

A Survey of Public Opinion on Seal Management in Southwestern Scotland

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Abstract

To assess public opinion on the level of protection given to seals in Scotland and on the controversial issue of seal culls, a survey was conducted in southwestern Scotland at various locations in the rural county of Argyll and the city of Glasgow in 2001. This study found that most participants were of the opinion that the current level of protection given to seals was sufficient. In addition, the survey found that the majority of the participants were against the concept of seal culling to protect fisheries. Analysis of responses showed that both female and younger participants were more likely to be against the introduction of seal culls, but, surprisingly, neither interest in marine or environmental issues nor the occupation of the participants, including involvement in the fishing industry, affected the level of support or opposition. Numerous responses were given by participants to support and qualify their opinions, and these are summarised.

Key Words: seal, marine mammal, Scotland, public opinion, culling, management

Introduction

Two species of seal are resident in Scottish waters year-round: the common seal (*Phoca vitulina*) and the grey seal (*Halichoerus grypus*). There are currently an estimated 29,800 common and 103,100 grey seals in Scottish waters (UK Special Committee on Seals, 2004), which accounts for approximately 90% of the seals inhabiting United Kingdom waters (Harwood & Hall, 1996; UK Special Committee on Seals, 2004). Moreover, the UK accounts for approximately 85% of the European and 39% of the world population of grey seals (Harwood & Hall, 1996; UK Special Committee on Seals, 2004).

Populations of grey seals generally are believed to be increasing in UK waters at a rate of approximately 3.5% per annum (UK Special Committee on Seals, 2004); however, other grey seal populations in Europe (Denmark, Estonia, Finland,

Lithuania, Poland, Russia, and Sweden) are listed as endangered by the IUCN and possibly are facing extirpation (Baillie & Groombridge, 1996).

Laws protecting seals in the UK include the Conservation of Seals Act 1970, which prohibits killing seals during their breeding and moulting seasons ("closed seasons"). The common seal closed season runs from 1 June to 31 August each year, and the grey seal closed season runs from 1 September to 31 December. On 4 September 2002, this closed season (and thus protection) for common seals was temporarily extended to year-round in Scotland by the Conservation of Seals (Scotland) Order 2002. Grey seals in the Moray Firth (NE Scotland) were also afforded extra protection by this temporary legislation.

On 4 September 2004, the superceding Conservation of Seals (Scotland) Order 2004 came into effect, which continued year-round protection for both seal species in the Moray Firth. This protection was primarily given in response to a 36% decline in the number of seals in the Firth, which was linked to the killing of approximately 3,000 seals over the preceding ten years to protect salmon fishing (UK Special Committee on Seals, 2004); however, for seal populations in the rest of Scotland, protection of seal populations reverted to the pre-existing, 3-month seal killing prohibition during breeding and moulting seasons.

Both the common and grey seal are considered to be conservation priority species in the UK (under the UK Bio-Diversity Action Plan). In addition, both species are listed on Appendix II of the 1992 Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora, more commonly known as the "Habitats Directive." As a result, the UK is legally obliged to propose and designate Special Areas of Conservation (SACs) for these marine mammals "where there is a clearly identifiable area representing the physical and biological factors essential to [seal] life and reproduction" [article 4; para. 1] (HMSO, 1992). At present, there are three candidate SACs for seals in southwest Scotland: (1) the Treshnish

Isles, (2) the Skerries on the southeast coast of the Isle of Islay, and (3) coastal areas and islets around Isle of Lismore (Marine Natura Office, 2004; Figure 1).

Conversely, however, despite their conservation status, fisheries organisations in Scotland have repeatedly called for culls of common and grey seals in Scotland (e.g., Black, 2001; Cairns, 1999; Denholm, 2004; Kerr, 2000; West Highland Free Press, 2001), claiming that seals deplete commercially important fish stocks. The issue often attracts a great deal of media and political attention.

To investigate the opinion of the wider public in southwestern Scotland, a survey was conducted to ascertain public opinion on seal management issues and to determine whether public opinion supported the position of the fisheries organizations or alternatively supported the conservation of seals.

