

Hvaler and its realm

Physical Description

The Hvaler group comprises approximately 833 islands greater than 20 m² in size and occupies an area of 86 km², with the main administrative centre of Skjærhalden located on a sheltered inlet on the southeast coast of Kirkøy. As the largest island, Kirkøy occupies an area of 26 km², while the other major islands ranked in order of decreasing size are: Vesterøy (15 km²), Asmaløy (9 km²), Spjærøy (8 km²), Søndre Sandøy (4.35 km²), Nordre Sandøy (2.56 km²), Singløy (2.21 km²), Papper (2 km²), Herføl (1.9 km²) and Akerøy (1.47 km²). On 1 January 2013 the permanent population was recorded as 4 284, but this figure can swell considerably during the summer months when Norwegians seeking the sun, escape the hectic city life and descend on the district in their thousands.



The coastal area of Hvaler is a complex system of threshold fjords formed by the action of retreating glaciers about 12 000 years ago. The Hvaler landscape of today owes its origins to the movement of ice sculpting islets, reefs, eskers and polished expanses of exposed granite and gneiss bedrock. The action of ice in the fracture zones of the rock has produced the characteristic northeast-southwest orientation of the islands that is seen today. The retreating ice also left a thin moraine of sand, gravel and rubble on the surface of the bedrock. Located between the expanses of outcropping rock are flat, open fields that support farming and agriculture.

Beyond the threshold fjords is an archipelago of large islands, islets and skerries, where dramatic variations of current and water depth can produce an ever changing supply of fresh water originating from the Glomma River to the north. This river is the largest and longest in Norway and eventually empties into the outer Oslofjord at Fredrikstad. Its influence is important for the sea water surrounding the Hvaler Islands where the spring flow commences in mid-April and climaxes in the months of May and June. Throughout summer this flow diminishes but increases again during September and October.

Present-day view of Skjærhalden from Kollen. Skjærhalden has grown to become the main commercial centre on Kirkøy and in the summer months plays host to many tourists seeking the recreational pleasures of the sun and water.



Today the larger islands are connected to the mainland via a series of bridges, causeways and a tunnel. These contribute to the distribution of water south towards Løperen while at Leira to the west of the mainland road, the water quality is less influenced by the Glomma. To a lesser extent the effect also applies to the eastern part of Singlefjorden towards the Swedish border, but the Glomma still influences Iddefjorden which is classified as a threshold fjord.

The front between the sea water and the Glomma water is evident between the islands of Tisler and Kosterfjorden to the south of Hvaler in the Skagerrak. It varies according to the wind, current and movement of water. When large volumes of water flow down the Glomma and under the influence of easterly or northeasterly winds this fresh water mixes with the sea to produce brackish water off the coast of Hvaler.

Beneath this surface layer, often extending down five metres, flows the sea water which can produce a reaction current extending as far as Sarpsborg about 15 kilometres upstream of Fredrikstad. A consequence of this phenomenon during the winter months is the potential for freezing of the waters around Hvaler creating easy but risky island hopping. The ice formed in the outer Oslofjord is merely a continuation of the ice belt extending along the Swedish coast. On average, severe winters occur every five to 10 years. The Baltic Current which flows northwards along the west coast of Sweden, and carrying a high proportion of fresh water from the Baltic Sea, also affects local tide and wind conditions before its discharge into the Skagerrak.



Climate

The temperature of the sea water is the single most influential element that determines the weather at Hvaler. Geographically the islands maintain a low profile with the highest point at 72.4 metres above sea level, so the prevailing winds are not influenced by changes in topography. In summer these winds originate from the south-southeast while the prevailing wind direction in winter is from the north-northeast. Hvaler is situated within the outer coastline and possesses a distinctive coastal climate with lower summer temperatures and higher winter temperatures.

In springtime as the temperatures increase, the terrestrial snow begins to melt but if the temperature of the sea water is maintained through to March an extension of the icy months can be experienced. At this time an easterly wind is common and is caused by the high pressure

Opposite page.

General map of the Hvaler Islands showing the names and locations of the main farms and waterways. The administrative centre of Skjærhalden is located on the southeast coast of the main island of Kirkøy.

Hvaler kommune, Skjærhalden

Northern view from Botneveten, the highest point (68.9 m) on the island of Kirkøy. Fredrikstad can be seen at the top left and to the right, the islands of Saltholmen, Bringebærholmen and Damholmene north of Botnekilen.

systems over the country. As the sun progressively climbs higher in the sky during spring the afternoon winds turn more towards the south.

As the air warms during the summer months the ascending air draws fresh air from the south over the ocean, shifting constantly with the sun's course. During the afternoon the strength of the wind is directly proportional to the heat generated over the land and as the land cools during the evening the wind abates. At this time of the year Oslofjord usually experiences clear and fine weather while the formation of clouds over the inland usually results in shower activity.

