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# Beak tax to control predatory birds in the Faroe Islands

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ABSTRACT: A beak tax was levied in the Faroe Islands from 1742 until 1881. Every man between the ages of 15 and 50 was obliged each year to submit to the authorities one raven's beak or two beaks of a crow, great skua or greater black-backed gull. A fine was imposed if a man failed in this obligation. The tax was repealed in 1881, after which men were paid for the beaks, and records of the beaks exist until 1934. A total of about 800 beaks submitted annually did not appear to deplete the bird populations, however the increasing human population from around 1800 increased the pressure on the bird populations which then declined rapidly from around 1850. A brief increase in the number of beaks occurred after 1881 when men were paid for the beaks and after that time the populations declined again. The population of crows declined more dramatically than the raven population while the great skua had declined to four breeding pairs when it was protected in 1897. The number of beaks submitted is correlated to the island size, the habitat index and the number of sheep. The smack fishery from the 1880s resulted in a better economy and better survival of the ewes in the lambing season which led to less interest in shooting the four bird species that predated on lambs. The bird populations have recovered even though the Faroese are still allowed to hunt them all the year round.

KEY WORDS: common raven – hooded crow – greater black-backed gull – great skua – white-tailed eagle.

No living individuals of the white-speckled (or pied) raven (*Corvus corax varius*), a mutant found only in the Faroe Islands, have been reported since 1902. Annual culling of the common raven (*C. c. corax*) population throughout the archipelago could be one reason why so few of these birds have ever been recorded (Bloch *et al*. 2010). To find out whether a beak tax (in Faroese, nevtollur or ravnatollur; in Danish, næbtold) that was imposed on Faroese men between 1742 and 1881 influenced the pied raven's scarcity, the extant records of this tax have been studied.

Bounty systems have been widely used in efforts to control the negative impacts of animals on human activities. Bounties have often been applied to birds, and culling has in many cases seriously reduced target populations and even led to a species' subsequent protection (for example, house sparrows (*Passer domesticus*) in Germany: see Seitz 2007). Since the Middle Ages throughout Scandinavia men were encouraged to deliver beaks from predator birds every year, and hunters were often paid for these beaks. In the sixteenth century, according to Olaus Magnus (1555: book 4: 15; see Figure 1), the bounty paid on ravens was a new arrow for every bird killed. In Denmark in the end of the eighteenth century men received 6 skillings for each raven shot. The raven population decreased, but since 1922 the species has been protected in Denmark (Bjørk 1963; Brøndegaard 1985: 257).

In the Faroe Islands, a beak tax was imposed by royal decree in 1741, according to which men who did not deliver a stipulated number of beaks each year had to pay fines. The target

Figure 1. Vignette from Olaus Magnus's *Historia om de nordiska folken* (1555) showing a man delivering raven beaks.

birds were those that were alleged to harm animals of economic importance to the Faroese, such as sheep and sea birds particularly Atlantic puffin (*Fratercula arctica*) and guillemot (*Uria aalge*). The main species covered by the beak tax were "Ravne" (common raven, *Corvus corax*), "Krage" (hooded crow, *Corvus corone*) and "Bage" (greater black-backed gull, *Larus marinus*). The great skua (*Stercorarius skua*) was not mentioned directly in the decree establishing the tax but it was possibly counted among "Deslige Rov-Fugle-Næb" (beaks from other predatory birds), and was supposedly first included in the beak tax around 1800 (Salomonsen 1934b). The number of great skuas was reduced to four breeding pairs before the species was protected by law in 1897 (Salomonsen 1934a: 242; 1982: 103). "Ørne"was mentioned in the decree of 1741; white-tailed eagle (*Haliaeetus albicilla*) is the only species to which this name could apply but it had become extinct as a breeding bird in the Faroe Islands around the year 1700 (Svabo 1783: 93–95; Andersen 1901: 242–243; Bjørk 1963, 1984: 249; Salomonsen 1934b: 100–101; Williamson and Nørrevang 1954).