Materials and Methods

Study Area

The study area encompassed the county of Argyll and the city of Glasgow. Argyll is predominantly a rural county and encompasses the Mull of Kintyre and a number of islands, the largest being Mull, Islay, and Jura (Figure 1). Argyll occupies an area of nearly 700,000 ha, with an average population density of < 1 person per 10 ha. The county, therefore, possesses a largely rural population. Fishing, fish-farming, and agriculture are all major components of the economy in the area (Scottish Executive, 2003). Tourism is also vitally important. The industry is the single largest industry in Scotland, worth more than both the oil and whisky industries and four times more than fisheries and agriculture (Anonymous, 2001). Ecotourism plays an increasingly important role in the tourism economy (e.g., A&M, 1998, 2002; Masters et al., 1998; Parsons et al., 2003; Warburton et al., 2000), of which seals are a notable resource (Masters et al., 1998). The communities of Argyll are invariably located in close proximity to the sea and either directly or indirectly dependent on the surrounding marine environment economically, either through fishing and aquaculture industries or through marine and coastal tourism. As a comparison to the opinions of the rural population of southwest Scotland, urban members of the public also were interviewed in Glasgow—the largest city in Scotland.

Methods

In the summer of 2001, members of the public were interviewed according to a predesigned questionnaire. Initially, the questionnaire was tested on a small sample of the general public to ensure that questions were easy to understand and unambiguous. Interviews were carried out at four sites within Argyll, with exactly 50 questionnaires

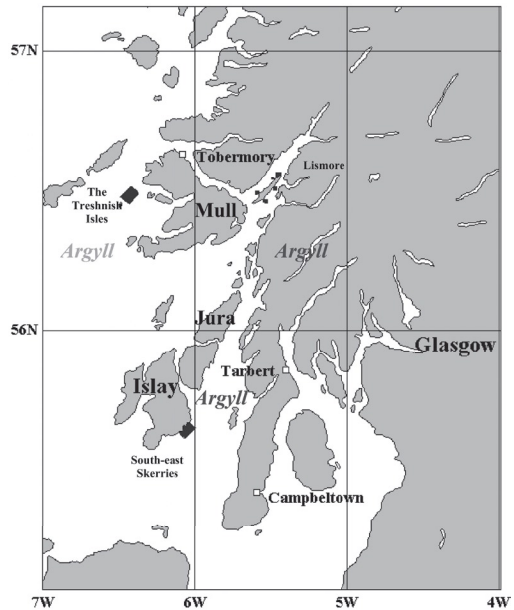


Figure 1. Map of southwestern Scotland showing the locations of the sample sites and the locations of marine Special Areas of Conservation for seals

completed at each. The sample sites were the island of Islay (questionnaires being carried out in the villages of Port Charlotte, Bowmore, and Port Ellen), Campbeltown, the village of Tarbert, and the village of Tobermory on the Isle of Mull (Figure 1). Survey locations were chosen where a representative cross-section of the public would be encountered, which was relatively easy as many of the survey locations were so small that the villages only possessed one major street used by most inhabitants. As mentioned above, members of the public ($n = 52$) were also interviewed in the city of Glasgow to provide a contrast of perspectives from an urban area. This comparative survey was conducted in a major shopping district in Glasgow, again to obtain a cross-section of the general population.

Those interviewed were selected randomly, and demographic data gathered from the participants (such as age and gender) was subsequently analyzed to ensure that a representative sample had been collected. Details on the occupations of the participants also were collected. There was a slight bias towards male respondents in Glasgow, and not all employment categories were represented at every survey site. Occupations were therefore grouped into categories, and responses were pooled for analysis purposes (see Scott & Parsons, 2001 for details); however, these factors are insignificant on a regional level analysis. For the sake of brevity, full details of the demographic breakdown of those surveyed, at each survey site and on

a regional basis, and also results of the comparative analyses between sites, are not repeated here. They can be found in Scott & Parsons (2001).

