

Myrkárdalur in Hörgárdalur, N. Iceland:
Brief Summary of the 2008/2009 Archaeofauna.

Ramona Harrison

*CUNY Human Ecodynamics Research Center
CUNY Northern Science and Education Center*



NORSEC/ HERC

Brooklyn College Zooarchaeology Laboratory
Hunter College Bioarchaeology Laboratory
CUNY Doctoral Program in Anthropology

HERC/NORSEC Zooarchaeology Laboratory REPORT No.57

September 2011

ramona.harrison@gmail.com

Introduction

In summer of 2008 and 2009, an excavation team led by the author and Howell M. Roberts (FSI) investigated the potential for midden remains at Myrkárdalur, a farm ruin site situated in a highland area in the most interior part of a minor valley system in Hörgárdalur, Eyjafjörður. The results of these exercises were two small collections of archaeological materials from two middens of the post-medieval and Early Modern Periods. The results of zooarchaeological analysis are presented here, with a very limited discussion on potential site economy. While the ruins visible in the landscape are likely from the medieval period and are reminiscent of medieval corridor houses from Greenland, faunal remains are from a later point in time and indicative of a long term use of this area, at least in terms of structural remains from the early 20th c. still standing. Today, this area is frequented by fox hunters and the land used by the nearest farm further down the valley.

Myrkárdalur project as part of larger regional Research History

- 2001–2006: Gásir; Howell M. Roberts (FSÍ) excavation of the high medieval (13th to early 15th centuries) trading site and its merchant's church (2004 and 2006, by Orri Vésteinsson, FSÍ) (i.e. Roberts et al 2002, 2006, 2009, Vésteinsson 2009, Vésteinsson in. Roberts et al. 2006, 2009, Vésteinsson et al. in press, Harrison et al 2008, Harrison 2009, Harrison 2006).
- 2004-2006: Skriðuhreppur; Regional surveys by FSÍ staff members, directed by Elín Ó. Hreiðarsdóttir (Hreiðarsdóttir et al. 2008).
- 2006: Möðruvellir; H. M. Roberts and Ramona Harrison (CUNY), excavation of an evaluation trench into the Midden Mound (Öskuhóll) adjacent to the Möðruvellir Farm Mound (Harrison and Roberts 2006, Harrison 2007). This project builds on work done by Orri Vésteinsson's expanded archaeological survey and site registration (Vésteinsson, 2001).
- 2007: Möðruvellir; H. M. Roberts and R Harrison; extension of the evaluation trench opened in 2006 (Harrison and Roberts 2007, Harrison. 2008a)
- 2008 – 2009: Gásir Hinterlands Project (GHP), directed by R. Harrison (2009) and H.M. Roberts (2008). Program of midden prospecting, testing and excavation. Sites

producing archaeofaunal remains: Möðruvellir (continuation), Skuggi, Oddstaðir, and Myrkárdalur; all in Hörgárdalur (Harrison 2008b, Harrison et al. 2010).

The **Gásir Hinterlands Project**, mainly funded through a **Dissertation Improvement Grant through the US National Science Foundation** (OPP ARC 0809033, PI: Harrison), is aimed at improving our understanding of the interactions of local farming strategies affected by changing climate and ongoing human impact with medieval overseas trade and long-distance exchange centered on Gásir. GHP also focuses on the long term human ecodynamics in this historically important part of Iceland, contributing to the reconstruction of a detailed historical ecology of Eyjafjörður from first settlement down to modern times.

