	0	FALSE	FALSE
412 Hesteyri	0	0	0	FALSE	FALSE
413 Langivöllur	0	0	0	FALSE	FALSE
414 Slétta	0	0	0	FALSE	FALSE
415 Skáladalur	0	0	0	FALSE	FALSE
416 Sæból	0	0	0	FALSE	FALSE
417 Garðar	0	0	0	FALSE	FALSE
418 Staður	0	0	0	TRUE	FALSE
419 Lækur	0	0	0	FALSE	FALSE

420 Þverdalur	0	0	0	TRUE	FALSE
421 Miðvík efri	0	0	0	FALSE	FALSE
422 Miðvík neðri	0	0	0	FALSE	FALSE
423 Stakkadalur	0	0	0	FALSE	FALSE
424 Látur	0	0	0	FALSE	FALSE
425 Látrahús	0	0	0	FALSE	FALSE
426 Rekavík bak Látrum	0	0	0	TRUE	TRUE
427 Tunga	0	0	0	TRUE	TRUE
428 Glúmstaðir	0	0	0	FALSE	FALSE
429 Atlastaðir	0	0	0	TRUE	TRUE
430 Kjaransvík	0	0	0	TRUE	TRUE
431 Hlöðuvík	0	0	0	TRUE	TRUE
432 Hælavík	0	0	0	TRUE	TRUE
433 Rekavík bak Höfn	0	0	0	TRUE	TRUE
434 Höfn	0	0	0	TRUE	TRUE
435 Horn	0	0	0	TRUE	TRUE
436 Smiðjuvík	0	0	0	TRUE	TRUE
437 Barðsvík	0	0	0	TRUE	TRUE
438 Bolungarvík	0	0	0	TRUE	TRUE
439 Furufjörður	0	0	0	TRUE	TRUE
440 Þaralátursfjörður	0	0	0	TRUE	TRUE
441 Reykjarfjörður	0	0	0	TRUE	TRUE
442 Kirkjuból	0	0	0	TRUE	TRUE
443 Skjaldbjarnarvík	0	0	0	TRUE	TRUE
444 Drangavík	0	0	0	FALSE	FALSE
445 Drangar	0	0	0	TRUE	TRUE
446 Engjanes	0	0	0	FALSE	FALSE
447 Ófeigsfjörður	0	0	0	TRUE	TRUE
448 Seljanes	0	0	0	TRUE	TRUE
449 Ingólfsfjörður	0	0	0	TRUE	FALSE
450	0	0	0	TRUE	TRUE
451 Munaðarnes	0	0	0	TRUE	TRUE
452 Nyrðra Fell	0	0	0	TRUE	TRUE
453 Innra Fell	0	0	0	TRUE	TRUE
454 Krossnes	0	0	0	TRUE	TRUE
455 Norðurfjörður	0	0	0	FALSE	FALSE
456 Melar	0	0	0	TRUE	TRUE
457 Hlíðarhús	0	0	0	FALSE	FALSE
458 Árnes	0	0	0	TRUE	TRUE
459 Bær	0	0	0	FALSE	FALSE
460 Fimmbogastaðir	0	0	0	TRUE	TRUE
461 Ávík Stærri	0	0	0	TRUE	TRUE
462 Ávík Minni	0	0	0	TRUE	TRUE
463 Reykjanes	0	0	0	TRUE	TRUE
464 Gjögur	0	0	0	TRUE	TRUE
465 Kesvogur	0	0	0	TRUE	TRUE
466 Naustvíkur	0	0	0	TRUE	TRUE
467 Reykjarfjörður	0	0	0	FALSE	FALSE
468 Kjós	0	0	0	TRUE	TRUE
469 Kambur	0	0	0	FALSE	FALSE

470	Veiðileysa	0	0	0	TRUE	TRUE
471	Byrgisvík	0	0	0	TRUE	TRUE
472	Kolbeinsvík	0	0	0	TRUE	TRUE
473	Kaldbak	0	0	0	TRUE	TRUE
474	Kleifar	0	0	0	TRUE	TRUE
475	Eyjar	0	0	0	TRUE	TRUE
476	Asparvík	0	0	0	TRUE	TRUE
477	Brúará	0	0	0	TRUE	TRUE
478	Reykjarvík	0	0	0	TRUE	TRUE
479	Ásmundarnes	0	0	0	FALSE	FALSE
480	Klúka	0	0	0	FALSE	FALSE
481	Svanshóll	0	0	0	FALSE	FALSE
482	Goðdalir	0	0	0	FALSE	FALSE
483	Tungukot	0	0	0	FALSE	FALSE
484	Sunndalur	0	0	0	FALSE	FALSE
485	Skarð	0	0	0	FALSE	FALSE
486	Kaldrananes	0	0	0	TRUE	TRUE
487	Bakki	0	0	0	FALSE	FALSE
488	Bjarnanes	0	0	0	TRUE	TRUE
489	Bær	0	0	0	TRUE	TRUE
490	Drangsnes	0	0	0	FALSE	FALSE
491	Grimsey	0	0	0	TRUE	TRUE
492	Gautshamar	0	0	0	TRUE	TRUE
493	Hafnarhólmur	0	0	0	TRUE	FALSE
494	Kleifar	0	0	0	FALSE	FALSE
495	Hella	0	0	0	FALSE	FALSE
496	Sandnes	0	0	0	FALSE	FALSE
497	Bassastaðir	0	0	0	FALSE	FALSE
498	Bólstaður	0	0	0	FALSE	FALSE
499	Gilstaðir	0	0	0	FALSE	FALSE
500	Geirmundarstaðir	0	0	0	FALSE	FALSE
501	Grænanes	0	0	0	TRUE	FALSE
502	Staður	0	0	0	FALSE	FALSE
503	Kolbjarnarstaðir	0	0	0	FALSE	FALSE
504	Kleppustaðir	0	0	0	FALSE	FALSE
505	Aratunga	0	0	0	FALSE	FALSE
506	Hólar	0	0	0	FALSE	FALSE
507	Kirkjuból	0	0	0	FALSE	FALSE
508	Viðivellir	0	0	0	FALSE	FALSE
509	Hofstaðir	0	0	0	FALSE	FALSE
510	Hróberg	0	0	0	FALSE	FALSE
511	Ós	0	0	0	FALSE	FALSE
512	Kálfanes	0	0	0	TRUE	FALSE
513	Skeljavík	0	0	0	TRUE	FALSE
514	Vatnshorn	0	0	0	FALSE	FALSE
515	Þiðriksvellir	0	0	0	FALSE	FALSE
516	Viðidalsá	0	0	0	TRUE	FALSE
517	Hrófá	0	0	0	TRUE	FALSE
518	Arnkötludalur	0	0	0	FALSE	FALSE
519	Tröllatunga	0	0	0	FALSE	FALSE

520 Efraból	0	0	0	FALSE	FALSE
521 Hlíðarsel	0	0	0	FALSE	FALSE
522 Kierasteirn	0	0	0	FALSE	FALSE
523 Tungugröf	0	0	0	TRUE	FALSE
524 Húsavík	0	0	0	TRUE	FALSE
525 Heiðarbær	0	0	0	TRUE	FALSE
526 Miðdalsgröf	0	0	0	FALSE	FALSE
527 Tindur	0	0	0	FALSE	FALSE
528 Veitukot	0	0	0	FALSE	FALSE
529 Gjestaðir	0	0	0	FALSE	FALSE
530 Klúka	0	0	0	FALSE	FALSE
531 Kirkjuból	0	0	0	TRUE	FALSE
532 Heiðadalsá	0	0	0	TRUE	TRUE
533 Haralldstaðir	0	0	0	FALSE	FALSE
534 Leifssstaðir	0	0	0	FALSE	FALSE
535 Smáhamrar	0	0	0	TRUE	FALSE
536 Þorp	0	0	0	TRUE	FALSE
537 Hvalsá	0	0	0	TRUE	TRUE
538 Kollafjarðarnes	0	0	0	TRUE	TRUE
539 Hlíð	0	0	0	TRUE	TRUE
540 Fjarðarhorn litla	0	0	0	TRUE	TRUE
541 Ljufustaðir	0	0	0	FALSE	FALSE
542 Steinadalur	0	0	0	FALSE	FALSE
543 Fell	0	0	0	FALSE	FALSE
544 Miðhlið	0	0	0	FALSE	FALSE
545 Miðhús	0	0	0	FALSE	FALSE
546 Garðakot	0	0	0	FALSE	FALSE
547 Efrafell	0	0	0	FALSE	FALSE
548 Kúkstaðir	0	0	0	FALSE	FALSE
549 Hamar	0	0	0	FALSE	FALSE
550 Þrúðardalur	0	0	0	FALSE	FALSE
551 Þorsteinsstaðir	0	0	0	FALSE	FALSE
552 Fjarðarhorn stóra	0	0	0	FALSE	FALSE
553 Broddanes	0	0	0	TRUE	TRUE
554 Broddadalsá	0	0	0	TRUE	TRUE
555 Skriðingsenni	0	0	0	TRUE	TRUE
556 Brekka	0	0	0	TRUE	TRUE
557 Hvítahlíð	0	0	0	TRUE	TRUE
558 Gröf	0	0	0	FALSE	FALSE
559 Einfætugil	0	0	0	FALSE	FALSE
560 Óspakseyri	0	0	0	TRUE	TRUE
561 Kjóstastaðir	0	0	0	FALSE	FALSE
562 Hóll	0	0	0	FALSE	FALSE
563 BrunnGil	0	0	0	FALSE	FALSE
564 Þóroddsstaðir	0	0	0	TRUE	TRUE
565 Þambarvellir	0	0	0	TRUE	TRUE
566 Skálholtsvík	0	0	0	TRUE	TRUE
567 Guðlaugsvík	0	0	0	FALSE	FALSE
568 Kolbitsá	0	0	0	FALSE	FALSE
569 Borgir	0	0	0	FALSE	FALSE

