A SEAL / FISHERY INTERACTION MANAGEMENT STRATEGY

Marine and Marine Industries Council

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DISCLAIMER

Introduction

Fisheries and fish farming represent an opportunistic source of food for seals. The potential for interactions exists wherever seals encounter fishers or fish farms. These interactions are causing substantial losses to salmon farmers and fishers, and the Tasmanian Government has been called upon to mitigate the problem since seal populations began to recover from the impact of the colonial seal fishery. Calls by fishing industry groups to reduce seal numbers began in 1916 and have continued periodically ever since. When fish farming began, it was inevitable that seals would be attracted to this new source of food. In recent years there has been an increase in seal numbers in some areas that may be contributing to a greater frequency of interactions with gill-netters and salmon farmers. The incidence of seals threatening or harming fishers and salmon farm workers also appears to be increasing.

Seal interactions in Tasmania are not significantly different from those in other States and countries that have seal populations. Mitigation practices trialed or used elsewhere are well known to salmon farmers and have been adopted locally. In order to improve fishers' knowledge of seal behaviour, a local fisherman, Mark Cuthbertson, has developed and published a very useful reference for gill-netters facing seal problems.

The conflict between the conservation objective to protect seal populations and the necessity to minimise the impact of seals on fishing and marine farming creates a public policy problem. The Marine and Marine Industries Council ('the Council') believes there is no single, 'off-the-shelf' remedy available; a matrix of measures involving both industry and Government must be designed and implemented to suit Tasmanian circumstances.

Conservation Status

As early as 1827, Tasmanian Governments recognised the devastation caused by failure to regulate the seal fishery. When stocks began to recover in 1891, laws to provide a level of protection for the seal population were introduced, and have continued in force for over a century. The protection provided by legislation encouraged the seal populations to grow, and the growth trend continues. As with most other native fauna, seals no longer live or breed in all the areas they occupied 200 years ago. All currently occupied breeding sites are, however, protected and monitored.

Two species of seals interact with the Tasmanian fishing industry – *Arctocephalus pusillus* (the Australian fur seal) and *Arctocephalus forsteri* (the New Zealand fur seal). Interactions with marine farms are primarily due to the former (incidents with other species including elephant and leopard seals occur but are rare). The species of seals found in Tasmanian waters have a broad distribution in the temperate waters of Australia and New Zealand; conservation programs should therefore be integrated across the whole population. The National 'Action Plan for Australian Seals' now judges the populations of both species of fur seal to be safe so long as the protection of breeding sites is maintained.

The Department of Primary Industries, Water and Environment (DPIWE) judges the New Zealand fur seal to be rare in Tasmania. There is no reliable estimate of the size of the population before European settlement, therefore it is difficult to assess the past rarity of the New Zealand fur seal.

The Tasmanian Government's conservation objective for both species of fur seal is to protect the population, habitat and breeding sites of fur seals to allow current population levels to be maintained, and potentially increased if additional breeding sites are re-colonised. The conservation objective will be achieved if seals continue to be protected under the *National Parks and Wildlife Act 1970* (and the *Threatened Species Protection Act 1995* in the case of the New Zealand fur seal), and the environment is managed in a manner that maintains ecological processes and habitats. The Government policy is that no active intervention measures are proposed to facilitate population rebuilding. The Council supports this policy.

This approach recognises that while the objective is to minimise human induced seal mortality, it is not practically feasible to prevent any such mortality occurring. The Council considers that the reported low level of mortalities associated with interactions with fishing and fish farming operations do not significantly impact on seal numbers or upon population rebuilding. It is important to note in the context of seal reproduction that most of these interactions are with immature and non-breeding adult male seals.

Whilst the interactions add to the cost of fishing and fish farming in Tasmania, those industries pose no significant impediment to the conservation of seal populations. Research suggests that seals naturally feed primarily on pelagic fish species and cephalopods. The fishing industry does not heavily exploit either of these, and there is no basis for claims that interactions are due to the impact of fishing. Salmon farming provides an additional and predictable source of food for seals, and the Council considers that it is this factor rather than a lack of naturally-occurring food that is the primary cause of interactions.

Fisheries and Marine Farms Affected

Investigations by the Council show that interaction with commercial and recreational gill netting is a problem. Some other Tasmanian fisheries are also affected to a lesser extent. Fisheries managed by the Commonwealth Government in waters adjacent to Tasmania have not been considered by the Council.

To evaluate the economic impact of seal interactions with wild fishing activities, fishers who had experienced seal interference were asked to give an estimation of costs incurred in the previous twelve months for gear maintenance and replacement directly attributable to interactions with seals, as opposed to normal wear and tear. Fishers were also asked to estimate the percentage of total costs for maintenance of vessel and gear that they attributed to interactions with seals. An assessment of the returns of this survey estimates those costs to Tasmanian commercial fishers due to seals to total $843,000 a year. The Seal /Fishery Interaction Management Strategy Background Report provides further details on the survey.