Hvaler is one of the driest regions in the county of Østfold with an average of 696 millimetres of precipitation per year. At Prestebakke, south of Halden and east of Strömstad in Sweden, the precipitation is 831 millimetres, Halden is 729 millimetres and the precipitation near Sarpsborg is 801 millimetres. The length of coastline from Lindesnes, west of Kristiansand, to the Swedish border south of Hvaler, experiences the most sunshine hours and the highest temperatures and has become a Mecca for winter weary Norwegians. The Baltic Current also exerts its influence by transporting warm water in the late summer to interact with the colder air over land triggering thunderstorm activity. The influence of weather from the continent is often at its strongest in August.

Following summer when the sun-induced wind decreases, equilibrium is reached between the temperature over the land and the ocean. This can lead to calm and clear autumn days when the finest time of the year can be experienced at Hvaler. Unsettled weather during autumn usually arrives late in September when southerly and southwesterly winds produce cold and showery conditions more common to the west coast of Norway than Hvaler. With the onset of the easterly winds the continental influence manifests itself and winter soon imparts its chilly breath.

The middle of winter is dominated by weather from the east. Precipitation in the form of heavy and persistent snowfall is usual from December to March. It is often caused by the contact between the mild, moist sea air drifting over the heavier, cold air from the interior and can fall as either rain or snow. In very cold periods, small crystals of air-borne ice called 'frost mist' can form over open water and the frequency of fog in and around Oslofjord during the winter months is the highest in the country.

Vegetation

Hvaler occupies a small part of the Norwegian landscape yet it varies greatly within this dominion and is reflected in the diverse range of flora. The exposed sites are dominated by open moor and heath, low growing groups of spruce (*Picea abies*) and windswept pines (*Pinus sylvestris*). On the islands and in the rock clefts grow warm-loving deciduous species such as *lind* (linden), *ask* (ash) and *lønn* (maple) that require specific conditions for growth, together with *gran* (spruce) and *furu* (pine).

Although the ice-shaped granite of the larger islands may appear unfavourable for growth, marine deposits in the clefts and wider valleys and the favourable climate promote conditions for richness and variety. Of significance are the plant communities along the ecotone or transition between the cultivated fields and the forests of the uplands. These zones of

vigorous growth may be narrow but they are an important habitat for plants and animals. Hvaler also lies in the transition zone of mixed forest where the northern coniferous forest meets the southern deciduous forest.



Evidence of the abrasive action of glaciers about 12 000 years ago can be seen here as longitudinal channels in the granite. At Hvaler, these exposed rock platforms with shallow soils are dominated by heath, low growing spruce and windswept pines.

To all appearances the barren shoreline of the Hvaler group betrays the large area of forest that occupies about 15 000 hectares in the hinterland. It is almost totally dominated by pine with little spruce unlike the rest of Østfold and is almost completely confined to the islands of Kirkøy, Søndre Sandøy, Nordre Sandøy and Singløy. Harvesting of this resource continues to this day. On the western islands of Hvaler the forest is limited to smaller areas and at the turn of the 20th century these islands were almost laid bare by overgrazing. Natural regeneration was hindered by grazing and trampling by livestock but a program of replanting throughout the century has secured its recovery.

The best pine forests grow on deep, sandy soils and are usually an open forest type with a groundcover of grasses, hence its attraction to livestock grazing. Spruce forests are usually confined to deeper and more fertile soils where the pine gives way to either a mixture of the two species or pure stands of spruce. In this mixed forest type the pine occupies the overstorey while the more shade tolerant spruce occupies the lower layers. As the fertility and moisture increase in the more favourable habitats the spruce forests can accommodate an understorey of blueberries or a ground cover of low herbs in the better soils. Here specialised species such as the *fingerstarr* (finger sedge), *hengeaks* (melic grass), *skogfiol* (wood violet) and *blåveis* (blue anemone) are commonly found.

In the wetter areas, such as along creek lines and the margins of the shore, *svartor* (black alder) is commonly found as well as *ørevier* (eared willow) and *hegg* (European bird cherry). An undergrowth of *skogburkne* (forest fern), *mjødur* (meadowsweet) and *brennesle* (common nettle) complete this type of habitat. In the clefts and gullies that slope down towards the cultivated and fenced fields near the farmhouses, the environment is favourable for temperate deciduous forest. The good soil and warmer conditions can support an association of *ask*, *lind*, *lønn*, *alm*

(elm), *hassel* (hazel) and *eik* (oak), the latter being remnants of a more widespread forest type before its removal by felling.