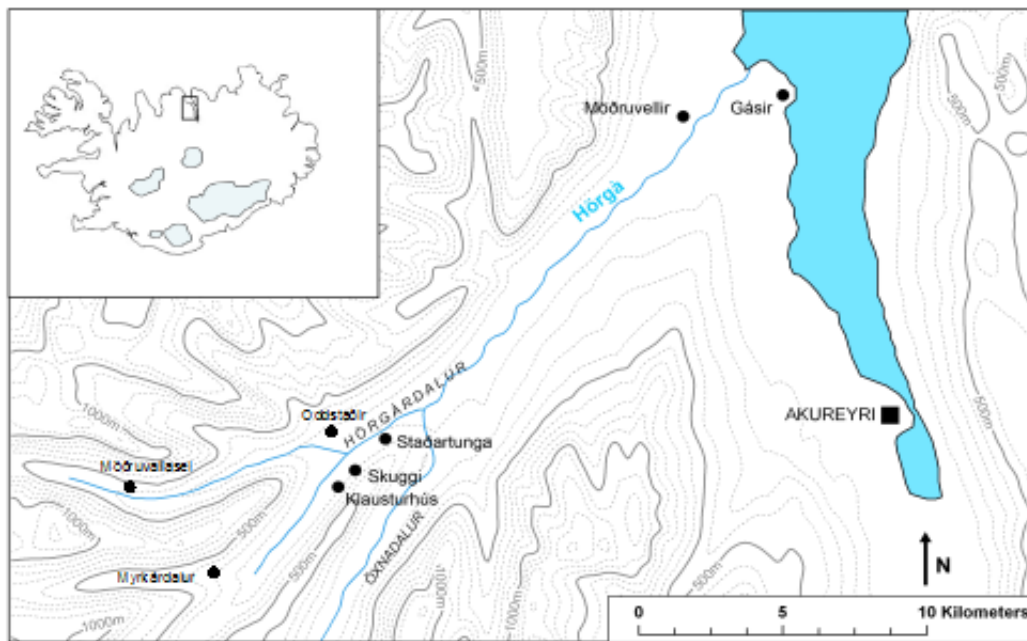


Figure 1. Map of Iceland, locating Myrkárdalur, Skuggi, Möðruvellir in Hörgárdalur, and Gásir, located at a coastal inlet in Eyjafjörður (Orig. Map: Streeter, edited by author)..

Materials and Methods

All the Myrkárdalur midden materials were dry-sieved through 4 mm mesh and where applicable materials were targeted for whole-soil sampling for post-excavation analysis, in accordance with NABO recommendations to study plant remains, industrial activities, and other aspects of the site formation process.

The faunal materials were processed at the CUNY Northern Science & Education Center (NORSEC) laboratories in New York City and Brooklyn. Recording and data curation followed the NABONE protocols followed for other archaeofauna from Iceland, Faroes, Greenland, and northern Norway (NABONE, 2009, see www.nabohome.org for downloadable version 9). Following widespread North Atlantic tradition, bone fragment quantification makes use of the Number of Identified Specimens (NISP) method (Grayson 1984). Mammal measurements follow von den Driesch, (1976) and von den Driesch & Boessneck (1974), fish metrics follow Wheeler and Jones (1989) fish identifications follow FISHBONE 1.1 (2004, also at www.nabohome.org), bird identifications follow Cohen and Serjeantson (1996, 2nd Ed.),and Serjeantson (2009) and sheep/goat distinctions follow Boessneck, (1969) and Mainland and Halstead (2005), and Zeder and Pilaar (2010). Tooth-wear stage studies follow Grant (1982) and long-bone fusion stage calibrations follow Reitz and Wing (1999), with overall presentation of age reconstruction following Enghoff (2003).

Location

The Myrkárdalur farm ruin lies on 280 m ASL and is located at the end of a valley named after the river Myrká. The early farm ruin is clearly visible despite the overgrowth of grass: several rooms are connected through a central corridor, reminiscent of medieval houses from Greenland. A landslide in the 14th century destroyed part of the farm and the occupants were forced to move

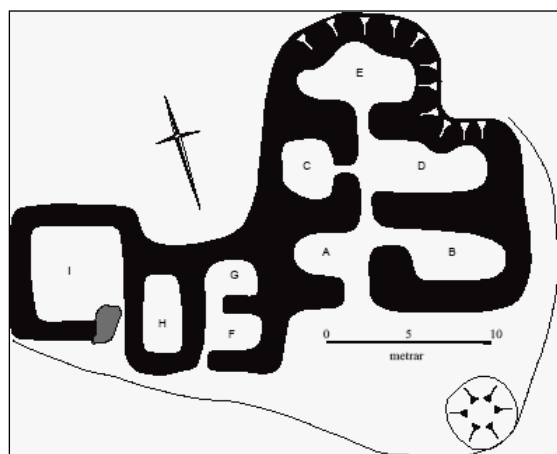


Figure 2. Myrkárdalur ruin, survey plan (Hreiðarsdóttir 2008, p 178).

further west, where several more recent ruins are present (sources cited in Hreiðarsdóttir 2008:178). Myrkárdalur was abandoned in 1955 and the grazing land has since been used by the nearest farm to the east and down the valley: Myrkárbakki. A number of ruins present either as standing structures or overgrown ruins on the Myrkárdalur home field provide a partial overview of its settlement history from the middle ages through the 1950s

Trench 1/TR1

In 2008, the more westerly hillock of the two possible midden locations, just south east of the medieval farm ruin (indicated on the survey plan in figure 2) was test trenched and found to consist of predominantly structural debris (see Harrison 2008b for a more detailed report on the Myrkárdalur 2008 coring and test trenching activities). TR1 measured 1 m (west to east) by 1 m (north to south) and less than 0.5 m in overall depth.



