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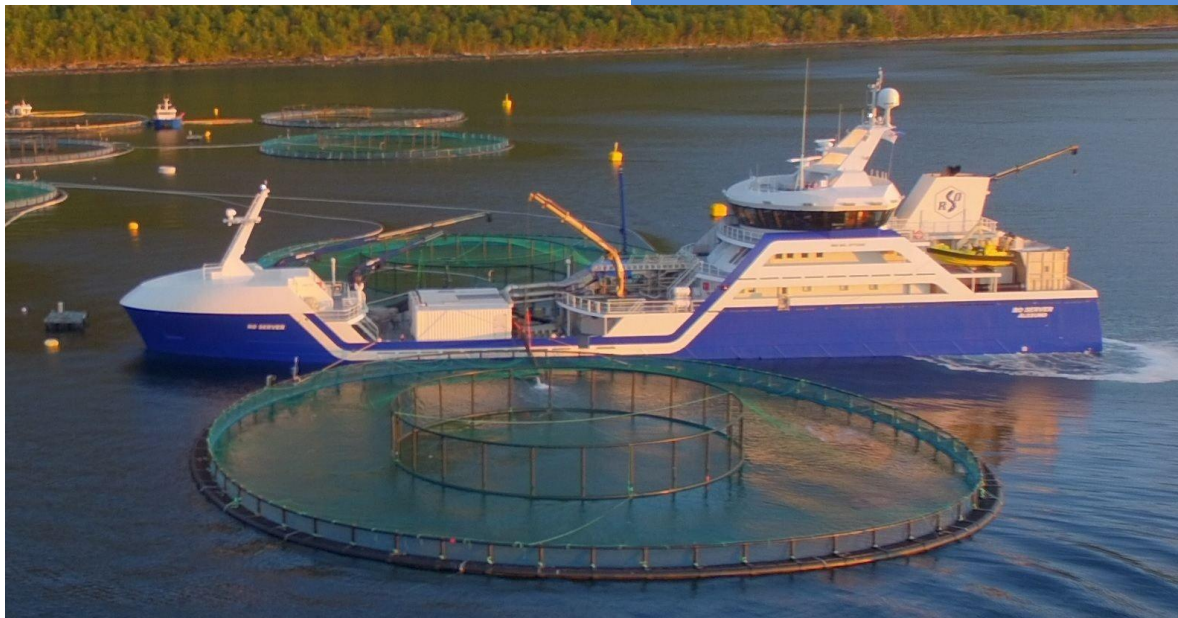
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Administration of EU (+ FTA) and other Fleets Involved in Aquaculture of Salmonids



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1. Terms of Reference

1.1 Scope

Review and assess the legislation/regulation, policies used by Norway, Ireland, Chile and Australia for the vessels involved in aquaculture of salmonids.

The project aims to gain an in-depth understanding of how the EU fleet, Chile and Australian fleet involved in aquaculture of salmonids are administered, i.e., registered, regulated, and safe manning assessment.

Transport Canada would like the scope of “vessels” to include all vessels that support the aquaculture salmonids industry, including fish delousing, feed barges/ships, well vessels, live fish carriers, pen repair and monitoring vessels, ROV support vessels. All of which would be designed and built to a particular set of rules, regulations and standards. The report should also include foreign vessels operating under legislation similar to our Coasting Trade Act.

1.2 Jurisdictions

The principal jurisdictions that will be examined within the ambit of this report are:

- The Commonwealth of Australia (Australia);
- The Kingdom of Norway (Norway);
- Republic of Ireland (Ireland); and
- Republic of Chile (Chile).

1.3 Division of Work Packages

The overall report for individual jurisdictions mentioned in s. 1.2 has been divided into two work packages, namely, work package 1 and work package 2:

Australia:

Work Package 1

Work Package 2

Norway:

Work Package 1

Work Package 2

Ireland:

Work Package 1

Work Package 2

Chile:

Work Package 1

Work Package 2

It is important to note that Work Package 1 contains an evaluation of the registration process of the fleet involved in aquaculture of salmonids. Relevant to the subject matter of this project report, work package 2 is developed with an aim to provide an evaluation of the regulatory framework of the fleet involved in aquaculture of salmonid.

1.4 Specific Questions for Work Packages 1 and 2

The following questions have been answered in the context of all jurisdictions (mentioned in s. 1.2):

Work Package 1. Evaluation of the Registration Process of the Fleet involved in Aquaculture of Salmonids:

- a. Steps of the Registration Process of the fishing vessels / limitations and obligations;
- b. Documentation and Certificates needed prior registration;
- c. Certificates issued by Flag and that must be carried on board;
- d. Inspection regime (prior and after registration);
- e. Role of Recognized Organizations.