570 Stóra Hvalsá	0	0	0	TRUE	TRUE
571 Sauðanes	0	0	0	FALSE	FALSE
572 Litla Hvalsá	0	0	0	TRUE	TRUE
573 Kollsá	0	0	0	TRUE	TRUE
574 Prestbakki	0	0	0	TRUE	TRUE
575 Hrafnadalur	0	0	0	FALSE	FALSE
576 Ljótunarstaðir	0	0	0	TRUE	TRUE
577 Bær	0	0	0	TRUE	TRUE
578 Holt	0	0	0	FALSE	FALSE
579 Sel	0	0	0	FALSE	FALSE
580 Hlaðhamar	0	0	0	TRUE	TRUE
581 Laxárdalur	0	0	0	FALSE	FALSE
582 Kétseyri	0	0	0	TRUE	TRUE
583 Borðeyri	0	0	0	TRUE	TRUE
584 Valdasteinseyri	0	0	0	TRUE	TRUE
585 Fjarðarhorn	0	0	0	TRUE	TRUE
586 Fagrabrekka	0	0	0	FALSE	FALSE
587 Melar	0	0	0	FALSE	FALSE
588 Eystri Skógar	0	0	0	FALSE	TRUE
589 Ytri Skógar	0	0	0	FALSE	TRUE
590 Drangshlíð	0	0	0	FALSE	FALSE
591 Skarðshlíð	0	0	0	FALSE	FALSE
592 Hrútafell	0	0	0	FALSE	FALSE
593 Hrútafellskot	0	0	0	FALSE	FALSE
594 Bakkarnir	0	0	0	FALSE	FALSE
595 Hólar	0	0	0	FALSE	TRUE
596 Syðra Hólakot	0	0	0	FALSE	FALSE
597 Vestur Hjáleiga	0	0	0	FALSE	FALSE
598 Efri Hólakot	0	0	0	FALSE	FALSE
599 Hörðuskáli	0	0	0	FALSE	FALSE
600 Efra Bakkakot	0	0	0	FALSE	FALSE
601 Syðra Bakkakot	0	0	0	FALSE	FALSE
602 Raufarfell eystra	0	0	0	FALSE	FALSE
603 Raufarfell ytra	0	0	0	FALSE	FALSE
604 Selkot	0	0	0	FALSE	FALSE
605 Klömbur	0	0	0	FALSE	FALSE
606 Stóraborg	0	0	0	FALSE	FALSE
607 Borgarkot	0	0	0	FALSE	FALSE
608 Minniborg	0	0	0	FALSE	FALSE
609 Sitjandi	0	0	0	FALSE	FALSE
610 Lambafell	0	0	0	FALSE	FALSE
611 Miðbæli	0	0	0	FALSE	TRUE
612 Gíslakot	0	0	0	FALSE	TRUE
613 Ystabæli	0	0	0	FALSE	TRUE
614 Ystabælliskot	0	0	0	FALSE	TRUE
615 Svartbæli	0	0	0	FALSE	FALSE
616 Núpakot	0	0	0	FALSE	FALSE
617 Hlíð	0	0	0	FALSE	FALSE
618 Leirur	0	0	0	FALSE	FALSE
619 Berjanes	0	0	0	FALSE	FALSE

620 Berjaneskot	0	0	0	FALSE	FALSE
621 Steinar	0	0	0	FALSE	TRUE

Appendix 5. Excavation data

5.1 Strákatangi

List of archaeological units

Einingar							
Staður	Svæði	Eining	Tegund	Lýsing	Texti	Túlkun	Aðferð
Str08	A	51	LAG	YFIRBORÐ	Torflag með grasrót. Sama og 1 frá 2007.	Yfirborðslag	STUNGUSKÓFLA
Str08	A	52	LAG	JARÐVEGUR	Torflönduð fokmold innan í byggingu A.	Hrun innan í byggingu A	MÚRSKEIÐ
Str08	B	53	LAG	MÚRSTEINN	Múrsteinar og mulningur úr þeim.	Hrun úr ofni í húsi B á svæði B.	MÚRSKEIÐ
Str08	B	54	LAG	ASKA	Brennt lag innan í eldhólf í ofni í byggingu B, herberbi B.	Eldhólf.	MÚRSKEIÐ
Str08	B	55	LAG	SANDUR	Sandlag blandað Steypublöndu.	Hrun úr ofni í húsi B á svæði B.	MÚRSKEIÐ
Str08	A	56	STEINN	STEINN	Steinhrúga á SA hluta svæðis A.	Óviss túlkun.	
Str08	A	57	STEINN	STEINN	Stór steinn (sprunginn) á SV hluta svæðis A.	Óviss túlkun.	
Str08	B	58	LAG	JARÐVEGUR	Gólf í herbergi B, byggingu B.	Gólf	MÚRSKEIÐ
Str08	B	59	LAG	MÚRSTEINN	Múrsteinsgólf í byggingu A.	Gólf	
Str08	A	60	STEINN	MÚRSTEINN	Pallur fyrir tunnu. Beykistrós	Beykistrós	MÚRSKEIÐ
Str08	A	61	LAG	SANDUR	Sandlag í norðurhluta byggingar A.	Gólf	MÚRSKEIÐ
Str08	B	62	LAG	JARÐVEGUR	Neðra gólf í B. Svart með miklum viðarleifum	Gólf	MÚRSKEIÐ
Str08	B	63	LAG	JARÐVEGUR	Fíngert lag af lífrænu efni ofan á beykistrósinni.	Óviss túlkun.	MÚRSKEIÐ
Str08	B	64	LAG	JARÐVEGUR	Svart lag sunnan við B. Milli bræðslu og B.		
Str08	C	65	FILLING	MULNINGUR	Múrsteinshrun innan í bræðsluofni.	Hrun	MÚRSKEIÐ
Str08	C	66	LAG	ASKA	Kolað lag norðaustan við bræðsluna. Sama og 40 frá 2006.	Ruslslag	MÚRSKEIÐ
Str08	A	67	SKUR	STOÐAR-	Ferhyrndar stoðarholur í	Stoðarholur	

Einingar							
Staður	Svæði	Eining	Tegund	Lýsing	Texti	Túlkun	Aðferð
			ÐUR	HOLA	byggingu A.		
Str08	A	68	LAG	JARÐVEGUR	Útveggir í byggingu A.	Veggir í byggingu A.	
Str08	B	69		MÚRSTEINN	Múrsteinshleðsla í norðuvestur hluta B.	Eldstæði	

List of archaeological units

Code	No	Type	Group	Area	Description	Material	Context	Date	ID
Str07	1	Deposit	0	B	Turf surface (same as units in 2005 and 2006)	Turf	Surface	05.06.07	Red
Str07	2	Deposit	0	B	Black burnt layer rich with slag.	Mixed Silts	Dump	06.06.07	Red
Str07	3	Deposit	0	B	Black burnt layer. Organic. Outside.	Organic	Dump	05.06.07	Red
Str07	4	Cut	0	B	2005 archaeological trench.	Cut interface	Excavation	12.06.07	Red
Str07	5	Group	0	B	Modern disturbance. Trenches dug by former farmer for dumping rubbish.	Cut interface	Ditch	12.06.07	Red
Str07	6	Deposit	0	B	Infill in room a. Mixed aeolian deposits and collapse.	Mixed Silts	Collapse	12.06.07	Red
Str07	7	Cut	0	B	Modern disturbance in south part of room a.	Cut interface	Ditch	12.06.07	Red
Str07	8	Deposit	0	B	Aeolian deposits outside room a in south east part.	Mixed Silts	Aeolian	12.06.07	Red
Str07	9	Deposit	0	B	Mixed deposit on top of brick construction in room b.	Mixed Silts	Aeolian	13.06.07	Red
Str07	10	Deposit	0	B	Sandy deposit in south west corner of room b.	Sand	Aeolian	14.06.07	Red
Str07	11	Deposit	0	B	Sandy deposit outside oven in room b. Fill in robber trench.	Sand	Aeolian	14.06.07	Red
Str07	12	Deposit	0	B	Mixed deposit inside oven, mixed with bricks, sand and soil.	Mixed Silts	Aeolian	14.06.07	Red
Str07	13	Deposit	0	B	Lower fill in room b, mixed soil and collapse.	Mixed Silts	Collapse	18.06.07	Red
Str07	14	Cut	0	B	Circular cut for unit 10. A robber	Cut interface	Robber trench	19.06.07	Red