Figure 3. Coring at the hillock south of TR1 (indicated by red circle). Picture faces ENE.

Trench 2/TR2

In 2009, upon systematic coring of the entire Myrkárdalur perimeter, a very promising looking area to the south of the medieval structure and the two associated hillocks was detected. Figure 3 shows the hillock cored and subsequently trenched in 2009 in relationship to the medieval structural remains and the small midden trenched in 2008. The team decided to put a small test trench into the mound. The Myrkárdalur Trench 2 (TR2) measured 1 m in width (west to east) and 4 m in length (south to north).

Relative Dating evidence

Trench 1/TR1

According to Lucas (2010), this trench contains pottery (i.e. blue painted tin-glazed earthenware, glazed red earthenware cooking pot) and glass artifacts (i.e. green vessel glass, possible mirror fragment) of types tentatively grouping these archaeological remains to the 17th/18th c.



Figure 4 - MYÖ09 TR 2, context 203, finds no 16, Raeren Stoneware jug handle, dated to late 16/17th century (Lucas 2010).

Trench 2/TR2

One of the artefacts recovered from TR 2 was a Raeren stoneware jug handle (context 203), placing the midden contents into the late 16th or early 17th centuries AD. (Lucas, 2010). Myrkárdalur midden TR2 produced a number of animal bones and artefacts datable to the Icelandic post-medieval period, roughly placing the contents into the late 16th to early 17th centuries.

While the two archaeological sets were loosely placed into two slightly different time periods, they can be viewed as materials from the post-medieval – Early Modern times, likely deposited some time during the late 16th to early 18th centuries.

The Myrkárdalur archaeofauna

The faunal collections from TR1 and TR2 are very small and only allow for basic presence and absence discussions.

NISP (number of identified specimens) refers to all fragments that could be identified to a useful level. TNF is a count of all bone fragments (identifiable or not), MTM is “medium terrestrial mammal” (sheep-dog-pig sized), LTM is “large terrestrial mammal” (cattle-horse sized), MM is an “unidentifiable marine mammal” (i.e. whale, dolphin, walrus, seal), UNIM or unidentified mammal are small fragments that cannot be identified beyond this broad category. UNI or unidentifiable bone fragments simply indicate the existing degree of erosion.

TR 1 had a **NISP** of **178** out of a TNF of 485. TR 2 contained a **NISP** of **309** of a TNF of 1,921. As indicated by the Element Counts in table 1, the majority of analyzed domesticate elements were of ovi/caprines, comprising 55 % of the total TR 1 NISP, and 43 of that from TR 2. For both trenches, about 5 % of the total percentage are made up by cattle elements, with one pig element (0.56 %) collected during the TR 1 excavation.

Four goat elements could be analyzed from the TR 2 collection, indicating that these animals were still utilized by the Myrkárdalur farm in the late 16th – early 17th c. One horse element from TR 1 (0.56 % NISP) and 4 from TR 2 (1,29 % NISP) complete the domesticate assemblage count.

With the exception of one seal element from TR1, no other wild mammals were identified from the site.

TR 2 contained one element each of Ptarmigan, Swan, and Auk bird, and three unidentified bird elements, with no birds analyzed from TR 1.

Both trenches contained some Gadid fishes, namely Cod (< 2% NISP), Haddock (8 – 10 % NISP), and Saithe (< 1% NISP). Unidentified marine fish elements made up the largest proportion of the Fish category (TR 1: 26 % NISP; TR 2: 33 % NISP).

A few clam species and unidentified mollusk fragments complete the Myrkárdalur fauna distribution list.