## THE HISTORY OF THE BEAK TAX IN THE FAROE ISLANDS

A bounty system may have been practised in the Faroe Islands earlier than the year 1300 even though it was not mentioned in the Seyðabrævið ("Sheep letter") of 1298 (Bjørk 1963; Anonymous 1971), which described all regulations associated with the keeping of sheep. The Seyðabrævið, however, contained only the legal conditions which pertained between the owners of sheep and does not mention the threats to which sheep were exposed (Thorsteinsson 2008). Therefore, bounty systems may well have been in effect before the writing of the Seyðabrævið.

Since 1380, the Faroe Islands, which are divided into six districts (sýslar) each one managed by a sheriff (sýslamaður), have been under Danish hegemony (Madsen 1999: 27).

The earliest record of a beak tax dates from 25 September 1666, when the High Commissioner (in Faroese: fútin) of the Faroe Islands demanded that men follow the ancient

custom of delivering beaks of predator birds (Petersen 1968: 230–231). This concerned only the raven, every man "able to row a boat" having the duty to hand over the beak of one raven once a year (Debes 1673: 124–126). The beaks from all the islands were collected each year and burned to prevent them from being used again later. Any man who failed to deliver a beak received a fine of one "skinn" (the value of a sheep's skin[1]). But this duty was not always strictly enforced (Debes 1673: 62–63), and the parliamentary protocols for 1665, 1669, 1686, 1707 and 1723 urged the sheriffs to collect the beaks (Nolsøe 1955) and mentioned irregularities with the submission of the beaks (Svabo 1783: 92–100). The irregularities sometimes arose because there were problems getting enough ammunition to the Faroe Islands from Denmark (Nolsøe 1955).

At the parliamentary assembly in Tórshavn on 29 July 1740, people argued that predatory birds had increased in number, increasing the threat to new-born lambs and weak ewes. Therefore, a royal decree signed by King Christian VI on 27 November 1741 established a compulsory beak tax (Salomonsen 1934b: 100–101; Bjørk 1963, 1984). The decree[2] laid down that the sheriffs were to take an annual census of all men between the ages of 15 and 50, except those in Tórshavn. The tax imposed on each man was, as before, one beak from a raven or a white-tailed eagle or a comparable predatory bird, or, for want of those, two beaks from crows or greater black-backed gull instead. The fine for not delivering a beak (or, alternatively, two beaks from crows or gulls) was also the same as before, one "skinn"[1], and if a man could not pay this, the sheriff was to confiscate his goods. The High Commissioner was to receive the income from the fines; this money was used first to repair the parliament building in Tórshavn and later to build a bridge, named Næbbetoldsbroen (literally, beak-tax bridge), in the eastern bay of Tórshavn (Samuelsen 2008: 61). The men in Tórshavn were exempt from the beak tax because they had no sheep to protect and no land for the sheriffs to take if they could not pay the fine.

The beaks were collected each year by the six sheriffs during their annual tours of inspection in their respective districts and then burned at the Krákustein (the Crowstone) in Tórshavn on Ólavsøkudagur, 29 July, the first day of the main parliamentary assembly. One description tells that several sacks full of shavings were spread out on the flat Krákustein, the beaks placed upon the wood and ignited, and the fire could be seen all over the town (Samuelsen 2008: 61). This custom continued until 1866. After that the beaks were burned at the spring assemblies in each of the six districts (Feilden 1872: 3220–3221; Samuelsen 2008: 61).

From about 1850, people argued that the time used to cull predatory birds was of greater burden than the harm done by the birds (Bjørk 1984: 253). Around that time, the number of beaks submitted had begun to decrease (Figure 2), and the beak tax was repealed in 1881. Thereafter, men were paid for delivering beaks from culled birds (Law no. 35 of 18 March 1881). Under Law no. 34 of 11 March 1892 ("om ødelæggelse af ravnens yngel på Færøerne [about destruction of the brood of the raven in the Faroe Islands]") the owners and users of land were obliged to destroy the broods of raven and were compensated for the work done, or they were fined for any neglect. This law is still in force, but today without payments for the beaks or fines (Law no. 83 of 23 February 1988). Until 1970, local districts paid 5 Danish kroner for the beak of a raven and 2.5 kroner for a crow beak. Today, ravens, crows and gulls are not protected at all in the Faroe Islands and can be hunted all year round – except on Sundays and holidays – according to Law no. 27 of 9 September 1954.