Work Package 2. Evaluation of the Regulatory Framework of the Fleet involved in Aquaculture of Salmonids:

- a. Framework for vessels involved in Aquaculture of Salmonids;
 - b. Areas, zones and limitations applicable to vessels;
 - c. Definition of minimum safe manning certificates and maximum number of persons allowed on board;
 - d. Seafarers certifications (e.g. experience, medical and educational certificates, general and specific training obligations);
 - e. Employment system and restrictions for national/residents and foreigners;
- Regulatory framework for the protection of the marine environment from vessels involved in aquaculture of salmonids;
- f. SWOT Analysis.

N.B. Comments and questions from Transport Canada has been addressed in Annex IV

A1. The Commonwealth of Australia: Work Package

1

Acronyms

AMSA	Australian Maritime Safety Authority
COO	Certificate of Operation
COS	Certificate of Survey
DCV	Domestic Commercial Vessel
DPIPWE	Department of Primary Industries, Parks, Water and Environment
EPA	Environmental Protection Agency
FMEA	Failure Mode Effect Analysis
GSO	General Safety Obligation
OHS&W	Occupational Health Safety and Welfare
NC	Near Coastal
NSAMS	National Standard for the Administration of Marine Safety
NSCV	National Standard for Commercial Vessels
UI	Unique Identifier

1. Introduction

Salmonoid aquaculture is a vibrant and growing marine sector in Tasmania, with a number of active and proposed farming zones throughout the state both inland and offshore. Regulation of vessels involved in the industry and the environment is the responsibility of the federal and state government who on 1 July 2018 will take over full service delivery from the state government. This paper examines the regulatory framework the industry works under and the areas they work in, how they are crewed and what qualifications are required to crew them. In addition, the paper touches on the environmental legislation that covers the fleet and throughout the paper flags likely changes to current arrangements. Finally, the author looks at the strengths, weaknesses, opportunities and threats within scope, and summarises the content of this package.

The Australian Maritime Safety Authority (hereinafter referred to as AMSA) is charged with implementing regulation enacted by the Australian Parliament to regulate the Australian Domestic Commercial Vessel (DCV) fleet. This legislation is the Marine Safety (*Domestic commercial vessel*) National Law Act 2012. The objects of this law are stated in the legislation as follows:

3 Objects of Law

The objects of this Law are as follows:

- (a) to form a part of a cooperative scheme between the Commonwealth, the States and the Northern Territory that provides a single national framework for ensuring the safe operation, design, construction and equipping of domestic commercial vessels;*
- (b) to implement Australia's international obligations in relation to the safety of domestic commercial vessels*
- (c) to facilitate the development of a safety culture that will prevent, or mitigate the effects of, marine incidents;*
- (d) to provide a framework for the development and application of consistent national standards relating to the operation, design, construction and equipping of domestic commercial vessels;*
- (e) to enhance the efficient and orderly operation of domestic commercial vessels;*
- (f) to provide an effective enforcement framework.*

This legislation commenced on 1 July 2013 and on 1 July 2018 AMSA will be taking over full service delivery, thereby completing a transition from a 7 jurisdiction system to a single national regulator. A *vessel* is defined in the legislation and may be seen to include all vessels associated with salmonid aquaculture as follows:

8 Definition of vessel

(1) In this Law:

vessel means a craft for use, or that is capable of being used, in navigation by water, however propelled or moved, and includes an air-cushion vehicle, a barge, a lighter, a submersible, a ferry in chains and a wing-in-ground effect craft.

This report is an effort to evaluate the regulatory framework within which Australian salmonid aquaculture vessels operate and in order to do so relies on information provided to the author by AMSA liaison staff and senior managers, interviews and interactions with senior staff of the salmonid companies operating in Tasmania and an evaluation of information held on the author's company files as well as research using published materials.