Participant responses also were compared with a variety of factors, and these comparisons were analysed where appropriate with a chi-square test. Factors used in these chi-square tests were as follows: gender; year of birth; whether the participant was a resident of Argyll or not; occupation category; the number of marine-related activities in which the participant was involved; the number of charitable environmental organizations in which participant was a member; the importance of marine conservation issues to the participant; and sample location. The statistical validity of these tests was tested and confirmed prior to the analysis; full details of these analyses can be found in Scott & Parsons (2001).

Results

Quantitative Results

Participants were asked about their views on the level of protection afforded to seals in Scottish waters. One-fifth of the participants (20.3%) stated that they had no opinion on the matter or that they were unable to answer (Figure 2). Of the remainder, nearly two-thirds (63%) considered seals to be sufficiently protected in Scotland, with 11.4% of these respondents believing that seals were overprotected (Figure 2). Over one-third (37%) of those participants who had an opinion on the matter felt that seals were not sufficiently protected (Figure 2).

Participants were also asked about their opinions on whether they agreed with an instigation of a cull of seals to protect fisheries. A lesser number of participants were undecided (10.3%) in comparison to the previous question. More than three-quarters of the participants who had an opinion on this issue disagreed with seal culls to protect fisheries, with nearly half (47%) of the decided participants

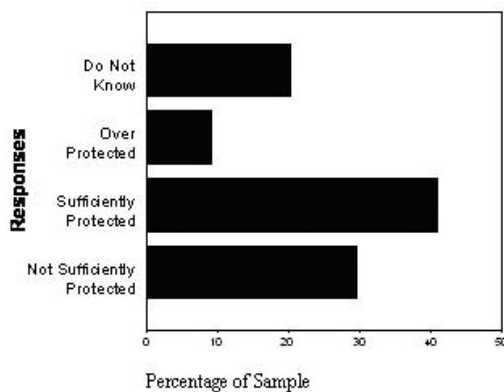


Figure 2. Participant opinions on the current level of protection given to seals

stating that they strongly disagreed with seal culls. Conversely, 18% of those participants with an opinion on the matter thought that seal culls should be allowed to protect fisheries, but only one in twenty (5%) strongly believed in seal culls (Figure 3).

The results of the above questions were analysed to determine whether these opinions were significantly different between demographic groups. There was no statistical difference between participants when they were grouped according to whether the participants were local residents of Argyll or from the sample location. Surprisingly, the participant's occupation made no difference in opinion, even when those involved in fisheries were considered as a demographic category. Also, level of interest in marine or environmental activities did not seem to affect opinions. For example, the numbers of marine-related activities (such as sailing and scuba-diving) of participants or the number of environmental charities to which they were members had no significant effect on participant answers; however, statistically significant differences in responses were found by gender ($DF = 8, p = 0.003$) and by age ($DF = 10, p = 0.002$) with respect to the issue of seal culling, with female and younger respondents being more likely to disagree with seal culling.

Qualitative Results

In addition to answering the above questions, participants were asked to comment on, or qualify, their responses. The variety of comments and stated opinions are presented here.

Those participants who agreed with the concept of a seal cull (20.7% of the survey participants) were largely of the opinion that seal numbers are too high and that they are damaging fish stocks (and, hence, the fishing industry) or salmon nets. Three participants saw seal culling as perhaps the

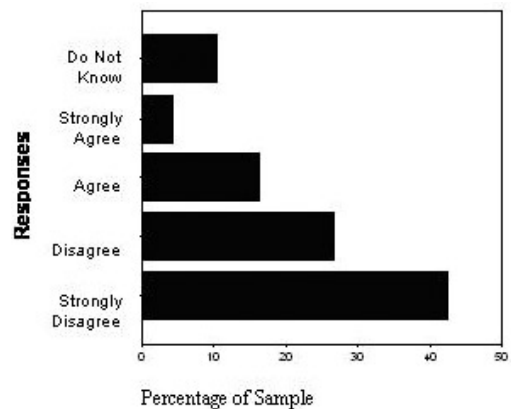


Figure 3. Participant opinions on whether seals should be culled to protect fisheries

