

PILOT WHALING IN THE FAROE ISLANDS



A second report by the
Environmental Investigation Agency

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This report is dedicated to all our friends in the Faroe Islands for their assistance and hospitality.

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Cover photo shows a pilot whale hooked by a hunter during the Vestmanna kill, 27 July, 1985, by Dave Currey/EIA

Cover design by Gary Hodges.

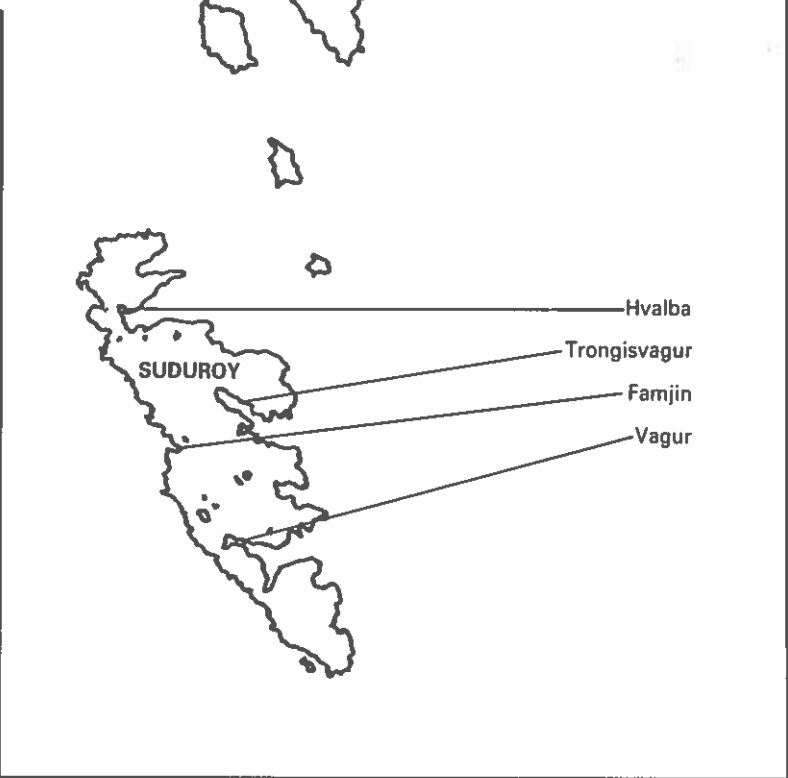
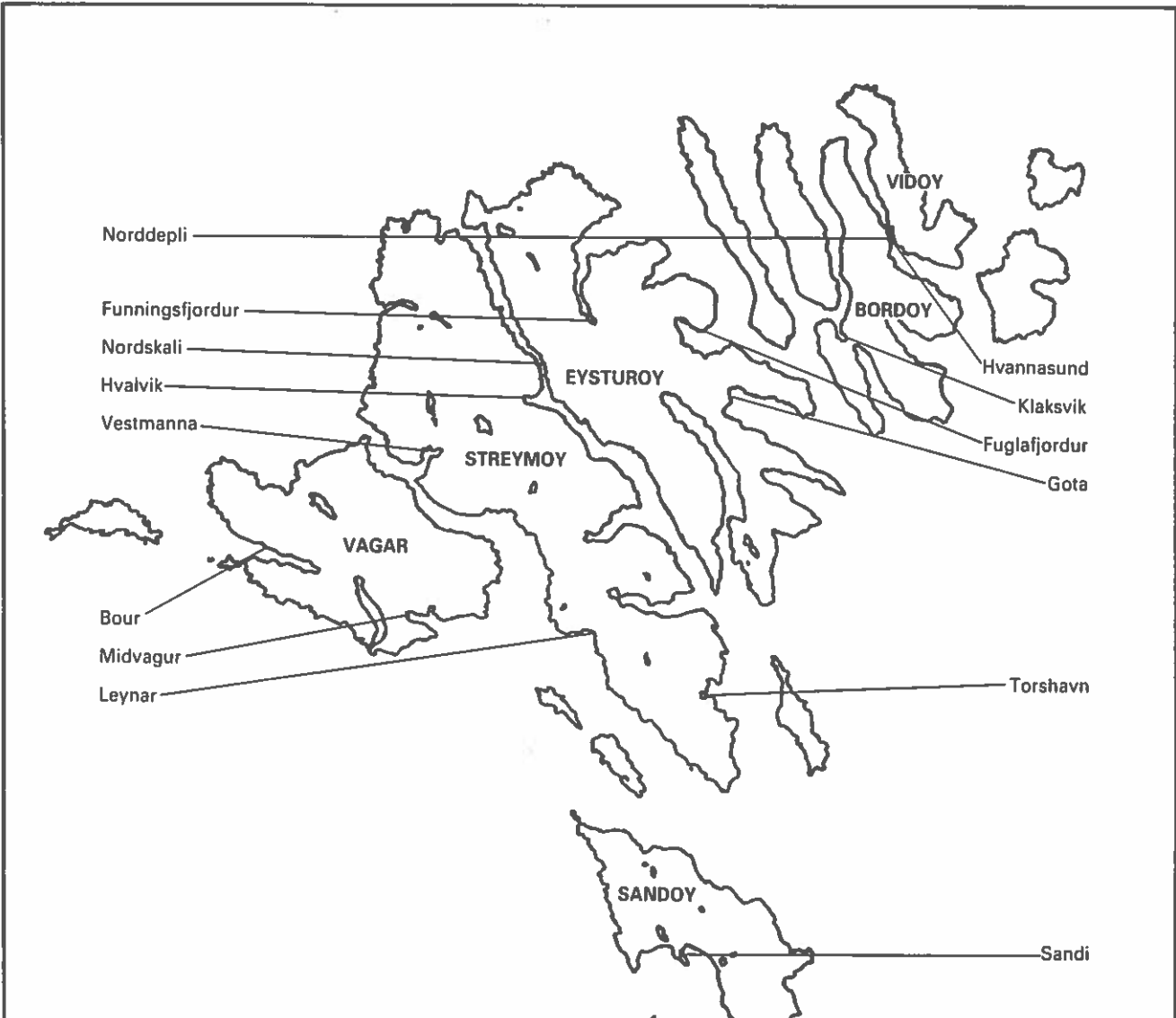
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Contents

Introduction	3
The Vestmanna Hunt – July 27th, 1985	4
The Brain Structure and Behaviour of Pilot Whales	8
From Subsistence to Sport	10
Use of Whale Products Historically	11
The Present Use of Whale Products	12
Wastage in the Historical Hunt	12
Reasons for Waste in Recent Years	13
Wastage of Whale Meat and Blubber	15
Cruelty in the Traditional Hunt	17
The Attack	18
The Pilot Whale Hunt of the 20th Century	19
Present Day Organisation of the Hunt	21
Suffering Experienced by the Whales	22
A Review of Catching Effort in the Faroese Pilot Whale Hunt	26
The Threat of Pollution to Pilot Whales	28
Mercury in Pilot Whales	28
Results of 1977 and 1978 Mercury Tests	29
Polychlorinated Biphenyls (PCBs)	29
Regulation of the Pilot Whale Hunt	30
New Animal Welfare Regulations of 1985	31
New Regulations of 1986	32
Faroese Fish Exports	33
Fish Sales for 1985	35
References	36



Introduction

In this second EIA report on the Faroese pilot whale hunt, we examine the background and history of the slaughter and assess the claims commonly repeated by the Faroese authorities in support of the continuation of the kill.

The information contained in this report has been collected over the past 20 months, by a dozen EIA researchers who have repeatedly visited the islands during this period.

In that time, we have reviewed the existing published literature on the hunt and its background, spoken to senior Faroese authorities and politicians from various departments, and conducted hundreds of interviews with Faroese people from all walks of life on the subject of the hunt.

EIA researchers have reviewed official records and catch statistics, searched through hundreds of local newspapers, dug around in many of the rubbish dumps on most of the major islands, and been present at the site of three separate kills. In the third instance, EIA passively interfered in an attempt to turn the whales back to sea before the kill began.

The arguments in favour of a cessation of hunting are irrefutable. For at least the last 20 years there has been no essential need for the whale meat and blubber. Not only is the hunting method extremely cruel but few of those taking part in the hunt possess any of the traditional skills required to kill the whales with even a hint of efficiency.

The status of pilot whales in the North Atlantic is uncertain and there is, at present, no research being undertaken which will allow an assessment of the present abundance of this species. Even if a massive and well organized research effort was immediately undertaken, it would take at least ten years to construct any estimate of population.

The Faroese authorities like to claim, like so many other whale hunters have done over the past centuries, that the long history of catches ensures there is no threat to the species. Unfortunately, population after population of different whale species have been systematically depleted by unregulated hunting. Many populations, such as the blue, the grey, the right, and the humpback whale have suffered serious population crashes despite long histories of catches.

Pollution poses a serious threat to pilot whales and this fact is one which Faroese politicians and scientists agree with. The present levels of mercury and PCB's detected in pilot whales are a risk both to the whales, and the people who consume their contaminated meat and blubber. Moreover, the observed effects of these pollutants on other cetacean species has been an apparently diminished fertility rate in the females as well as reduced resistance to disease in both sexes.

It has only been in the last year that international publicity has led to an intense and sustained outcry against this uncontrolled and unnecessary whale hunt.

The Faroese authorities have responded by developing new regulations on the whale kill which **if effectively implemented and enforced**, may reduce the worst excesses and cruelties inherent in the killing method.

While welcoming the Faroese attempt to restrict the kill as the first step towards a total ban on catches, EIA is not confident that the new regulations will be quickly or effectively enacted.

EIA will therefore continue to seek the immediate and complete protection of the pilot whales – and all other whales – caught by the Faroese.

We are not calling for, or supporting a boycott on Faroese fish products – yet. Although boycotts are often difficult to organize, the centralised nature of Faroese fish exports (which account for around 99% of their foreign earnings) make them an easy target for effective action.

Our position on supporting a boycott will be continually reviewed throughout the rest of 1986 as developments in Faroese policy on whale hunting occur. We urge the Faroese Government to recognize that the protest against the hunt will not go away until the pilot whales receive total protection from hunting.

The Vestmanna Hunt – July 27th, 1985

Over 1,220 whales had already been killed by the 27th of July, when a boat from the village of Kvikvik on the central island of Streymoy, sighted two separate herds of pilot whales off the northwest side of the island. Both herds were driven together by a number of smaller fishing boats that quickly assembled.

Co-incidentally, the cottage serving as the headquarters for the nine-person team of the Environmental Investigation Agency (EIA) was also located in Kvikvik. The EIA team had plans to interfere with any whale hunt that took place.

Most of the whale hunts that had taken place had occurred in the northern or southern islands. Using this catch pattern to advantage, the EIA made constant patrols of the main whaling bays on the central islands to watch for signs of whale hunting.

An EIA team spotted the hunters driving the whales towards the bay of Vestmanna. As the rest of the group began to load inflatables onto the three vans used in the patrols it soon became clear that the whalers had their own "direct action" planned. A group of whale hunters used their cars to block the exit road from the EIA cottage which connected with the highway to Vestmanna.

While one van was sent to distract the hunters' blockade, another EIA crew carried a single inflatable several hundred metres to the Kvikvik harbour. Tensions rose as a group of locals tried to physically prevent EIA from loading the outboard engine and fuel tanks onto the inflatable and some of the crew were punched and kicked.

A truck with a mobile crane arm was driven to the end of the Kvikvik harbour and the mobile arm extended across the exit to prevent the dinghy and its crew from reaching Vestmanna. When the EIA inflatable tried to slip out of the harbour, the crane arm was suddenly dropped on top of the boat, narrowly missing the head of one of the crew.

The trapped dinghy filled with water and began to leak air. Onshore the two men controlling the crane arm assaulted EIA representatives who tried to get them to lift the crane arm off the inflatable. The inflatable and crew miraculously squeezed free from the crane and escaped to the open sea.

Although deflated and at times almost sinking, the dinghy slowly made its way towards Vestmanna, some 10 kms away. It was a slow journey and the EIA inflatable entered the bay almost an hour later. Some forty boats were holding the 200 pilot whales in the inner harbour while the hunters waited for the conservationists to arrive.

A number of boats immediately tried to ram the inflatable, with several of them succeeding.

In Kvikvik harbour, the EIA inflatable is pinned against the quay by a crane arm, operated by whale hunters.
Dave Currey/EIA.



The EIA dinghy drove to the hunt foreman's boat and explained that the kill would violate the Faroese Government's new law on humane killing which specified that "Any animal that is to be killed shall be killed as quickly as possible."

EIA told the hunt foreman, that a kill in the Vestmanna Bay would violate this law. It was impossible to kill the whales quickly or efficiently as there was no beach there. After almost an hour, the foreman agreed that the EIA team had done nothing illegal and prepared to launch the attack on the whales. The EIA inflatable trailed his boat, then raced ahead and past the herd of pilot whales.

The pilot whales were swimming towards the land when the EIA dinghy sailed right in front of the lead whale. Using two gas cylinders which loudly simulate the sound of a ship's foghorn, the whales were turned around, away from the inner harbour.

The lead whale surfaced a minute later swimming towards the opposite side of the bay. The EIA dinghy, hotly pursued by several hunters' boats, again drove in front of the lead whale and blew the "foghorns", causing the whales to sound and turn towards the open sea.