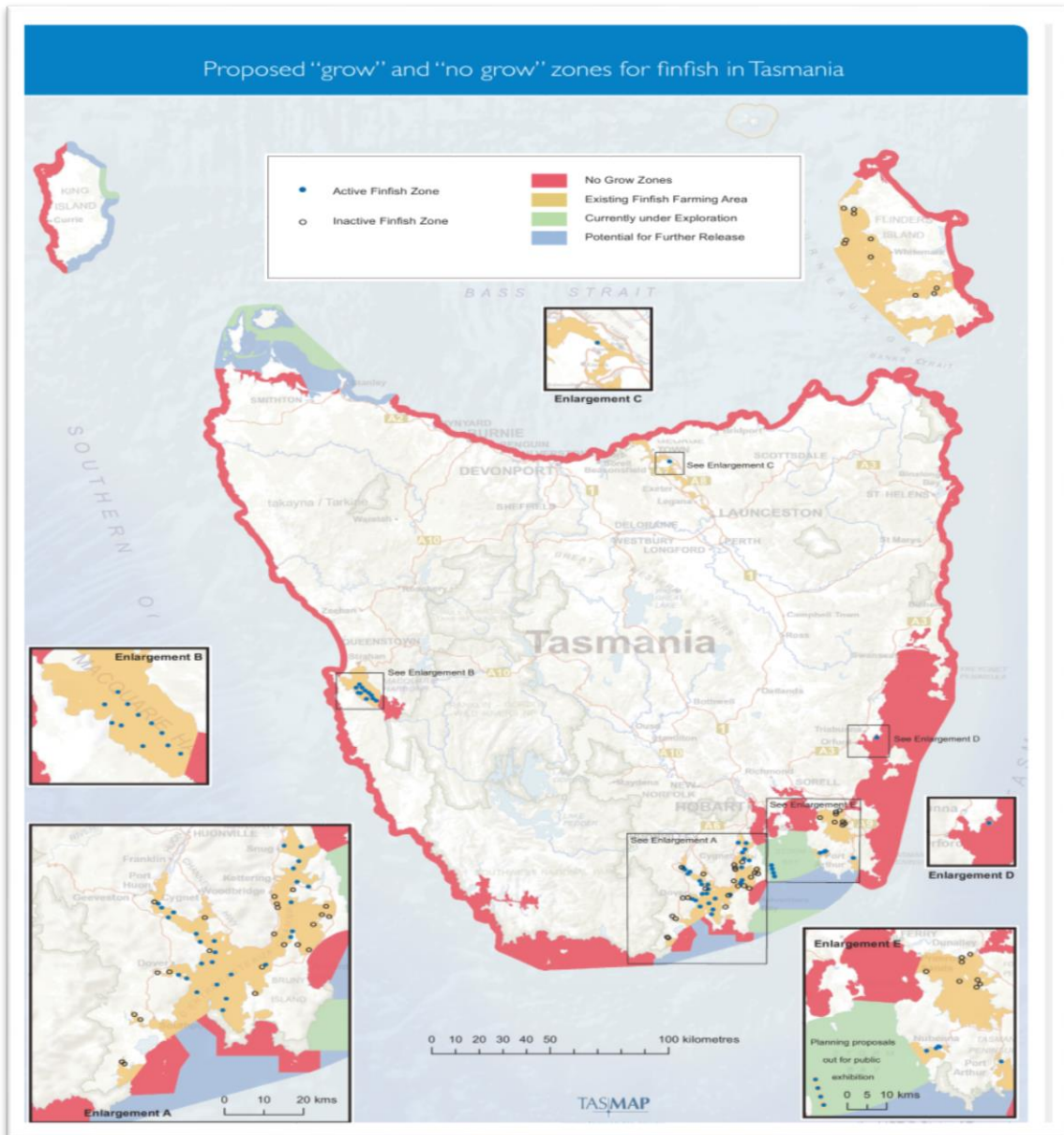
Aquaculture of salmonids in Australia is heavily focused in Tasmania, primarily because of water temperature. As reported in the **Australian Government Department of Agriculture and Water Resources ABARES Australian fisheries and aquaculture statistics 2016** (The ABARES report) report published in December 2017 the gross value of Tasmanian aquaculture production increased by 12 per cent in 2015–16 to \$731 million (ABARES Report-p37) Salmonids are the major aquaculture product of Tasmania. In 2015–16 the volume and value of salmonids increased to 54,772 tonnes and \$704 million, respectively. Tasmanian aquaculture fisheries have grown strongly since 2005–06 as the aquaculture salmonid industry has expanded. Aquaculture salmonid volumes have more than doubled from 2005–06 to 2015–16, with salmonids becoming one of the most valuable fishery products produced in Australia

In contrast to Tasmania's industry Victoria, the only other salmonid producer in Australia, has experienced a mixed picture- the state's gross value of aquaculture production decreased generally from 2005-2006 to 2008-2009 but since 2011-2012 the gross value of production has recovered, principally due to the growth in value of salmonid and abalone production. In Figure 20 of the attached ABARES report the 2015-2016 value of salmonid production in Victoria is just over \$11million (Figure 24 p.26 ABARES report). Due to the relatively low amount of activity in Victoria, and the 2013 national regulation of the fleet, this work package will concentrate on the Tasmanian sector, on the basis that the observations will apply equally to Victoria.

Figure 1 provides an overview of the current and proposed finfish farming (essentially salmonid production areas) of Tasmania. From it may be seen the areas where farming is concentrated as well as the likely areas expansion may occur.

http://dpiwwe.tas.gov.au/Documents/Proposed_grow_and_no_grow_zones_for_finfish_in_Tasmania.pdf

Figure 1- Actual and Proposed Finfish Farming regions in Tasmania



Source: <http://dpiwwe.tas.gov.au/Documents/salmonplan.pdf>

The salmonid industry is supported by a large number of other businesses, providing goods and services to the industry. These include but are not limited to transport and logistics companies, feed suppliers, boat yards and slipways, engineering companies, marine survey companies, designers, scientific monitoring and consulting companies, towage contractors, diving and ROV companies, drone companies, hygiene specialists, net and cage makers, smolt producers, fuel companies, as well as those companies that support general commerce and business activities. The Tasmanian Maritime Network (TMN) represents many of these businesses.