In the pastures and fields that have been subjected to intense cultivation through pasturing, tillage and manuring, trees such as *gran* were removed leaving scattered specimens of *bjørk* (birch), *eik* and *svartor* with a shrub layer of *einer* (juniper), *slåpetorn* (blackthorn), *villroser* (wild roses) and *bjørnebær* (blackberries). These pastures also support a rich variety of insect and bird life.

Cultivated fields occur on fertile flats with deep soils and are typically surrounded by forest dominated by spruce (*Picea abies*) and pine (*Pinus sylvestris*).



Where the landscape is dominated by exposed areas of barren rock, moors can form and sparse low-growing vegetation such as heath with stunted pines and birch are common. Where water accumulates in depressions, small marshes occur that can support plants such as *pors* (aromatic sweet gale), traditionally used as an insect repellent against midges and fleas.

Wetlands, such as shorelines and estuaries, are formed on flat areas where the soil is usually saturated with moisture and support plants like *saltsiv* (salt rush), *strandstjerne* (sea aster) and *fjørekoll* (sea thrift). Salt marshes, located immediately above the tidal zone, are not well represented floristically as few species here are adapted to saline conditions, so sedges dominate. Where pastures and cultivated land have been abandoned and neglected, reed marshes develop as a result of the steady seepage of water.

The Distant Past

The first evidence of human occupation in the Hvaler region dates back about 10 000 years when temperatures began to rise at the end of the last ice age. With its skerries and innumerable islands, this coastal region was attractive for hunting and fishing as the first human occupants spread northwards during the Palaeolithic Age. Following this period was the Neolithic Age and reminders of the culture from this period are evident at places such as Dammyr on Kirkøy where the remnants of dwellings exist. Most of these sites are located between the 20 and 40 metre contour intervals with most at about 25 metres above sea level.



Bronze age (1500-500 BCE) burial cairn located at the top of Botneveten, the highest point on the island of Kirkøy.

It is believed the sea level was lower than today and early humans settled and lived by the shore where evidence of their existence has been found. These artefacts include flint axes, arrow tips, drills and scraping stones. These early settlers hunted seals and fished in the bays and inlets. They began to transform the landscape by clearing patches of forest for cultivation and pasturing livestock. Fishing and farming became the mainstay of the growing community.

The Bronze Age saw important changes in agriculture whereby fields were commonly ploughed with primitive wooden ploughs. Farmers became more settled and farms were taking on a more permanent appearance. Harvests improved and any surpluses enabled farmers to barter for goods from distant places. In this regard the inhabitants initiated a way of life that was sustained by Hvaler folk for centuries.

During the Bronze Age visible evidence of a society becoming more sophisticated is demonstrated by the presence of burial mounds or cairns. These cairns comprise piles of stones and are the grave sites of individuals of high status within the community. These monuments once housed remains in a stone chest or coffin and were usually built of flat slabs concealing either the remains of an unburnt burial or a cremation urn with burnt bones. Examples of these remnants that are between 2 500 and 3 500 years old can be seen at Botneveten and Røsseberget on Kirkøy and typically yield fragments of bones and urn chips.¹

The People

When the first nationwide census was conducted in 1665, the population at Hvaler was estimated at 380 persons out of a total of 440 000 for all of Norway. From the earliest times settlers had occupied the more ideal places that were sheltered from the weather and close to arable land. Collections of buildings evolved from these isolated groupings until neighbourhood farms developed. The population at Hvaler had increased to 781 in 1789 and by 1801 the population was calculated at 851 consisting of 390 males and 461 females on a total of 71 farms.² A total of 17 islands

were inhabited, but the vast majority of people (95%) lived on the larger islands of Kirkøy, Vesterøy, Sandøyene, Asmaløy and Spjærøy. At the same stage, the population of Norway had increased to 883 603.

In this remote island community, the male inhabitants primarily obtained their living from fishing and farming, but commerce and handicraft were practised to an extent. In the census of 1801 the majority of the male population at Hvaler gained a livelihood from seafaring where 124 males or 53.4% of working males stated that their income was derived from employment in the merchant marine. However, just 69 (29.7% of working males) exclusively derived a living from this source and the remainder combined their sailing duties with other work such as farming. Similarly, of the 40 who stated fishing as their pursuit, just four respondents indicated their income was derived from fishing alone while 25 combined fishing with farming and 11 were *husmenn* (crofters) with or without land.³

The area of arable land at Hvaler is small so farming could not form the foundation of a permanent livelihood and be practised at the exclusion of other means. Similar to other areas of Norway, the most secure form of income for families in a mixed economy was derived from many sources. In this respect, the sea was the decisive factor for settlement at Hvaler but farming was also important for a sustainable, self-sufficient life.