The infuriated whale hunters went berserk and desperately tried to ram the EIA inflatable, or snare its propellor with ropes and nets. Finally, to avert serious injury, the EIA team surrendered to the hunt foreman. Even then many enraged hunters tried to ram the dinghy and threatened to slice it open with their whaling knives.

The foreman's boat towed the EIA dinghy out of the area and half an hour later, the whales had again been herded back into the inner bay. The EIA action crew watched the smooth rhythm of the graceful whales as they swam back towards their doom.

The foreman passed his flag and consequently his authority to another boat – one of those that had earlier rammed the EIA dinghy when it first entered the bay.

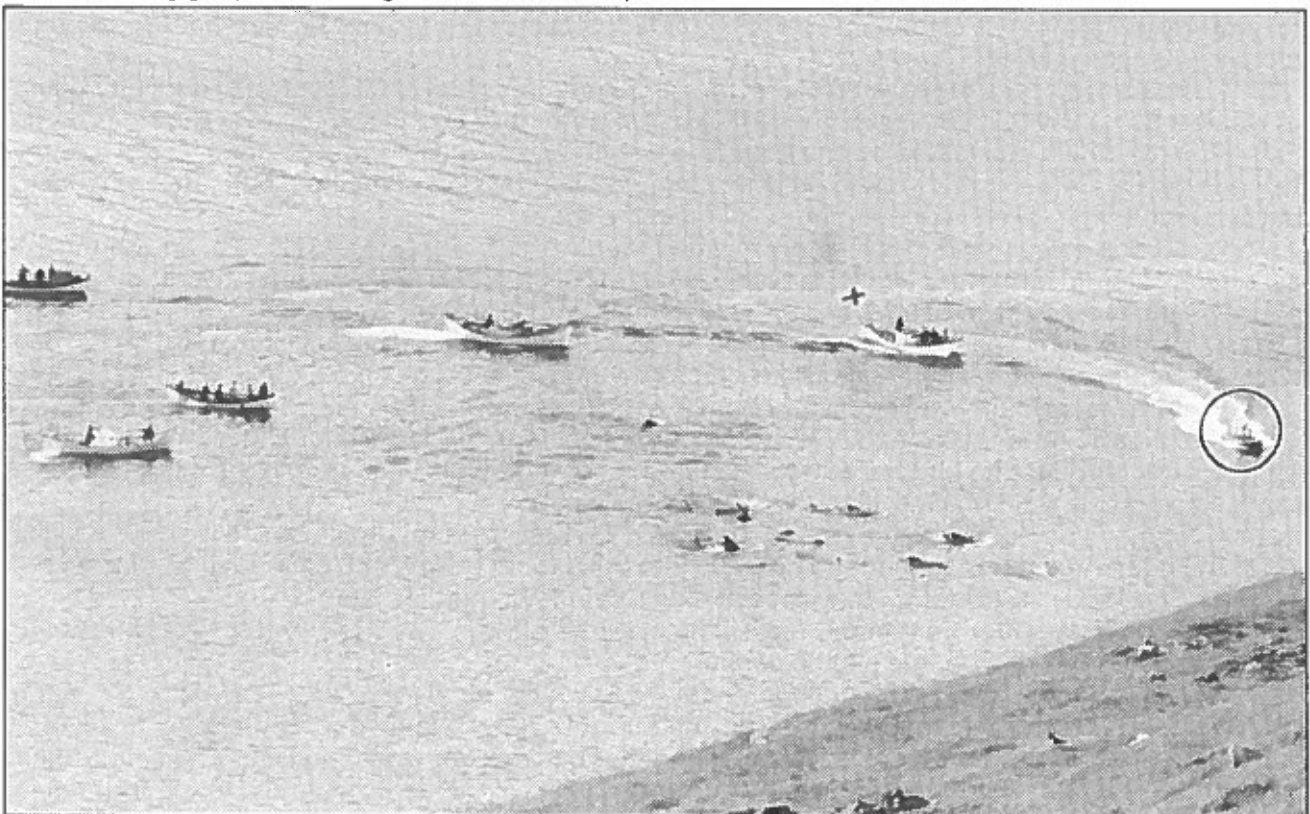
The new foreman quickly launched the attack on the whales as the police arrived from Torshavn, to take the EIA team to the central police station. A group of shocked Austrian tourists flagged down the police van on the highway to congratulate the EIA crew on their efforts to stop the slaughter.

The 27th of July is St. Olav's day – the biggest holiday of the Faroese year – in honour of the man who introduced Christianity to the Faroes. A great deal of alcohol had been consumed by the Faroese hunters which added to the inefficiency of the killing.

A further group of four EIA observers were onshore in Vestmanna and found that it was impossible to interfere further with the hunt. They decided to observe the kill to identify specific points of cruelty even though it was an intensely distressing experience.

Hundreds of local people and a few tourists had gathered to watch the kill. Gill Christie saw

The EIA inflatable (far right) intercepts the herd of whales being driven inshore and turns them back towards the open sea using gas powered "foghorns". *Dave Currey/EIA.*



the whaling spear used to stab the first whale. The spear was thrown four times at the whale, but stuck in only on the fifth attempt. It was left in the whale for two minutes before being withdrawn.

The first whale was killed at 5:30 pm by a man standing on the rocks some three feet away from EIA Associate Director Jennifer Gibson. Because the land was being reclaimed to build a new ferry terminal, the edge near the water was lined with large boulders which form an almost sheer drop into the deep water.

A number of whales were driven towards the shore where men were balanced on the rocks waiting to strike them with gaffs. The whales thrashed violently as the cutting began.

Some Faroese began harassing tourists with cameras. Three men forced EIA photographer, Dave Currey, to kneel on the ground and his three cameras were taken from him.

After half an hour he was allowed to leave with two of his three cameras when he promised not to photograph the kill from that vantage point. (The third camera was later retrieved by the police.) After taking a few photos, Currey was again forced to stop for at least half an hour by a group of intoxicated Faroese.

Currey witnessed many whales being gaffed unsuccessfully and Jennifer Gibson saw one whale gaffed six times before it was securely embedded in the whale. Finally hooked, the whale thrashed violently and took 15 minutes to die.

Gibson saw several whales hooked by hunters in boats. The thrashing of these whales made the cutting extremely difficult and half decapitated whales struggled for several minutes before being killed.

Christie watched as one whale took 14 minutes to be killed. She also timed the gaffing of whales and their delivery to men on shore and noted that it could take up to four minutes for the ropes attached to the gaffs holding the whales, to be passed to men onshore. All the while the whales struggled furiously and bled profusely.

Hunters balancing on the rocks had difficulty staying in position to cut the whales. Three, four and sometimes five attempts were made to cut whales before the "death cut" was effected.

John Booth witnessed a large adult whale being driven onto the rocks which then turned onto its left side. The whale was gaffed three times before the gaff held. Several men held the rope fixed to the gaff while one man cut at the whale. The whale reared up and thrashed violently and the man lost his foothold and fell backwards. The gaff fell out and the whale slipped off the rocks. The hunters were unable to gaff the whale again, which was still alive.

The mortally wounded whale, too weak to swim or float, turned on its back and sank beneath the water. Booth saw air bubbles coming up for half a minute. Waves eventually carried the whale back to the rocks where it was regaffed and cut through to its spine.

Booth also saw a large whale securely gaffed by a hunter in a small fishing boat. The whale dragged the fishing boat around at high speed as one of the hunters started to cut it. Due to the whale's violent thrashing, the gaff came loose. The wounded whale swam around for another ten minutes before it was again gaffed.

Boats of all sizes were taking part in the hunt. Hunters on the larger boats had difficulty killing the whales. Being several feet above the surface of the water they had to lean far over the sides of the boats. First the whale was gaffed by one man who would hold it while a second hunter would then try to kill the whale. Some hunters could be seen hanging over the side of the boat with their feet being held by another man to prevent them from falling in the water.

Gibson noted that the whales, once gaffed, would drag both large and small boats around the bay, often colliding with other whales or other boats. The smaller traditional boats were rocked violently and appeared to be in danger of capsizing in the turmoil.

Bailing water seemed to be a full-time task for the smaller boats. Hunters in these boats tried to hold the gaffed whales, simultaneously trying to kill the whales and bail out the boats.

Currey saw many whales "spy-hopping" – looking above the water to see what was happening, during the kill. After the kill had been going on for two hours he saw a young man in a small boat trying to carve through the blubber of a whale that was dragging his boat around the bay. The whale speeded up and the tired man gave up trying to cut the whale.

Some minutes later as the wounded whale grew tired, the crew again pulled it closer in to the side of the boat. An older man plunged his knife into the gaping wound and continued carving as the whale thrashed in its final attempt to escape. It died a couple of minutes later.

As the slaughter continued, the killing became slower. The men in the boats tired and received little assistance from the people onshore.

The crew of a boat towing an apparently dead whale to the rocks suddenly realized that the whale was still alive as it began thrashing. They had trouble and one man got ashore to try to kill it.

At this point in the hunt, the panic of the whales had reached a peak and some had made their way out to the centre of the bay. A second drive took place, as the boats stampeded the frightened whales towards the rocks.

During the Vestmanna kill, a hunter begins to gaff a whale.



The whale is hooked and the hunters begin to pull on the rope attached to the gaff.



The gaff rips out of the whale, leaving it wounded. Vestmanna, 27.7.85, EIA photos.



On several occasions, a vet who was taking part in the hunt got out of his boat to complete the killing of half decapitated whales that were still alive, but had been left for dead.

Currey noticed a young whale about 2½ metres long being gaffed and towed towards the rocks. The whale was alive but not fighting too hard. The hunter handed the rope to another man onshore who managed to land it on the rocks. The whale then began to struggle violently so the man left it and eventually came back with another man who had a second gaff.

The second man tried to gaff the whale again, but the gaff just bounced off the blubber. The whale moved its head all around and Currey could see its eye glancing at all the people watching. After numerous attempts, the gaff finally embedded itself in the whale's side and the man took out his knife. He started to cut through the blubber near the blow hole and the whale squealed loudly and moved its head frantically until it finally died.

A hunter had threatened Currey with a knife, making it clear that he would use it if he took photos, so he was unable to document the incident.

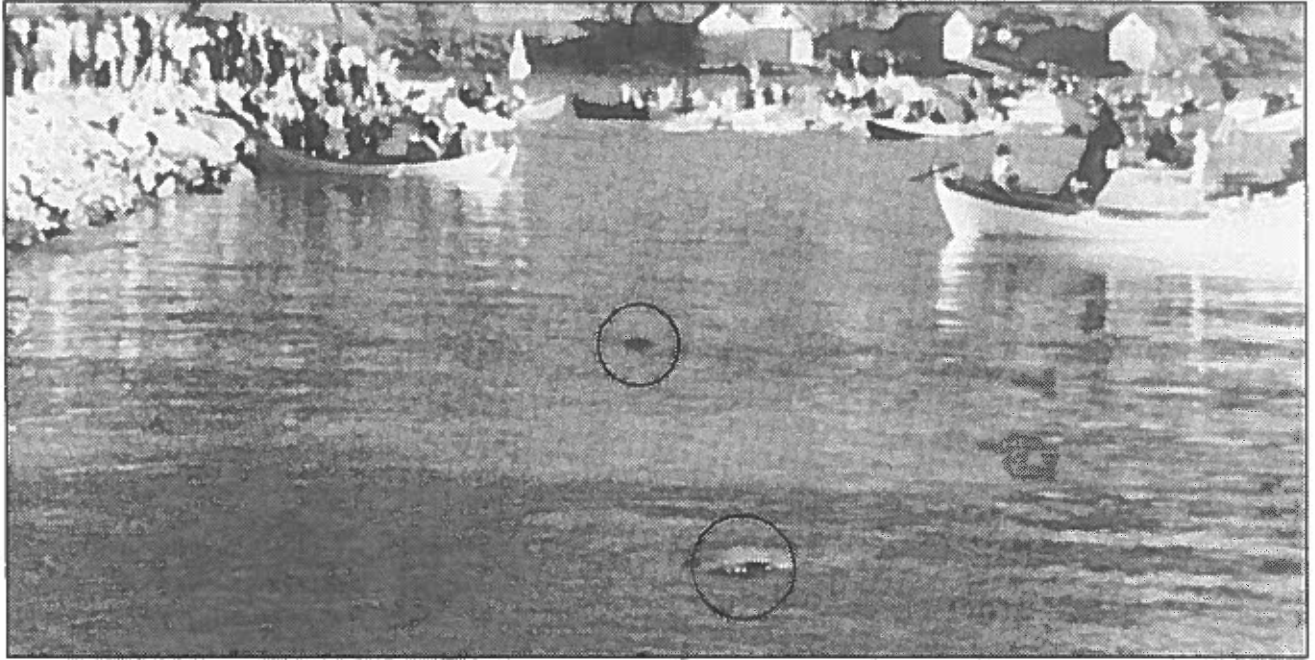
On another occasion Currey saw an abandoned whale with its neck apparently severed lying on the rocks still thrashing around. A man with a gaff and knife eventually came and finished it off.

Only a handful of whales were actually killed by men onshore who balanced on the rocks.