Overview of Species Present

| Myrkárdalur TR 1 / TR2 Element Counts | Area | | | | |
|--|----------------------------|--------------------|---|--------------------|------------|
| | Trench1/TR1 (ca 17/18th c) | Trench1/TR1 NISP % | Trench 2/TR2 (late16th - early 17th c.) | Trench 2/TR2NISP % | Total NISP |
| Domestic mammals | | | | | |
| Cow (<i>Bos taurus</i> (L.)) | 9 | 5.06 | 13 | 4.21 | 22 |
| Horse (<i>Equus caballus</i> (L.)) | 1 | 0.56 | 4 | 1.29 | 5 |
| Pig (<i>Sus scrofa</i> (L.)) | 1 | 0.56 | | | 1 |
| Goat (<i>Capra hircus</i> (L.)) | | | 4 | 1.29 | 4 |
| Sheep (<i>Ovis aries</i> (L.)) | 4 | 2.25 | 6 | 1.94 | 10 |
| Unidentified caprine | 93 | 52.25 | 122 | 39.48 | 215 |
| Total caprine | 97 | 54.49 | 132 | 42.72 | 229 |
| Total domestic | 108 | 60.67 | 149 | 48.22 | 257 |
| Wild Mammals | | | | | |
| Unidentified seal species | 1 | 0.56 | | | 1 |
| Total seal | 1 | 0.56 | | | 1 |
| Total wild mammal | 1 | 0.56 | | | 1 |
| Birds | | | | | |
| Auk species (Alcid sp.) | | | 1 | 0.32 | 1 |
| Swan (<i>Cygnus</i> species) | | | 1 | 0.32 | 1 |
| Ptarming (<i>Lagopus muta</i>) | | | 1 | 0.32 | 1 |
| Unidentified bird species | | | 3 | 0.97 | 3 |
| Total bird | | | 6 | 1.94 | 6 |
| Fish | | | | | |
| Cod (<i>Gadus morhua</i> (L.)) | 2 | 1.12 | 6 | 1.94 | 8 |
| Haddock (<i>Melanogrammus aeglefinus</i> (L.)) | 14 | 7.87 | 32 | 10.36 | 46 |
| Saithe (<i>Pollachius virens</i> (L.)) | 1 | 0.56 | 3 | 0.97 | 4 |
| Gadid species | 3 | 1.69 | 7 | 2.27 | 10 |
| Marine fish non-speciated | 47 | 26.40 | 101 | 32.69 | 148 |
| Total fish | 67 | 37.64 | 149 | 48.22 | 216 |
| Mollusca | | | | | |
| Clam sp. (<i>Mya</i> sp.) | 2 | 1.12 | 2 | 0.65 | 4 |
| Unidentified mollusc species | | | 3 | 0.97 | 3 |
| Total mollusca | 2 | 1.12 | 5 | 1.62 | 7 |
| Total Number of Identified Species (NISP) | 178 | 100.00 | 309 | 100.00 | 487 |
| Large terrestrial mammal | 23 | | 13 | | 36 |
| Medium terrestrial mammal | 126 | | 176 | | 302 |

| | | | | | |
|--|------------|--|--------------|--|-------------|
| Uni. terrestrial mammal fragments | 158 | | 1,422 | | 1580 |
| Unidentified marine mammal fragments | | | 1 | | 1 |
| Total number of fragments (TNF) | 485 | | 1,921 | | 2406 |

Table 1. Myrkárdalur NISP table.