2. National framework regulating operations

As stated in the introduction safety regulation in the national domestic vessel is the responsibility of the AMSA which administers the legislation enacted by the Australian Parliament that covers this area.

2.1 Framework for Vessels Involved in Aquaculture of Salmonids

The Australian Maritime Safety Authority (AMSA) has been the sole regulator of vessels, crews and operations since July 2013, under an initial service delivery arrangement where the states and Northern Territory administered the *National Law* on their behalf. On 1 July 2018 the states will finally cease to provide these services, which will then be delivered directly by AMSA. The reasons for this evolution of delivery are outside of the scope of this report, but it is anticipated that with a single point of delivery there will be more consistency of regulation nationally, and that the original aims of the reform, specifically the free movement of vessels and crews and the consistent application of a single National Standard for Commercial Vessels (NSCV) will be met.

As it currently sits all direct survey services to the salmonoid aquaculture industry is delivered by surveyors and naval architects accredited formally by AMSA, but operating as private individuals working within companies. Permission and issue of Certificates of Survey and Operations is done by AMSA under delegation. AMSA also serves as the setter of standards, and performs a spectrum of compliance and enforcement roles. From 1 July 2018 AMSA will be funded by a subsidised levy, which will phase in over 10 years, with eventually 80% cost recovery, with the remainder provided by the Commonwealth. (AMSA Levy Proposals)

2.2 Areas, Zones and Limitations Applicable to Vessels

The classes and areas of operation available to vessels operating under the National Law are defined in Chapter 2 of Part B of the National Standard for Commercial Vessels (NSCV Part B). In outline these are described in Table 1 (below).

Table 1: Relevant provisions of Part B of the National Standard for Commercial Vessels

Context	Section	Main Text
Areas	NSCV Part B Section 2.2	Vessels operating in salmonid aquaculture operate in Class C, Class D and Class E waters as Class 3 vessels. Figure 2 shows these areas on a chartlet of Tasmania. The meaning and implications of these terms are described more fully in this Table.
Zones	NSCV Part B Section 2.2	<p><u>Class A</u> Unlimited domestic operations (no longer available to domestic commercial vessels). Vessels operating in A waters must be Australian regulated vessels under the Navigation Act 2012.</p> <p><u>Class B Extended</u> Extended offshore operations (beyond 200 nautical miles from the baseline of the Australian mainland, Tasmania, a recognised island but within the exclusive economic zone)</p> <p><u>Class B</u> Offshore operations (within 200 nautical miles from the baseline of the Australian mainland, Tasmania, a recognised island but within the exclusive economic zone)</p> <p><u>Class C</u> Restricted offshore operations (within 30 nautical miles from the baseline of the Australian mainland, Tasmania, a recognised island; within 50 nautical miles of the baseline of Queensland, within the Great Barrier Reef Region or the Torres Strait Zone; whilst remaining within the exclusive economic zone)</p> <p><u>Class C Restricted</u> Restricted offshore operations—specified areas</p> <p><u>Class D</u> Partially smooth water operations</p> <p><u>Class E</u> Smooth water</p>
Limitations Applicable to Vessels	NSCV Part B 2.2	<p><u>Class 1</u> Passenger vessel (13 or more passengers)</p> <p><u>Class 2</u> Non-passenger vessel (up to 12 passengers)</p> <p><u>Class 3</u> Fishing vessel-no passengers</p> <p><u>Class 4</u> Hire and drive vessel used by the hirer only for recreational purposes-up to 12 participants-no crew or passengers</p>

Source: NSCV Part B (Attached)

Vessels involved in salmonid aquaculture are generally Class 3 fishing vessels, engaged in fishing operations, although some are Class 2 vessels, either through operator choice or as a result of the vessel having previously held this certification in a previous operation.

The NSCV Part B defines fishing vessels and fishing operations as follows:

fishing vessel:

- (a) a vessel that is used for fishing operations; or
- (b) a vessel that:
 - (i) is in the course of construction; and
 - (ii) is intended to be used for fishing operations.

And

fishing operations means:

- (a) farming, taking, catching or capturing fish for trading or manufacturing purposes; or
- (b) processing or carrying the fish that are farmed, taken, caught or captured; or
- (c) activities in support of fishing operations, including:
 - (i) feeding, storage or transport of fish farmed, taken, caught or captured by the fishing vessel; and
 - (ii) provision of food, fuel and other supplies to the fishing vessel while it is engaged in fishing operations; and
 - (iii) transport of the crew or special personnel to and from the fishing vessel while it is engaged in fishing operations; and
 - (iv) maintenance of fish farms.

For this definition, *fish* includes any living creature of the sea.

Examples

Prawns, oysters, crabs, eels, mussels, octopus.

