

FRESHWATER AND MARINE FISH IN INLAND SITES IN NORTHERN ICELAND

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Abstract: Just over a thousand years ago, Scandinavian voyagers crossed the waters of the North Atlantic to briefly explore the coast of North America. These now well-publicized transatlantic trips were part of larger economic, environmental, and social developments of the Viking Age, and were the product of an Iron Age chiefly society with a complex economy incorporating both classic "prestige goods" and "staple goods" components. The Viking Age was the result of linked factors of economic intensification, military and technological advances, climate change, and intense competition among chiefly elites and between elites and commoners. The period saw escalating Nordic impact upon NW Europe and a dramatic expansion of European settlement into the offshore islands of the North Atlantic. This paper will focus upon the economic development of Iceland, and it attempts to bring fresh data to bear on the knotty problem of pre-state economics.

Keywords: Viking, Northern Iceland, Mývatn, freshwater fish, Settlement Period Exchange.

Multiyear interdisciplinary research in the Mývatn region of Northern Iceland by the Archaeology Institute-Iceland (FSI) and the North Atlantic Bio-cultural Organization (NABO) collaborators, has provided an invaluable series of nearby, closely dated archaeological collections that can be used to shed light in the political, economic and ecological development of this diverse arctic environment and its people.

Settlement in this area occurred around in the late 9th century AD by early Viking voyagers. Bringing ideas from their homeland, they tried to organize their landscape to resemble their homes. They lived in turf houses and pit houses kept a range of domestic animals including pigs and goats as well as cattle, sheep and horse, employed in some cultivation and relied on opportunistic har-

vesting of wild resources (birds, fish, eggs, driftwood and seaweed).

This paper will address the information deriving from the analysis of the fish bone data from three sites from the Mývatn region, Sveigakot, Hrísheimur and Selhagi. This data is preliminary since Hrísheimur is on its third year of excavation but at least 2 more years of work are expected, and the information from the site of Hofstaðir and Steinbogi will soon be added to the comparative graphs.

In understanding the information from the faunal remains it is important to develop an understanding of the local ecology prior to making subsistence and complexity inferences from the data. Lake Mývatn is located on a highly volcanic environment. Iceland's middle is

marked by the continental ridge that is actually pushing half of the island towards North America and the other half towards Europe. The geology of the area has profound effects to its ecology. Lake Mývatn is rather shallow and that allows sunlight to reach all the way to the bottom. The mixing of fresh water rich in phosphates with the volcanic warm full of silica water, produces a bloom of algae diatoms that gives the lake a characteristic blue color, making it very productive and rich. These diatoms are the key food for the black fly and midge larvae. The midge and black fly larvae in particular are very important to both fish and duck diets.

The landscape surrounding the lake is entirely a cultural one, since before settlement it was full of birch trees and shrubs that were harvested by early settlers and now only grasses can be found while the erosion places the sites of Sveigakot and Hrísheimar in the edge of the inland desert.

In Icelandic history and document sources, lake Mývatn is famous for its resources. In the famine of the 16th, 17th, and 18th centuries, the only inhabitants not to have suffered were those of Mývatn county because they could feed on its freshwater fish. Fishing has been done traditionally by gillnets and some line fishing. The lake is surrounded by a complex river system and marsh land. Two key rivers for this paper are the river Laxá which drains in Mývatn and the river Kráká joins the Laxá near Mývatn.

The lake and river systems are rich in salmonids. The lake has Arctic charr while the rivers are rich in brown trout. Atlantic salmon can also be found in the Laxá from its beginning toward the ocean up until the waterfalls that are too big for the salmon to cross.

The site of Selhagi is located on the Laxá; Sveigakot on the Kraká and Hrísheimur is near the Kraká area. Selhagi is located among the complex set of channels and small islands at the juncture of the Kraká with the outflow of Lake Mývatn and the Laxá in a well vegetated ancient lava field. Selhagi is in the immediate lakeshore zone, with direct access to rich freshwater fishing and migratory waterfowl nesting areas. It is today an abandoned site that overlooks one of the best trout fishing areas in the region, with a modern fishing cabin a few meters from the ruin. It is on the property of the modern farm of Haganes, listed in the early 18th century as an upper-middle ranking holding. Sveigakot and Hrísheimur are both long abandoned farms in the Kraká river drainage to the south of the lake, lying near 300 m above sea level and today existing only as heavily eroded ruins. Sveigakot is on the east side of the Kraká, and is now located on an eroded gravel plain at the edge of the inland desert. Hrísheimur occupies a comparable position on an eroded ridge overlooking a small bog on the west side of the Kraká (McGovern *et al.*, 2003).