Major Taxa Summary

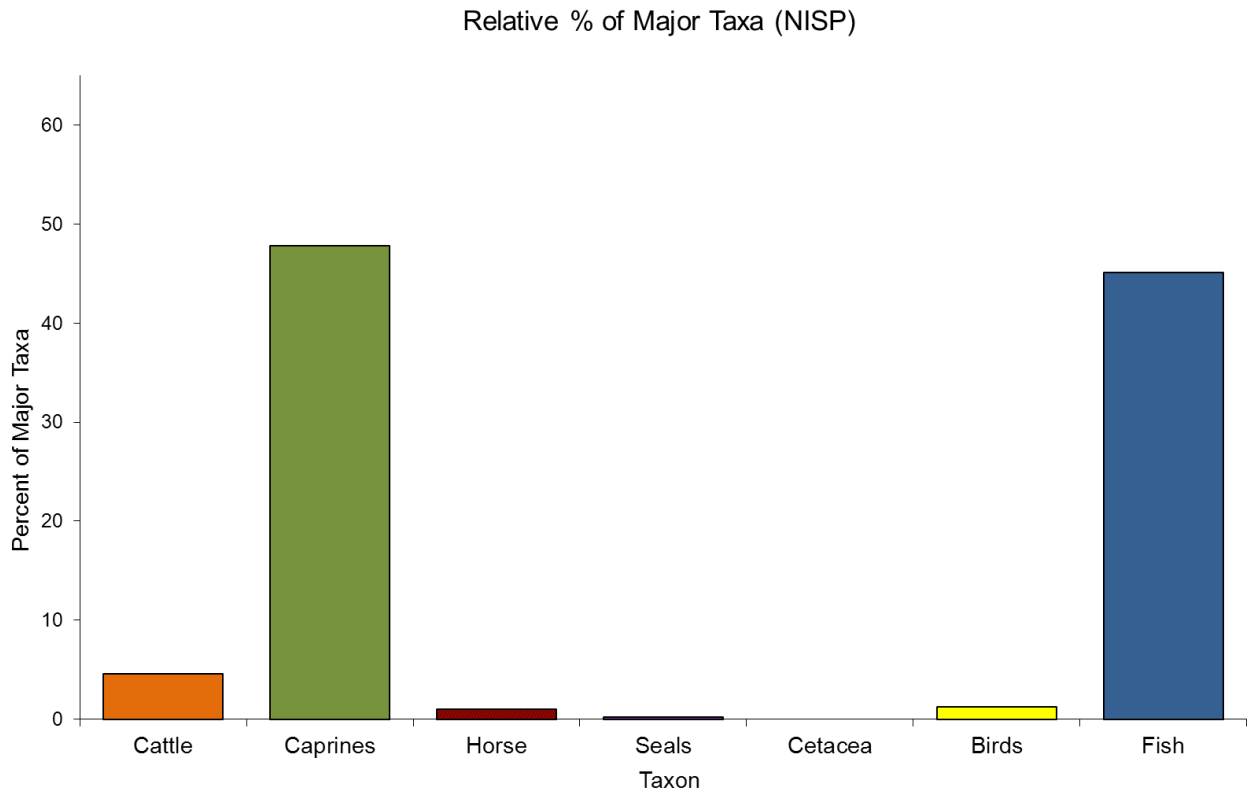


Figure 5. Total Myrkárdalur Major Taxa distribution

The graph in figure 5 presents relative % of all Myrkárdalur Major Taxa, indicating a dominance in sheep/goat (caprine) elements analyzed. The bar representing the fish taxon includes unidentifiable fish remains and therefore has not as much analytical weight as if it represented fish remains analyzed to family or species level. Since all the Myrkárdalur fish elements were found to be from marine species, these were nevertheless included here. This graph summarizes the findings from table 1; this time the faunal materials from both trenches were lumped together.

Domestic Mammals

Table 2 presents the percentages of the domestic mammal assemblage by area.

| <i>Scientific Names</i> | <i>English Common Names</i> | % NISP | | | |
|-------------------------|-----------------------------|------------|-------------|------------|-------------------|
| | | Trench/TR1 | Trench/TR 1 | Trench/TR2 | % NISP Trench/TR2 |
| Bos taurus dom. | cattle | 9 | 8 | 13 | 9 |
| Equus caballus | horse | 1 | 1 | 4 | 3 |
| Sus scrofa | pig | 1 | 1 | | 0 |
| Ovis aries | sheep | 4 | 4 | 6 | 4 |
| Capra hircus | goat | | | 4 | 3 |
| Ovis/ Capra sp. Indet. | caprine | 93 | 86 | 122 | 82 |
| Total | | 108 | 100 | 149 | 100 |

Table 2. Percentage of domestic mammal distributions by area.

As indicated by table 2, the overall domesticated species distribution percentages differ only slightly from the earlier faunal collection in TR2, and that of the more recent one in TR1. One difference worth mentioning may be the disappearance in goats in the later period, which could of course be also due to poorer preservation conditions in TR 1, containing the more recent archaeofaunal samples.

Concluding Remarks

Due to the poor condition of the faunal materials, only a very basic analysis was possible for the late 16th – early 18th c. Myrkárdalur archaeofauna. During that time, this was clearly a farming operation, utilizing caprines, cattle, and some horses and the occasional pigs. It seems from this faunal assemblage that heavy emphasis was laid on use of domesticated terrestrial resource, but also on gadids, brought to site either from Skagafjörður in the West, or from Eyjafjörður further east.