Vessels operating in the salmonid industry are typically Class 3 vessels. As such, they are 'crew only' vessels although 'special personnel' may be carried. The definitions of 'crew' and 'special personnel' are below:

crew, for a vessel, means individuals employed or engaged in any capacity on board the vessel on the business of the vessel, including the master and a pilot.

special personnel, for a vessel, means a person who is:

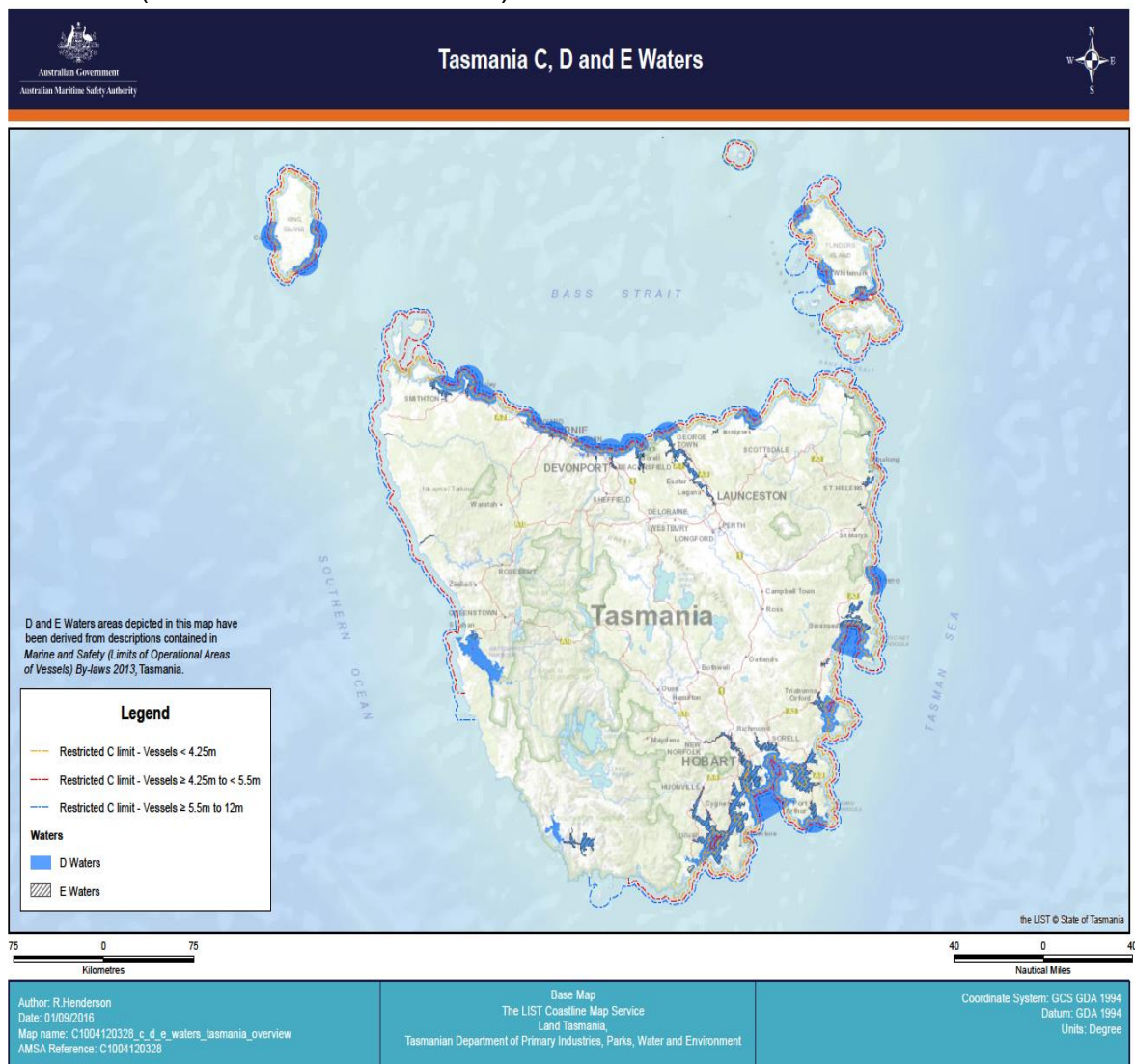
- (a) all of the following:
 - (i) not the master, a pilot or a member of the crew;
 - (ii) not a passenger of the vessel;
 - (iii) on the vessel to perform or assist the performance of the special work being carried out on board the vessel; or
- (b) an observer, trainee, person being coached or a coach; or
- (c) employed by or a volunteer for an emergency services organisation.

Source: Part B of the NSCV.