The assemblages of all three sites are dominated by salmonids but fish of the gadid family are also present. The gadids are particularly curious since the sea is 60 kilometers away from the site area.

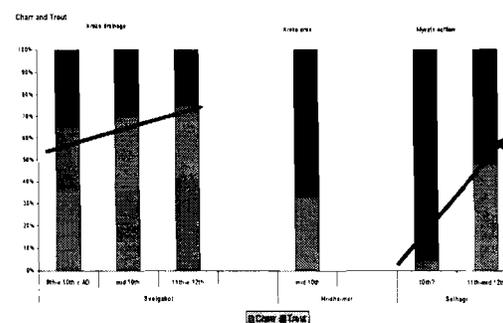


Figure 1.

Taking a closer look into the salmonids (fig. 3), we see that there is an interesting trend over time. In both Sveigakot and Selhagi there is a rise in Arctic charr. In the 1712 AD Jardabok, the sites of Sveigakot and Hrisheimar have no access to the lake. What is an interesting question is whether there is an issue of access to resources or simply availability. Interestingly, ecological studies have shown that during the 11th century there has been increased erosion in the higher areas and the rivers were overwhelmed with silica (Arni Einarsson pers. comm., 2003). Silica has suffocating effects on the fish.

Testing by Dr. Mike Church of Edinburgh University is currently taking place to see whether there have been smaller lakes near the site areas that have since ceased to exist. The results of his work are upcoming.

When looking at the remains of the gadids, cod is the predominant species followed by haddock. Since the distance from the coast is great, the question arises on whether these gadids were brought to the site fresh or in some cured state. The element distribution of both gadids and salmonids was examined. The salmonids show a normal distribution for fish that was brought on site whole and consumed in the same area. Whether there was specialized processing (such as smoking—one of the local traditions) it is not possible to decipher from this distribution. The gadids on the other hand show a large percentage of cleithra and caudal vertebra while there is an absence of the rest of the cranial elements, thoracic and precaudal vertebra. The pattern observed is consistent with patterns noted by Rebecca Nicholson and James Barrett in material from the British Isles of fish that was split open and dried, while it is very different from the Norwegian patterns of beheaded fish

that was dried in the round as observed in archaeological materials from arctic Norway and from, 18th century collections from the early commercial site of Tjarnargata in Reykjavik, studied by the author (fig. 2) (Perdikaris *et al.*, 2002).

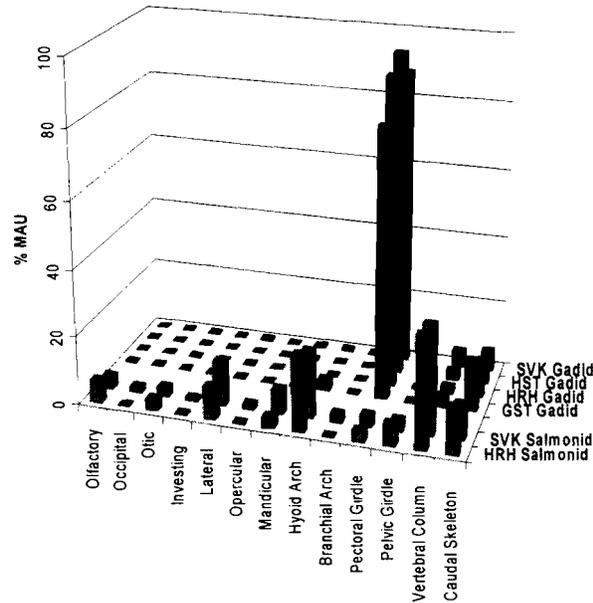


Figure 2.

Haddock cleithra was not just a by product of a consumable product but it also provided raw material for carving. Three cleithra shaped as gaming pieces have been recovered from the sites of Sveigakot, Hofstaðir and Steinbogi. The tradition of carving haddock cleithra as well as the preference of haddock consumption versus cod, continues to this day.

Recently excavated archaeological sites dating to the Settlement Period in Northern Iceland have produced large animal bone collections including domestic mammals, wild birds and fish. Analysis of the fish remains demonstrated the presence of cured marine fish in inland sites, as well as local freshwater fish. This preliminary data sheds some light in the intriguing and complex subsistence

and specialization of the Icelandic Viking settlers.

REFERENCES

McGovern, T. H.; Perdikaris, S. & Einarsson, A. 2003: Inland Sites and Coastal Connections - Patterns of Wild Animal Exploitation in Settlement Age Mývatn

District, Northern Iceland. *Archaeologica Islandica*.

Perdikaris, S.; Amundsen, C. & McGovern, T. H. 2002: Report of Animal Bones from Tjarnargata 3C, Reykjavik, Iceland, research report on file Archaeological Inst. Iceland. *Archaeologica Islandica*.