After four hours, the killing stopped around 9:30 pm. Three or four whales were still out in the bay and eventually escaped without being killed.

Dead whales slipped off the rocks and sank into the water. Over the next few days three separate groups of Faroese people told EIA researchers that 15 whales had been lost in the water after slipping off the rocks. The deputy sheriff of Stremoy admitted that the whales had been lost but claimed it had "only" been five.

The EIA team were released from police custody after making a written statement. They were lucky, said the police, that they were not being charged for breaking Faroese law.



At the midpoint of the four hour kill at Vestmanna on 27.7.85, two whale carcasses have slipped off the rock lined shore and are floating away. *EIA photo.*

The Brain Structure and Behaviour of Pilot Whales

by Professor G. Pilleri

R. M. Gilmore writes of the behaviour of the pilot whale: "The crowning attribute of the pilot whale is its high intelligence" and notes that these toothed whales can adapt to situations much more quickly than bottle-nosed dolphins.

Trainers are able to teach the pilot whale to perform tasks with only a few instructions. The whale interprets the spoken, mimical and gesticulatory commands of its trainers with the greatest possible speed and accuracy. (Hediger) Through this it can be shown again and again just how intensive is the positive animal/human relationship in the case of the pilot whale. A simple call will bring the creature hurrying to the human, allowing itself to be stroked and spoken to. When the pool is cleaned it is often necessary for the water level to be lowered. During this operation, which sets off an instinctive panic reaction in the whale, it can be calmed by stroking and verbal comforting.

The extremely impressive helping behaviour of the pilot whale is familiar to all Faroese inhabitants. When an injured whale calls, others of the breed hurry immediately to its aid. This behaviour is taken advantage of by whale hunters of the Faroe islands in order to catch whole herds.

Following these findings of animal psychologists, it is logical to examine whether the central nervous system of the pilot whale has reached a degree of differentiation appropriate to its psychical performance.

As table 1 shows, the brain, with a weight of around 3 kg (man is 1,450 grams) reaches an impressive size. The cerebrum has no olfactory nerves and is strongly differentiated in its frontal and temporal areas.

Table 1. Brain size in cms

Animal No.	306	307	304	305
Circumference of head	100	110	104	128
Eye to blowhole	21	22	21	26
Tip of snout to blowhole	33	40	35	43
Tip of snout to eye	28	40	30	34
Length of lips	22	26	22	26
Eye slot	2.5	2.5	2.5	2.6
Blowhole diameter	4	5	4	5
Weight of brain (grams)	2120	2430	2200	2940

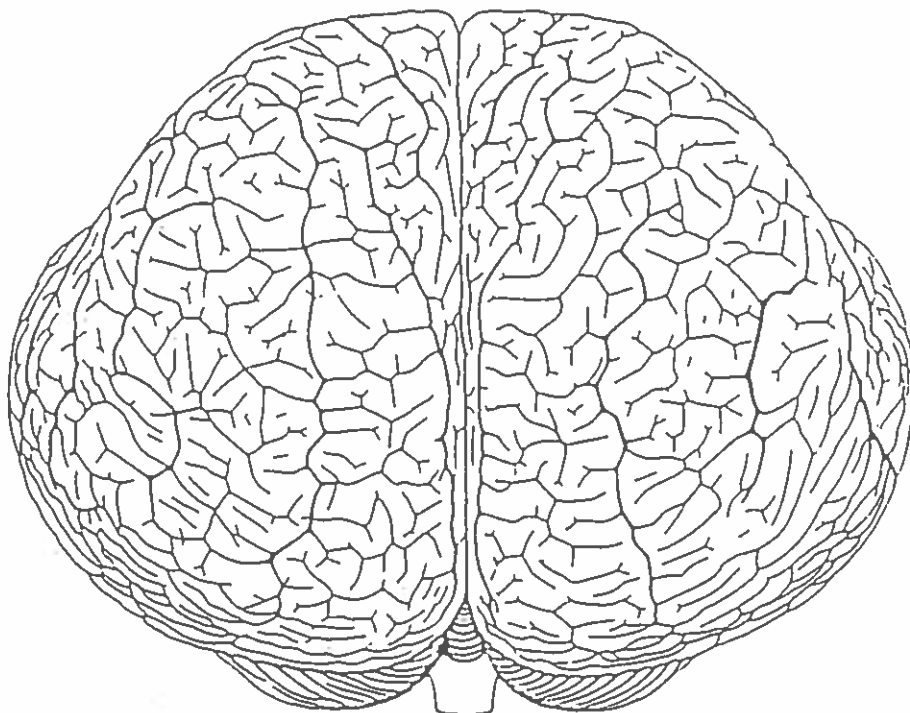


Diagram of the brain of a pilot whale

Of the nerves of the brain the auditory nerve is the most developed. In the frontal section the hypothalamus (interbrain) is narrow. On the other hand the thalamus (diencephalon), relative to the cortex, is very wide.

Following these anatomical observations it remains to be established where this form of brain stands with regards to the other Cetaceans and land mammals (Eutheria).

The degree of elevation of a mammal is determined by the extent of centralisation and specialisation of the nervous system. Centralisation is expressed morphologically in the different growth tendencies in the individual brain regions. It is assumed that during the evolution of the brain, nerve functions are taken on by higher and younger brain centres, at the expense of lower, that is, older brain centres. Specialisation means the level of differentiation of the nerve tissue. Whereas this can only be brought out by microscopical methods, centralisation can be determined by macroscopic measurement or weighing of the brain parts. Numerous measurements carried out on several hundred types of mammals of the various orders (Pilleri, 1982) have shown evidence that the interbrain (old brain centre) and cerebrum are inversely proportional with regard to size; that is to say **as the level of development of a mammalian brain increases, the quotient- length of interbrain (hypothalamus): length of cerebrum decreases.**

Following these experiences, the quotient was brought into the methodology as an expression of centralisation.

In the whale brains examined so far the interbrain (hypothalamus) quotients have been as follows:

ODONTOCETI (toothed whales)

Common dolphin	0.08–0.09
Euphrosyne dolphin	0.05
Bottlenose dolphin	0.09–0.06
White whale	0.07

The following quotients have been calculated for the four examples of *Globicephala Melaene* from the Faroes:

Table 2.

Animal No.	304	305	306	307
Length of Cerebrum (mm)	160	175	140	140
Length of Interbrain (mm)	12	12	12	12
Quotient	0.075	0.068	0.075	0.078
Average Quotient = 0.074				

Table 3.

The following quotients have been calculated for primates:

Lemuridae	<i>Lemur macaco</i>	0.15
	<i>Lepilemur spec.</i>	0.23
	<i>Microcebus murinus</i>	0.20
Indridae	<i>Propithecus verreauxi</i>	0.13
Lorisidae	<i>Loris tardigradus</i>	0.21
	<i>Galago spec.</i>	0.20
Cebidae	<i>Cebus fatuellus</i>	0.11
	<i>Saimiri sciureus</i>	0.12
	<i>Lagothrix humboldti</i>	0.13
Callithricidae	<i>Hapale jacchus</i>	0.17
Cercopithecidae	<i>Cercopithecus spec.</i>	0.12
Pongidae	<i>Pan troglodites</i>	0.09
	<i>Gorilla gorilla</i>	0.10
Hominidae	<i>Homo sapiens</i>	0.07–0.08

Of the primates, man represents the highest level of centralisation. Among whales, bottlenose dolphins and longfin pilot whales have reached this level and dolphins of the genus *Stenella* have even superceded it. This fact is in agreement with the above mentioned ethological observations.

Just as the development of the human brain within the framework of the primate species remains a mystery, we know just as little about the evolutionary and ecological factors which have induced the special centralisation of whales.

It has emerged from the research of recent years that whales make use of the echolocation system (sonar) for orientation. They produce a series of rapidly repeating signals, which reach supersonic frequencies, the echoes of which are received by the specifically differentiated hearing organs of the creatures. With this sending and receiving apparatus the whale is able to navigate in cloudy water or at night, to avoid obstacles in the water and to differentiate between "positive" and "negative" food. It is not well known at the present time which part of the brain, above all the cortex, has the substrata of the sonar system.

That this part does not correlate with the size of the brain is shown by the research on the blind Indus dolphin. With a brain weight of 250–300 grams it possesses an excellent sonar system which is equal to that of the bottlenose dolphin (Pilleri, 1980). Bats too, which have minute brains, orientate themselves principally through echolocation. **These considerations lead to the conclusion that the great brain size of the pilot whale and other delphinids serve higher functions.**

The anthropologist Loren Eisely is of the opinion that it would be conceivable that the dolphin (by which is meant the bottlenose dolphin) has reached an equal level of brain differentiation – and this is supported by the above mentioned indices – as human beings. Man has his use of hands in his terrestrial environment to thank for his current level of culture. **With the brain alone, without hands and tools, humans would never have reached such a level.**

From Subsistence to Sport

The pilot whale hunt was once the foundation of life in the Faroes. Its transformation into a sporting hunt began to be noticed around 40 years ago.

In 1948, the British writer, Kenneth Williamson noted "To the casual observer from abroad the grindadrap (whale hunt) must seem to be one of the cruellest forms of hunting in existence. The Faroese, who are by natural temper a kindly, hospitable and well educated people, admit this much themselves. But the grindadrap is the only method by which these whales can be killed successfully, and the conditions of life among the islands are such that the grind (pilot whales) remain a vital source of the country's meat supply."

It can be seen here how the traditional justification for inflicting the horrific cruelty on the whales had begun to be undermined by the changing circumstances of the islanders. The diminished need for the products derived from the whales elevated the importance of the sporting element inherent in the kill.



A photo from a whale kill in Torshavn in the late 1930s shows large numbers of spectators looking on with most of the whales being killed in the water.

Williamson continues, "To anyone who is interested in ethnology, its picturesqueness as a form of hunting, its moral value as a skillful and exciting sport and excuse for social celebration . . . have great appeal." He describes the spectators watching the whales as they are driven into the harbour of Hoyvik, "They raised a full throated, happy cheer. It was like some thrilling phase of a first-class sporting event at home in the good old days."

In 1946, Gordon Huson wrote "Just as cricket in Britain, baseball in America, bull fighting in Spain – so is whale hunting in the Faroe Islands – the national sport".²

In 1967, the well known Danish author, Willy Bremholst, writing in the Faroese tourist publication *Welcome to the Faroes* said "Nowadays, (pilot) whaling must be considered under the heading 'Fishing for Pleasure' – for big game, and on the grand scale. But it was not always thus. Once, the people of the Faroes were driven to whaling by stark necessity, if they intended to stay alive." Bremholst adds ". . . an ever increasing number of voices are being raised – even in the Faroes – in protest against this inhuman method of whaling."³

The sporting element inherent in the pilot whale hunt has increased dramatically in the past few decades. As the living standards of the Faroese increased, the need for the whale meat declined and the tradition of the hunt became more of a sporting event to many of the men taking part.

In August, 1984, EIA Associate Director, Jennifer Gibson, interviewed Arni Olafsson, then the senior civil servant and advisor to the Faroese Prime Minister, Atli Dam. Mr. Olafsson stated that the hunt was "a combination of sport, tradition and a way of obtaining cheap food."⁴ The description accurately reflects what the pilot whale hunt has become in a descending order of importance.

Fifty or a hundred years ago, the order would certainly have been in reverse. Today, many Faroese people will admit privately that the sporting aspect is an important part of the hunt. While claiming they need the whale meat, their attitude changes when asked if they would still want it if it had to be purchased in the supermarket. Many don't, because they would not be taking part in the hunt.

Use of Whale Products Historically

In the historical pilot whale hunt, virtually the entire carcass was utilised by the Faroese.

All of the meat and blubber was taken from the body, and either wind dried or salted for storage. The ribs and the meat around them were considered to be very tender and delicious.

The kidneys, liver and heart were also taken out for human consumption, as was the tongue.

The intestines were used to make floating buoys for fishermen and the bone from the flippers was used to make oarlocks. The flipper bone was also used as a scoop to lift ashes out of fireplaces. The skulls were often used to make fences.

The blubber from the head was boiled down to make an industrial oil. This oil became an

important export item for the Faroes. During the 19th century, the oil accounted for as much as 20% of their total exports in some years.⁵ Even the skeletons were often used as fertilizer and were occasionally shipped to the UK for this purpose.

The Present Use of Whale Products

In recent decades, the extent of utilisation of whale products has declined drastically.

Much less of the useable whale meat and blubber is taken by the Faroese people due to a variety of social and economic changes. There is less demand for the whale products and many younger people live in accommodation where they have no storage space. Increased affluence has drastically diminished the value of the products of the whale.

The meat and blubber at the hind of the whale is usually not taken as it is considered to be less tender than other parts. The ribs and the meat around them are generally never used, except by a few older people who particularly like the flavour.

None of the head is used; the value of the oil that used to be rendered from the head blubber has long since disappeared and none of this is eaten for food.

Since 1977, the Faroese Health Department has warned that the kidneys and liver should not be eaten because of high levels of mercury contamination.⁶ The heart and tongue are no longer eaten and the intestines, flippers and skeletons are never used. The butchered carcasses are dumped at sea.