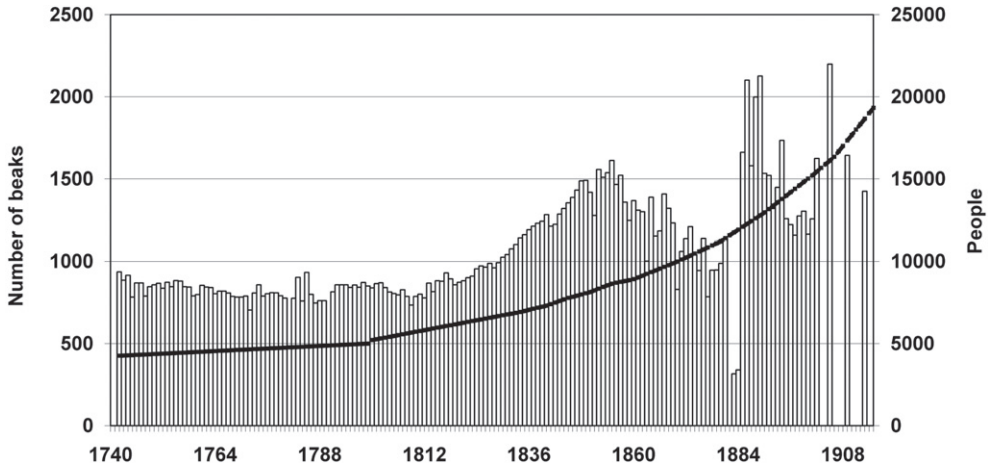


Figure 2. The total number of raven and crow beaks delivered in the period 1742–1913 (vertical bars): only years with records from all six districts are included. The human population of the Faroe Islands is indicated by the curved line.

## BEAK TAX AND BOUNTY RECORDS

Whenever a tax is involved, accounts are kept, and this was the case with the beak tax, and after its repeal, the bounty payments. The extant records of the annual quantities of beaks submitted to the authorities in the Faroe Islands allow an examination of the effect of this method of culling on the bird populations, especially the raven.

As noted, the Faroe Islands are divided into six sýslar (districts) for administrative purposes. Reports concerning the islands were sent to Denmark every year, and accounts of the beaks delivered have survived for most of the period between 1708 and 1934.[3] For 158 of the years between 1742 and 1934, the number of beaks was recorded according to the six districts but the species were not specified. All data are missing for 1781, 1790, 1881, 1906 and 1915, while data exist only for some of the districts from 1882, 1884, 1903–1908 and 1914–1934; those years are excluded from the analyses.

The actual number of beaks submitted each year was therefore much higher than the figure given in the records. The extant records for 1766 to 1934 provide the exact number of ravens killed for 61 years, for crows for 58 years, for greater black-backed gulls for nine years, but for great skuas only for one year. Sometimes the records were subdivided by district and the numbers of birds culled exist for all six districts: this occurred for 23 years between 1863 and 1913 for the raven, and for 22 years for the crow. This makes it possible to calculate the ratio of ravens to crows and to the other two species. For two years, 1863 and 1872, the numbers of beaks of all four species are available from all six districts. For 1863, the figures came from one of the sheriffs, H. C. Müller (Andersen 1901: 242–243), while the data for 1872 are found in H. W. Feilden's (1872) account of his travels when he accompanied the sheriff from Eysturoy in an attempt to get hold of a beak of a white-speckled raven (Bloch *et al*. 2010). Feilden (1872) provided the exact number of raven beaks but pooled the figures for the three other species. The tax records thus preserve valuable information about the number of predatory birds culled in different parts of the country.