By 1835 the population had slowly edged forward but rapidly escalated during the latter part of the 19th century. With improvements in living conditions and nutrition, the infant mortality rate declined and life expectancy increased so that families became larger. Following the initially difficult times of the early 19th century in the aftermath of the Napoleonic Wars and the hardship experienced from crop failures, circumstances improved and by the time of the 1865 census, the population had increased to 2 313 spread over 405 farms. Females, comprising 51.4% slightly outnumbered males of whom 643 stated an occupation.

Comparing the 1801 data with 1865, the relative proportion of males who sought a living from the merchant marine decreased slightly from 53.4% to 45.4%. However, the males who exclusively derived an income from this source increased to 44.9% over the previous 64 years, indicating that seafaring had become a reliable and sustainable form of employment for Hvaler males. Those who relied on fishing for their livelihood decreased slightly from 17.2% to 14.2% over the equivalent period. Once again, a small minority of 10% indicated an exclusive reliance on fishing, while the remainder combined their fishing activities with other occupations such as seafaring or farming.⁴

As mentioned above, the population at Hvaler continued to increase throughout the mid to late 19th century as a result of higher infant survival rates but new arrivals from other parts of Norway and Sweden also contributed. The attraction of the rich fishery and the developing stone-quarrying industry encouraged many newcomers, especially young Swedish men, to labour in the quarries.

The 1900 census figures indicate that the population at Hvaler continued to grow. It was home to 4 017 persons of whom 2 032 (50.6%) were females and 1 985 (49.4%) were males distributed over 673 farms. The number of males who stated an occupation totalled 1 224 or 61.7% of the male population.

Similar to previous assessments of the population, most of the males varied their occupations according to the time of the year and often performed other duties. For instance, of the 18.5% of the males who worked the land, just 3.8% performed this task exclusively. Similarly, 14.6% of males extracted a living from fishing but just 7.5% relied on it to the exclusion of other sources of income. The stone cutting industry accounted for 23.0% with 17.9% deriving an income solely from this source. By 1900 seafaring accounted for 42.6% of the working male population but was losing its appeal as an occupation that precluded other means and just 16.9% relied on it exclusively. The men who had concentrated on earning a living from seafaring had aged and were returning to Hvaler to take up their family duties on the increasing number of farms.⁵

By 1910 the population had peaked at 4 279 and then commenced to gradually decline over the ensuing decades. The depopulation was caused by both lower birth rates and a trend for young Hvaler males to leave the islands for the attraction of better prospects elsewhere, such as the larger cities in Norway and overseas. As a fringe municipality characterised by departures, this decline continued and distorted the age distribution towards older persons.⁶ This state of affairs was arrested following the connection of the islands to the mainland by a series of land bridges and the opening, in 1989, of the Hvaler tunnel that connected Kirkøy to Asmaløy.

Ease of access to the largest island facilitated a growth in residential housing that compensated for the decline of traditional farming activities. With the increasing mobility of people, a higher proportion of the population at Hvaler could commute to Fredrikstad and Hvaler is now considered an outer suburban area of the city. Many houses at Hvaler are used primarily as dwellings for recreationists in summer when the locals can be outnumbered by three to one. In 1987 the population stood at 2 942 but has steadily grown in recent decades and reached 4 284 at the beginning of 2013.⁷ The largest urban settlement on Kirkøy is located on the southeastern shore at Skjærhalden where most people now live, but a minor building boom at Bølingshavn has produced a small aggregation of dwellings around this inlet.

An examination of ancestral roots in the discrete and isolated rural community of Hvaler has produced evidence demonstrating a proclivity to intermarriage. By analysing family relationships from the first parish registers up to the early 20th century, a pronounced trend was demonstrated by the inhabitants to find a life partner from the local islands. This was a function of both the low population and the tendency by the inhabitants to maintain their traditional lifestyle of farming and fishing.

Even with the dramatic growth of the Fredrikstad-based mercantile marine which tempted many young men to seek adventure and independence on the high seas, these same men would often return and settle down with a local girl. Many manifestations of this occurrence are documented in the pages of this family history but the following two examples have been selected to demonstrate the complex and intricate nature of these alliances.

The simplified drop-line chart in figure 1 has been created to demonstrate the marriage links for the descendants of Iver Olsen and his

wife, Anniche Torgersdatter. As can be seen, Iver married Anniche in 1764 when the population at Hvaler consisted of approximately 781 individuals. Although five children were produced from this marriage, parallel siblings have been removed for clarity leaving Maria and Ole with their interconnected offspring.

Ole Iversen's daughter, Anne Maria, married his nephew, Jacob Josephsen, the son of Ole's sister's marriage to Joseph Jacobsen from Sandø. Ole Martin Jacobsen, who was both grandson and great-nephew to Ole Iversen, married Martine Jacobsdatter, the granddaughter of Ole Iversen. This union produced two offspring, Johan Martin Jacobsen and Oliane Marie Jacobsen. Therefore, these two offspring were both Ole Iversen's great-grandchildren and great-great-nephew and great-great-niece. In other words, Anne Maria Olsdatter married her first cousin, Jacob Josephsen, and their son Ole Martin Jacobsen married his first cousin, Martine Jacobsdatter. As a result of these intermarriages, Ole Iversen's granddaughter married his grandson, and Johan Martin and Oliane Marie Jacobsen could only lay claim to six great-grandparents rather than the normal eight.