Wastage in the Historical Hunt

Large scale wastage of whale meat was not unknown in the historical catches of pilot whales in the Faroe Islands. In the 19th century, more whales were killed than could be utilised by the islanders which then numbered less than 9,000 people.⁷ In August 1889, some 2,300 whales were caught in a week. A newspaper commented that "there is a surplus of grind (pilot whales) that . . . lies and spoils, some whales with the blubber on and many with the meat."⁷

Wasted whale blubber found in a rubbish dump near Klakksvik, July, 1985, EIA photo.



When catches increased in the mid 19th century excess whale meat was often ground up and mixed in with cow feed to supplement the diet of the cows on the islands.⁸ Reports of whale meat being fed to cows continued until the 1940s when reference was last made to it in published literature.⁹

Waste also occurred from whales that sank during the kill. Muller notes in his essay of 1882 that the catch figures he provided should include an additional 10% for such whales that sank during the hunt.¹⁰ He noted that these were recovered after the killing was completed. Undoubtedly many were not or they would have been recorded in the catch data which always state the number of whales "marked" for sharing out, as opposed to the number actually killed.

In 1941 when the highest ever annual catch was recorded, of 4,325 whales, around 1,000 were wasted, according to older Faroese people.¹¹



Some of more than 20 whales wasted after a kill in Sandi, Faroe Islands, 23 December, 1981. In recent years hundreds of pilot whales have been killed and left to rot without the meat being used.

Reasons for Waste in Recent Years

The increased catches since 1979 have resulted in unprecedented waste according to a Faroese priest. Since that time, waste has been more widespread than ever before.¹¹

The main reason waste occurs is that more whales are killed than can be used. Because there is no limit on the number of whales that can be taken, every community in each of the six regions is actively looking for whales to hunt, even if excessive supplies of meat and blubber are available in an adjoining area.

The archaic distribution system whereby each person taking part in the hunt receives a share of whale meat, has encouraged waste by promoting catches in every part of the islands. There is no mechanism whereby the excess whale meat is distributed to other islands except through a minor amount of family connections.

Examination of catch records in recent years, reveals that catches of large numbers of whales occur in an area, providing more whale meat than can be used in that area.

Although the whale meat might reach people in the immediate vicinity of the bay where the catch occurred, it is unlikely to be distributed to nearby islands in the quantities available, even though a few people may receive some supplies.

Often a herd of whales is killed in an area within a few weeks of a large kill taking place in a nearby bay.¹² The area is thereby saturated with whale meat and blubber and this pattern repeats itself throughout the islands, with more and more catches occurring.

There is no obvious idea as to how much meat and blubber is "enough" for islanders, although the Faroese Health Department has warned people not to eat whale meat more than once a week because of the high level of mercury contamination.⁶

According to the priest mentioned earlier, about 10% of any catch tends to be wasted. In a catch of 200 whales, 10–20 could be expected to go unused. He also stated that the Faroese people could only use 600 to 700 whales a year, and definitely no more than 800 whales.¹¹

EIA has confirmed that at least one incident of mass wastage of entire whales occurred in 1985. On the island of Vagur, about 60–70 whales were completely wasted.¹¹ This was confirmed by three separate sources.

The kill was said to have occurred at Sorvagur, but there is no report of such a catch in the official statistics from the Faroese Fisheries. A reported catch of 277 whales took place at nearby Midvagur bay on 16th August. Some 55 whales had been killed in Midvagur in the few days before this larger catch and another 110 had been caught in January.¹²

It may be the case that the wastage occurred at a kill that was not officially reported in Faroese statistics, as has been known to happen in the past.

At Vestmanna on 27th July, 1985 where the reported catch was 183 whales, an additional 15 whales were lost when they sank in the bay without being retrieved according to three separate Faroese sources.¹²

At Hvalba on the southern island of Suduroy which has about 13% of the total Faroese population of around 45,000 people, 338 whales were killed on the 11th of July 1985. An EIA observer was told by locals that the whale meat was enough to last them at least one year. The observer saw large amounts of unclaimed whale meat and blubber being thrown into the bay.¹¹ Nevertheless, another 247 whales were killed in Hvalba on 13th of October.¹²

In 1984, a report in a Faroese newspaper stated that the regions of Torshavn and Klakksvik would be closed to further whale hunts because all the whale products from the last kills were not used.¹⁴

In 1983, a front page report of a Faroese newspaper stated that at least 125 whales had been wasted at Leynar after the tide swept them out to sea.¹⁵ Faroese statistics only reported 273 whales as



Sosialurin 27 July, 1982; "60 to 70 whales taken at Sandi were not used . . ."

being caught omitting those lost at sea.¹² The newspaper stated that hunters who took part in the kill claimed that the herd numbered between 400 and 500 animals, so far more than 125 whales may have been wasted.¹⁵ As Faroese statistics report the number of whales that are actually marked for distribution, the precise number killed is unknown.

One whaling foreman, claimed that when the whaling spear was used, the number of whales lost could be as high as 70% on occasion.¹¹ This seems an excessive estimate, but the number of wounded whales that subsequently drowned and were lost in bays was undoubtedly high.

In July, 1982, **some 60–70 whales were left to waste on Sandoy**, of a catch of 278 whales.¹⁶ The local people did not want the kill to take place as they thought adequate supplies of whale meat were already on store.

Also on Sandoy, on Christmas Eve of 1981, **some 20 or more whales were left to rot** after 155 were killed.¹⁷

In Hvalba, on 27th September, 1982, an undetermined number of whales of 644 killed, were wasted.¹¹

The first instance of mass wastage that was publicly revealed in recent years, also occurred in Hvalba. **In August, 1981, up to 300 whales were left to rot.**^{18,11} The reported catch was 500 whales, although it is probable that the wasted 300 whales were not included in this total, as happened in other cases of wastage or loss.

Locals reported to EIA that "one third of the herd was wasted" – far more than could be accounted for if the catch total was only 500.¹¹

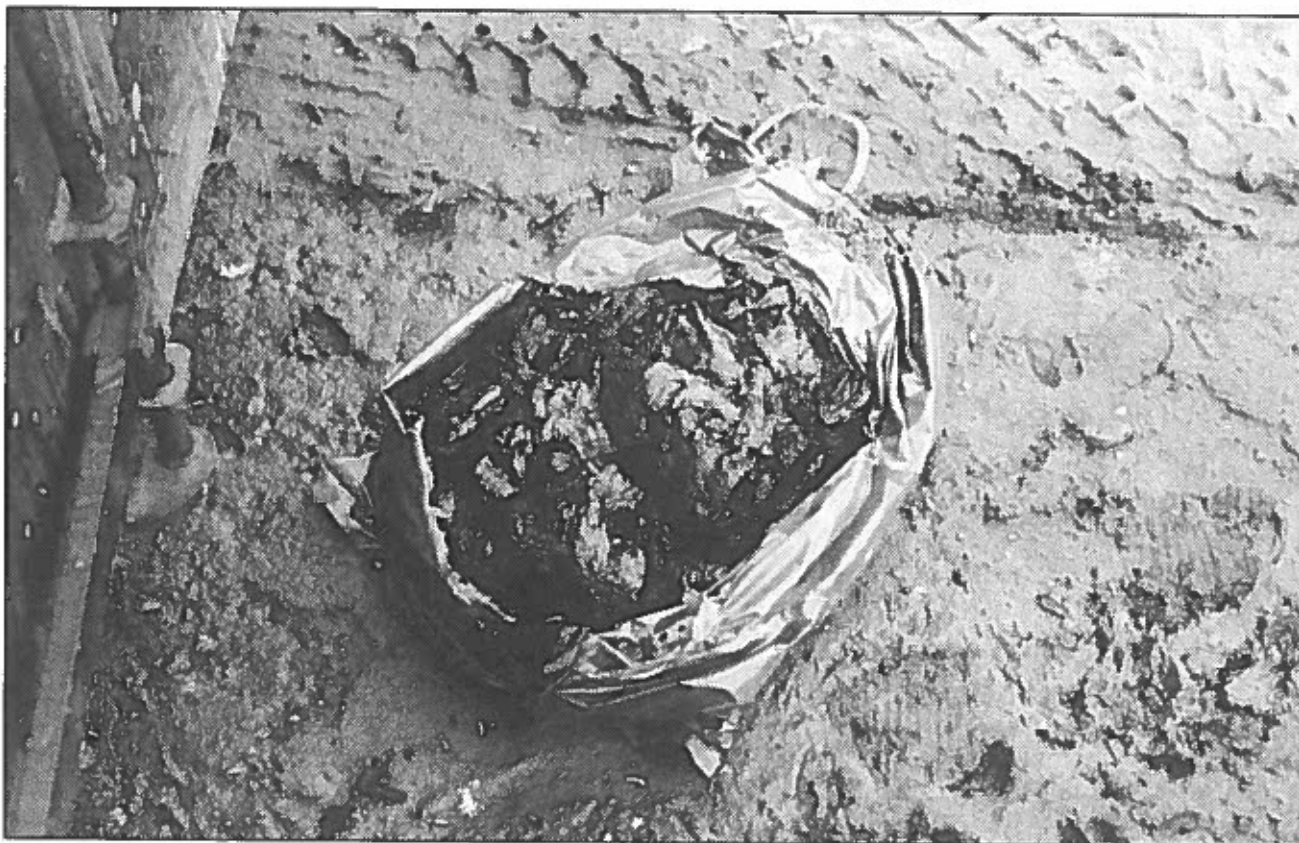
Besides whales that are left to rot because more have been killed than can be used, and those that are not retrieved after they have sunk in a bay, other waste of whales occurs.

Any whale suffering from infections, shark bites or wounds inflicted by killer whales, are discarded. It has also been reported that whales stabbed repeatedly with the whaling spear, were considered unfit for human consumption.¹⁹

Wastage of Whale Meat and Blubber

A fundamental change in attitude towards the value of products derived from the whale hunt has undoubtedly resulted from the dramatic increase in national incomes and standard of living in the

A bag of wasted whale meat found at Klakksvik rubbish dump, Bordoy Island, July, 1985.



Faroese. The historical need for the meat and blubber disappeared so whale products have a diminished value in modern day Faroese society.

The main attraction to taking part in the whale hunt for many men is the sporting element. The food derived is a secondary product of the hunt and there have been instances where hunters do not claim their share.

It often happens that a whale hunt will occur even though there are plentiful supplies of whale meat and blubber in the region. When this happens, it has become commonplace for such supplies of whale products already in store to be thrown out to make way for the new catch.¹¹

So regular is such wastage, that in the northern region in June, 1985, following the killing of 151 whales, the local radio carried announcements that old whale meat being thrown out should not be discarded in paper bags. These, explained the announcer, were causing a problem for disposal as so many of the paper bags were splitting and spilling their contents. Examination of various garbage dumps on several islands in 1985 revealed significant quantities of whale meat and blubber being discarded by households in their domestic garbage.¹¹

The official statement issued from the Danish Ministry of Foreign Affairs on 30th July, 1985, prepared by Arni Olafsson, (the former senior adviser to the Faroese prime minister in 1985, and now Faroese representative in the Danish Foreign Ministry in Copenhagen) admits that such waste occurs.

On page 4, he states **"It may occur that some households have not fetched their shares . . . because the demand for whale products has already been saturated."**

On page 6, Olafsson states **"When a new supply is available he may find the quality of the remaining bits unsatisfactory and discard them."** Olafsson also states that **"If for some reason, they fail to claim their share (from the whale hunt) it may be wasted because a law abiding citizen would not take another person's share without permission. It may sometimes happen that a village or a group of households do not claim their share . . ."**²⁰

The system of distribution has never allowed for the possibility of storing such unclaimed whale products. Coupled with the failure to set any limit on catches, an attitude has gradually evolved where the significant waste of whale products is regarded as socially acceptable.

In many cases, even if whales are marked by the sheriff for division among the hunters, significant amounts of meat are often left unclaimed.

This was noted by EIA observers at the sharing out of whales at the 1985 Vestmanna kill.

Discarded whale blubber and meat found in Vagur dump, Suduroy Island, July, 1985.



When all the whale meat was claimed, numerous whales were left with substantial amounts of meat not even removed from the carcass.²¹

The cumulative total of whales killed and subsequently wasted since 1979 is difficult to estimate, but may number several thousand animals.

The loss or waste of entire carcasses since 1979 plus the methodical discarding of usable meat and blubber accounts for at least 30% of the entire production of whale products.²² From information accumulated by EIA over the past 20 months, we believe this is a conservative estimate of the total waste resulting from the hunt. The exact total could be significantly higher.

Cruelty in the Traditional Hunt

The traditional hunt relied on the use of several weapons to kill the whales. The first was the whaling spear (hvalvakn), a 12 inch long and four inch wide blade fixed to a wooden shaft six feet long. Heavy iron hooks (soknaronglar), about 18 inches long, weighing about five pounds, and attached to lines of rope were used to secure the whales prior to killing. Sharp knives (grindaknivr) were used to kill the whales.

Hand held harpoons were also used on occasion, but only if the drive was unsuccessful and the hunters could not get the whales into a bay. In this case, a harpoon might be used by a few of the boats in the drive to catch a single whale before the herd escaped to the open sea.

Because there were not enough hunting weapons located in many villages in the first centuries that hunting occurred in the Faroes, regulations passed in the 19th century required a certain number of spears and hooks to be carried in each boat taking part in a hunt. The poverty stricken serfs of the Faroes could not afford the considerable investment in weapons, and inevitably, many herds of whales escaped as a result.