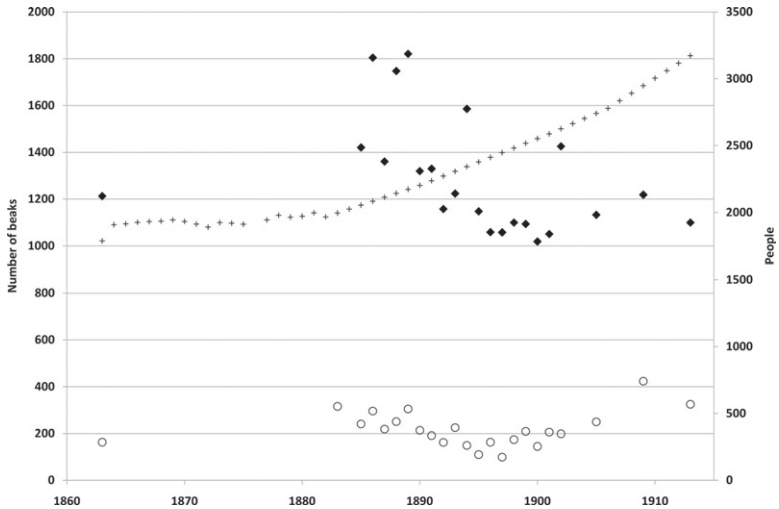


Figure 3. The number of raven (○) and crow (◆) beaks delivered in the years where they were recorded from all six districts. The number of men (+) between the ages of 15 and 50 is estimaated for the period 1881–1913.

As required by the royal decree, the tax records include an annual census of adult men in each district for the period 1741–1866, thus providing more information about the human population than the bird populations (Figure 4).

**Crow**: 41,358 beaks were recorded from 58 years during the period 1766–1934: the average annual total being 713. As mentioned above, the number for some of the years also included the other species termed predatory birds. For the period 1863–1913 the number of crows killed was available for 22 years: 28,394 crows were killed, an annual average cull of 1,291 crows (Figure 3).

**Greater black-backed gull**: 1,131 gull beaks were recorded for only nine years between 1766 and 1934, an average cull of 126 per year.

**Great skua**: in 1863, 250 were killed.

**Raven**: 9,234 ravens were recorded from 61 years between 1766 and 1934, an annual average of 151 birds. For the period 1863–1913 the number of ravens killed was 5,036, and for 23 of these years numbers were recorded by district with an annual average cull of 219 ravens (Figure 3).

**Men between the ages of 15 and 50**: between 1742 and 1881 men between the ages of 15 and 50 comprised 17% (range 14%–22%) of the Faroese population. Using this average, and with the exact number of people in the Faroe Islands given in the official censuses, it is possible to calculate the number of men between the ages of 15 and 50 after 1881, when the beak tax stopped (Figure 4).

**The proportion of ravens to crows**: for the period 1863–1913, data exist for all six districts for both ravens and crows for 22 years (Figure 3). The proportion of ravens in the cull was 24.7% (± 1.3%; range 16%–41%) when the number of crow beaks submitted is doubled. Between 1742 and 1934, the pooled number of all birds killed exists for 189 years (Figure 2).