Code	No	Type	Group	Area	Description	Material	Context	Date	ID
					trench.				
Str07	15	Cut	0	B	Oval cut for unit 11. A robber trench.	Cut interface	Robber trench	19.06.07	Red
Str07	16	Deposit	0	B	Black turf. Collapse from south wall in room b.	Mixed Silts	Collapse	19.06.07	Red
Str07	17	Deposit	0	B	Floor in room a. Black/Grey. Upper floor.	Organic	Floor	20.06.07	Red
Str07	18	Deposit	0	B	Thick black organic deposit in room a.	Organic	Undefined	22.06.07	Red
Str07	19	Deposit	0	B	Floor in room a. Lower floor. Main.	Organic	Floor	22.06.07	Red
Str07	20	Deposit	0	B	Workspace in "smithy". Lump of mixed turf/soil/sand	Mixed Silts	Collapse	25.06.07	Red
Str07	21	Deposit	0	B	Hearth in room a. Circular hearth, partially excavated in 2005.	Ash	Hearth	26.06.07	Red
Str07	22	Deposit	0	B	Bricks in a lump. Connected to smithy. Working area within the smithy	Bricks	Collapse	27.06.07	CAP
Str07	23	Deposit	0	B	Collapse in the entrance to main room. (same as 6)	Mixed Silts	Collapse	27.06.07	RED
Str07	24	Deposit	0	B	Gravel deposit mixed with charocal. Infill of a rectangular pit.	Gravel	Pit	28.06.07	CAP
Str07	25	Group	0	B	Group of deposits within smithy [Various features within].	Undefined	Undefined	28.06.07	CAP
Str07	26	Deposit	25	B	Furnace in smithy. Collapsed bricks and charcoal deposits mixed with slag [group 25].	Bricks	Furnace	28.06.07	CAP
Str07	27	Deposit	25	B	Brick structure within smithy. Either a collapse or dump. Many small pieces of bricks [group 025].	Bricks	Undefined	28.06.07	CAP
Str07	28	Deposit	25	B	Fill for a pit in the	Mixed	Furnace	28.06.07	CAP

Code	No	Type	Group	Area	Description	Material	Context	Date	ID
					center of smithy [group 025].	Silts			
Str07	29	Deposit	25	B	Fill in a pit west of [028] [group 025].	Mixed Silts	Furnace	28.06.07	CAP
Str07	30	Deposit	25	B	Fill in a posthole in the nw part of smithy.	Mixed Silts	Posthole	28.06.07	CAP
Str07	31	Deposit	25	B	Fill in a posthole in the w part of smithy.	Mixed Silts	Posthole	28.06.07	CAP
Str07	32	Deposit	25	B	Fill in a posthole in the sw part of smithy.	Mixed Silts	Posthole	28.06.07	CAP
Str07	33	Deposit	0	B	Floor deposit in room C. Smithy. Charcoal/sand mix.	Mixed Silts	Floor	28.06.07	RED
Str07	34	Cut	0	B	Cut for circular hearth [21] in main room.	Cut interface	Furnace	28.06.07	RED
Str07	35	Cut	25	B	Cut for small pit [29] in smithy	Cut interface	Furnace	28.06.07	RED
Str07	36	Cut	25	B	Cut for small pit [28] in smithy	Cut interface	Furnace	28.06.07	RED
Str07	37	Deposit	0	B	Turf block in north east part of smithy. Platform for a furnace?	Turf	Footing	28.06.07	RED
Str07	38	Cut	0	B	Cut for [27]	Cut interface	Pit	28.06.07	RED
Str07	40	Group	40	B	Postholes in main room.	Cut interface	Posthole	28.06.07	RED
Str07	41	Group	41	B	Postholes in smithy	Cut interface	Posthole	28.06.07	RED
Str07	42	Structural	0	B	Walls of smithy.	Mixed Silts	Wall	28.06.07	RED
Str07	43	Structural	0	B	Walls in rooms A and B, except the division wall. Not regularly built walls.	Mixed Silts	Wall	28.06.07	RED
Str07	44	Structural	0	B	Wall dividing A and B. Built with stones and turf. Different from other walls.	Turves/Stones	Wall	28.06.07	RED
Str07	45	Structural	0	B	Collapsed bricks from large oven/furnace in room b.	Bricks	Furnace	28.06.07	RED

Code	No	Type	Group	Area	Description	Material	Context	Date	ID
Str07	46	Deposit	0	B	Pile of bricks in south part of room b.	Bricks	Undefined	28.06.07	RED
Str07	47	Deposit	0		Subsoil			28.06.07	RED
Str07	48	Group	0	B	Room B. Kitchen. Square room that probably had a wooden roof.		Room	28.06.07	RED
Str07	49	Group	0	B	Room C. Smithy. Small square room to the back of the structure that only had a tent instead of a wooden roof.		Room	28.06.07	RED
Str07	50	Group	0	B	Room A. Habitation. Square room that probably had a wooden roof.		Room	28.06.07	RED

List of finds

Number	Unit	Type	Material	Quant.	Date	ID	Notes
1	3	Tobacco Pipe	Ceramic	1	05.06.07	RED	Stem+heel
2	3	Tobacco Pipe	Ceramic	1	05.06.07	RED	Bowl. Stamp. Fleur de lis. 1610-1640.
3	3	Tobacco Pipe	Ceramic	1	05.06.07	RED	Heel
4	3	Vessel	Ceramic	1	05.06.07	RED	Redware. Rim
5	3	Vessel	Ceramic	1	05.06.07	RED	Stoneware. Westerwald, 17th century.
6	3	Tobacco Pipe	Ceramic	1	05.06.07	RED	Stem
7	3	Vessel	Ceramic	1	05.06.07	RED	Redware
8	2			1	05.06.07	RED	Lignite (Surtarbrandur). Fuel.
9	2		Flint	1	06.06.07	RED	Unknown.
10	2	Nail	Iron	1	06.06.07	RED	Small nail.
11	2	Slag	Iron	10	06.06.07	RED	Slag from a smithy.
12	2	Vessel	Ceramic	1	06.06.07	RED	Stoneware/Westerwald/Decorated. 17th century.
13	2	Vessel	Ceramic	1	06.06.07	RED	Redware, many pieces from the same vessel.
14	3	Vessel	Ceramic	1	06.06.07	RED	Stoneware, Westerwald, 17th century. 1 Large piece
15	1	Nail	Iron	1	06.06.07	RED	Corroded piece.
16	1	Nail	Iron	1	06.06.07	RED	Corroded piece.
17	1	Vessel	Ceramic	11	07.06.07	RED	White ware, modern, 20th century.
18	3	Slag	Iron	0	07.06.07	RED	Several pieces of smithy slag.
19	1	Nail	Iron	1	07.06.07	RED	Corroded piece.
20	1	Machin e Part	Iron	1	07.06.07	RED	Modern pot iron.
21	1	Slag	Iron	1	08.06.07	RED	Smithy slag.
22	1	Tobacco Pipe	Ceramic	1	08.06.07	RED	Bowl and stem, stamped.
23	1		Iron	1	08.06.07	RED	Modern iron. Unidentified.
24	1	Vessel	Ceramic	11	08.06.07	RED	red ware.
25	1	Nail	Iron	1	08.06.07	RED	Whole nail.
26	1	Slag	Iron	0	08.06.07	RED	1 bag of slag.
27	8	Nail	Iron	1	12.06.07	RED	Corroded piece.
28	3	Vessel	Ceramic	1	12.06.07	RED	Stone ware.
29	8	Tobacco Pipe	Ceramic	1	12.06.07	RED	Stem/ small piece
30	8	Tobacco Pipe	Ceramic	1	12.06.07	RED	Stem/ small piece