The regulations required a boat with ten men to have four spears and three hooks, with two men on each side of the boat using the spears. An eight man boat needed three whaling spears and two hooks, with two men standing on the bow and one standing aft to spear. On six and four man boats, two spears and one hook were required, with one spear used at each end of the boat.²³

The traditional pilot whale hunt was launched with boats arranged in rows. Here the first row has launched the attack and the whales are being killed in the water. The other two rows wait in the background to prevent the whales from escaping.



The Attack

The whaling foreman (grindaformann) would decide when to initiate the attack. The hunters would usually try to speed the whales over the last few hundred yards by shouting and making as loud a noise as they could to stampede them towards the shoreline.

When the whales were moving steadily towards the shoreline, one boat in the first row would stab a whale with a spear, taking care to wound it in the hind part of the body. The whale would rush into the herd and the frightened whales would swim towards the shallows where some of them would become stranded.

If the whale was wounded in the side or in the front of the fin, it usually veered sideways, taking the herd of whales with it as it broke through the ring of boats and escaped to the open sea.

Once the first whale was wounded, the first row of boats would then pursue the herd, stabbing as many whales as possible with their spears. A very good hunter was said to be able to kill a whale by stabbing it in the heart, but mostly the whales were wounded with the spears to drive them into the shallows, where they could avoid drowning.

Once the attack was launched, the whales would turn towards the sea to escape but the second and third rows of boats would repulse the whales by stabbing them with their spears. Some individual whales might escape, but would usually return to the herd. However, if more than one whale escaped, the group would usually not return to the rest of the herd.

Once the bloodletting had begun and the whales were disoriented the second and third rows of boats would join in the slaughter, stabbing at the whales with the spears. The mud and sand stirred up from the bottom of the bay further confused and blinded the whales.

At this point, some of the hunters would jump into the water from the boats, while others came from the shore. With their iron hooks fastened to ropes, the hunters gaffed the whales which were then pulled ashore by a group of men standing on land.

The hunters then cut the whales a hand's breadth behind the blowhole with the knife. The hunter slices down through the blubber and flesh to sever the spinal column.

The whales were also killed from the boats in a similar way. The iron hooks would be sunk into the whale, preferably close to the point where they cut the whales with the knife. Killing from the boat was undoubtedly more difficult, even though the rowboats at that time were constructed to be just a few inches above the water's surface. The thrashing whales would tow the small boats around the bay as they tried to free themselves from the iron hooks embedded in their flesh.

A common misconception of the traditional hunt is that all of the whale herds were beached before being killed. This was not the case. The ideal time to attack the whales was considered to be "when the sea begins to ebb or is at slack water," to try to have the whales stranded in the shallow waters just before the tide receded.²³

It was more likely that a greater effort would be made to drive as many whales into the shall-

May, 1984: some 350 pilot whales are driven into Torshavn bay by about 140 boats. The subsequent kill took almost five hours to be completed.



lows to lessen the physical work needed after a long and exhausting drive. However, most of the killing took place in the water, either from the boats where the hunters speared the whales or gaffed them before cutting, or in shallower waters where hunters waded out from shore.^{10, 24}

Kills lasted from half an hour for a very small herd, up to many hours, and even several days for a larger herd, depending on the bay and the circumstances in which the hunt occurred. A herd might be pursued for some days if a first attempt to drive it into a bay failed.⁶

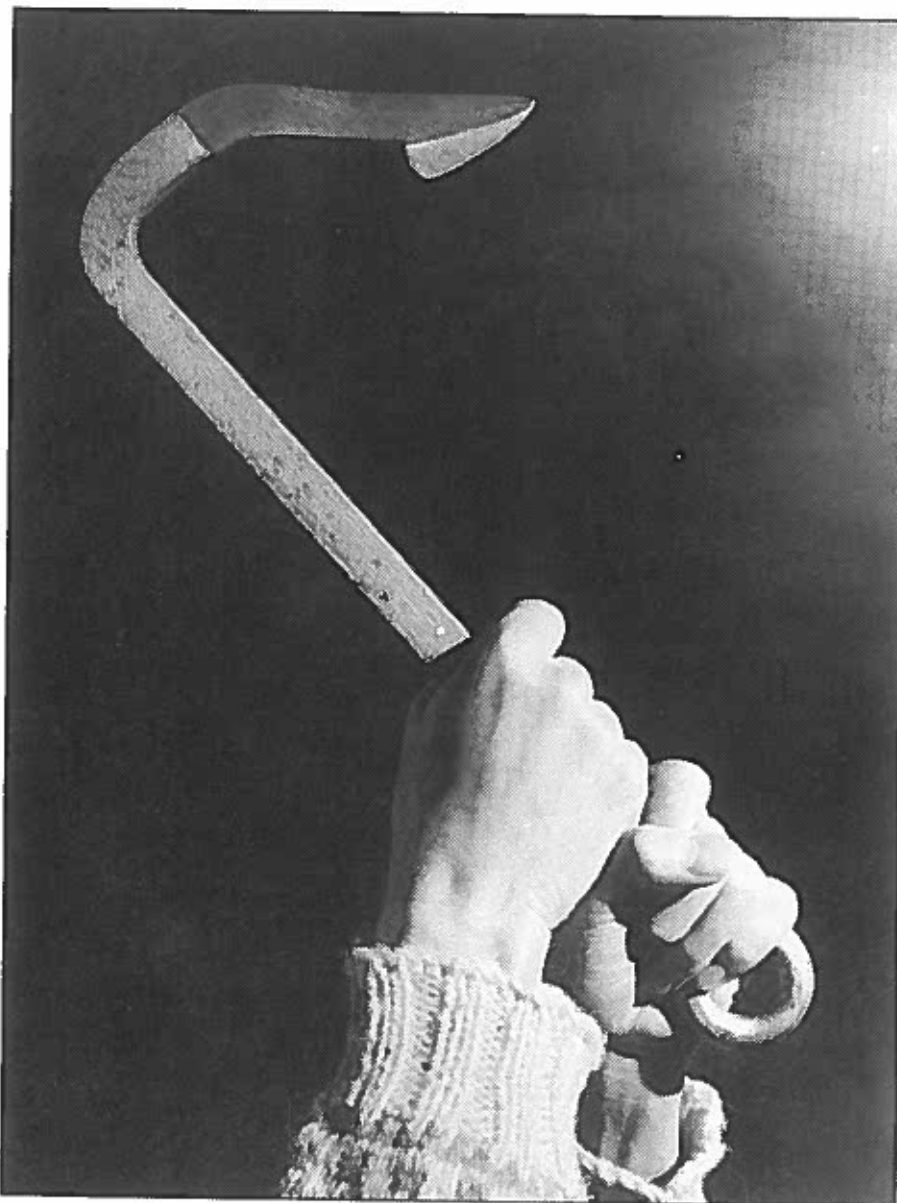
The Pilot Whale Hunt of the 20th Century

The method of hunting pilot whales in the Faroes remained largely unchanged until the early 20th century.

In 1905, the first internal combustion engine went into service in the inshore fishing fleet. By 1911, there were 120 powered boats and by 1914 there were 186. At this time there were about 1,500 rowing boats in the Faroes. From the 1920s, outboard motors became available and were soon widely used in the small boats. These were considered superior over decked boats with fixed motors which could not enter bays in villages lacking proper harbour facilities.¹

The use of motorised boats dramatically changed the organisation of the pilot whale hunt. Whales could be driven from further offshore and the boats could expend more effort in driving the whales than was the case when manpower alone was used in the rowing boats.

It may also have been the point where the professionalism of the hunters began to decline because it was easier for more people to take part.



The five pound gaff used by the Faroese pilot whale hunters often rips out of the whales. It can take up to six attempts to hook the whale before the gaff is securely embedded, causing serious injury and suffering to the whales. *A. von Koeltitz.*

The role of the hunt foreman also changed. It had been noted that his role had already declined.²³ With so much noise from the boats' engines, his commands and directions could no longer be easily heard or understood.

The improved manoeuvrability of the boats may also have resulted in a diminished organisation of boats and hunters before and during the attack.

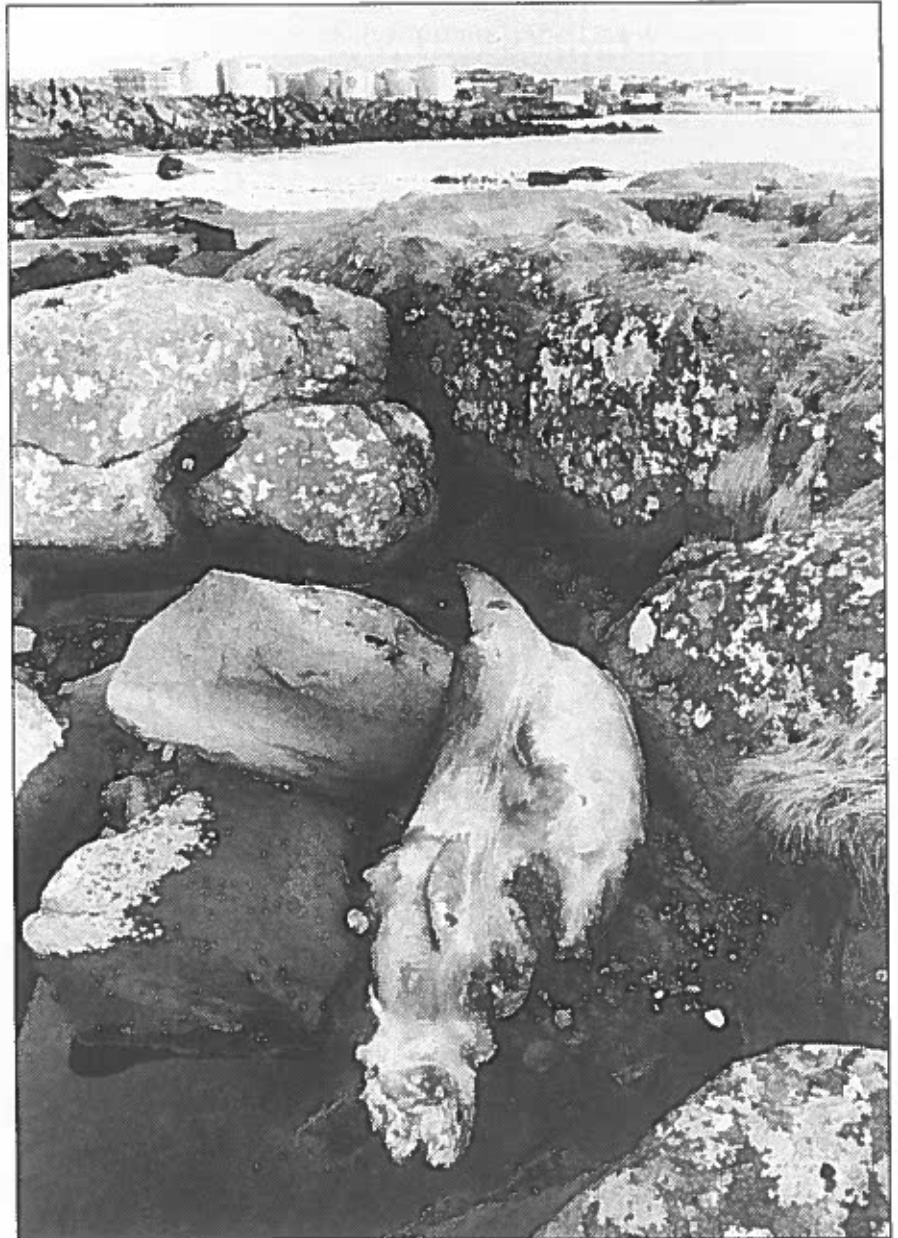
Other social, technological and economic changes in Faroese society had a huge impact on the method of hunting pilot whales.⁷

Before the middle of this century, telephones were in widespread use and spread more rapidly in the past three decades. The improved communications between the remote island communities meant the hunters could be summoned by a phone call, instead of the traditional runners, bonfires and pre-arranged signals.

Boats were also installed with two-way radios, enabling them to talk both with other boats or people onshore when a whale herd was sighted. This led to an increase in the efficiency of the hunt and reduced the physical effort needed to take part in a drive. The boats also installed sonar which was used to drive the whales.

Although motorised vehicles had long been introduced into the Faroes, they became far more abundant from the 1970s on, when the tremendous increase in national incomes of the Faroese people occurred as a result of extended fisheries jurisdictions. Great improvements in road networks, bridges and ferry services made it much easier for hunters to reach the sight of a drive to take part in the kill.⁷

A wasted whale carcass in Torshavn bay, April, 1986. A. von Koetlitz/EIA.



Present Day Organisation of the Hunt

There is no formal training required for hunters to take part in a kill. It is usually carried out only by men but women have on occasion taken part in the hunt in recent years.²⁴

Boys usually start to take part in the hunt at the age of 15, but there is no strict rule and some start at a much earlier age.²⁴

For the past few decades, the hunt has attracted an increasing number of spectators who watch the killing, particularly in the larger villages and during the bigger kills.⁷ The spectator element undoubtedly encourages the obvious male bravado witnessed in the modern day hunt, resulting in a consequent lack of care taken in the actual killing process.