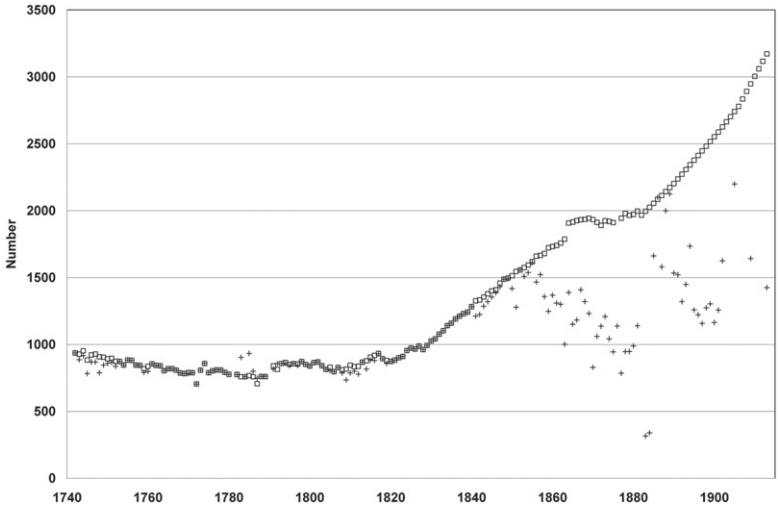


Figure 4. The number of men in the Faroe Islands between the ages of 15 and 50 (□), to whom the beak tax applied in the period 1742–1881. The number of beaks delivered (+) is included, but only for the years with the number is known from all six districts. The number of men between 15 and 50 is estimated for the period 1881–1913.

By applying 24.7% to this pooled total, the annual average number of ravens can be calculated. Thus, 45,657 ravens were reckoned to have been killed over 189 years, an annual cull of 242, more than both the annual average of the known take of 151 birds for 61 of the years between 1766 and 1934 when the exact number is known, and also more than the 219 killed annually in the 23 years between 1863 and 1913 when the number from all districts was recorded for both ravens and crows (Figure 3). The annual cull of ravens may have been in the range of 150–250 in the whole period 1742–1934.

**The carrying capacity of ravens**: in 1981, inland birds were counted in the Faroe Islands, and the population of ravens was reckoned to comprise 117 breeding pairs (Bloch 1981; Bengtson and Bloch 1983), a population density of twelve pairs per square kilometre. The equivalent population density of ravens, as estimated by Ratcliffe (1997), in Shetland was ten pairs and in Orkney was nine pairs. Assuming that these island groups are comparable, the carrying capacity may never have exceeded 120 breeding pairs in the Faroe Islands.

**The index of habitat quality and the raven population**: the number of breeding pairs of different birds is related to the quality of the land (Bengtson and Bloch 1983) which is assessed as the carrying capacity in numbers and weight of cattle, sheep and hay in proportion to the area (Clementsen 1981: 724–726; Thorsteinsson 1981, 1991). As the raven is said to harm sheep, it is worth examining how the number of sheep was distributed on the islands in relation to the number of beaks delivered in the same period. In Taxationsprotokollen (Anonymous 1873) the number of sheep was recorded for each island (Figure 5).

There are clear parallels between land quality, sheep numbers and the quantity of beaks delivered from ravens and crows. This can be seen particularly in Vágar district, where the

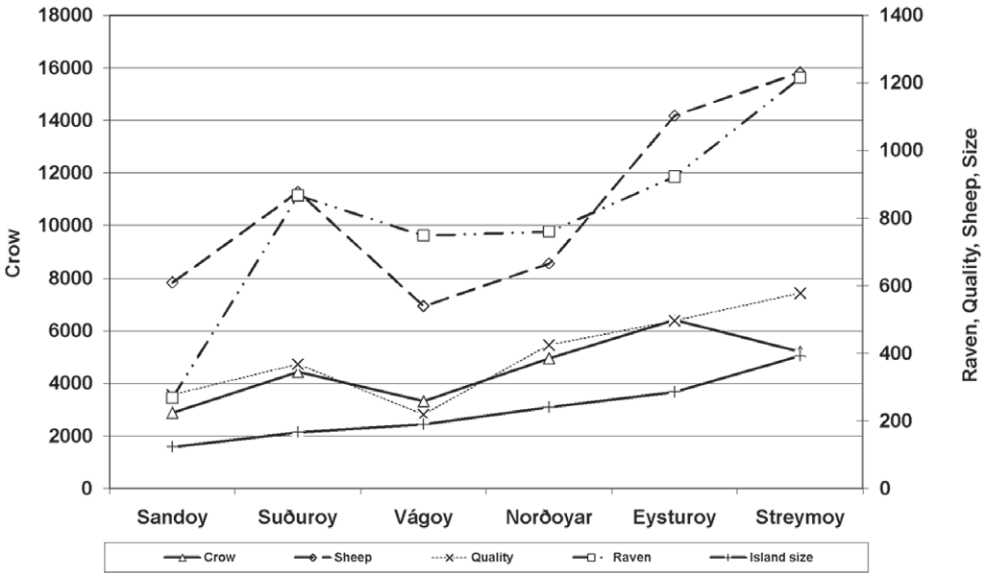


Figure 5. Raven and crow beaks related to island size, habitat index and number of sheep (see text for explanation). The numbers of beaks are from 1863–1913. The number of sheep is from *Taxationsprotokol* for 1873.

habitat quality is less than expected, and where there were both fewer sheep and fewer birds taken (Figure 5).