The second example of this phenomenon can be seen in figure 2, and occurred around the turn of the 20th century. It shows the relationships created by the first two children of Petter Jacob Henrichsen and Anne Marie Pedersdatter. They are Peter Haldor Pettersen and Olava Sophie Pettersdatter who both married unrelated spouses in 1867 and 1866, but the children from these two unions then formed affiliations and mergers over a period of 23 years. Olava Sophie's niece, Alette Marie Pettersen, married Hans Anton Jacobsen who was the brother of her daughter's husband, Carl Oscar, who in turn was the older brother of Syver who married two other daughters of Olava Sophie, Karoline and Karen Kristiansen. Olava Sophie's nephew Peder Herman Pettersen married Olette Elise Jacobsen who was the sister of her daughters' husbands, Carl Oscar and Syver. Therefore, these Pettersen and Christiansen siblings were not only cousins but also brothers- or sisters-in-law of each other.

This characteristic of marrying within the local community was beginning to break down in the early 20th century and with greater mobility by the inhabitants, departures were becoming more common. Not only males but females were leaving for the cities and seeking opportunities that could not be offered in a restrictive rural settlement. Fredrikstad and Kristiania/Oslo were popular destinations, but foreign ports in countries such as the United States of America and Australia were objectives for Hvaler-born seafarers. Whether by design or by chance, many broke the pattern of their forebears by yielding to the temptation of a provident life elsewhere.

The Church

The spiritual and religious focus for the people of the Hvaler group of islands is found on the main island of Kirkøy. Literally meaning Church Island, it is named after the large stone church that has occupied a prominent role and position in the community for almost 1000 years. It is thought to have been built in the latter part of 1100s and is considered to

be one of Norway's oldest churches, if not the oldest.⁸ The parsonage and its outbuildings are located adjacent to the church.

The church is the southernmost point of the diocese belonging to the Evangelical Lutheran Church of Norway. However, the church was constructed after the first attempts to convert Norwegians to Christianity around the year 1000 and for the first 500 years of its life preached the gospel according to the Roman Catholic Church. Following Martin Luther's reformation of the established church away from its entrenched doctrines in the early 16th century, the Dano-Norwegian king, Christian III demanded a break in 1536. When the ordinance was introduced in 1537, Norway officially adopted Lutheranism as the state religion two years later.⁹

In 1724 Hvaler Church passed into private hands along with most of the churches in Norway when they were sold at auctions. After passing through a number of private owners, the church became municipal property in 1860. Following restoration in the mid-20th century it endures as a focus for all religious ceremonies for the local inhabitants, but also attracts the curious visitor with an interest in history or archaeology.

The earliest surviving church registers for Hvaler exist from 1654 for marriages and burials, and 1688 for baptisms and constitute some of the oldest in Norway. Parishioners would often attend baptisms, marriages and burials by travelling from the surrounding islands by rowing or sailing across the waters to fulfil their religious commitments. Sundays were devoted to attending services performed by the resident pastor. Burials before 1700 were occasionally undertaken within the church walls but from 1700 to 1805, the clergy claimed exclusive rights to this procedure. The church is now surrounded by an extensive and well-maintained cemetery which contains the remains of many generations of ancestors named in this family chronicle.

Hvaler Church and cemetery showing older grave sites in the middle distance.



Figure 1. Simplified drop-line chart stripped of parallel siblings to demonstrate the complex nature of relationships that were manifested at Hvaler.

The red text indicates the direct ancestral line of Syver Jacobsen relative to the discussion on pages 17-18.

