Appendix B
Huon Aquaculture Seal Management Framework

SEAL MANAGEMENT FRAMEWORK 2014

FOR THE MITIGATION OF SEAL INTERACTIONS WITH AQUACULTURE STAFF AND INFRASTRUCTURE

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Resource Management and Conservation Division
Department of Primary Industries, Parks, Water and Environment

Tasmanian Government

Seal Management Framework 2014

Policy Context

The marine farming of salmonoids (Atlantic salmon and ocean trout) commenced in Tasmania in the mid-1980s and has since expanded to be a major industry within the State. In 2009-10, salmonoids had an estimated beach value of $300 million. Production is forecast to continue to rise; in the medium term from 2012, the industry plans to increase production levels from 34 000 tonnes to 48 000 tonnes.

In Tasmania, Australian and New Zealand fur seals are known to have had negative interactions with aquaculture industry operations. These negative interactions are a risk to the health and safety marine farm workers. The negative interactions of seals have also caused extensive losses or damage to fish stocks, and damage to infrastructure.

Types of behaviours increasingly experienced at salmonid farms include:

- seals boarding boats or farm superstructure in immediate proximity to farm workers;
- seals entering stocked and unstocked pens (and requiring removal);
- seals forcing holes in nets to access farmed stock;
- seals behaving in a threatening manner towards divers in pens;
- seals being trapped between, or being entangled in nets (and requiring removal);
- seals grabbing fish through predator and internal nets.

Australian and New Zealand fur seals are scheduled as Specially Protected Wildlife under the *Wildlife (General) Regulations 2010,* and as such are afforded statutory protection. The New Zealand fur seal is also listed as 'rare' under the Tasmanian *Threatened Species Protection Act 1995*. The Department of Primary Industries, Parks, Water and Environment (the Department) has the responsibility of administering both pieces of legislation. The Australian fur seal is the most frequent visitor to Tasmanian marine farming operations, while New Zealand fur seals are also encountered.

The Australian fur seal occurs along the coast of New South Wales, Tasmania, Victoria and South Australia. It is the most common seal in Tasmanian waters and breeds on islands in Bass Strait between October and January. It also hauls-out at various locations around the Tasmanian coastline, especially outside the breeding season when many seals disperse from the breeding colonies. This period, especially in winter, is when seal interactions with marine farms usually peak.

Because seals only come ashore to rest and breed, it is impossible to know exactly how many there are. Based on counts at selected breeding colonies each year, it is estimated there are about 5000 pups born in Tasmanian waters each year. This constitutes approximately twenty percent of the estimated total annual pup production for the species. The total Australian fur seal population is considered to have doubled in the last two to three decades to about 100 000.

The total population estimate of New Zealand fur seals in Tasmania is unknown because animals migrate from breeding colonies in other states and potentially from New Zealand, but estimates of individual seals range between 1000 and 2000 individuals. New Zealand fur seals breed in small numbers in Tasmanian waters with approximately 300 pups born each year around the state.

The Department has consulted with sections of the marine farming industry and other interest groups, and developed a management framework to manage the risks posed to both human and wildlife interests. The management framework outlined in this document describes the mechanisms and procedures available to marine farmers to manage seal interactions so as to minimise risk of death or injury to farm workers.

From Protocols to Framework

As the marine farming industry in Tasmania has evolved, the Department has assisted industry in developing and implementing responses to persistent seals. These responses are described in the document "*Combined Protocols for the Mitigation of Seal Interactions with Aquaculture staff and Infrastructure*". As the understanding of appropriate techniques for excluding seals and managing seal interactions has evolved, the need for the Department to maintain a significant role in managing seal interactions has diminished. As a consequence, the framework described in this document proposes a management structure reflective of the increased knowledge and skill level of the Department as resource manager, and farmers in relation to seal management.

The draft framework recognises the marine farming industry's need for certainty and timeliness when managing seal interactions, particularly when responding to seals that represent an Occupational Health & Safety (OH&S) risk to staff, or that may be causing damage to infrastructure and stock. The framework also recognises that farm workers are best placed to provide rapid and effective responses to manage negative seal interactions on marine farms.

Seal Management Framework 2014

The Seal Management Framework 2014 (the Framework) provides a management structure based on the requirement that marine farm operators move to implement the standards set out as Minimum Requirements for Predator Exclusion 2014.1 (MPE2014.1) to be eligible to operate under the Framework. The requirements set out in MPE2014.1 will come into effect on 1 January 2015. Until that time, farmers will be required to operate according to the Minimum Predator Exclusion Measures 2013 (MPE2013.1). The requirements defined in MPE2013 are set at a standard approved by the Minister in August 2012.