The abalone sector is not included in the total as only one respondent provided any costs, and these were related to periodic scalefishing activities. Seal interactions do not seem to be an issue with other wild fishing operations such as scallop and squid fishing, droplining in Commonwealth waters or Danish seining, or with seaweed harvesting.

Shellfish culture is not affected by seals but Salmonid farming is seriously affected, particularly in South-east Tasmania. Tasmanian farms produced 12,100 tonnes of high quality Atlantic salmonids in 2001. Interactions with seals cause production losses through direct predation and harassment, and increase the costs through the need to construct and maintain predator nets. A recent survey estimated the total costs due to seals to be $1000 per tonne of salmon produced, amounting to $12.1 million in 2001. This figure includes mortalities and escapees, production losses through stress, depreciation on capital invested in protective measures, increased operating costs and the cost of seal relocations.

Of recent concern are reports of a small number of interactions between fish farm workers and seals, culminating in threatening behaviour and occasional attacks. Unless steps are taken to halt the apparent increase in the risk to the safety of persons engaged in fishing and salmon farming posed by a few problem seals, the community faces costs of a greater magnitude. Operators of salmon farms have a legal responsibility to ensure safety of their workers under the *Workplace Health and Safety Act 1995*.

Managing the Problem

Attempting to reduce the population of seals is neither justified nor useful. The Council believes, however, that the community should accept that minimising the negative impacts associated with seal interactions with fishing and fish farming operations need not conflict with the conservation of seal populations.

It is necessary to manage the interactions to minimise -

1. risks to human health and safety;
2. damage to gear and equipment;
3. losses of fish in terms of mortality, reduced growth, stress or removal from fishing gear;
4. costs associated with mitigation measures;
5. seal mortality or injury; and
6. the opportunities for seals to adopt behaviour that leads to interactions.

A Management Strategy

Fish farming and fishing activities provide substantial community benefits. Seal interactions have been occurring since settlement, and the Council does not expect to eliminate negative interactions, but rather to manage the impacts of those interactions. The Council recognises that management will be ongoing, with new strategies and action plans evolving and being trialled as seal behaviour patterns change and new fishing and farming techniques become available. The Council proposes that the following principles should guide the seal management strategy:

- dealing with seal interactions is a shared responsibility;
- management strategies should be based upon the best available information and must be generally acceptable to the industry, community and market place.

A co-operative approach involving all stakeholders will be required to:

1. implement management measures;
2. improve our understanding of the problem and develop new solutions;
3. explain to the community the validity of the management strategy.

The Council has identified a number of steps that can be taken to mitigate the problems posed by seals to the fishing and fish farming industries.

- **The practice of feeding seals should stop.** Seals quickly learn to exploit the opportunities for regular nutrition offered by fishers, fish farmers and others. Therefore it is of prime importance that those engaged in these activities do not contribute to this learning process.

- **The better design of salmon farms and pens will minimise the opportunities for seals.** There is now a great deal of information available from Tasmania and overseas on alternative designs. The Tasmanian industry has invested much capital in a continuing effort to thwart attacks by seals.

Some designs that initially showed promise later proved to be ineffective when seals modified their behaviour. There is an obvious trade-off between investing in equipment such as new pens, and the cost generated by seals, but Tasmanian fish farmers must be encouraged, with Government assistance, to utilise the best possible designs. A proactive approach to the future is vital, especially considering the investment required to meet the forecast doubled production by 2005.

- **Modifications in fishing practice can reduce interactions.** The opportunity for fishers to mitigate the problem through changed gear designs is less obvious than for fish farmers, but industry research suggests that changes in the way gill nets are used can be effective. These changes might well be further developed into a code of practice for the fishery. Gear design research should also reduce the likelihood of seals removing bait from lobster pots or becoming caught in the entrance to the pot.

Notwithstanding the advantage of better training of staff and the adoption of improved gear and practices that do not encourage seals, the Council accepts that other measures are needed. Of particular concern is the apparently increasing tendency of some seals to harass and endanger fishers and fish farm staff. Relocation has been used for several years to deal with problem seals, and the Council considers that controlled use of non-lethal deterrents is needed.

- **Relocation** has been successful in preventing some seals from preying on fish farms. Whilst some seals quickly return to the trapping site many do not. Relocation often provides short-term respite for farmers at crucial times and is a cost effective option for farmers at those times.

  On the other hand, commercial and recreational fishers near the release sites believe their problems with seals are aggravated by the relocations. In addition, not all the problem seals can be trapped, and diseases carried by relocated seals pose a small risk to those moving them and to seals in the area to which they are relocated. The Council believes that whilst it is not possible to objectively evaluate disease claims, they are a valid argument against the practice. In addition, the capture and transport is expensive and requires experienced staff to avoid harming the animals.

  The Council recommends the gradual phasing out of translocations as better management tools become available. In the interim the Council recommends the continuation of the practice, providing the release sites for relocations are carefully chosen. Relocations are costly, and the Council considers that apportionment of these costs needs to be considered by Government.