There are occasions where a vessel may need to relocate through waters that are outside of its normal zone-in this case the operator either applies for and is granted a temporary permit to do so, or the vessel is re-surveyed for the further offshore operating area and this is added to its certificate of survey. When visitors or non-crew members are taken to visit farms a similar process occurs if a vessel does not hold dual classes (i.e Dual Class 2 and Class 3 surveys). In basic terms, the degree of acceptance of risk dictates the regulatory treatment for these vessels. The treatment for Class 1 vessels assumes multiple passengers and low passenger acceptance of risk and high consequence and therefore the controls are high. In a Class 2 vessel the

acceptance of risk is similar to Class 1 but the consequence is less therefore the controls are somewhat less onerous. Class 4 sees participants accepting much of the risks, and controls in many cases are similar to similar recreational vessel controls. Class 3 vessels are treated as medium to high risk, but with trained crew on board and the need to tailor operations to the work environment, it may be seen that some controls are medium to low whereas others including stability and structure are high. In parallel are the operational safety requirements for these classes of vessels. This philosophy was developed by the now defunct National Marine Safety Committee and permeates, but is not clearly stated in the current regulations.

Figure 2: A chartlet showing the precise locations of the different classes of water in Tasmania (Attached also as Annex F)



Source: AMSA Website

2.3. Definition of Minimum Safe Manning Certificates and Maximum number of Persons Allowed on Board

The requirement for safe manning certificates is not applied to the DCV fleet. There are no stated crew competency or crew number requirements on Certificates of

Survey. As previously mentioned, Part E of the NSCV (Part E) sets out the requirements for personnel on vessels. The maximum number of persons allowed on a vessel is stated on the vessels Certificate of Survey. As previously mentioned Class 3 vessels are only allowed to have crew or special personnel, never passengers. The general requirement is expressed succinctly in Schedule 2 of Part E of the NSCV and is reproduced below.

NSCV Part E

6 Resources and personnel

Training of crew

(1) The owner of a vessel must ensure that each crew member receives the following training:

(a) as soon as practicable after joining the vessel and before commencing duties — initial safety training that familiarises the person with safety matters about the person's presence and duties on board the vessel;

(b) sufficient training in key onboard operations to establish, maintain and verify the competence and capacity of the person to safely carry out assigned duties;

(c) sufficient training in emergency procedures to establish, maintain and verify the ability of the person to respond rapidly and effectively in an emergency and to follow the emergency plan.

(2) Any other person engaged in key onboard operations for the vessel must also receive the training.

Example

An onshore staff member involved in berthing the vessel.

(3) The training must be given by the master, or by a crew member who the master considers has the skills and knowledge to provide the training.

(4) A written record of any training mentioned in subclause (1) that is undertaken must be made and signed by each person who undertook the training.

Appropriate crew

(5) The owner of a vessel must determine the appropriate crew for each type of operation of the vessel by evaluating the risks to the vessel, the environment and all persons who will be on or near the vessel.

(6) The evaluation must take into account the following factors:

(a) the tasks or activities of the vessel and any particular demands on the crew that

each task or activity will impose in addition to the safe navigation of the vessel;

(b) the number of persons to be carried on the vessel;

(c) the design characteristics of the vessel, including its general arrangements, machinery and equipment;

(d) the competency required for the use of technological aids to safety fitted in addition to the mandatory requirements;

(e) the area of operation of the vessel and expected conditions (eg weather, climate and water temperatures);

(f) the duration of the voyage;

(g) the potential fatigue of the master and crew members;

(h) the requirements for the vessel's emergency preparedness including the vessel's emergency plan;

(i) the state of repair of the vessel and its machinery and equipment;

(j) the need for safe and timely evacuation of all people from the vessel in an emergency;

(k) the risks to the environment and all persons who will be on or near the vessel;

(l) the qualifications and competencies of crew, including circumstances where the master is the only crew member holding mandated engineering qualifications (dual certification);

(m) the external support available to the vessel and its crew;

(n) key onboard operations and identified potential risks.

Examples of tasks or activities for paragraph (a)

- 1. passenger carrying*
- 2. fishing*
- 3. tourism activities.*

Examples for paragraph (d)

- 1. fire safety systems*
- 2. remote engineering monitoring and diagnostics*
- 3. automatic Radar Plotting Aid (ARPA)*
- 4. Close Circuit TV (CCTV).*

(7) The number of appropriate crew may be less than the core complement for the vessel only if the National Regulator approves an equivalent means of compliance for use of the appropriate crew.

(8) The appropriate crew for each type of operation must be recorded in the documentation of the vessel together with reasons for the crewing level determined that address the factors mentioned in subclause (6).

Core complement

(9) In this clause:

core complement, for a vessel of a length mentioned in the following table, means the number of crew members, including the master (subject to the rules for dual certification mentioned in the table for the vessel):

(a) that is mentioned in the table as the core complement for a vessel of that length; and

(b) that comprises the number of certificated crew and the number of uncertificated crew mentioned in the table for the vessel.

deck certificate means a certificate issued under a standard prescribed by Marine Order 505 (Certificates of competency — national law) 2013 that allows the holder to perform duties in a deck capacity.

engineering certificate means a certificate issued under a standard prescribed by Marine Order 505 (Certificates of competency — national law) 2013 that allows the holder to perform duties in an engineering capacity related to the machinery of a vessel.