The Framework provides for the overall management system of seal interactions with marine farms to be defined and authorised by the Minister. With the Framework approved by the Minister, the minimum requirements for each management action, plus predator exclusion, are then able to be modified, added or removed, from time to time, by the Secretary in consultation with the industry. Management actions and procedures implemented by industry must meet, and where possible, exceed the minimum requirements identified for each management option and described in Standard Operating Procedures prepared by individual marine farm operators and approved by the Department.

Under the Framework, marine farms that demonstrate approved exclusion methodology, technology, and equipment standards and have agreed to implement policies and procedures in accordance with the minimum requirements for a particular management option, are permitted to undertake appropriate seal management actions. The Department provides an oversight and audit role. This will facilitate more effective and timely management of seal interaction issues by marine farm staff, while ensuring that management actions are undertaken in an agreed, appropriate and transparent manner.

The Framework is primarily based on protocols and procedures initially approved by the Minister in 2010, but with modifications through discussion between the marine farming industry and the Department. For the purposes of the Framework, protocols will be modified and known as 'Minimum Requirements' supporting the Framework. The Framework recognises that management approaches, technology and available materials will change with time, as will appropriate up-to-date techniques. These changes will not impact on the overall purpose and outcomes of the Framework (effective and humane seal management). Consequently these changes do not need to be evident in the Framework and changes to the minimum requirements, including the addition of new ones, will not require Ministerial approval; rather approval will be determined by the Secretary.

Proposed Management Options within Seal Management Framework 2014

Minimum Requirements and Standard Operating Procedures can be developed and added to this Framework from time to time, without approval of the Minister.

There are two broad categories of seal management options, (i) negative conditioning using non-lethal seal control devices (including relocation), and (ii) lethal control. The following provides a brief summary of the management options that will operate or be considered under the Framework. The requirements for each option are defined in the document Minimum Requirements 2014 a.

Non-lethal Control

Non-lethal control devices available to marine farmers include the following options (note: only a brief description of each option is provided here, full details of the methods, how they should be applied and how they comply with the Minimum Requirements, are provided in the relevant Standard Operating Procedures prepared by individual salmonoid operations).

Predator exclusion

Fish pen design features intended to exclude predators (predominantly seals) from fish contained in the pens continue to evolve as seals, in particular, learn to locate and create weaknesses in the defences of fish pens. The Department has prepared the Minimum Requirements for Predator Exclusion and the industry has agreed to transition to MPE2014 a by 1 January 2015. Meeting the minimum requirements (MPE2013 until 1 January 2015) is an essential pre-requisite for any marine farm operator who wishes to operate under the Framework and access the management options provided.

Seal Control Units (Crackers)

Seal Control Units, or crackers, are small explosive charges that are thrown into the water to explode under the surface. Crackers are used to deter seals from persisting around marine farm infrastructure. Crackers are also used to encourage seals to exit cages.

Bean bags

Bean bags are similar in principle to rubber bullets; they are fired from a 12-gauge shot gun with the aim of providing a sufficient non-lethal and non-injuring shock to a seal to encourage it to vacate a cage or other marine farm infrastructure.

Power heads

Power heads are designed for the underwater deployment of bean bags. The power head is fitted to the shaft of a spear or spear gun and is fired when it impacts the seal without causing permanent harm.

Scare caps

Seal scare caps are darts fired from a tranquilizer gun, which explode on impact with the target. These darts are designed to split apart when detonated without causing permanent harm to the seal.

Trapping

Trapping is undertaken to remove seals from within marine farm infrastructure, either when identified seals are ‘repeat offenders’ in entering cages, or if a seal enters a cage and cannot or will not exit. A trapped seal can either be released in the vicinity of the marine farm where it was caught, or if the individual is a repeat offender it may be relocated.

Sedation and Removal

Sedation and removal of seals from fish cages can occur when individual seals enter, but will not exit the cage. Sedation is achieved via the use of a tranquiliser gun and sedative.

Relocation

Once trapped or sedated, seals that meet the criteria for relocation may be transported to specified locations a substantial distance from the marine farm where the seal was trapped, and then released.

Lethal Control

Lethal control of seals may occur only under specific circumstances which relate to identified seals providing a significant OH&S risk to farm workers.