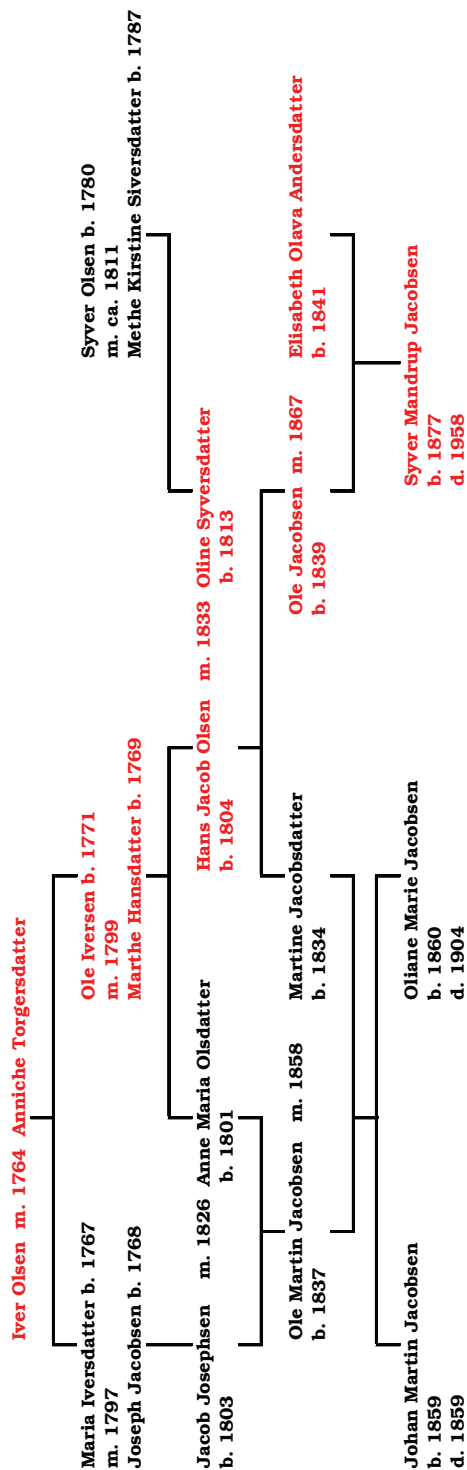
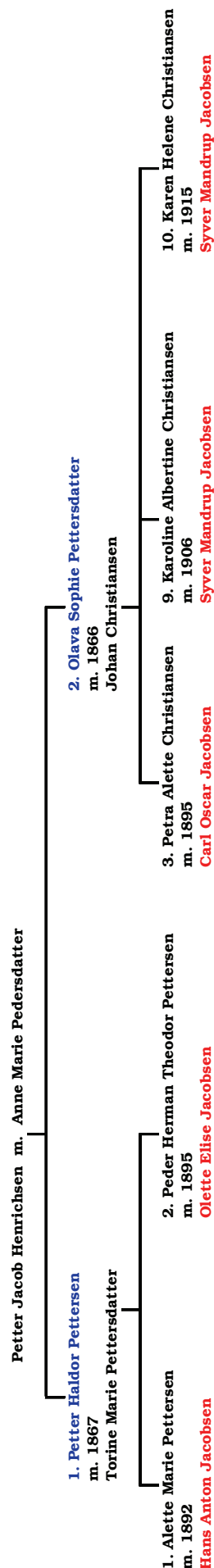


Figure 2. Simplified drop-line chart demonstrating the interaction between the Jacobsen, Pettersen and Christiansen families.



Hvaler and its economy

Farming and fishing have featured prominently in the economy of Hvaler for centuries and until the latter part of the 20th century was the foundation for its existence. Farming was primarily practised on the islands of Kirkøy and Spjærøy where the greatest contiguous areas of arable land were available. These generally consisted of flat fields of varying size wedged between expanses of rocky outcrops which effectively gave protection to the planted crops. The climate in this southeastern part of Norway ensured that crops such as barley, oats, beans and peas could be cultivated for domestic use and were aimed at self sufficiency. In the early 19th century potatoes were introduced at the parsonage and became an important staple in the diet of the population.¹ The production of potatoes became popular as it was more reliable and gave a higher yield per area of ground than grain.

Before the introduction of more sophisticated farming techniques, crop rotation was practised and land that lay fallow was used as pasture for livestock. Eventually fertiliser was produced by harvesting a seaweed known as serrated wrack, so that the same plot of land could be used over successive years. This was replaced in the late 19th century with chemical fertilisers. Over time as the larger farms were subdivided for use by succeeding generations coupled with an increasing population, the productive capability of the land suffered.

Traditionally farm work was the responsibility of women who performed the various tasks while the men were engaged at sea. Often the menfolk were absent for extended periods and the heavier duties on the farm were carried out by hired manpower, often from Sweden. Some farms pooled their resources, for example horses were shared so that the soil could be ploughed ready for planting. Nevertheless, women performed many of the tasks to maintain the farm and secure a supply of produce. In the early spring they were involved in harvesting seaweed and preparing the soil for sowing. As the summer months progressed, weeding, hay cutting, fruit picking, grain harvesting and potato digging were common. The extended hours of daylight were also used for making jams, preserves and juice from the orchard and berry garden.

Domestic duties in the farmhouse, such as caring for children, cooking, cleaning, mending clothes and laundry were performed throughout the year. Seasonal requirements on the farm involved tending to the livestock, in particular pigs, and collecting honey from the beehives, but poultry, cows and sheep needed constant attention all year round. Most of the tasks highlighted above were repeated in the course of a day and were performed when needed and not at the whim of the woman herself.