Administrative control over the hunt is lax. The local sheriffs in each of the Faroes' six regions have the authority to authorise or forbid any hunt. Within the past three or four years, the sheriffs have begun to declare some of the regions closed to hunting, although this does not always prevent hunts from occurring.

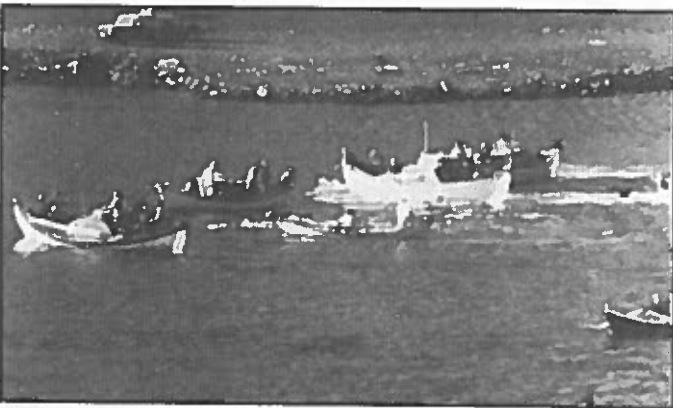
The sheriff may be out of town when a drive begins, or in some cases, his order not to kill a herd will be ignored, as happened on the island of Sandoy in 1985, or even more recently in Hvan-nasund in March, 1986.

Nowadays when a herd of whales is sighted, other boats are alerted by two-way radios. Phone calls summon hunters to their boats, and they drive to the harbour in their modern cars.

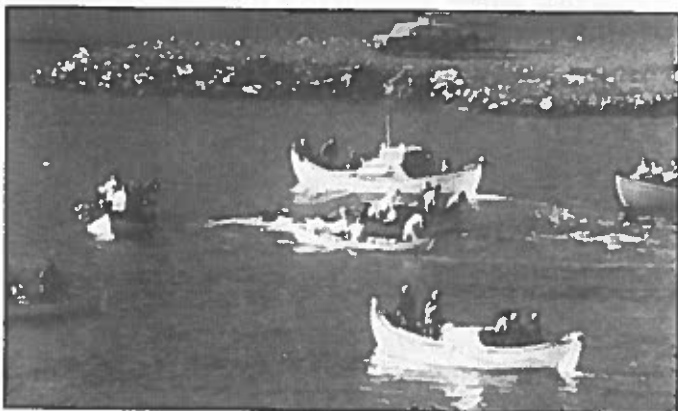
Every kind of boat joins in the hunt. Instead of the small traditional rowing boat or sailboat,



Photo sequence shows vessel on extreme right per-suing whales trying to escape from the slaughter in Vestmanna 27.7.85.



Vessel runs directly over the escaping whales.



Vessel completes running over whales and whales turn in confusion back towards the slaughter.

recreational or all-purpose boats also take part. Many of these boats are high above the water's surface, making killing a very awkward activity, as hunters try to gaff whales while leaning over the edge of their vessels, sometimes with their feet being held by another person.

Widespread changes to many of the officially approved "whaling bays", such as construction of harbours, seawalls or quays, has eliminated many of the beaches where whales were formally stampeded for slaughter. As a result more killing takes place in the water and in a number of bays where beaches have been entirely eliminated, killing takes place in quite deep water.

Each hunt is unique, depending on the bay, the hunters involved, the numbers of the hunters taking part, the size of the herd being driven, prevailing weather conditions and the esteem or lack of it, in which a sheriff or whaling foreman is held.

The lack of experience of many of the hunters is a problem common to almost all whale kills in the modern day hunt. The involvement of too many, or too few boats or hunters may diminish the efficiency of a kill. In some places, such as Torshavn, Klakksvik or Vestmanna, a great number of boats tend to take part in almost every kill.

The Torshavn hunt often involves up to 150 boats, many of which do not take part in the killing. Obviously, an efficient kill is difficult to organize under such circumstances. In the many bays where beaches have been eliminated or affected by development changes, killing is more likely to take place in the water resulting in far more suffering to the whales.

Once the first wounding has taken place, the kill tends to be even more chaotic than in the traditional hunt. The foreman's voice cannot be heard due to engine noise. An uncontrolled slaughter takes place.

The most significant change in recent years was the restriction of the use of the whaling spear in 1985. The spear is still openly on sale in the Faroes and can be used with the permission of the foreman or sheriff, but it is not used as widely as before the new law was passed.

The attack is not arranged in the historical fashion. Boats merely approach the whales at random and try to strike the hook into them. More often than not, the gaff will fall out after it has wounded the whale and the injured animal may either escape or else be so confused that it just flounders helplessly next to the hunter's boat. A whale might be gaffed two, three, four or more times before the hook holds the whale.

The whale then pulls away from the boat, going underwater, or running into other boats, often surfacing on the other side of a second boat, still dragging the boat of the hunter behind it. Boats collide with each other as the whales drag them around the bay.

The hunters strain on the ropes attached to the hooks to pull the boat closer to the struggling whale. Once the whales are close to the boat, the hunter either cuts it with his knife or alternately, hands the rope to a person wading into the water from the shore. In the latter case, a group of people on land will pull the thrashing whale into shallow water, or onshore where it is then killed with the whaling knife.

The space the whales occupy during the kill can be severely restricted because of the way the boats surround them and cram them into a small area. The whales become so disoriented that they run into each other, or hit the bottom of the bay or rocks underwater as they try to escape.

If the hunter does not gaff a whale in the head or near the blowhole where he intends to cut it, it is more difficult for him to get close enough to the struggling whale to kill it.

Faroese hunters are reluctant to admit the difficulty of killing a whale from a boat and often try to exploit an outsider's lack of knowledge about the hunt. It is common for them to exaggerate the efficiency of a kill and to underestimate the killing times involved. It is often stated that large numbers of whales are beached and killed within a matter of minutes.

Even in the best bays, kills are achieved with more difficulty than is publicly admitted. If a significant number of whales are stranded, they are lined in "waves", with only a small number in the first wave being stranded in shallow water. Except for these few, which amount to a fraction of the entire herd, all others have to be gaffed and pulled into shallower waters or onshore before they are killed.

One foreman stated that it takes about one hour to kill every 100 whales in a herd.¹¹

Suffering Experienced by the Whales

The observation of pilot whales in the wild has established the regular range of activities in which they take part. The different kinds of communication sounds they make for instance, during feeding, or when in distress have been noted by naturalists and by people trying to refloat stranded pilot whales.

It is therefore clear that during the Faroese drive and subsequent kill, pilot whales exhibit severely abnormal behaviour and we refer to this as suffering and distress.



Wasted whale blubber and meat found at Hvalba dump. Suduroy Island, July, 1985.

A herd of pilot whales will experience tremendous suffering and distress during the driving and subsequent slaughter. During the drive, the whales are frightened by the stones thrown into the water, by the noise of the boats' engines, the use of sonar and the excited shouts of the hunters.

Once they are in the bay, their distress increases rapidly. After the first whale is wounded, the cohesion of the herd is severely disrupted. As in the case of most mammals, the pilot whales begin to breathe more rapidly as their fear and distress increase. Once the killing and wounding is taking place, the trauma of the whales increases significantly.

The whales often surge back towards the open sea, usually to be repulsed by the hunters. Unlike the traditional method of arranging the boats in rows to stop such escapes, the modern day hunters will often disrupt attempted escapes by the whales simply by driving over the herd with their motor boats.

The high pitched squeaks of the whales can be clearly heard during a kill and the whales' cries as they are slaughtered have caused some hunters to stop taking part in the kills.

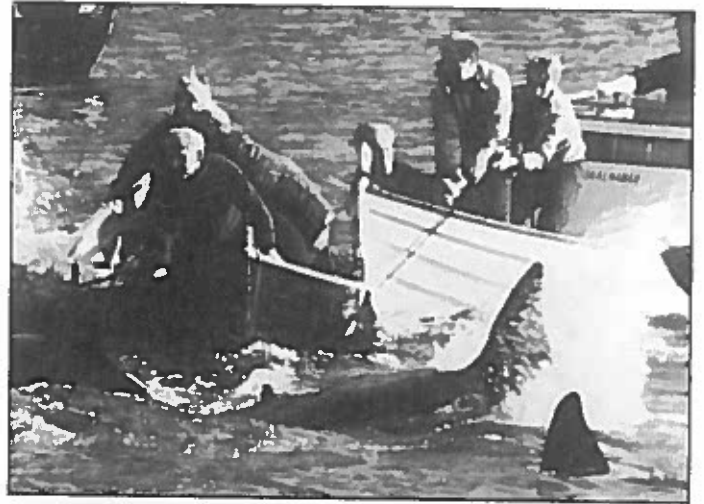
Pilot whales' strong herding instinct will not easily allow them to abandon the rest of their group, even if escape is possible. It has been shown in the case of stranded pilot whales that the whole herd will perish during attempts to assist an injured member of their group which is crying to them in distress.

Once the kill is in full swing, the whales' distress is total. Because they are breathing too quickly to sound, they flounder helplessly on the surface of the water. They are completely bewildered by the distress cries of the other whales, which they are unable to assist. They may be wounded for some hours before being killed. The water is muddied and quickly becomes stained with the blood of their companions, adding to their confusion.

Many of the whales are either pregnant or lactating. Although pilot whales give birth all year round, most occur during the summer months when most of the kills take place around the Faroes. The herds generally contain two females to one male in sex ratio.¹⁰ The additional distress experienced by a pregnant or lactating female with its instinctive sense of protection for its young can only be guessed at. Some abort or give birth during the killing.

Many of the hunters are inexperienced and do not cut the whales properly. As a result, the whales die a slow and painful death.²⁴ These whales are gentle creatures which never attack hunters, but when wounded will occasionally strike boats with their tails as they thrash in agony.

Hunters in white boat "Skalhamar" have gaffed a whale which is caught between the smaller black boat and another whale, Vestmanna 27.7.85.



The hunters in the white boat continue to try to pull the gaffed whale towards them.



The three men in the white boat fall backwards as the gaff rips out of the whale they had hooked. *EIA photos.*



The tremendous size and strength of the whales does frighten many of the hunters, despite the assumed bravado they display during the killing. Many hunters cut through the skin and blubber only to a depth of about 15 cm. The whales often tense their entire bodies and will lift the hind part of their body in the air to try to resist the cutting of the knife. Once hunters begin to cut their flesh, a light coloured blood is released from hundreds of tiny arteries. At this point, hunters sometimes abandon the whale, leaving it alive, but mortally wounded.²⁵

In bays with beaches where a very few whales can be stranded in shallow water, an experienced hunter can cut through blubber and flesh in 20–30 seconds if most of the whale's body is either out of the water or above the water line.

The loss of blood from the severing of the carotid arteries which run along the side of the spine, should kill the whale within a minute or so. This happens with very few of the whales however.

For the rest, which means the overwhelming majority of the whales in any herd, the best possible killing time that can be achieved if carried out from a boat is much longer. From the point of strik-

This pregnant female was about to give birth when it was killed at Vestmanna on 27th July, 1985. *J. Gibson.*



Wasted whale meat and blubber found at Famjin, Suduroy Island, March, 1986. *A. von Koeltz/EIA.*

ing a gaff into the head of the whale and cutting it, to the subsequent loss of consciousness or death by the whale is around three minutes – but only if this is done by an experienced hunter, in a boat close to the water, if the gaff has been embedded in a spot close to where the cut is to be made.²⁵

EIA observers noted that the longest killing time they were able to observe in the general chaos of the Vestmanna kill on July 27th, 1985, was 14 or 15 minutes from the point that the gaff was first struck at the whale until the whale was apparently dead.

It must be noted that the maximum death time can be much longer. A whale can be seriously wounded with the gaff which can then fall out. The injured whale might then not be killed until later on in the slaughter. As hunts can take four or five hours to complete, whales can be seriously injured for many hours before finally being killed.

A Review of Catching Effort in the Faroese Pilot Whale Hunt

There has never been any historical documentation of the catching effort, involved in the Faroese pilot whale hunt.

Whale scientists have often used such information to extrapolate the relative abundance or depletion that a particular whale species may be subjected to. The analysis, commonly referred to as catch per unit of effort (CPUE), seeks to construct a standardised assessment of the effort required to catch a single unit, for instance one whale.

Through a review of various factors which comprise effort, such as the time spent searching for whales, the time spent chasing, the distance travelled from land to seek the whales, the horsepower of the vessel involved, the use of improved technologies (i.e. sonar, ASDIC) that may effect hunting successes, the number of boats involved in the hunt, the number of whales caught by boats over different time periods, etc, scientists have been able to quantify relative effort involved in some whale "fisheries" for which such information exists.

The estimate is crude and open to some unreliability because of the difficulty of establishing credible assessments of the above mentioned factors. Since such data must be obtained from the whalers, it is vulnerable to deliberate alterations by whale hunters who wish to produce a more optimistic assessment of abundance for the whale species they are exploiting. This has been known to have occurred in several instances in recent years.

The CPUE assessment also suffers from an inability to estimate the actual numbers of a particular exploited species. Its main usefulness is to reveal if an exploited population is stable or in decline.