**The pressure on the bird population**: Occasional references were made in publications to the condition of the Faroese populations of the birds covered by the beak tax. The crow population suffered most from the tax with only a few birds left at the start of the nineteenth century (Landt 1800; Williamson 1970: 66). Likewise, only a small number of greater black-backed gulls remained in the mid twentieth century (Ryggi 1951: 60). The great skua was, as mentioned, protected in 1897 when four breeding pairs were left.

More recent examinations of the hooded crow in Scotland showed that the crow could only harm ewes and lambs that were already dying from starvation or sickness (Houston 1977a; 1977b).

From published accounts it is obvious that the raven was numerous until about 1850. Svabo (1783) mentioned “large flocks”; Landt (1800) said that the raven was a well-known bird; Graba (1830) saw many ravens in 1828, and Atkinson (Seaton 1989) made similar observations in 1833. Both Holm (1848) and Müller (1862) regarded the raven as a common bird, but Feilden (1872) observed fewer than he expected. However, both Annandale (1905) and Salomonsen (1931) saw only a few, while Ferdinand (1947) reported merely a small number on some of the islands. The present author did not observe many ravens when visiting in 1963, but saw more upon return in 1974, and today, in 2011, the raven is common.

When looking at the number of beaks delivered (Figures 2 and 4), remembering that a beak of a raven was counted as one but a beak of one of the other species was reckoned as a half, it seems that a total cull of around 800 birds did not harm the populations. Numbers were stable from 1742 to around 1830. But with an increasing human population, the number of beaks delivered rose to more than 1,600 beaks per year around 1850 (Figure 2). After that

the number decreased until the beak tax was repealed in 1881. Following the repeal, men were paid for delivering beaks, causing another peak in the annual cull (Figure 2). Unfortunately, data are missing for 1880–1884 and after 1902, with information available only from 1905, 1909 and 1913 for the remaining period until 1934. Nevertheless, it is possible to state that the number of beaks delivered exceeded 2,000 in 1885 but after that there was a steady decrease (Figure 4).

## CONCLUSION

The beak tax was repealed about the same time as the smack fishery began off the Faroe Islands (Joensen 1975: 21, 1996), when most of the able-bodied men worked at sea throughout the summer but were at home in the winter. In winter, darkness and weather conditions may have impeded bird-culling, but with an increasing number of adult men there was enough manpower to keep predatory birds under control. Furthermore, with more people and a better economy, it was also possible to provide better conditions for ewes with extra feeding in the winter. With stronger ewes in the lambing season, the negative impacts of predatory birds were no longer obvious. This is again reflected in increasing populations of ravens, crows, greater black-backed gulls and great skuas during the twentieth century.

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## NOTES

[1] Skinn is an old Norse measure which has survived into the present in the Faroe Islands. It is used today to indicate the quality of the land, where the values are 1 mark = 16 gyllin = 320 (20 × 16) skinn. Today it is also a unit of weight employed when evaluating pilot whales (*Globicephala melas*), slaughtered geese and sheep (Bloch and Zachariassen 1989; Thorsteinsson 1993, 1996). In the mid nineteenth century one skinn was equivalent to one day's wages.

[2] The original decree is in Riksarkivet, Oslo, Norway (nr. 113 in "Rentekammerets Relations- og resolutions-Protocoll pro Anno 1741. Norske Sager.").

[3] Records for 1742–1934 are in Føroya Landsskalasavn, Tórshavn, while annual reports covering the period 1708–1848 are kept in Rigsarkivet, Copenhagen, Denmark.

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