- The Council recommends the use of **non-lethal deterrents** to modify the behaviour of individual seals. Seals, like a number of other large mammalian predators, will under certain conditions become habituated to feeding from human sources. Due to their size and potentially aggressive nature this can lead to risks for persons in their vicinity. In such circumstances effective deterrents are needed. A range of techniques developed to disperse crowds for public safety purposes are potentially

useful to retrain individual seals. Non-lethal explosives, projectiles and irritant chemicals are potentially useful. The Council urges the Department, in association with industry, to quickly evaluate all such techniques with a view to authorising their use against problem seals under approved protocols.

- Providing a fisher/fish farm worker is **adequately trained** and follows an agreed code of practice, they will be authorised to use the small explosives known as 'seal crackers'. Other non-lethal deterrents may require specially trained operatives. The Department will need to review its protocols to prescribe the conditions under which deterrents that are otherwise prohibited may be used.

The Council recommends that under extreme circumstances, where all other measures have been thoroughly pursued and found to be ineffective in dealing with an identified seal which is presenting a risk to human health or safety, that seal may be killed. The Council believes that in these circumstances such euthanasia should be handled in a manner consistent with the practice followed when other protected or domestic animals are destroyed. Euthanasia will only occur under specific protocols under direct supervision of an authorised officer, after approval by the Director of National Parks and Wildlife or his delegate. The Council is confident that these infrequent events will pose no risk to the conservation status of seal populations or to the image of the industry.

The Cooperative Program

A program that provides for the application of mitigation measures will be available to industry participants. This program recognises the shared responsibility for dealing with seal interactions. In order to participate in the program, fishing or fish farming enterprises will need to demonstrate that they have fulfilled the obligations listed below.

A forum to agree on details and to consider appropriate standards and protocols should be established immediately. Such a forum would also facilitate the exchange of information and experiences between industry, managers and researchers, accelerate the development of improved practices, and provide important liaison between industry and Government.

Obligations

In order to be authorised to participate in the program and use mitigation measures that require a permit under the *National Parks and Wildlife Act 1970* or the *Threatened Species Protection Act 1995*, an enterprise must demonstrate that it has fulfilled the following obligations:

(a) meets appropriate equipment standards (as determined by the Forum established under this Strategy) or is making acceptable progress in meeting those standards;
(b) staff are adequately trained in dealing with seal interactions, ensuring interactions are not encouraged and risks to seals and humans are minimised;
(c) observe any agreed code of practice developed to minimise interactions with seals;
(d) satisfactory supervision is in place to ensure that codes of practice and training procedures are followed;
(e) interactions with seals are adequately documented and that documentation demonstrates the need for mitigation measures;
(f) only specified and authorised individuals use mitigation measures and such individuals must be trained in the use of that measure and be a fit and proper person;
(g) past performance in dealing with seal interactions and exercise of any previous authority to use mitigation measures has been satisfactory;
(h) agree to participate in cooperative programs to further the development of better practices to manage seal interactions.

Fishing and fish farming enterprises may elect not to join the program but will need to observe all State and Commonwealth laws pertaining to the protection of seals.

The Council recognises that judging whether an enterprise has met its obligations may, in some cases, be subjective. Therefore it proposes that where such a judgement leads to the granting or refusal of a permit under the *National Parks and Wildlife Act 1970* or the *Threatened Species Protection Act 1995*, legislation be amended to allow appeals to the Resource Management and Planning Appeals Tribunal.

Approved Mitigation Measures

In return for meeting the above obligations, the Government will approve a range of measures for use by participants in the program designed to mitigate seal interactions and protect staff from harassment by seals. Seal crackers will continue to be made available and their use authorised, and trapping and relocation will continue as an interim measure. Participants will also be authorised to use additional measures to deal with aggressive seals or problem seals (e.g. those who enter and remain in fish pens or repeatedly interfere with hauling of gill nets). Measures such as the use of some forms of non-lethal tactile deterrents (e.g. "bean bag" rounds) will be authorised when such seals present a real danger to human safety. Other measures will be authorised as trials demonstrate their usefulness.

Training, testing and supervision

The co-operative program will need skilled persons to train participants in ways to minimise interactions and in the use of some of the approved mitigation methods. Trained, experienced and authorised officers will also be needed to supervise the program and ensure that protocols and codes of practice are observed. Departmental officers, or other specifically contracted persons, could supervise appropriate training and testing. In the longer term, industry training in mitigating seal interactions should be incorporated into the Seafood Industry Training Programme.

Departmental officers will also monitor the use of mitigation measures to ensure that they are used in accordance with established protocols. Each of those protocols will require documentation and reporting on the use of mitigation measures.

Education

An education and information program is needed to support this strategy. This program should be developed within the industry codes of practice to minimise interactions and to publicise and apply such codes.

There is also a need to alert recreational fishers to the potential dangers of seal interactions and to advise them against practices that are likely to entice seals to approach boats. Seals are large wild mammals and may harm humans in some circumstances and such animals should never be fed.

Part of the education process is to inform the public that conservation measures are having success in rebuilding populations at some breeding sites in Tasmania, and this success depends on continuing the protection of breeding sites.