

# Confrontations between humans and polar bears in Svalbard

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Since 1973 there has been a total of 50 serious confrontations between humans and polar bears in Svalbard. This paper summarizes these incidents.

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Svalbard is the collective name for the group of Norwegian islands situated between longitudes 10° and 35°E and between latitudes 74° and 81°N. The islands have a total landmass of about 62,000 km<sup>2</sup>. National parks and nature reserves occupy 44% of Svalbard's land area.

Svalbard has about 3500 residents, most of whom are employed in the coal mining industry. There are only three towns in Svalbard. Other settlements are 3 mining camps, 2 scientific stations, 2 manned weather stations and a coastal radio station. There are few trappers in Svalbard, usually less than 5. Besides the local residents, large numbers of tourists and many scientists visit the islands in the summer season.

The Norwegian Government's highest representative is the Governor (Sysselmannen). He is also the chief of police, and head of nature conservation and wildlife management in the islands.

By law all serious incidents of human conflicts with polar bears (*Ursus maritimus*) have to be reported to the Governor. Polar bears killed in self defence are the property of the state, and such incidents are treated as a police matter.

Up to 1970, polar bears were hunted in large numbers throughout the islands. In July 1973 polar bears in Svalbard were totally protected. Since then there has been an increase in the number of polar bears and they are now quite common. According to Larsen (1986), bears in East Greenland, Svalbard and the western Soviet Arctic all belong to one common discrete population. He estimates that this population in 1970 numbered between 1500 and 2500 bears, and

similarly that between 1980 and 1983 it had increased to between 3000 and 5000 bears.

The increasing number of bears along with the increase in recreational traffic outside the inhabited areas, should presumably lead to more human contacts with polar bears. The present work summarizes contacts which have led to conflict between man and polar bear since 1973.

## Methods

Conflicts between humans and polar bears in Svalbard can be grouped into three categories:

- Bears destroying human property. This is quite common. Compensations are rarely given, consequently all incidents are not reported.
- Bears threatening people, dogs or property. In most cases the bears are chased away with no harm being done. Occasionally these incidents lead to the bear being shot.
- Bears killing or injuring people. This is very rare.

In the present work the term 'serious confrontation' refers to the two latter categories. Data have been obtained from the local newspaper *Svalbardposten*, and the Governor's files. These files are mainly auction records of skins of bears killed in self defence. Little or no biological data on these bears have been recorded.

## Results

Since July 1973 a total of 50 cases of serious confrontations between humans and polar bears

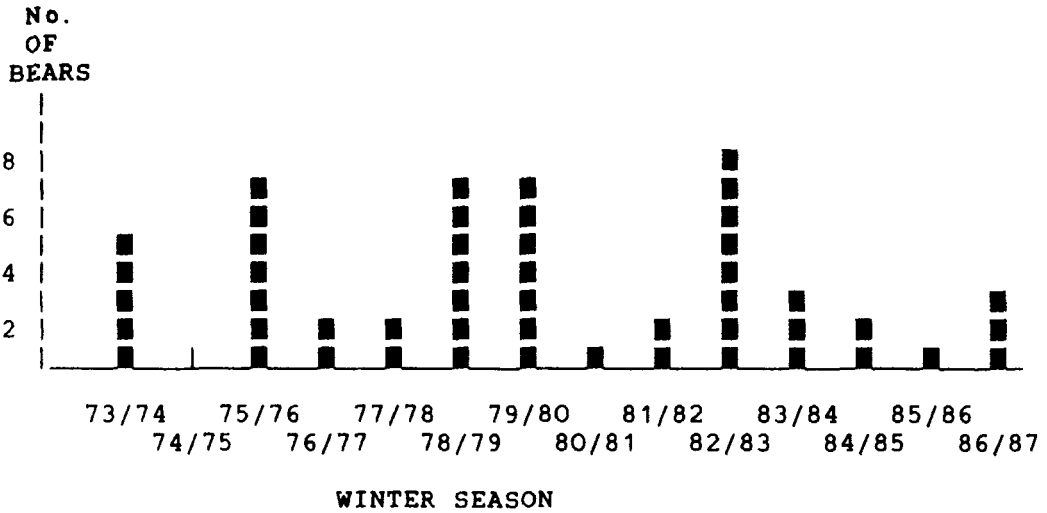


Fig. 1. Serious confrontations between humans and polar bears in Svalbard since July 1973 according to yearly winter seasons. ■ = 1 confrontation.

has been registered (Fig. 1).

Of these cases 46 resulted in the killing of a bear and in one case a bear was wounded, but escaped. In addition three cases with human casualties are known, but in these cases no bears were killed.

Occurrences related to months (Fig. 2) show that most incidents happen in the period December–April, with a small peak in July–August.

*Sites of confrontations*

Of the 50 serious confrontations registered, 20

occurred at manned field stations. These stations are Hopen Island (11), Bear Island (4), Hornsund (4) and Kapp Linné (1).

Eight of the confrontations occurred in towns and mining camps. In four of these the bears were shot in self defence, while the others were shot as precautionary measures. Three bears shot in or around Longyearbyen were among the latter half.

Eleven polar bears are known killed in order to protect property.

Relatively few serious confrontations, 11 in all, occurred in the field.