Another factor affecting the CPUE assessment is the tendency of whale populations to constrict the area they occupy as their numbers decline. Whale hunters catching in the centre of this constricted area may not be immediately affected because the density of the population remains stable and even a significant decline in the numbers of whales may go undetected for some time.

In recent years CPUE has been used to assess the status of many species where there was little or no data available to allow more direct estimates of population status to be made. Using the CPUE method, scientists have been able to detect significant declines.

Discarded whale blubber found on Hvannasund beach, March, 1986. A. von Koetlitz/EIA.




Effort in the Faroese Pilot Whale Hunt

Kjartan Hoydal, now Director of the Faroese Fisheries Department has attempted to estimate the present and historical effort involved in the Faroese hunt.²³

The Faroese have maintained a lengthy catch documentation over the past few centuries although the data refers only to those whales that are landed and not to all of the whales actually killed. There have also been instances of omissions from the official statistics. For instance, when over 400 whales were killed at Leynar in July, 1983, and some 125 whales were washed out to sea unused, the official statistics record that only 273 whales were taken.¹⁵

A kill of some 200 pilot whales took place in Norðepli on 2 August, 1982 according to a Faroese newspaper report, but it was not recorded in official Faroese statistics.²⁴

 FISKIRANNSÓKNARSTOVAN DEBESSARTRØÐ 3800 TÓRSHAVN, FØROYAR (FAROE ISLANDS). TLF. 15092				
GRINDIR 1982				
18. juni	Mjóvágur	✓ 334 hvalir	1.480	sk.
5. juli	Hvannasund	✓ 176 -	942	-
25. -	Húsavík	✓ 280 -	1.700	-
6. august	Norðskála	✓ 78 -	574	-
16. -	Hvannasund	✓ 181 -	985	-
23. -	Bó	✓ 233 -	924	-
23. -	Norðskála	✓ 83 -	636	-
9. september	Hvalba	✓ 173 -	543	1/2-
27. -	Hvalba	✓ 644 -	2.552	1/2-
29. -	Hvalvík	✓ 11 -	61	-
20. november	Kollafjørður	✓ 59 -	359	-

Fiskirannsóknarstovan, 9. februar 1983.

WHALE HUNT IN NORDDEPLI: "About 200 whales were killed in Norddepli yesterday . . ." reported the *Sosialurin* newspaper on 3 August, 1982.

The 200 whales are not reported in official Faroese statistics. It is reliably reported that other catches go unreported, such as those taken by the whaling vessel "Hvitiketlur" throughout the 1970s and early 1980s.

tíðindablaðið **sosialurin**
Nr. 73 — 3. august 1982

Síða 5

Grind í Norðdepli

Útvið 200 hval lögdu beinini í Norðdepli í gjáramorgunin. Bátur in Norðberg, ið royndi eftir hogguslokki út-fyri Norðoftum, var varur við grindina klokkan 4 mánamorg-unin. Grindin var kom-in inn í náttarmyrkrin-um. Bátar komu til grindina, og rikið varð norð í Sund.

millum brúgvagnar í Norðdepli Hoast bert 6-7 bátar voru við í drápinum, gekk tað væl, helst tí ein stórir partur fór á land bein-avegin. Drápið var liðugt um halvkrum niðgju tíðina.

Av Frostvirkinum frættist, at alt konu-folkið og umleið helvtin av mannfólkunum var til arbeiðis hóast grindadrápið, so roynt var at klára landingar nar sum vant.

Avreiðing

The Faroese authorities consistently state as fact, that the unregulated hunting of pilot whales cannot be depleting the pilot whale population because catches have continued since the 17th century.

However, examination of the catch records reveals that the abundance of pilot whales has varied throughout the past few centuries. Faroese scientists believe this is related to changes in the temperature of the ocean which may affect the abundance of the food supply of the pilot whales causing diminished availability. Other non-Faroese scientists have challenged this co-relation and suggest that the pilot whales may have suffered serious depletion from overhunting.

The nature of the pilot whale hunt means that assessment of effort is extremely difficult. The involvement of the entire community and of neighbouring communities in the traditional hunt means that quantifying effort in even a very crude manner is almost impossible.

Hoydal's paper attempts to do so but assigns totally arbitrary values on effort which have no basis in fact. The abstract of Hoydal's paper appears to be the starting point for the arbitrary and misrepresentative values assigned to effort: "Catch levels experienced historically seem not to affect numbers caught subsequently or other observed quantities."

Hoydal uses the period from 1709 to 1800 to assign an effort unit of 1 for pilot whale catches and goes on to estimate effort in various periods up to 1984 with the value of 1 ranging up to 1.5. For the period 1982-1984, the value of 1.3 is assigned - only a 30% increase in effort since 1709!

In doing this, Hoydal ignores or seriously underestimates many factors which would have drastically increased the catching effort, including:

- the increase of the Faroese population from around 5,000 in 1800 to over 45,000 in 1985;
- the installation of motors in the traditional rowing boats used for whale hunting, starting in the 1920s and the resulting increase in access to whales further offshore;
- the installation of two-way radios on ships and telephones in homes which summon whale hunters far more rapidly than the historical method which relied on runners to carry the message that a whale herd was sighted;
- the introduction of motor vehicles to the Faroes and the rapid increase in their numbers, allowing hunters to quickly drive to the bay where a hunt is about to take place, rather than travelling by foot;
- the increased transportation network which facilitates travel to a whale hunt via more roads and newer highways, ferries and bridges;
- increased fishing activity in the waters around the Faroes following the introduction of a 12 mile, then a 200 mile limit in the 1970s, which increases the potential capability of fishermen in sighting whales.

A more accurate assessment of effort in the Faroese pilot whale hunt which takes into account all these factors would almost certainly conclude that catching effort had increased several times over from the 1709–1800 period, and not just 50% as Hoydal suggests.

Average annual catches of pilot whales in the Faroes between 1709 and 1985 are just over 800 whales a year. The overall numbers of pilot whales being caught has steadily increased in the past fifty years as can be seen from averaging catches over 10 year periods:

Period	Total Whales Caught	Average Annual Catch
1850–1859	8,664	866
1860–1869	7,920	792
1870–1879	8,339	834
1880–1889	5,394	539
1900–1909	4,211	421
1910–1919	6,910	691
1920–1929	4,596	460
1930–1939	12,978	1,298
1940–1949	16,850	1,685
1950–1959	17,054	1,705
1960–1969	17,801	1,780
1970–1979	9,001	900
1980–1985	14,588	2,431

In the total absence of any data as to the status of these whales, or the effect that toxic pollution may have on their reproductive capacity, the increased catches over the past few decades must be viewed with the utmost concern.

The Threat of Pollution to Pilot Whales

The accumulation of toxic pollution in the marine environment poses a serious threat to many species. Because pilot whales feed at the top of the food chain they are vulnerable to significant pollution burdens. Scientists in the Faroese Hygiene Department are interested in the issue but limited facilities and funds restrict the amount of research that has been carried out. However, these scientists have expressed a willingness to co-operate with outside research projects in assessing levels of contamination in pilot whales.

Mercury in Pilot Whales

Fish exported by the Faroese is extensively tested for mercury contamination as required by the various export markets and levels have been found to be within the accepted limits. Much less testing has been carried out on pilot whales although 20 specimens of pilot whale were examined in 1977 and 1978.

These tests revealed significant levels of mercury in the flesh and very high levels in the liver

and kidneys of the whales. Warnings were issued through the local press that whale meat should only be eaten once a week and advising that liver and kidneys not be eaten at all.²⁵

The World Health Organization (WHO) recommends a maximum weekly intake of organic mercury for a person of 70 kg of no more than 0.2 mg.²⁶

Results of 1977 and 1978 Mercury Tests

Year	Sample	Level in ppm.(1)	AWI in kg.(2)
1977	Meat	3.20	0.110
	Liver	105.00	0.003
1978	Meat	1.32	0.270
	Liver	34.00	0.011

(1) parts per million

(2) AWI – Acceptable Weekly Intake calculated for a person weighing 70 kg.

The above mercury levels are the average for the entire group, so some whales will have had higher burdens and others, lower than average. The discrepancy in the two tests may have been because one group was younger, and therefore smaller than the other group.

Faroese postage stamps express concern at the dumping of toxic and nuclear wastes, published March, 1986.



An important point to note about the AWI listed above is that it refers to wet weight (i.e. fresh). The meat consumed by the Faroese is often dried and has lost up to 70% of its fluid²⁵. The meat will therefore have much higher mercury concentrations. To date, no tests have been carried out on the dried meat.

Polychlorinated Biphenyls (PCBs)

PCBs are extremely toxic man-made chemicals which have been lost in large quantities into the environment. An estimated 99,000 tons have been lost into the North Atlantic Ocean – more than in any other ocean in the world.²⁷ PCBs do not biodegrade and present a serious threat to many different animal species.

Seal populations are definitely endangered, both in the USA east and west coasts, the Dutch and German Wadden Sea area and in the Bothnian Sea, and probably also in other less investigated areas.²⁸ A 10 years' period of reduction in the Swedish sea otter population has been co-related to high concentrations of PCBs.²⁸

Harbour porpoises in the Baltic Sea also appear to be suffering similar declines from PCB contamination and beluga whales in the Gulf of St. Lawrence are thought to be declining because of PCBs.

Increased mortality of adult birds may result from neurological changes induced by PCBs causing high mortality and reproduction failure. White tailed eagles of the Gulf of Bothnia were reported to suffer from reproductive failure associated with PCBs. Common murrens and cormorant deaths have been directly related to high levels of PCBs.²⁸ It has also been noted that "The present residue levels (of PCBs) in aquatic organisms and predatory birds and mammals are in many cases high enough to produce toxic effects presently and in the future . . ."²⁸

On 27th July, 1985, EIA researchers collected blubber samples from whales killed at Vestmanna in the Faroe Islands, for PCB analysis. PCBs accumulate in fatty tissues so only the blubber was tested. This was the first time pilot whales were ever sampled for PCB contamination. The Faroese Hygiene Department is very interested in the issue but do not have funding available to carry out the expensive PCB testing on pilot whales.

Results of PCB Analysis of Pilot Whale Blubber

Sample	PCB in ppm	DDE in ppm
1. unidentified	30	7
2. male 3-4 metres	ND	14
3. female 3 metres	ND	4
4. female 5 metres	ND	ND
5. male 6-7 metres	24	10
6. unidentified	ND	ND
7. female 3 metres	ND	ND
8. male 5 metres	20	15
ND - not detected		

Results are in parts per million on a wet weight basis. DDE is the environmentally stable metabolite of the insecticide DDT which is detected during the PCB analysis. The analysis was performed using Archlor 1254 as the PCB standard.²⁹

Sample 1 also contained 3 ppm of BHC (from the insecticide Lindane) and 2 ppm of HEOD (from the insecticides dieldrin and aldrin).

It is of interest to note that many of the highest residues were found in males which are unable to excrete organochlorines like PCBs in milk, as lactating females do.

A systematic testing of pilot whale blubber for PCB contamination is needed to establish the effects that this and other contaminants are having on pilot whales. Although EIA opposes the pilot whale hunt, valuable information can be obtained on the cumulative effect of pollutants through research whilst the hunts continue. Certain scientists have expressed their willingness to assist further investigations into the problem of PCBs in the pilot whales and have collected samples which await analysis.

Regulation of the Pilot Whale Hunt

The regulation of the pilot whale hunt has existed in some form for several centuries.⁸ The focus of regulation has always been the organisation and execution of the hunt as well as the distribution and division of the whale products derived from the hunt.

The traditional regulations of 1832 concentrated on the division of whale products and the share apportioned to those taking part. They also required that certain quantities of whaling equipment be available in each boat participating in the hunt, due to the lack of equipment available on many kills in the 17th and 18th centuries.

In the updated regulations of 1955, the requirements for minimal amounts of whaling weapons to be available was excluded, presumably because the lack of such equipment had ceased to be a problem. These regulations did, however, specify which bays could be used for hunting whales, as well as the proportions of the meat and blubber to be divided amongst the different participants.³¹

None of the regulations were concerned with the welfare of the whales or required the hunters to kill the whales quickly.

Amendments were made to the 1955 regulations in 1966, 1969 and 1977. In response to criticism of the large numbers of whales being left to rot, the local sheriffs in the Faroes were empowered in the early 1980s to close their region if it became too saturated with whale meat. Regions were temporarily closed and whale herds occasionally turned away in the past few years, but catches remained high and waste continued.



Wasted whale blubber found at Famjin, Suduroy Island, July, 1985.



Discarded whale blubber in Torshavn, April, 1986. A. Mallion.

New Animal Welfare Regulations of 1985

In March, 1985, the Faroese government published new regulations which formally provided a degree of protection for the whales.³² Most of the new regulations were directed towards abuses of domestic livestock or pets. Some applied specifically or generally to whale hunting however.

The regulations restrict, but do not ban, the use of the whaling spear and harpoon and make it necessary that any animal to be killed must be killed as quickly and painlessly as possible.

A number of other more general regulations prohibit neglect or overexertion of animals and provide for penalties if the regulations are broken. For serious negligence a fine or imprisonment can be imposed on an offender.

The new regulations of 1985 also empowered the government to ban any person from taking part in the handling or slaughter of any particular animal and this could be applicable to pilot whales.