<i>Vessel length</i>	<i>Core complement</i>	<i>Certificated crew</i>	<i>Uncertificated crew</i>	<i>Dual certification rules</i>
$55 \leq x < 80m$	4	3	1	D3
$35 \leq x < 55m$	3	2	1	D3
$12 \leq x < 35m$	2	2	—	D1, D2
$< 12m$	1	1	—	—

(10) In the table to subclause (9):

D1 means that, if a master holds an engineering certificate, the number of certificated crew may be reduced by 1 if the number of uncertificated crew is increased by 1.

D2 means that no changes may be made, because of dual certification, to the number of certificated or uncertificated crew for a vessel with greater than 750kW propulsion power.

D3 means that, if the chief engineer holds a deck certificate permitting the

holder to be the mate, the number of certificated crew may be reduced by 1 if the number of uncertificated crew is increased by 1.

Operating with appropriate crew or core complement

(11) A vessel must operate with the appropriate crew for the vessel unless:

- (a) It is operating with its core complement or;*
- (b) the National Regulator has approved an equivalent means of compliance to operating with its core complement.*

Note 1 The National Regulator may, for example, approve the operation of a vessel for a limited period on a specific voyage with less than the core complement.

Note 2 A vessel may only use an appropriate crew that is less than its core complement if the National Regulator has approved an equivalent means of compliance to use that appropriate crew — see subclause (7).

(12) A vessel may only operate with its core complement if it has no passengers on board and is on a voyage:

(a) that is within smooth waters; and

(b) that is of less than 12 hours; and

(c) during which it does not carry out its normal business activities or functions.

Note A vessel operating with its core complement must still comply with the crewing requirements of section 2.3.

(13) If the National Regulator approves an equivalent means of compliance to a vessel operating with its core complement under section 1.6 of Part B, a record of the approval must be kept on board the vessel so that is readily available.

Qualification requirements

(14) A vessel may only operate if there is at least 1 person who:

(a) is available at all times to provide first aid; and

(b) holds a first aid qualification in accordance with Part D or an equivalent qualification.

(15) A vessel may only operate if it has a master or a deck watchkeeper required as appropriate crew under this Part who is qualified in accordance with clause 7.3 of Subsection 7B, Section 7 of Part C of the NSCV to operate the radio or other communication equipment fitted on the vessel.

This guidance allows companies to determine the correct manning and qualification requirements for vessels crew, taking into account the nature of the particular operation. Used correctly it can be a very efficient, safe way of manning vessels. There is no suggestion that the author is aware of that any issues have arisen with this approach to the matter.

2.4 Seafarers Certifications (e.g. Experience, Medical and Educational Certificates, General and Specific Training Obligations)

In order to work on a vessel in Australian waters an Australian seafarer qualification, or recognition of an alternative or foreign qualification is required. Each qualification has its own particular set of prerequisites, experience and knowledge. The NSCV has a specific section which deals with crew qualifications, Part D of the NSCV (Part D). The key prerequisites for each level of qualification are to be found below in Table 2.

Table 2: Table Matrix – Skills and Knowledge and Qualifications NSCV Part D Schedule 1

Certificate of Competency	Table Matrix
General Purpose Hand NC (NC- Near Coastal)	<p><i>Note This is the lowest level of certificate for crew who are not in charge of a vessel or its engines.</i></p> <p>The applicant must have completed a General Purpose Hand course at Certificate 1 level.</p>
Marine Engine Driver Grade 3 NC	<p>(1) The applicant must:</p> <p>(a) have completed a Marine Engine Driver Grade 3 course at Certificate 2 level; and</p> <p>(b) have at least:</p> <p>(i) 20 days qualifying sea service on commercial vessels with propulsion power ≥ 75 kW that includes at least 10 days on vessels with inboard diesel engines and a completed approved task book; or</p> <p>(ii) 60 days qualifying sea service on vessels with propulsion power ≥ 75 kW that includes at least 30 days on vessels</p>

	<p>with inboard diesel engines; and</p> <p>(c) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) The applicant may be issued with a Marine Engine Driver Grade 3 NC certificate restricted to outboard engines if the applicant:</p> <p>(a) does not meet the requirements for qualifying sea service on vessels with inboard diesel engines mentioned in paragraph (1)(b); and</p> <p>(b) has:</p> <p>(i) 20 days qualifying sea service on commercial vessels with propulsion power ≥ 75 kW and a completed approved task book; or</p> <p>(ii) 60 days qualifying sea service on vessels with propulsion power ≥ 75 kW.</p> <p>(3) The qualifying sea service must be completed while performing any of the following:</p> <p>(a) duties as a general purpose hand;</p> <p>(b) duties permitted for a Coxswain Grade 1 NC or Coxswain Grade 2 NC certificate;</p> <p>(c) duties as an assistant to an engine driver, to a chief engineer or to a second engineer</p>
<p>Marine Engine Driver Grade 2 NC</p>	<p>(1) The applicant must:</p> <p>(a) have completed a Marine Engine Driver Grade 2 course at Certificate 3 level; and</p> <p>(b) have at least:</p> <p>(i) 180 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 150 kW and a completed approved task book; or</p> <p>(ii) 360 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 150 kW; or</p>