Table 1. Comparison of opinions according to gender of participants on whether seal culls should be conducted to protect fisheries' interests

Gender	Percentage of participants relative to the concept of culling seals				
	Do not know	Strongly agree	Agree	Disagree	Strongly disagree
Female	15.0	1.0	10.0	28.0	46.0
Male	7.2	6.6	20.4	25.7	40.1

Table 2. Comparison of opinions according to age of participants on whether seal culls should be conducted to protect fisheries' interests

Age	Percentage of participants relative to the concept of culling seals		
	Do not know	Agree	Disagree
70+	7.1	42.9	50.0
70-51	14.9	29.7	55.4
50-31	6.7	20.0	73.3
30-11	12.1	5.3	82.6

easiest solution to tackle the problem. For example, “[Culling would be the] easiest way to boost fish stocks for our benefit.”

The view that seal populations require control was widespread among those who agreed with culling, with one participant offering the suggestion that seal populations should be managed in the same way as Scottish wild deer populations—that is, through management committees, monitoring, and culls of selected animals. Several participants (6% of pro-cull participants) thought that culling would be necessary for the sake of the seals themselves. For example, “*Culling would be for their own sake—they wouldn’t survive anyway*”; and “*monitoring is required—there are too many seals in places, and there won’t be food for them all*.”

Nearly a quarter (22.6%) of participants who stated that they agreed with seal culling seemed not to be entirely sure of its necessity from their supplementary comments:

“If they’re eating too many fish, then they should be culled.”

“If they are proven to reduce fish stocks, they should be culled in certain areas.”

“They probably predate on fish.”

The majority of participants (69.1% of the total sample) were opposed to the concept of seal culls however, with a notable proportion of these respondents being strongly opposed. A common

reason for their opposition to seal culling was that it could endanger seal populations:

“Although seals are plentiful now, disease and lack of food may naturally regulate them.”

“Seals face enough threats already; disease could reduce their numbers.”

Many participants felt that humans should not interfere with seal populations:

“Culling could cause further imbalance; it’s better to let nature sort itself out.”

“Nature should be left alone; we interfere too much.”

“[Culling] would interfere with the natural equilibrium.”

“Culling in my view upsets the balance, as does overfishing.”

Other participants held a more extreme opinion that humans simply had no right to cull seals:

“Who is to say that we decide how many of a species there should be?”

“What was here first—fish farms or seals?”

Other participants were of the opinion that seal populations were not actually that high; presumably, they did not see low numbers of seals as being a threat to fisheries, or thought that the low numbers of seals would be at risk if a cull were to be introduced. For example:

“There are not so many seals in the Argyll area.”

“I don’t see enough seals.”

“The seal population is not that large; I don’t see them so often.”

Furthermore, a participant in the village of Tarbert stated, “*A cull of seals took place off Tarbert. Tourists like to see them; now they are very scarce.*”

Aesthetics also played a part in forming opinion. The fact that seals are seen to be attractive animals was a fairly common reason stated for opposition to seal culls:

“Seals bring tourism and are a lovely part of the environment.”

“Seals are a part of Scotland.”

Many participants felt that seal culling was “cruel,” “barbaric,” or “inhumane” and objected to it on ethical grounds. Some participants considered that seals would only be culled for economic reasons, which they also found unethical:

“Seals would be culled for the wrong reasons—for interests of fish farms and commercial interests.”

“Seals would only be culled for money.”

The point was raised that there are other food sources than fish available to us. One participant specified that *“If there was a danger to another species, I would be prepared to listen to the argument. Otherwise I am appalled. Any living creature has a right to life.”*

Participants commonly stated that they did not like culling methods and suggested alternatives such as contraceptives. Some participants simply did not believe that seals do the harm that they are alleged to do and believed that culling is not necessary: *“The seals are not a threat to fish stocks; if seals are breeding, so are the fish.”*

Many participants thought that seals should not be blamed for low fish stocks, and culling was often not seen as the answer to the problem:

“[Culling is] not really tackling the source of the problem.”