The position of the Trench 2/TR 2 midden mound on the downhill end of a steep slope may have enabled good drainage of water and leaching of organic materials. The site's fuel economy was visible in a series of excavated midden layers from the post-medieval era: Several contexts consisted almost entirely of either peat ash or wood ash, or a mixture of both. Similar is true for the midden mound where Trench 1/TR 1 was placed in 2008: the area where the medieval ruin is located lies on a down slope and water from the mountains may have leached the bone materials

from both mounds. Also, the peat and wood ash layers may have further degraded the PH levels, leading to increased degradation of the bones. Since Myrkárdalur lies in a highland zone, it is likely that freeze-thawing activities have placed further mechanical stresses on the midden remains.

After two seasons of locating and testing the Myrkárdalur midden remains, the medieval materials remain elusive. A GPR survey may have to be done in this area if these materials were to be recovered, should they remain intact still and have not been spread around the homefield by centuries' worth of farming activities.

Acknowledgments

This report was enabled by generous funding provided by grants from the US National Science Foundation (Grants OPP ARC 0732327 and OPP ARC 0809033), and from Fornleifasjóður, Iceland (2008 excavation), and the CUNY Northern Science & Education Center.

The author would like to thank the 2008/09 field teams and all the specialists contributing to this project. The author is indebted to Howell M. Roberts for his support over the years as well as sharing his ideas and data. Further thanks go to Guðrún Alda Gísladóttir, Elín Ósk Hreiðarsdóttir, Mjöll Snæsdóttir, Þóra Pétursdóttir, and all other helpful people at FSÍ. The author would like to especially thank Dr. Thomas H. McGovern and Dr. Sophia Perdikaris for their continuous support and advice, for offering access to and generous use of their laboratories, and for their tremendous help discussing and disseminating the data

Literature (editing needs to follow).

- Boessneck, J. 1969. Osteological differences between sheep (*Ovis aries* Linne) and goats (*Capra hircus* Linne). Pp. 331-358, In D. Brothwell and E. Higgs (Eds.). *Science in Archaeology*. Thames and Hudson, London, UK.
- Cohen, A. and Serjeantson, D. 1996. *Manual for the Identification of Bird Bones from Archaeological Sites*. Archetype Publications Ltd. UK.
- Enghoff, I. B. 2003. Hunting, fishing, and animal husbandry at the Farm Beneath the Sand, Western Greenland: an archaeozoological analysis of a Norse farm in the Western Settlement, *Meddelelser om Grønland Man & Society* 28. Copenhagen
- Grant, Annie 1982. The use of tooth wear as a guide to the age of domestic ungulates, in B. Wilson, C. Grigson, and S. Payne (eds.) *Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109 pp 91-108. Oxford.
- Grayson, D. K. 1984. *Quantitative Zooarchaeology*. Academic press, Orlando
- Halstead, P. 1998. Mortality Models and Milking: Problems of Uniformitarianism, Optimality, and Equifinality reconsidered, *Anthropozoologica* 27: 3-20
- Harrison, R. and H. M. Roberts. 2006. *The Midden at Möðruvellir 2006 – Preliminary Excavation Report*. Fornleifastofnun Íslands - FS 338-06381, Reykjavík 2006.
- Harrison, R. and H. M. Roberts. 2007. *The Midden at Möðruvellir 2007: Preliminary excavation report of the Möðruvellir Midden, 2007*. FS365-006382 Fornleifastofnun Íslands, Reykjavík.
- Harrison, R., H. and M. Roberts, W. P. Adderley. 2008. Gásir in Eyjafjörður: International Exchange and Local Economy in Medieval Iceland. *Journal of the North Atlantic* 1 (1):99-119. <http://www.bioone.org/doi/abs/10.3721/1935-1933-1.1.99>
- Harrison R. (edt.), with G. A. Gísladóttir, S. Guðmundsdóttir-Beck, S. J. Hansen, E. Ó. Hreiðarsdóttir, G. Lucas, & H. M. Roberts. 2010. *Gásir Hinterlands Project 2009: Midden Prospection and Excavation*. FS440-06384, February 2010, FSÍ, Reykjavík and NORSEC, New York.
- Harrison, R. 2009. *The Gásir Area A Archaeofauna: An Update of the Results from the Faunal Analysis of the High Medieval Trading Site in Eyjafjörður, N Iceland*. CUNY, New York, NORSEC lab report Nr. 44.
- Harrison, R. 2008a. *Status Report on the faunal analysis from the 2007 Midden excavation at Möðruvellir, Eyjafjörður, N Iceland*. NORSEC Lab/Status report Nr. 49, CUNY, NY.