Number	Unit	Type	Material	Quant.	Date	ID	Notes
31	8	Nail	Iron	1	12.06.07	RED	Corroded piece. Head.
32	8	Tobacco Pipe	Ceramic	1	12.06.07	RED	Heel, reddish fragment.
33	12	Tobacco Pipe	Ceramic	1	15.06.07	RED	Half a bowl.
34	6	Tobacco Pipe	Ceramic	5	18.06.07	RED	Burned, white glazing has formed.
35	4	Nail	Iron	2	18.06.07	RED	Broken nail.
36	4	Tobacco Pipe	Ceramic	1	18.06.07	RED	Stem.
37	6	Nail	Iron	1	18.06.07	RED	
38	6	Tobacco Pipe	Ceramic	1	18.06.07	RED	Stem
39	6		Iron	1	19.06.07	RED	Large corroded iron piece. Harpoon?
40	6		Ceramic	1	19.06.07	RED	Unidentified
41	6		Iron	1	19.06.07	RED	Unidentified
42	6	Vessel	Ceramic	1	19.06.07	RED	Whiteware.
43	6	Horseshoe	Iron	2	19.06.07	RED	Corroded
44	6		Organic	2	19.06.07	RED	Leather?
45	6	Nail	Iron	2	20.06.07	RED	Corroded.
46	6		Copper alloy	1	20.06.07	RED	Very badly corroded.
47	6	Rivet/Rivet	Iron	1	20.06.07	RED	
48	6	Tobacco Pipe	Ceramic	1	20.06.07	RED	Stem
49	6	Rivet/Rivet	Iron	1	20.06.07	RED	
50	6	Tobacco Pipe	Ceramic	1	20.06.07	RED	Stem
51	6		Iron	2	20.06.07	RED	Very corroded piece.
52	17	Vessel	Glass	1	20.06.07	RED	Small piece
53	6	Nail	Iron	2	20.06.07	RED	Corroded pieces.
54	6	Nail	Iron	1	20.06.07	RED	Corroded piece.
55	6	Tobacco Pipe	Ceramic	1	20.06.07	RED	Bowl with stem.
56	6	Brick	Ceramic	1	20.06.07	RED	Whole red brick with a thumb imprint.
57	6	Tobacco Pipe	Ceramic	1	20.06.07	RED	Stem.
58	8	Nail	Iron	1	21.06.07	RED	
59	8	Vessel	Ceramic	2	21.06.07	RED	

Number	Unit	Type	Material	Quant.	Date	ID	Notes
60	2	Vessel	Ceramic	1	21.06.07	RED	Stem. Decorated
61	19	Vessel	Ceramic	1	22.06.07	RED	Large piece. Glazed. Redware
62	19	Nail	Iron	1	22.06.07	RED	Corroded
63	19	Tobacco Pipe	Ceramic	1	22.06.07	RED	Stem.
64	19	Tobacco Pipe	Ceramic	1	22.06.07	RED	Stem.
65	19	Tobacco Pipe	Ceramic	1	22.06.07	RED	Stem.
66	18	Tobacco Pipe	Ceramic	1	22.06.07	RED	Stem.
67	6	Nail	Iron	2	22.06.07	RED	Pieces fit together.
68	6	Nail	Iron	1	22.06.07	RED	
69	6	Slag	Iron	1	22.06.07	RED	Slag from a smithy.
70	0	Tobacco Pipe	Ceramic	1	22.06.07	RED	From 2004 test trench. After removal of tarp.
71	0	Vessel	Ceramic	1	22.06.07	RED	From 2004 test trench. Whiteware. Modern
72	8	Tobacco Pipe	Ceramic	1	21.06.07	RED	Stem with partial bowl.
73	8	Nail	Iron	1	21.06.07	RED	
74	8	Nail	Iron	1	21.06.07	RED	
75	8	Nail	Iron	1	21.06.07	RED	
76	8	Nail	Iron	2	21.06.07	RED	
77	20	Slag	Iron	0	25.06.07	RED	From different places within [020].
78	20			1	25.06.07	RED	Lignite (Surtarbrandur).
79	6	Nail	Iron	1	25.06.07	RED	
80	6	Nail	Iron	1	25.06.07	RED	
81	6	Nail	Iron	1	25.06.07	RED	
82	6	Vessel	Ceramic	1	25.06.07	RED	Redware with green glazing.
83	6	Nail	Iron	1	25.06.07	RED	
84	6	Nail	Iron	1	25.06.07	RED	
85	19	Nail	Iron	3	25.06.07	RED	Corroded pieces.
86	19	Nail	Iron	3	25.06.07	RED	
87	19	Nail	Iron	2	25.06.07	RED	
88	19	Nail	Iron	2	25.06.07	RED	
89	19	Nail	Iron	1	25.06.07	RED	
90	19	Rivet/Rove	Iron	1	25.06.07	RED	
91	6	Tobacco	Ceramic	1	25.06.07	RED	Stem.

Number	Unit	Type	Material	Quant.	Date	ID	Notes
		o Pipe					
92	6	Nail	Iron	1	22.06.07	RED	Stuck to splinters of rotten wood.
93	19	Vessel	Glass	4	25.06.07	RED	Found in north part.
94	6	Nail	Iron	1	27.06.07	RED	
95	2	Vessel	Ceramic	1	21.06.07	RED	Stoneware. White glazing visible.
96	2	Tobacco Pipe	Ceramic	1	21.06.07	RED	
97	19	Button	Lead	1	27.06.07	RED	Small lead button. Flower decoration.
98	2		Glass	1	26.06.07	RED	Green glass.
99	2	Tobacco Pipe	Ceramic	1	26.06.07	RED	
100	2	Tobacco Pipe	Ceramic	1	26.06.07	RED	
101	21	Tobacco Pipe	Ceramic	1	26.06.07	RED	Bowl
102	21		Iron	1	26.06.07	RED	Large piece.
103	21		Iron	1	26.06.07	RED	
104	2		Stone	1	26.06.07	RED	Fragment. Worked on all sides.
105	2	Tobacco Pipe	Ceramic	2	26.06.07	RED	Burned.
106	2	Tobacco Pipe	Ceramic	1	26.06.07	RED	
107	2	Tobacco Pipe	Ceramic	2	26.06.07	RED	
108	2		Flint	1	26.06.07	RED	Worked
109	2		Glass	1	26.06.07	RED	
110	2	Nail	Glass	1	26.06.07	RED	
111	2		Flint	1	26.06.07	RED	
112	6	Tobacco Pipe	Ceramic	1	26.06.07	RED	
113	6		Iron	1	26.06.07	RED	
114	2	Tobacco Pipe	Ceramic	1	27.06.07	RED	
115	19	Vessel	Ceramic	1	27.06.07	RED	Redware. Green glazing.
116	19	Tobacco Pipe	Ceramic	1	27.06.07	RED	Stem. Decorated with flower design.
117	19	Tobacco Pipe	Ceramic	1	27.06.07	RED	Bowl.
118	19	Tobacco Pipe	Ceramic	1	27.06.07	RED	

Number	Unit	Type	Material	Quant.	Date	ID	Notes
119	19	Tobacco Pipe	Ceramic	1	27.06.07	RED	
120	22	Tobacco Pipe	Ceramic	1	27.06.07	RED	
121	19	Nail	Iron	1	27.06.07	RED	
122	19	Vessel	Ceramic	1	27.06.07	RED	Redware. Green glazing.
123	19		Iron	1	27.06.07	RED	
124	19		Iron	2	27.06.07	RED	
125	2	Tobacco Pipe	Ceramic	1	27.06.07	RED	Stem. Decorated.
126	19		Iron	2	27.06.07	RED	
127	19		Iron	3	27.06.07	RED	
128	19		Iron	2	27.06.07	RED	
129	22	Tobacco Pipe	Ceramic	1	27.06.07	RED	Whole bowl, with part of a stem.
130	22	Tobacco Pipe	Ceramic	1	27.06.07	RED	Part of a bowl.
131	19	Nail	Iron	1	27.06.07	RED	Found in sieve.
132	19	Tobacco Pipe	Ceramic	1	27.06.07	RED	Bowl. Found in sieve.
133	22	Nail	Iron	1	27.06.07	RED	Whole but bent. Found outside furnace.
134	19		Iron	1	26.06.07	RED	
135	19		Iron	1	26.06.07	RED	
136	19		Iron	1	26.06.07	RED	
137	19		Iron	1	26.06.07	RED	
138	19		Iron	1	26.06.07	RED	
139	19		Iron	1	26.06.07	RED	
140	19		Iron	1	26.06.07	RED	
141	19		Iron	3	26.06.07	RED	
142	19		Iron	2	26.06.07	RED	
143	19		Iron	1	26.06.07	RED	
144	19		Iron	1	26.06.07	RED	
145	19	Nail	Iron	2	26.06.07	RED	
146	19		Iron	1	26.06.07	RED	
147	19		Iron	1	26.06.07	RED	
148	19	Nail	Iron	1	26.06.07	RED	
149	0			0			No find
150	19		Iron	2	26.06.07	RED	
151	19		Iron	1	26.06.07	RED	