Four to five meals were usually prepared every day, mostly consisting of sandwiches and coffee but a cooked meal was served at midday and in the evening. The morning was the busiest time of the day when the house was put in order, bread was baked and the clothes washed. The rest of the duties were carried out in the afternoon and clothes could also be repaired while the rest of the household were occupied elsewhere. The long winter months were generally taken up with

knitting, sewing and weaving when the cold prevented many outdoor activities.

Livestock on the individual farm was dominated by cattle, sheep and pigs with some poultry and a few farmers also owned beehives. At the beginning of the 19th century a very high number of animals grazed on the islands in proportion to the available pasture. This ultimately contributed to a lack of condition in the animals and income dropped. Consequently, during the course of the century, fewer animals were kept and it was also customary to purchase feed concentrate which, collectively, resulted in an improvement in the quality of the livestock. Today very few inhabitants earn a living solely from farming and as most farms are small, the income is supplemented by other means.

The economic importance of agriculture has contracted considerably since the mid-20th century and traditional farming has made way for more intensive use of the land. Following the introduction of mechanised farm equipment after 1900 the use of the land changed. The area devoted to horticulture almost quadrupled and was dominated by the cultivation of fruit and vegetables, but berries were also grown. Orchards were established with varieties of apple, plum, cherry and pear trees and became economically important until the winter of 1964/65 when a severe frost laid waste to many trees.²

Ordinarily the climate at Hvaler is conducive to the production of fruit and after the establishment of the first orchard at Edholmen in 1850, Hvaler soon became an important supplier to the rest of the county of Østfold. Although the severe winter referred to above virtually ended this form of horticulture, a renewed interest in recent years has reinvigorated some farms. Vegetable growing is still practised by a handful of horticulturists but many landholders merely grow sufficient for their own household use.

The growth in berry cultivation, in particular strawberries and to a lesser extent blackcurrants and redcurrants, yielded an income for other farms but many smallholders grow berries for domestic use. These are commonly converted into the production of jams, jellies and juice.

The tasks traditionally performed by Hvaler women conformed to the conventional and practical separation of labour that typified a rural community. While women were confined to domestic activities, men were engaged in the heavier duties that were governed by the immediate environment. The sea not only offered employment in shipping with its associated activities, but the rich fisheries of the Skagerrak beyond Hvaler provided a livelihood that was both sustainable and profitable.

Initially this resource was exploited for domestic consumption and catches usually fluctuated due to the use of inadequate equipment. As the 19th century progressed however, techniques and fishing equipment improved until a profitable industry was built around the stocks of cod, herring, mackerel and lobster. Throughout the 19th century the proportion of the working male population engaged in fishing remained relatively steady and ranged between 14% and 17%.³

Its enduring importance to one family at Hvaler during the 20th century is demonstrated by that of Syver Jacobsen, whose livelihood was dependent upon its bounty for half a century. In 1904 he was one of the first to exploit the abundant stocks of *reker* (shrimps), a pursuit that he followed throughout the following decades. To a lesser extent he, and his

sons, fished for other species such as cod, whiting, haddock, pollock and coalfish. For a detailed description of the practices and methods of this way of life, see page 120.

Two species of fish that have been important to the fishermen of Hvaler since the early 18th century are mackerel and herring. Mackerel were caught at Hvaler by means of troll lines and probably ground nets, but during the course of the 19th century these were displaced by drift net fishing and trolling. The new method of drift net fishing began on the Skagerrak coast of Norway around 1830 and resulted in a boom for the mackerel fishing industry. It was usually undertaken from the end of May to the end of July when trolling would take over.⁴ Today the industry is dominated by larger fishing vessels that can cover larger distances to fishing grounds such as those south of Færder in the Skagerrak.



Herring were as important as mackerel and were fished in large numbers using seine nets when the 'coming of the herring' took place in the northern springtime. Herring swim in vast schools and in the 19th century, their arrival along the coast often heralded a bountiful harvest that often led to waste. This was caused by an oversupply of herring that resulted in a market decline and many were left to rot.

The height of the industry was reached in the years of the late 19th century when overfishing caused the industry to collapse. Fishing ultimately continued but at a lower intensity. Conservation measures were introduced elsewhere in Norway but a steady supply of herring in the Oslofjord ensured that prices remained strong because of high demand. Today, herring are fished along the entire Norwegian coast producing a supply large enough to keep prices in check.⁵

Lobster trapping was equally important with the season generally commencing at the beginning of October and finishing in December. Lobsters were regarded as luxury produce and were destined for the marketplace rather than the kitchen table of the farmhouse. Lobster trapping was an activity that was conducted by virtually all adult members of the community who owned a boat. Not only professional fishermen, but boys, older men and in earlier times, women also participated. A fishing

Canned herring pieces (*gaffelbiter*) and canned mackerel labels from the old Hvaler Canning Co. A/S factory that was originally established as A/S Hvaler Preserving at Edholmen ca. 1917.

party usually comprised two persons, one to set the traps on the reefs and the other to take care of the boat. The couple normally set between 50 and 70 traps and a thorough knowledge of the movements and habits of the lobsters on the reef was critical to ensure a satisfactory harvest.⁶ This familiarity was only acquired through years of experience and was passed on from father to son from an early age.