Harrison, R. 2008b. Interim Field Report Gásir Hinterlands Project 2008 Midden Prospection. FS402-06383 Reykjavík (FSÍ) and New York (NORSEC), November 2008.

Harrison, R. 2007. Interim Report of faunal analysis from the 2006 Midden excavation at Möðruvellir, Eyjafjörður, N Iceland. NORSEC lab report No. 37, CUNY NY.

Harrison, R. 2006. The Church at Gásir, Eyjafjörður, N. Iceland Interim Report of faunal analysis from the 2006 Excavations. NORSEC lab report No. 38

Hreiðarsdóttir, Elín Ósk (edt.). 2008. Fornleifaskráning í Öxnadals- og Skriðuhreppi. Fornleifastofnun Íslands. Report FS370-04071. Reykjavík, Iceland. Volumes 1-3.

Lyman, R.L. 1996. Taphonomy, Cambridge U.P.

Mainland, I. and Halstead, P. 2005. The economics of sheep and goat husbandry in Norse Greenland. *Arctic Anthropology* 42, 103-120.

McGovern, T.H., with contributions by S. Perdikaris, I. Mainland, P. Ascough, V. Ewens, A. Einarsson, J. Sidell, G. Hambrecht and R. Harrison. 2009. The Archaeofauna (book chapter), in Hofstaðir. Excavations of a Viking Age Feasting Hall in North-Eastern Iceland. Gavin Lucas (editor), pp 194-278. Publisher: FSÍ, Iceland.

McGovern, T.H., O. Vésteinsson, A. Fridriksson, M.J. Church, I.T. Lawson, I.E. Simpson, Á Einarsson, A.J. Dugmore, G.T. Cook, S. Perdikaris, K.J. Edwards, A.M. Thomson, W.P. Adderley, A.J. Newton, G. Lucas, R. Edvardsson, O. Aldred, & E. Dunbar. 2007. Landscapes of Settlement in Northern Iceland: Historical Ecology of Human Impact & Climate Fluctuation on the Millennial Scale. In *American Anthropologist*, 109:27–51.

McGovern, T.H., O. Vésteinsson, S. Perdikaris, C. Amundsen. 2004. Zooarchaeology of Landnám: 9th-11th c Midden Deposits at Sveigakot, N Iceland, *NORSEC Zooarchaeology Laboratory Reports no 18 DRAFT*

McGovern, T.H. & Sophia Perdikaris. 2002. Preliminary Report of Animal Bones from Hrísheimar N Iceland, report on file Fornleifastofnun Íslands and National Museum of Iceland.

North Atlantic Biocultural Organization Zooarchaeology Working Group 2009. NABONE Zooarchaeological Recording Package 9th edition, CUNY, NY.

Reitz E. J. & E. S. Wing. 1999. Zooarchaeology. Publisher: Cambridge, UK; New York Cambridge University Press.

Roberts, H. M. et al. 2006. Excavations at Gásir 2001-2006, A Preliminary Report, Fornleifastofnun Íslands FS335-01079. Reykjavík.

Roberts, H. M. et al. 2009. Gásir Post Excavation Reports - Volume 1. 2009, FS423-010712, Fornleifastofnun Íslands, Reykjavík.

Serjeantson, D. 2009. Birds. Cambridge University Press, UK.

von den Driesch, A. 1976. A Guide to the Measurement of Animal Bones from Archaeological Sites. Peabody Museum Bulletin 1, Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, Massachusetts

von den Driesch, Angela. & Joachim Boessneck. 1974. Kritische anmerkungen zur Wiederristhöhenberechnung aus Längenmaßen vor- und frühgeschichtlicher Tierknochen. Säugetierkundliche Mitteilungen 22, 328-348, München´.

Wheeler, A., & A.K.G. Jones. 1989. Fishes. Cambridge University Press, Cambridge, UK.

Zeder, M.A., Pilaar, S.E. 2010. Assessing the reliability of criteria used to identify mandibles and mandibular teeth in sheep, Ovis, and goats, Capra. Journal of Archaeological Science 37: 225-242