Number	Unit	Type	Material	Quant.	Date	ID	Notes
152	19		Iron	1	26.06.07	RED	
153	19		Iron	1	26.06.07	RED	
154	19	Nail	Iron	1	26.06.07	RED	
155	19	Nail	Iron	1	26.06.07	RED	
156	19		Iron	1	26.06.07	RED	
157	19		Iron	1	26.06.07	RED	
158	19	Nail	Iron	2	26.06.07	RED	
159	19	Tobacco Pipe	Ceramic	1	26.06.07	RED	Stem
160	19	Tobacco Pipe	Ceramic	1	26.06.07	RED	
161	19	Tobacco Pipe	Ceramic	1	26.06.07	RED	
162	19	Vessel	Ceramic	1	26.06.07	RED	Stoneware. Small fragment.
163	3	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl. Large heel.
164	3	Vessel	Ceramic	1	28.06.07	RED	Redware.
165	19		Iron	2	28.06.07	RED	
166	19	Nail	Iron	2	28.06.07	RED	
167	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl.
168	2	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem. Found in sieve.
169	19	Tobacco Pipe	Ceramic	2	28.06.07	RED	Stem
170	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem
171	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl
172	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl
173	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl
174	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl
175	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem
176	19	Vessel	Ceramic	1	28.06.07	RED	Redware. Green glazing.
177	33	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
178	33	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
179	33	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl

Number	Unit	Type	Material	Quant.	Date	ID	Notes
180	33	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl
181	19	Vessel	Ceramic	4	28.06.07	RED	Redware. Green glazing.
182	19	Vessel	Ceramic	1	28.06.07	RED	Redware. Red glazing.
183	19	Vessel	Ceramic	1	28.06.07	RED	Redware. Red glazing.
184	19	Vessel	Ceramic	1	28.06.07	RED	Redware. Red glazing.
185	19	Vessel	Ceramic	1	28.06.07	RED	Redware. Red glazing.
186	19	Vessel	Ceramic	1	28.06.07	RED	Redware. Red glazing.
187	19		Copper alloy	1	28.06.07	RED	Badly corroded.
188	19		Iron	1	28.06.07	RED	
189	19		Iron	1	28.06.07	RED	
190	19		Iron	1	28.06.07	RED	
191	19		Iron	3	28.06.07	RED	
192	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl.
193	19	Tobacco Pipe	Ceramic	3	28.06.07	RED	Bowl.
194	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem.
195	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem with heel. Stamped.
196	19	Tobacco Pipe	Ceramic	2	28.06.07	RED	Stem.
197	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem
198	19		Iron	1	28.06.07	RED	
199	19	Tobacco Pipe	Ceramic	4	28.06.07	RED	Stem. Small fragments.
200	19	Vessel	Ceramic	1	28.06.07	RED	Stoneware. White glazing.
201	19		Iron	3	28.06.07	RED	Corroded pieces.
202	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Bowl
203	19	Nail	Iron	1	28.06.07	RED	
204	19		Iron	4	28.06.07	RED	
205	19		Iron	5	28.06.07	RED	
206	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem.
207	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem
208	19		Iron	1	28.06.07	RED	
209	19		Iron	2	28.06.07	RED	
210	19		Iron	1	28.06.07	RED	

Number	Unit	Type	Material	Quant.	Date	ID	Notes
211	19	Tobacco Pipe	Ceramic	2	28.06.07	RED	
212	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem
213	19	Tobacco Pipe	Ceramic	1	28.06.07	RED	Stem
214	33	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem. Decorated.
215	33	nail	Iron	1	30.06.07	RED	Corroded piece.
216	33	nail	Iron	1	30.06.07	RED	Corroded piece.
217	33	nail	Iron	1	30.06.07	RED	Corroded piece.
218	33	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
219	19	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
220	19	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
221	19	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
222	19	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
223	19	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
224	19	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
225	19	Tobacco Pipe	Ceramic	2	30.06.07	RED	Stem.
226	19		Iron	1	30.06.07	RED	Badly corroded.
227	19		Iron	1	30.06.07	RED	Badly corroded.
228	19		Iron	1	30.06.07	RED	Badly corroded.
229	19		Iron	1	30.06.07	RED	Badly corroded.
230	19		Iron	1	30.06.07	RED	Badly corroded.
231	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Sr. Walter Raleigh and the Crocodile. 1630-50.
232	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Bowl. Stamped on heel with DA.
233	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Bowl
234	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem. Decorated.
235	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
236	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
237	21	Tobacco Pipe	Ceramic	3	30.06.07	RED	Stem.

Number	Unit	Type	Material	Quant.	Date	ID	Notes
		o Pipe					
238	21	Vessel	Ceramic	1	30.06.07	RED	Redware. Handle?
239	21	Vessel	Ceramic	5	30.06.07	RED	Stoneware. Westerwald. 17th century.
240	21		Iron	1	30.06.07	RED	corroded piece.
241	21		Iron	1	30.06.07	RED	corroded piece.
242	21		Iron	1	30.06.07	RED	corroded piece.
243	21		Iron	1	30.06.07	RED	corroded piece.
244	21	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem
245	21	Tobacco Pipe	Ceramic	2	30.06.07	RED	Bowl. Broken in two pieces.
246	33	Tobacco Pipe	Ceramic	1	30.06.07	RED	Stem.
247	19		Iron	1	30.06.07	RED	Found in sieve.
248	19		Iron	2	30.06.07	RED	Found in sieve.
249	19		Iron	1	28.06.07	RED	
250	19		Iron	1	28.06.07	RED	
251	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem.
252	19			1	29.06.07	RED	Unknown material and type.
253	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem. Decorated with small incised lines.
254	19	Tobacco Pipe	Ceramic	3	29.06.07	RED	Stem. Broken in three small pieces.
255	19	Tobacco Pipe	Ceramic	4	29.06.07	RED	Stem. Four small pieces.
256	19		Iron	1	29.06.07	RED	Corroded piece.
257	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Small fragment.
258	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Small fragment.
259	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Small fragment.
260	19		Iron	1	29.06.07	RED	Small corroded piece.
261	19		Iron	1	29.06.07	RED	Small corroded piece.
262	19		Iron	1	29.06.07	RED	Small corroded piece.
263	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
264	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl. Whole.
265	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem.

Number	Unit	Type	Material	Quant.	Date	ID	Notes
266	19	Tobacco Pipe	Ceramic	5	29.06.07	RED	Small pieces.
267	19			1	29.06.07	RED	Unknown material and type.
268	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl, whole.
269	19		Iron	3	29.06.07	RED	
270	19	Slag	Iron	1	29.06.07	RED	
271	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
272	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
273	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
274	19	Tobacco Pipe	Ceramic	3	29.06.07	RED	Three small pieces
275	19		Iron	1	29.06.07	RED	
276	19		Iron	1	29.06.07	RED	
277	19		Iron	1	29.06.07	RED	
278	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl. Small piece.
279	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
280	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
281	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl. Broken.
282	19		Stone	1	29.06.07	RED	
283	19	Tobacco Pipe	Ceramic	2	29.06.07	RED	Stem. Decorated.
284	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
285	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Bowl. Broken small piece.
286	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
287	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
288	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
289	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
289	19		Iron	3	29.06.07	RED	Corroded pieces.
290	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem.

Number	Unit	Type	Material	Quant.	Date	ID	Notes
291	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
292	19	Tobacco Pipe	Ceramic	2	29.06.07	RED	Stem
293	19		Iron	1	29.06.07	RED	
294	19		Iron	1	29.06.07	RED	
295	19		Iron	1	29.06.07	RED	
296	19		Iron	0	29.06.07	RED	
297	19	Tobacco Pipe	Ceramic	1	29.06.07	RED	Stem
298	13	Tobacco Pipe	Ceramic	1	06.07.07	RED	Sr.Walter Raleigh and the Crocodile. 1630-50.
299	13	Tobacco Pipe	Ceramic	1	06.07.07	RED	Stem.
300	13	Nail	Iron	1	06.07.07	RED	Corroded piece
301	23	Vessel	Ceramic	1	06.07.07	RED	Redware
302	0	Tobacco Pipe	Ceramic	1	06.07.07	RED	Heel. Unstratified.