Faroese society does not often impose penalties on those who break the law however. In 1985, on the island of Sandoy, a hunter disobeyed the sheriff's order not to drive a herd of pilot whales ashore. The hunter persisted and the whales were landed and killed, but no prosecution resulted. The same defiance of the sheriff's orders occurred on Suduroy in 1985, but again no prosecution resulted.

In April, 1986, the sheriff of the northern island of Bordoy refused permission to drive a herd of pilot whales into Hvannasund. The hunt foreman ignored the sheriff and completed the kill of some 75 whales. No prosecution or penalty for this illegal kill appears imminent either.

The same happens with the supposed restriction on the use of the whaling spear. In a kill in Torshavn bay in September, 1985, a group of about 10 pilot whales managed to escape from the slaughter and swim outside the bay. A dozen boats pursued them however and encircled them. Long after the whales in Torshavn bay had been killed, the encircled group of ten were being repeatedly stabbed with a spear by a well-known Faroese painter. The hunt foreman had long since disappeared, and the disgusted observer who related the incident stopped watching the Viking artist with the spear after half an hour.



Discarded whale blubber found at Famjin, Suduroy Island, July, 1985.

New Regulations of 1986

In response to international protest against their unrestricted pilot whale kill, the Faroese authorities established a "Whaling Committee" to study ways of improving the method of killing and reduce the inherent cruelty of the hunt.

As this report goes to press, EIA has not yet received a copy of the new regulations despite several requests for one. During a lengthy discussion with the Faroese Director of Fisheries, Kjartan Hoydal, EIA Director Allan Thornton was told the main points of the **proposed** regulations.

The internal report recommends closing seven out of some 25 authorised whaling bays; Torshavn, Vestmanna, Klaksvik, Fuglafjordur, Vagur, Tindhølmur and Tvoroyri. These bays are suggested for closure because they do not have beaches where whales can be landed and the slaughter has to take place in the water resulting in long, agonising kills.

The rules propose to completely ban the use of the whaling spear and to restrict the use of the gaff. It will also be necessary for hunters to cut the large carotid arteries which run along the whale's spine before severing the spinal column.

Hoydal claims the idea behind the new regulations is to promote the idea that whales must be beached prior to killing and stated that each whaling bay would only continue to be authorised to catch whales if it maintained a good standard of killing efficiency.

The proposed regulations may or may not become law. A recent report on Faroese radio stated that the government would reject the closure of the seven whaling bays. There has also been considerable resistance to the restricted use of the gaff.

The regulations recognise the validity of conservationists' criticisms of the whale slaughter in attempting to eliminate some of the worst cruelties of the hunt. Since 1979, the seven bays proposed for closure have accounted for the deaths of over 700 pilot whales annually.

There is however, no limit to the number of whales that can be killed and it is uncertain if the regulations will be made into law. Enforcement remains another real problem.

Since the pilot whales cannot be killed in a humane way and because there is no essential need for the products derived from the whale hunt, the new restrictions are not likely to succeed in defusing international opposition.



Wasted whale meat and blubber found in Trongisvagar dump, Suduroy Island, July, 1985.

The Faroese authorities may wish to encourage the belief that the pilot whales are beached prior to killing so that slaughter is quick and efficient. In reality, few whales can actually be beached except in a very small herd. Most whales will still be killed in the water after being repeatedly gaffed.

Since the proposed new regulations recognise the inherent cruelty of the use of the gaff, logic suggests that it should be banned. The method of driving a herd of whales into a bay depends on using the gaff to kill the whales in the water and to drag them up onto the shore prior to killing. If the gaff is banned, the method of killing an entire herd becomes impossible and the Faroese pilot whale hunt could not be carried out in its present form.

Faroese Fish Exports

The Faroese economy has long been closely linked with the state of the fisheries markets. Fish and fish products account for at least 98% of total exports.

In 1964, Britain recognised a 12 mile limit around the Faroes and the Faroese fishermen reverted to catching in their home waters after having adapted to long distance fishing. Fish processing onshore became viable and in 1977 the Faroese government introduced a 200 mile zone around the islands.

When Denmark joined the EEC, the Faroes decided to refuse membership although subsequent trade agreements were made which allowed most Faroese fish products to enter the EEC tariff free.³³

The growth of the fishing industry over the past 17 years accounts for the major growth in their economy and the raising of the standard of living to "one of the highest in the world" according to an editorial in the Faroese newspaper *Dagbladid*.

Faroese fish are of high quality and are relatively expensive on foreign markets. The USA market is the most valuable, despite strong competition.

Over 80% of all Faroese fish is exported through Faroese Seafood (Foroya Fiskasola) which is a co-operative of 160 companies. The Managing Director, Birgir Danielsen has stated publicly that the

Table Showing Growth of Faroese Exports

DKr1600 mill
£ 125 mill

DKr1500 mill
£ 117 mill

DKr1400 mill
£ 109.5mill

DKr1300 mill
£ 101.5mill

DKr1200 mill
£ 93.8mill

DKr1100 mill
£ 86 mill

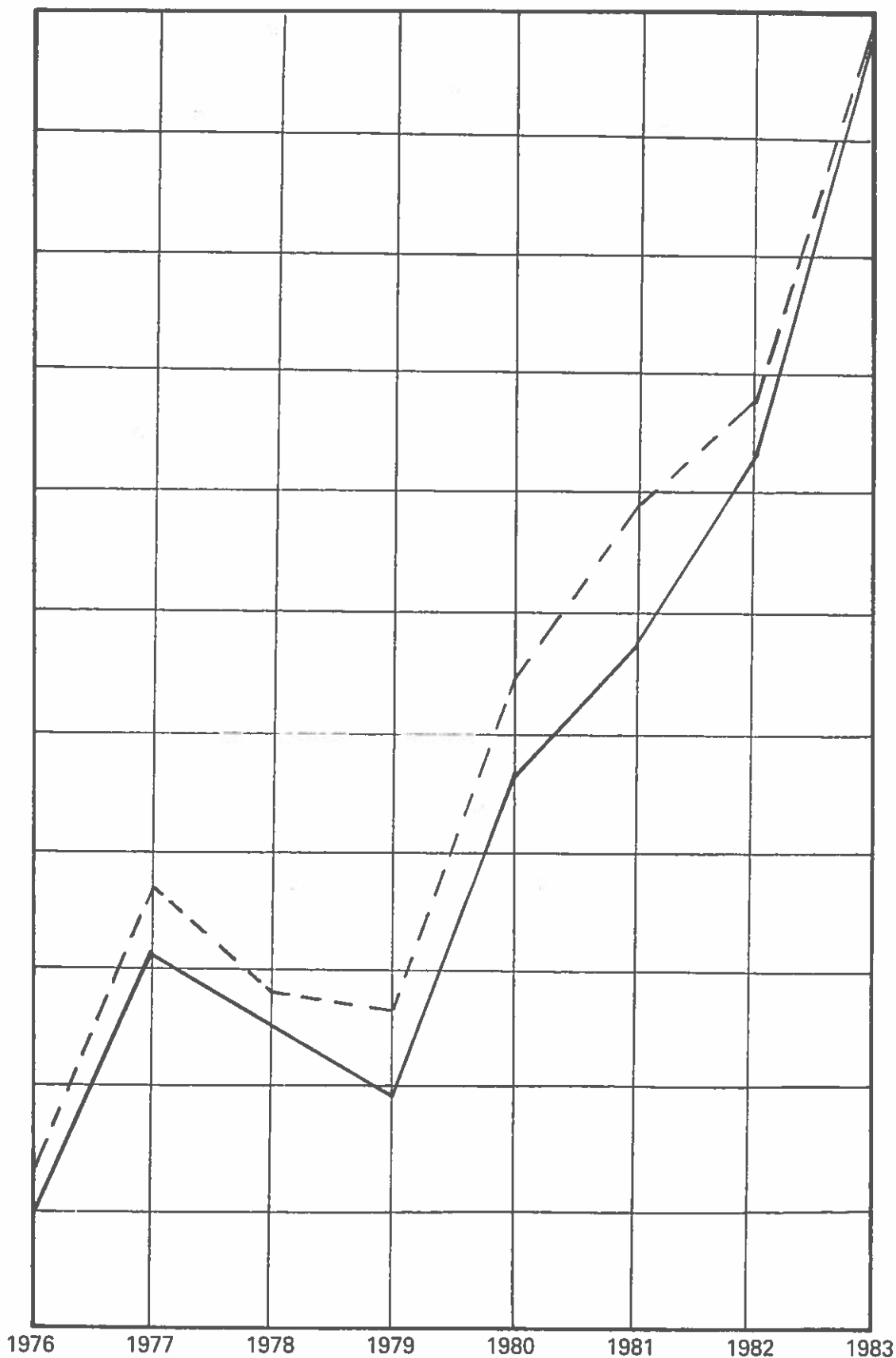
DKr1000 mill
£ 78 mill

DKr 900 mill
£ 70.3mill

DKr 800 mill
£ 62.5mill

DKr 700 mill
£ 54.7mill

DKr 600 mill
£ 46.9mill



TOTAL FAROESE EXPORTS - - - - -

TOTAL EXPORTS OF FAROESE FISH ———

continued pilot whale hunt poses a serious threat to exports of Faroese fish products because of the threat of a boycott.

Fish is exported to the USA through the Coldwater Company, an Icelandic owned company based in Massachusetts, Faroese fish are purchased by a number of large American concerns such as Campbells soup and Macdonalds hamburgers.

Although the USA purchased only 9,828 tons of Faroese fish in 1985, the value was very high, at £25,308,720 or £2,575 per ton.

In Britain, Faroese fish is imported by Faroese Seafood of Grimsby, a company wholly owned by the Torshavn-based Faroese Seafoods. Demand for Faroese products, particularly plain and battered fillets, have increased dramatically. The biggest customer is Marks and Spencers with the major supermarket chains of Tesco and International being almost as important. Sainsbury, Gateway, Wimpy and British Home Stores are amongst the other major buyers of Faroese Seafood in Grimsby.^{34, 36}

The company has increased sales from £10 million in 1982 to an estimated £21 million in 1985.

Fodafisk, a Danish company, handles some sales to Europe, particularly those of prawns. It experienced disappointing sales in 1984, especially in the French market although sales in 1985 seemed more encouraging.³⁷

Fish Sales for 1985³⁵

Country	Tons	1,000 Kr.	£ sterling
USA	9,828	316,359	25,308,720
West Germany	18,327	223,327	17,866,160
Great Britain	10,007	187,150	14,972,000
Denmark	25,436	175,993	14,079,440
France	9,869	160,718	12,857,440
Italy	4,746	101,316	8,105,280
Portugal	3,381	61,539	4,923,120
Finland	26,793	25,539	2,043,120
Sweden	1,354	25,789	2,063,120
Japan	448	20,921	1,673,680
Belgium	1,652	19,652	1,572,160
Greece	718	15,261	1,220,880
Switzerland	334	13,038	1,043,040
Holland	493	8,579	686,320
Spain	364	8,139	651,120
Faroese	378	6,550	524,000
Iceland	664	4,190	335,200
Norway	79	3,141	251,280
Czechoslovakia	40	353	28,240
TOTAL	115,048	1,377,999	110,239,920

With 98% of Faroese exports being fish, their economy is particularly vulnerable to a boycott. With increased opposition to the Faroese pilot whale hunt, the government in general and the management of Faroese Seafood in particular, have become very concerned about the potential threat to exports. The devastating effect a boycott could have on such a small country means that such economic pressure should be enacted gradually, and only as a last resort if the Faroese refuse to stop the pilot whale hunt.

Wasted whale meat found at Trongisvágur quay, Suduroy Island, July, 1985.



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Conclusion

EIA has now received the new regulations governing the killing of pilot whales which have been drawn up by the Faroese Government.

They make depressing reading, as all of the major changes which were recommended in the internal report by Kjartan Hoydal, the Director of Fisheries, have either been eliminated or severely weakened.

There will be no prohibition on using the seven worst whaling bays and there will be no real restriction on the use of the gaff. The precise wording from the regulations governing killing reads as follows:

Point 3: When the whales have been beached or are as close to shore as possible, the pilot whaling foreman shall give word that the whales can now be hooked and killed. Whales which are not stranded may be hooked from boats and hauled ashore. The foreman can also give permission for whales to be killed from boats.

Point 4: Permission for the procedure outlined in point 3 will only be given if it is judged that every whale hooked can be killed quickly and painlessly.

Therefore, the hunts will continue as before, with horrific cruelty being inflicted on thousands of pilot whales. Killing in the water will continue and the gaff will be used to hook whales. The requirement that the whales be towed to shore before being killed will not reduce the suffering of the whales by even a few seconds.

There will be no quota or limit on the numbers of whales to be killed and the devolution of power to the local sheriffs who must decide which bays can be used, will ensure that there will not be any effective control over the hunt. The stunning waste of entire whales and of whale meat and blubber will continue.

The much heralded "changes" in the whale hunting regulations have proven, after all, to be nothing but a public relations exercise by the Faroese Government to try to defuse international opposition to this totally unnecessary kill.

An escalation in the opposition to the pilot whale hunt appears inevitable as a result of the total failure of the Faroese government to bring in effective controls.

*Allan Thornton
15th May, 1986*