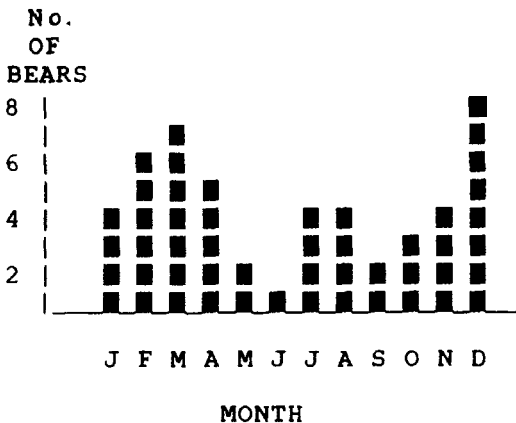


Fig. 2. Serious confrontations between humans and polar bears since July 1973 according to months of occurrence. ■ = 1 confrontation.

*Human casualties*

In only three cases since 1973 have people been injured or killed by bears. In Dec. 1975 a man was attacked by a bear in Barentsburg. He managed to get away by poking the bear in the eye with his thumb, but received large skin-damages to the head and was hospitalized.

In July 1977 at Magdalenafjorden, Northwest Spitsbergen, a man was killed by a bear when he stepped out of his tent.

In November 1978 a meteorologist at the Polish Polar Station in Hornsund was attacked by a bear. The bear bit him in the hand, but released him and ran when others of the crew started shooting. The man now has a permanent malfunction of the hand. The bear was slightly wounded in the upper neck and disappeared.

## Discussion

### *Confrontation related to year and month*

According to Fig. 1 there are overall fewer serious confrontations today than in the seventies, in spite of the fact that both the recreational traffic and the number of bears have increased significantly since 1973. This may be because people through the years have learned how to avoid confrontations, which is in contrast to the situation in the Northwest Territories, Canada. According to Stenhouse (1983), there was an increase in the number of nuisance bears shot in defence of life and property in the decade 1972–1981. On average 15 bears were shot yearly in the first half of the decade as opposed to 28 in the second half.

In Fig. 1 the year 1982/83 stands out as the exception in an otherwise general decrease in the number of confrontations. Of the eight bears killed in 1982/83, four were unnecessary killings. Two cases resulted in police charges against those who shot.

Most confrontations occur in the winter. December is the peak month (Fig. 2), possibly because people are just as surprised every year when the first bears show up. November and December are often difficult months for hungry bears because there is usually little ice at this time of year, at least on the Spitsbergen west coast where almost all of Svalbard's human inhabitants live. Bears may therefore come close to settlements either out of curiosity or in search of food.

From January through April there is usually fast ice in the fiords on the Spitsbergen west coast and bears are quite common. Also, this period partly corresponds with the peak season for outdoor recreation. These two combined effects make it the period when serious confrontations most frequently occur.

Of the nine incidents that have occurred in the months of June, July and August (Fig. 2), scientists or tourists were involved in seven. Four of these cases have happened within the last five years. This may be a result of the steady increase of tourists and scientists visiting Svalbard each summer. These people, unlike the locals, visit the remoter parts of Svalbard, i.e. the northern and eastern parts, where bears are more common in the summer. Many of these scientists and tourists are inexperienced with polar bears and therefore it is more likely that serious confrontations may

occur. This is a problem that is expected to increase in the future.

### *Sites of confrontations*

Serious confrontations occur most frequently at Hopen Island, which is only inhabited by a four man meteorological crew. Lønø (1970) showed that the number of bears at Hopen corresponds with the number of days of winter pack ice at the island, and Larsen (1986) gives an account of monthly observations of bears at Hopen Island since 1966.

Bear Island, lying farther south at the edge of the winter pack ice area, has a shorter period of winter pack ice and consequently has fewer bears than Hopen Island.

Hornsund has, for a few months every year, large numbers of bears passing through the area on their way to the eastern parts of the archipelago (Larsen 1986; Gjertz & Lydersen 1986).

Common to all three places is that polar bears, due to winter pack ice conditions, are so numerous for parts of the year that contacts between humans and bears are more common here than in other more populated areas of Svalbard. Serious confrontations are therefore more likely to occur here than in other places in Svalbard, all depending on the experience of the station crews.

Most of the bears killed as precautionary measures were shot in Longyearbyen. This may reflect the fact that the Governor resides in Longyearbyen, and it is also the Governor who authorizes the killing of bears as precautionary measures. In other settlements local authorities first have to receive the Governor's permission before bears can be shot as precautionary measures.

Of the eleven bears killed protecting property, two were shot by the same man. He was a trapper protecting his dogfood. These shootings were not considered necessary and the trapper was fined.

There may be several reasons why relatively few incidents occur in the field. First of all people are mostly out in the summer and late winter. In the summer bears are scarce in the western inhabited parts of Svalbard, and people visiting the more remote parts of the archipelago usually travel in boats and are therefore relatively safe. In the winter, when bears are numerous in the inhabited areas, people travel by snowmobile and are similarly quite safe. Secondly, local people who travel in the wilderness are often used to

meeting bears and know how to deal with them in a safe way. Of the eleven cases of serious confrontations that have occurred in the field, six involved scientists and three tourists.

#### *Biological data*

The Governor's files are inadequate, and do not give much biological information on the bears killed since 1973. However, the available information indicates that many of these bears were young. In the future standard biological data will be collected on all bears killed in self defence in Svalbard.

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