All fishing activity at Hvaler could not be practised without a suitable and reliable vessel. A worthwhile investment in a fishing craft was essential for safe operation in waters that were subject to sudden storms. Depending upon the type of fishing activity pursued, vessels at Hvaler were specifically designed for a particular purpose.

In earlier years, three principal types of vessel were associated with the Hvaler Islands. They were the *eke* (pram), *snekke* (open, double-ended boat) and the *Hvalerbåt*. Each of these had its own domain of operation and one household could potentially possess all three. Almost all households operated at least one type, not only as a means of conveyance from one island to the next, but from settlement to settlement, from farm to market and from Hvaler to nearby towns. Despite their importance as commuting vessels they were essentially the workhorses for most of the population.

The vessels that were built at Hvaler belonged to the southeast Norwegian boat type and their designs were influenced by boat building in other parts of northern Europe and Holland. The vessels built at Hvaler were joined with narrow planks and were characterised by their relatively short length and broadness of beam, quite unlike vessels from the west and north of Norway.

Up to the 1880s the timber vessels were clinker-built, that is, the wooden planks on the hull were fixed so they overlapped each other along the edges.⁷ They were solidly constructed for strength and could stand heavy use. The planks were joined by juniper nails and reinforced by a framework of ribs that were fashioned by the builder from naturally occurring shapes found on trees in the forest. For instance, the elbow of a bent branch was ideally suited for moulding as a rib.

Naturally occurring contorted pines were commonly used by boatbuilders for shaping into ribs.



Locally occurring timber such as oak and Scots pine were commonly used but as this supply could not meet the increasing demand, it was necessary to import these building materials. Throughout the 19th century, the smaller boats were built of Scots pine while the larger were built of oak, but a shortage of oak around the turn of the 20th century forced builders to use Scots pine as a replacement.

The most recognisable of vessels built at Hvaler was the large *Hvalerbåt* and was prominent around the turn of the 19th century. It was a clinker-built timber boat of 28-35 feet in length with a large surface area and rounded in the fore and aft. It had gained a reputation for its seaworthiness and good sailing qualities and was typically open, similar to other Norwegian craft of the era. They were used by both pilots and fishermen in the outer Oslofjord and the Skagerrak. Although they were seaworthy, the lack of a deck frequently resulted in the loss of many pilots and fishermen to capsizing. As pilots were accustomed to waiting in the open sea for approaching ships, the likelihood of drowning was quite high. Early in the 19th century and at the instigation of the Dano-Norwegian

naval officer and boat builder, Peder Sølling, the gradual conversion to deck-covered boats changed the behaviour of pilots, despite initial resistance to change.⁸

The builders of the *Hvalerbåt* were the first to comply with the modifications and resulted in a safer vessel that could withstand longer periods at sea especially during stormy weather. Although these vessels were mainly used by pilots, the fishing fraternity took advantage of the hatches located in the deck. The forward hatch was mainly used to haul in the seine nets while the middle hold contained the berths. These boats were originally sprit-rigged but this was eventually replaced by the gaff rig around 1880 while the mast was secured by a hemp stay. Overall, the *Hvalerbåt* was in great demand in southeastern Norway by virtue of its reliability and safety.

The other two types of vessel built at Hvaler, the *snekke* and the *eke*, were also constructed of timber but were of smaller dimensions designed for smoother waters. The *snekke* was constructed along classical lines and resembled boats from elsewhere in Norway. They were sharp-pointed in the stern and the bow, usually 12-16 feet in length and the number of ribs varied according to its size. The *snekke* was primarily a row boat but it could also sport sails, either a sprit sail alone or with a foresail and was referred to as a *seilsnekke*.



Limited edition plate issued in 1985 by Millhouse of Denmark in recognition of the role played by the *Hvalerbåt* in the outer Oslofjord.



The pier and fishing shed at Støet on the island of Kjerringholmen in the 1950s showing a *snekke* immediately behind an *eke*. Also shown is the *Risørskøyte, Lynn (Ø-39-H)*, owned by Syver Jacobsen.

The *eke*, a type of pram, was smaller again and flat-bottomed for use in the shallower waters of the inlets and bays around Hvaler. Often when ice formed between the islands during severe winters, and because of this feature, *eker* were dragged over the ice to transport goods and material.⁹