List of samples

No	Unit	Grid	Type	Method	ProcessType	Vol_est	Count	Notes
1	6		Bulk	Macro	Floatation	2L		Pollen sample.
2	6		Bulk	Macro	Insects	2L	0	Insect sample
3	6		Bulk	Micro	Insects	100 ml	0	Black beetle
4	6		Block	Macro	Magnetic		0	Pice of slag
5	20		Bulk	Macro	Floatation	2L	0	Pollen sample
6	20		Bulk	Macro	Insects	2l	0	Insect sample
7	6		Bulk	Macro	Identification		0	Black organcic deposit
8	21		Bulk	Macro	Identification		0	Wood for speciation.
9	2		Bulk	Macro	Floatation		0	Slag
10	2		Bulk	Macro	Floatation		0	Slag
11	2		Bulk	Macro	Floatation		0	Slag
12	2		Bulk	Macro	Floatation		0	Slag
13	2		Bulk	Macro	Floatation		0	Slag
14	2		Bulk	Macro	Floatation		0	Slag
15	2		Bulk	Macro	Floatation		0	Slag
16	2		Bulk	Macro	Floatation		0	Slag
17	2		Bulk	Macro	Identification		0	Surtarbrandur/lignite
18	3		Bulk	Macro	Identification		0	Burned bricks
19	21		Bulk	Macro	Identification		0	Burned wood
20	21		Bulk	Macro	Floatation		0	Slag
21	2		Bulk	Macro	Floatation		0	mixed
22	19		Bulk	Macro	Identification	1	0	1 burned bone
23	19		Bulk	Macro	Identification	1	0	1 piece of "surtarbrandur"
24	22		Bulk	Macro	Magnetic	1 bag	0	Slag
25	22		Bulk	Macro	Chemical		0	Burned bricks
26	22		Bulk	Macro	Identification		0	1 piece of "surtarbrandur"
27	19	x1000/y1018	Bulk	Macro	Floatation	1/4	0	Floor deposit. X1000/Y1018
28	19	x999/1018	Bulk	Macro	Floatation	3/3	0	Floor deposit. X999/y1018
29	19	x1001/1018	Bulk	Macro	Floatation	1/2	0	Floor deposit. X1001/1018
30	19	x1001/1019	Bulk	Macro	Floatation	2/2	0	Floor deposit. X1001/1018
31	26		Bulk	Macro	Floatation	1/1	0	Furnace in Smithy
32	27		Bulk	Macro	Floatation	1/1	0	Charcoal and Slag. Fuel
33	19	x1002/1021	Bulk	Macro	Identification	1/1	0	mainly burned bones
34	33	x995/1080	Bulk	Macro	Floatation	3/3	0	Floor in smithy

No	Unit	Grid	Type	Method	ProcessType	Vol_est	Count	Notes
35	19	x1000/y1021	Bulk	Macro	Floatation		0	Possible floor deposit in room a.
36	21		Bulk	Macro	Floatation	1/1	0	Hearth in room a.
37	33	x993/1018	Bulk	Macro	Floatation	2/3	0	Floor in Smithy
38	33	x993/1018	Bulk	Macro	Floatation	1/3	0	Floor in Smithy
39	19	x1000/1022	Bulk	Macro	Floatation	3/3	0	Floor in room a
40	19	x1000/1022	Bulk	Macro	Floatation	2/3	0	Floor in room a
41	19	x1002/1021	Bulk	Macro	Floatation	3/9	0	Floor in room a
42	19	x1002/1021	Bulk	Macro	Floatation	4/9	0	Floor in room a
43	19	x1002/1021	Bulk	Macro	Floatation	2/9	0	Floor in room a
44	19	x1001/1022	Bulk	Macro	Floatation	1/3	0	Floor in room a
45	19	x999/1020	Bulk	Macro	Floatation	1/6	0	Floor in room a
46	19	x999/1020	Bulk	Macro	Floatation	6/6	0	Floor in room a
47	19	x999/1020	Bulk	Macro	Floatation	5/6	0	Floor in room a
48	19	x999/1020	Bulk	Macro	Floatation	2/6	0	Floor in room a
49	19	x999/1020	Bulk	Macro	Floatation	4/6	0	Floor in room a
50	19	x999/1020	Bulk	Macro	Floatation	3/6	0	Floor in room a
51	29		Bulk	Macro	Magnetic	1/1	0	Room C. Smaller furnace
52	28		Bulk	Macro	Floatation	1/1	0	Room C. posthole
53	29		Bulk	Macro	Magnetic	1/1	0	Slag from the bottom of a furnace pit.
54	26		Bulk	Macro	Magnetic	1/1	0	Room C. Larger furnace.
55	27		Bulk	Macro	Floatation	1/1	0	Brick feature
56	19	x1000/y1021	Bulk	Macro	Floatation		0	Floor in room a.
57	19	x999/y1021	Bulk	Macro	Floatation	1/1	0	Floor in room a.
58	19	x999/y1022	Bulk	Macro	Floatation		0	Floor in room a.
59	19	x1018/y1001	Bulk	Macro	Floatation	1/4	0	Floor in room a.
60	19	x1001/y1018	Bulk	Macro	Floatation	2/4	0	Floor in room a.
61	19	x1001/y1018	Bulk	Macro	Floatation	4/4	0	Floor in room a.
62	19	x1001/y1018	Bulk	Macro	Floatation	3/4	0	Floor in room a.
63	19	x999/y1021	Bulk	Macro	Floatation		0	Floor in room a.
64	19	x999/y1019	Bulk	Macro	Floatation	5/7	0	Floor in room a.
65	19	x999/y1019	Bulk	Macro	Floatation	6/7	0	Floor in room a.
66	19	x999/y1019	Bulk	Macro	Floatation	1/7	0	Floor in room a.
67	19	x999/y1019	Bulk	Macro	Floatation	2/7	0	Floor in room a.
68	19	x999/y1019	Bulk	Macro	Floatation	3/7	0	Floor in room a.
69	19	x999/y1019	Bulk	Macro	Floatation	4/7	0	Floor in room a.
70	19	x999/y1019	Bulk	Macro	Floatation	7/7	0	Floor in room a.
71	19	x1002/1022	Bulk	Macro	Floatation		0	Floor in room a.
72	19	x1002/y1021	Bulk	Macro	Floatation	5/9	0	Floor in room a.
73	19	x1002/y1021	Bulk	Macro	Floatation	6/9	0	Floor in room a.

No	Unit	Grid	Type	Method	ProcessType	Vol_est	Count	Notes
74	19	x/1002/y1021	Bulk	Macro	Floatation	1/9	0	Floor in room a.
75	19	x/1002/y1021	Bulk	Macro	Floatation	8/9	0	Floor in room a.
76	19	x/1002/y1021	Bulk	Macro	Floatation	7/9	0	Floor in room a.
77	19	x/1002/y1021	Bulk	Macro	Floatation	9/9	0	Floor in room a.
78	19	x/1002/y1021	Bulk	Macro	Floatation		0	Floor in room a.
79	19	x/1002/y1022	Bulk	Macro	Floatation	6/11	0	Floor in room a.
80	19	x/1002/y1022	Bulk	Macro	Floatation	4/11	0	Floor in room a.
81	19	x/1002/y1022	Bulk	Macro	Floatation	7/11	0	Floor in room a.
82	19	x/1002/y1022	Bulk	Macro	Floatation	3/11	0	Floor in room a.
83	19	x/1002/y1022	Bulk	Macro	Floatation	8/11	0	Floor in room a.
84	19	x/1002/y1022	Bulk	Macro	Floatation	2/11	0	Floor in room a.
85	19	x/1002/y1022	Bulk	Macro	Floatation	9/11	0	Floor in room a.
86	19	x/1002/y1022	Bulk	Macro	Floatation	1/11	0	Floor in room a.
87	19	x/1002/y1022	Bulk	Macro	Floatation	10/11	0	Floor in room a.
88	19	x/1002/y1022	Bulk	Macro	Floatation	11/11	0	Floor in room a.
89	19	x/1001/y1018	Bulk	Macro	Floatation	8/12	0	Floor in room a.
90	19	x/1001/y1018	Bulk	Macro	Floatation	1/12	0	Floor in room a.
91	19	x/1001/y1018	Bulk	Macro	Floatation	2/12	0	Floor in room a.
92	19	x/1001/y1018	Bulk	Macro	Floatation	3/12	0	Floor in room a.
93	19	x/1001/y1018	Bulk	Macro	Floatation	4/12	0	Floor in room a.
94	19	x/1001/y1018	Bulk	Macro	Floatation	5/12	0	Floor in room a.
95	19	x/1001/y1018	Bulk	Macro	Floatation	6/12	0	Floor in room a.
96	19	x/1001/y1018	Bulk	Macro	Floatation	9/12	0	Floor in room a.
97	19	x/1001/y1018	Bulk	Macro	Floatation	7/12	0	Floor in room a.
98	19	x/1001/y1018	Bulk	Macro	Floatation	10/12	0	Floor in room a.
99	19	x/1001/y1018	Bulk	Macro	Floatation	8/12	0	Floor in room a.
100	19	x/1001/y1018	Bulk	Macro	Floatation	1/12	0	Floor in room a.
101	19	x/1001/y1018	Bulk	Macro	Floatation	12/12	0	Floor in room a.
102	0		Bulk	Macro	Floatation		0	Brick oven in room b.
103	19	x/1000/y1018	Bulk	Macro	Floatation	2/4	0	Floor in room a. No. 27b in registry.
104	19	x/1000/y1018	Bulk	Macro	Floatation	3/4	0	Floor in room a. No. 27c in registry.
105	19	x/1000/y1018	Bulk	Macro	Floatation	4/4	0	Floor in room a. No. 27d in registry.
106	19	x/999/y1018	Bulk	Macro	Floatation	1/3	0	Floor in room a. No. 28b in registry.
107	19	x/999/y1018	Bulk	Macro	Floatation	2/3	0	Floor in room a. No. 28c in registry.