“It is man who is overfishing, not the seals. I would suggest tackling the problem in a different way—reduce fishing quotas or manage them better.”

“Fishermen bring low fish populations on themselves.”

“There’s a lot of seals, but overfishing makes people too aggressive towards them—there isn’t enough fish to catch.”

“It’s man that has caused the problem; we shouldn’t kill other species to try to solve the problem.”

“There’s too much overfishing, and fish that are too small are taken.”

“Modern fishery techniques are responsible for the problems, culling is not the answer.”

“It’s just man’s greed that we want the fish to ourselves.”

Fishermen and salmon farmers were not unanimously in agreement with seal culling. During the survey, several fishermen/salmon farmers stated that they disagreed with seal culls, with one fisherman expressing a strong disagreement with culling.

Discussion

From the above results it appears that, despite calls for seal culls from fisheries lobbyists, the majority of the population, even in a rural area such as Argyll, was against the idea of a reduction in seals to protect fisheries. It was interesting that female and younger participants were more opposed to the idea of a seal cull, possibly these participants are more likely to view seals in a positive light. A wide variety of reasons were voiced in opposition to seal culls, ranging from moral and ethical reasons to disbelief of the stated scale of negative impacts of seals and the idea that humans should not be trying to influence or alter nature.

Similar results to those found in this survey were reported from the United States. Kellert (1999) reported that approximately three-fifths of Americans disapproved of reductions in the seal and sea lion populations allegedly responsible for consuming large quantities of fish. In addition, the study noted that four-fifths of Americans disapproved of fishermen being allowed to kill seals that stole their fish or damaged fishing gear, and the majority considered that only nonlethal methods should be used to reduce seal/fishery conflicts (such as relocation); less than 10% of the public approved of lethal control of seals, even if this method was described as being the cheapest way of protecting fisheries. Instead, the majority considered nonlethal nets and physical barriers (only 30% disapproved of this method) a favourable method of reducing seal impacts, even though this might be the most expensive way of reducing seal/fishery interactions.

Although seals are usually painted as being a negative influence on the economy, they can also be of financial benefit, mainly through the role they play in attracting wildlife tourists. In 1998, when the industry was still in its infancy, marine wildlife tourism was estimated to have brought £9.3 million into the economy of the Highlands and Islands region alone (Masters et al., 1998). Seals were considered to be the third most influential draw for tourists wanting to see wildlife in Scotland (McCarthy, 1998), and 74% of tour operators considered seal-watching tours to be an important part of the local economy in rural West Scotland (Warburton et al., 2001).

Although seals could have a negative economic impact on fisheries, the introduction of culling could also have negative economic impact. In another study in Scotland, 17% of tourists in

western Scotland stated that the instigation of a seal cull would affect their decision to visit Scotland on holiday. In the Highlands of Scotland alone, this could represent over £100 million in lost tourism income, a financial loss equivalent to a third of the total value of Scottish fisheries (Parsons, 2004).

The culling of marine mammals is obviously a very controversial and emotional issue, as evidenced by some of the statements summarised in this paper. In terms of the implications of this paper for government policy, it appears that the current system in place for the conservation of seals (e.g., Special Areas of Conservation) has the support of the public. Moreover, despite high levels of media attention, calls for culling seals by fisheries interests do not have the support of the general public, as evidenced by strong statements and public citation of a wide variety of reasons ranging from the emotive, to moral and ethical reasons, to disbelief of statements that seals do deplete fish stocks or conflict with fishing activities. Regardless of whether or not seal populations are actually a detriment to Scottish fisheries, public opinion appears strongly against a reduction in their numbers by lethal means.

Acknowledgments

The authors would like to thank Penny Hawdon for assisting with the collection of data from the Isle of Mull, and also thank Anna Colbert, Naomi Rose, Jeanette Thomas, and three anonymous reviewers for their editorial comments on draft versions of this manuscript. Naomi Scott would also like to thank Andrew Tyler, Katie A. Howie, David Gilvear, and especially her family for their advice and support.

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