List of bones

No	Grid	Unit	Process	Volume	No_bag	Count	Notes
1		1	Identification	1		1	Whale bone (bægsli/fin)
2		9	Identification	1		1	Whale bone
3		1	Identification	1		0	Several pieces of the same bone
4		19	Identification	1		1	Burned whale bone.

5.2 Hrótey

List of Archaeological units

Code	Area	Phase	Unit	Type	Descript.	Text	Interpretation
HRE07	A		101	Dep	Surface	Topsoil	Surface
HRE07	A	1	102	Cut	Test-trench	Test trench from 2007. 2 x 4.	Tilraunaskurður
HRE07	A	2	103	Stone	Stone	Collapse from walls outside the building	Collapse
HRE07	A	2	104				
HRE07	A	2	105	Dep.	Soil	Black/red turf dep. Cut by [102]	Inside the building
HRE07	A	2	106	Stone	Stone	A pile of stones inside the building under 103.	Hrun innan í rústinni.
HRE07	A	2	107	Dep.	Soil	Aeolian dep. Mixed with turf.	Collapse on the inside of the building.
HRE07	A	2	108	Dep	Soil	Black and red turf dep. Cut by [102]	Collapse inside the building
HRE07	A	2	109	Lag	Soil	Torflönduð mold, brúnleit að lit.	Hrun innan í rústinni
HRE07	A	3	110	Lag	Yfirborð	Svart/gátt lag innan í rústinni.	Gólfag
HRE07	A	3	111	Veggur	Steinn	Um meters breiðir veggir byggðir úr torfi og grjóti.	Veggir
HRE07	A	3	112	Skorið	Hola	1 x 1 metra grunn hola í suðurenda byggingarinnar.	Eldstæði
HRE07	A	3	113	Lag	Jarðvegur	Upphækkun í suðvestur hluta byggingarinnar.	Flet
HRE07	A	3	114	Skorið	Stoðarhola	Hola grafin fyrir miðri byggingunni.	Miðstoð
HRE07	A	3	115	Skorið	Hola	Hola grafin við vestur vegginn að innanverðu.	Óvíst
HRE07	A	3	116	Skorið	Steinn	Hola hoggin í stein fyrir miðjum norðurgaflinum	Miðstoð við norðurgafli.
HRE07	A	3	117	Filling	Mulningur	Fíngerð mól undir byggingunni.	Fylling til að byggja húsið á
HRE07	A	4	118	Steinn	Yfirborð	Náttúrleg klöpp undir [117].	Óhreyft

5.3 Sauratún

List of archaeological units

Site Code	Svæði	Nr.	Hnit	Tegund	
Sau	SV	1	100-102	Jarðlag	Yfirborðslag.
Sau	SV	2	100-102	Jarðlag	Fokmold á öllu svæðinu.
Sau	SV	3	101-100	Jarðlag	Fokmold inn í rústinni.
Sau	SV	4	100-100	Mannvirki	Veggur í suðvesturhluta svæðisins.
Sau	SV	5	101-101	Jarðlag	Kolalag í eldstæði.
Sau	Sv	6	101-101	Jarðlag	Fint kolalag í fyrir framan eldstæðið. Að hluta til undir 5. Gólf
Sau	SV	7	101-101	Jarðlag	Ruslslag undir vegg. Afmarkað.
Sau	Sv	8	100-100	Jarðlag	Ruslslag fyrir utan vegg, vestanmegin. Ógrafið 2002.
Sau	NE	9	102-104	Jarðlag	Fokmold. Sama og nr.2
Sau	NE	10	102-104	Jarðlag	Fylling í holu sem grafin hefur verið til að mynda verbúðina. (Fylling í 12)
Sau	NE	11	102-104	Jarðlag	Sama og 10.
Sau	Öll	12		Skurður	Niðurgroftur fyrir búðina.
Sau	NE	13	103-104	Mannvirki	Mannvirki norðan búðarinnar.
Sau	NE	14	102-100	Jarðlag	Hrún úr mannvirki nr. 13.
Sau	NW	15	102-100	Jarðlag	Hrun úr vegg nr. 16.
Sau	NW-NE	16	102-104	Mannvirki	Nyrðri veggur búðarinnar.
Sau	NW	17	100-102	Jarðlag	Hrun úr búðarveggjum.
Sau	NW	18	102-102	Jarðlag	Ruslslag undir nyrðri hluta búðarinnar. Ógrafið árið 2002.
Sau		19		Strúktúr	Eldstæði

5.4 Skálavík

Finds

Date	X	y	Material	Type	Unit	Age	Finds no	Notes
8.7.2002	102	102,5	Ceramic	óþekkt	1	1880-1940	1	
8.7.2002	102	102,5	Glass	óþekkt	2	1880-1940	2	
8.7.2002	102	102,5	Fe	nail	2	óþekkt	3	
8.7.2002	102	100	Fe	nail	2	óþekkt	4	
8.7.2002	102	100	Fe	nail	2	óþekkt	5	
9.7.2002	102	100	Glass	óþekkt	2	1880-1940	6	
9.7.2002	102	100	Fe	nail	4	óþekkt	7	
9.7.2002	100	102	Ceramic	óþekkt	3	1880-1940	8	
9.7.2002			Fe	óþekkt	3	óþekkt	9	
10.7.2002			Fe	nail	6	óþekkt	10	3 pieces
10.7.2002			óþekkt	óþekkt	6	óþekkt	11	
10.7.2002			Fe	needle	6	óþekkt	12	
10.7.2002			Glass	bottle	8	1880-1940	13	

10.júl	102	100	Glass	óþekkt	4	1880-1940	14	
10.7.2002			Glass	Windowglass	8	1880-1940	15	2 pieces
10.7.2002			Glass	óþekkt	8	1880-1940	16	
11.7.2002			Fe	óþekkt	11	1880-óþekkt	17	
11.7.2002			Ceramic	cup	11	1880-1940	18	
11.7.2002			Fe	Nail	11	1880-óþekkt	19	
11.7.2002			Ceramic	píbe	11	1600-1900	20	Head of a píbe
10.7.2002			birchwood	óþekkt	17	óþekkt	21	
11.7.2002			Wood	óþekkt	11	óþekkt	22	
11.7.2002			Wood	óþekkt	11	óþekkt	23	
11.7.2002			Wood	óþekkt	11	óþekkt	24	

5.5 Vatnsfjörður

Finds

Finds no.	Unit	Type	Material	Quant.	Date.	Notes
1	39		Iron	1	9.6.2004	Modern iron.
2	39		Ceramic	1	9.6.2004	1 piece. Whiteware.
3	40		Bone	1	10.6.2004	1 rib. Whalebone.
4	40		Stone	1	10.6.2004	1 piece of red stone. Possibly not a find.
5	40		Stone	4	11.6.2004	4 pieces. Unknown material.
6	41		Bone	1	21.6.2004	Whalebone. Possibly structural.
7	48	Nail	Iron	1	21.6.2004	Corroded.
8	48	Nail	Iron	1	21.6.2004	Corroded.
9	48	Nail	Iron	1	21.6.2004	Corroded.
10	48	Nail	Iron	1	21.6.2004	Corroded.
11	48	Nail	Iron	1	21.6.2004	Corroded.
12	48	Nail	Iron	1	21.6.2004	Corroded.
13	48	Nail	Iron	1	21.6.2004	Corroded.
14	48	Hinge	Iron	1	21.6.2004	Corroded.
15	48	Nail	Iron	1	22.6.2004	Corroded.
16	48		Iron	1	22.6.2004	Corroded.
17	48	Bead	Glass	1	22.6.2004	Yellow, double bead.
18	63	Nail	Iron	1	24.6.2004	Corroded.
19	64		Iron	1	24.6.2004	Corroded.
20	64	Nail	Iron	1	24.6.2004	Corroded.
21	65		Iron	1	24.6.2004	Inside pink layer.
22	64		Iron	1	24.6.2004	Round object.
23	64	Nail	Iron	1	24.6.2004	
24	48		Iron	1	24.6.2004	Roundish.
25	64		Shell	1	24.6.2004	
26	64		Bone	1	23.6.2004	
27	48	Slag	Iron	1	24.6.2004	
28	48		Iron	1	25.6.2004	
29	48		Iron	1	25.6.2004	Roundish object.

30	48		Iron	1	25.6.2004	Corroded
31	64		Iron	1	25.6.2004	Corroded
32	65	Nail	Iron	1	25.6.2004	
33	65		Iron	1	25.6.2004	
34	65		Iron	1	25.6.2004	Corroded
35	65	Slag	Iron	1	25.6.2004	
36	48		Iron	1	25.6.2004	
37	48		Iron	1	25.6.2004	
38	48		Iron	1	25.6.2004	
39	48		Iron	1	25.6.2004	
40	48		Iron	1	25.6.2004	
41	48		Iron	1	25.6.2004	
42	48		Iron	1	25.6.2004	
43	48		Iron	1	25.6.2004	
44	48		Iron	1	25.6.2004	
45	48		Iron	1	25.6.2004	
46	48		Iron	1	25.6.2004	
47	48		Iron	1	25.6.2004	
48	48		Iron	1	25.6.2004	
49	48		Iron	1	25.6.2004	
50	48		Iron	1	18.6.2004	
51	48		Iron	1	18.6.2004	
52	48		Iron	1	25.6.2004	
53	48		Iron	1	25.6.2004	
54	48	Nail	Iron	1	17.6.2004	
55	48	Nail	Iron	1	25.6.2004	
56	65		Iron	1	25.6.2004	
57	65		Iron	1	25.6.2004	
58	65	Nail	Iron	1	25.6.2004	
59	65		Iron	1	25.6.2004	
60	65		Iron	1	25.6.2004	
61	65		Iron	1	25.6.2004	
62	48		Iron	1	25.6.2004	
63	48		Iron	1	25.6.2004	
64	48		Iron	1	25.6.2004	
65	48		Iron	1	25.6.2004	
66	65		Iron	1	28.6.2004	
67	48		Iron	1	25.6.2004	
68	48	Nail	Iron	1	18.6.2004	
69	48		Iron	1	18.6.2004	
70	48		Iron	1	18.6.2004	
71	48		Iron	1	28.6.2004	
72	48		Iron	1	28.6.2004	
73	48	Nail	Iron	1	28.6.2004	
74	67	Bead	Bone	1	28.6.2004	Circular object with a hole.
75	48		Iron	1	28.6.2004	
76	0		Iron	1	28.6.2004	Surface find.
77	63		Iron	1	28.6.2004	
78	48	Nail	Iron	1	29.6.2004	
79	48	Slag	Iron	1	29.6.2004	
80	48	Nail	Iron	1	29.6.2004	

81	48	Nail	Iron	1	29.6.2004	
82	57	Nail	Iron	1	29.6.2004	
83	0			0		
84	74	Slag	Iron	1	30.6.2004	
85	70		Iron	1	30.6.2004	
86			Bone	1	30.6.2004	Badly damaged.
87	69		Iron	1	30.6.2004	
88	72		Iron	3	30.6.2004	
89	70	Whetstone	Stone	1	30.6.2004	
90	70		Iron	1	30.6.2004	
91	74	Slag	Iron	1	30.6.2004	
92	74	Hinge	Iron	1	30.6.2004	Corroded.
93	74	Nail	Iron	1	1.7.2004	
94	74		Iron	1	1.7.2004	
		Spindle				
95	74	Whorl	Stone	2	1.7.2004	Made of red stone.
96	74		Iron	1	1.7.2004	
97	74		Flint	1	1.7.2004	
98	74		Iron	1	1.7.2004	
99	74		Iron	1	1.7.2004	
						Found during final cleaning under [74]
100			Iron	1	1.7.2004	
101	74	Loomweight	Stone	1	2.7.2004	
102	74	Loomweight	Stone	1	2.7.2004	
		Fish				
103	74	Hammer	Stone	1	2.7.2004	

List of Units

Code	Number	Type	Description
VSF04	39	Deposit	Topsoil
VSF04	40	Deposit	Mixed turf debris. Inside structure
VSF04	41	Deposit	Mixed turf debris. Outside structure.
VSF04	42	Deposit	Reddish brown mix/inside structure
VSF04	43	Deposit	Reddish brown/similar to 42.
VSF04	44	Deposit	Pinkish turf layer w/charcoal flakes
VSF04	45	Deposit	Pinkish turf/ Similar to 44.
VSF04	46	Deposit	Pinkish turf/similar to 45 and 44.
VSF04	47	Deposit	Pinkish turf/similar to 44, 45 and 46.
VSF04	48	Deposit	Black floor deposit/Charcoal. Upper layer
VSF04	49	Deposit	Brown/Yellowish, white patches. Mix.
VSF04	50	Deposit	Pinkish turf layer with charcoal patches.
VSF04	51	Deposit	Gray gravel, fill of a hole. Post hole?
VSF04	52	Cut	Cut for 51.
VSF04	53	Deposit	White/Brown turf mix.
VSF04	54	Deposit	Turf collapse grayish brown.
VSF04	55	Deposit	Turfmix between walls in entrance
VSF04	56	Deposit	Brownish/grey with white specks.
VSF04	57	Deposit	Wall material/ wall of earlier structure.
VSF04	58	Deposit	Dark brown w/grey patches
VSF04	59	Deposit	Mixed deposit/ outside structure.

VSF04	60	Deposit	Redish brown deposit in depression
VSF04	61	Deposit	Pinkish deposit
VSF04	63	Deposit	Greyish layer with brown/white patches
VSF04	64	Deposit	White turf collapse inside small building
VSF04	65	Deposit	Thin pinkish layer on top of [48]
VSF04	66	Deposit	Gravel on top of south "skáli" wall
VSF04	67	Deposit	Charcoal in south end of skáli. Floor
VSF04	68	Group	Stone structure in the S. End of skáli.
VSF04	69	Deposit	Fill in the older entrance
VSF04	70	Deposit	Pinkish layer on top of charcoal floor
VSF04	71	Cut	Cut
VSF04	72	Deposit	Whitish grey layer inside hearth.
VSF04	73	Deposit	Black charcoal layer outside skáli.
VSF04	74	Cut	Posthole in panel trench
VSF04	75	Cut	Posthole in panel trench
VSF04	76	Cut	Posthole in panel trench
VSF04	77	Cut	Panel trench
VSF04	78	Cut	Panel trench
VSF04	79	Group	Longhouse wall
VSF04	80	Deposit	Stone structure in troth
VSF04	81	Group	Troth (layers 75, 76, 77, 88)
VSF04	82	Cut	Doorpost
VSF04	83	Cut	Doorpost
VSF04	84	Group	Doorposts in north entrance
VSF04	85	Group	Postpads
VSF04	86	Group	Postholes
VSF04	87	Group	Layers 81,82,85
VSF04	88	Group	Layers 83,84,86.
VSF04	89	Cut	Circular cut north of hearth (1)
VSF04	90	Deposit	Glacier gravel/ Virgin soil
VSF04	91	Deposit	Pavement in north end.
VSF04	92	Group	South entrance
VSF04	93	Deposit	Black charcoal layer, inside.
VSF04	94	Deposit	Top sediment layer in troth.
VSF04	95	Deposit	Middle sediment layer in troth
VSF04	96	Deposit	Lowest sediment layer in troth
VSF04	97	Group	Stone structure in troth.
VSF04	98	Group	Hearth in structure (phase 2)
VSF04	99	Group	Hearth in longhouse (phase 1)
VSF04	100	Cut	Posthole in panel trench

Samples

SampleNo	No	Grid	SampleType	SampleMethod	ProcessType	Vol_est	Count
1		40	Bulk	Macro	Wet sieving	10	1
2		41	Bulk	Macro	Wet sieving	10	1
3		42	Bulk	Macro	Wet sieving	10	1
4		43	Bulk	Macro	Wet sieving	10	1
5		45	Bulk	Macro	Wet sieving	10	1
6		51 875/1055	Bulk	Macro	Wet sieving	10	1
7		50 875/1055	Bulk	Macro	Wet sieving	10	1

8	54	875/1055	Bulk	Macro	Wet sieving	10	1
9	49	875/1055	Bulk	Macro	Wet sieving	10	1
10	56	880/1065	Bulk	Macro	Wet sieving	10	1
11	60	875/1060	Bulk	Macro	Wet sieving	10	1
12	63		Bulk	Macro	Wet sieving	10	1
13	61	875/1060	Bulk	Macro	Wet sieving	10	1
14	64	875/1065	Bulk	Macro	Wet sieving	10	1
15	65		Bulk	Macro	Wet sieving	10	1
16	48	879/1065	Bulk	Macro	Wet sieving	10	1
17	48	878/1065	Bulk	Macro	Wet sieving	10	1
18	48	877/1058	Bulk	Macro	Wet sieving	10	1
19	48	880/1064/1063	Bulk	Macro	Wet sieving	10	1
20	48	876/1060	Bulk	Macro	Wet sieving	10	1
21	48	879/1066	Bulk	Macro	Wet sieving	30	3
22	48	8761063/1062	Bulk	Macro	Wet sieving	10	1
23	48	880/1061/1062	Bulk	Macro	Wet sieving	10	1
24	48	878/1066	Bulk	Macro	Wet sieving	10	1
25	48	876/877/1061	Bulk	Macro	Wet sieving	10	1
26	48	876/1063	Bulk	Macro	Wet sieving	10	1

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