	<p>(iii) 120 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 150 kW and a completed approved task book, while holding a Coxswain Grade 1 NC or Coxswain Grade 2 NC certificate endorsed for 500 kW inboard propulsion or a Marine Engine Driver Grade 3 NC certificate; or</p> <p>(iv) 240 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 150 kW, while holding a Coxswain Grade 1 NC or Coxswain Grade 2 NC certificate endorsed for 500 kW inboard propulsion or Marine Engine Driver Grade 3 NC certificate; or</p> <p>(v) 90 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 150 kW and a completed approved task book while holding a workshop skill equivalent qualification; or</p> <p>(vi) 180 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 150 kW, while holding a workshop skill equivalent qualification; and</p> <p>(c) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) The qualifying sea service must be completed while performing duties as:</p> <p>(a) an engineer, an engine driver, a chief engineer or second engineer; or</p> <p>(b) an assistant to an engine driver, to a chief engineer or to a second engineer;</p> <p>or</p> <p>(c) a general purpose hand.</p>
<p>Marine Engine Driver Grade 1 NC</p>	<p>(1) The applicant must:</p> <p>(a) have completed a Marine Engine Driver Grade 1 course at Certificate 4 level; and</p> <p>(b) have at least:</p> <p>(i) 240 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW and a completed approved task book while holding a Coxswain Grade 1 NC or</p>

	<p>Coxswain Grade 2 NC certificate endorsed for 500 kW inboard propulsion; or</p> <p>(ii) 480 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW while holding a Coxswain Grade 1 NC or Coxswain Grade 2 NC certificate endorsed for 500 kW inboard propulsion; or</p> <p>(iii) 180 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW and a completed approved task book, while holding a Marine Engine Driver Grade 3 NC certificate; or</p> <p>(iv) 360 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW, while holding a Marine Engine Driver Grade 3 NC certificate; or</p> <p>(v) 90 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW and a completed approved task book, while holding a workshop skill equivalent qualification; or</p> <p>(vi) 180 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW, while holding a workshop skill equivalent qualification; or</p> <p>(vii) 120 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW and a completed approved task book, while holding a Marine Engine Driver Grade 2 NC certificate; or</p> <p>(viii) 240 days qualifying sea service on commercial vessels with inboard diesel engines with propulsion power ≥ 375 kW, while holding a Marine Engine Driver Grade 2 NC certificate; and</p> <p>(c) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) The qualifying sea service must be completed while performing duties as:</p> <p>(a) an engineer, an engine driver, a chief engineer or second engineer; or</p> <p>(b) an assistant to an engine driver, to a chief engineer or to a second engineer;</p>
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	<p>or (c) a general purpose hand.</p>
<p>Engineer Class 3 NC</p>	<p>The applicant must:</p> <p>(a) have completed an Engineer Class 3 course at Diploma level; and (b) have qualifying sea service on commercial vessels with inboard diesel engines with ≥ 400 kW propulsion power of at least:</p> <p>(i) while holding a Marine Engine Driver Grade 1 certificate — 180 days working on board as engineer in charge or on duties assisting the engineer in charge, and a completed approved task book; or (ii) while holding a Marine Engine Driver Grade 1 certificate — 360 days working on board as engineer in charge or on duties assisting the engineer in charge; or (iii) for an applicant holding a workshop skill equivalent qualification — 120 days working on board on duties assisting the engineer in charge, and a completed approved task book; or (iv) for an applicant holding a workshop skill equivalent qualification — 240 days working on board on duties assisting the engineer in charge; or (v) while holding a certificate of competency as Engineer Watchkeeper issued under the <i>Navigation Act 2012</i> — 90 days of working on board performing engine-room watchkeeping duties; and</p> <p>(c) after meeting all the other requirements for the certificate — pass a final assessment.</p>

<p>Coxswain Grade 2 NC</p>	<p>The applicant must have :</p> <p>(a) have completed a Coxswain Grade 2 course at Certificate 1 level; and</p> <p>(b) have at least:</p> <p>(i) 7 days qualifying sea service on commercial or recreational vessels, and a completed approved task book; or</p> <p>(ii) 60 days qualifying sea service on commercial or recreational vessels;</p> <p>and</p> <p>(c) after meeting all the other requirements for the certificate — pass a final assessment.</p>
<p>Coxswain Grade 1 NC</p>	<p>The applicant must:</p> <p>(a) have completed a Coxswain Grade 1 course at Certificate 2 level; and</p> <p>(b) hold a Marine Radio Operators VHF Certificate of Proficiency issued by the Australian Communications and Media Authority, or higher qualification, or an equivalent qualification approved by the National Regulator; and</p> <p>(c) have at least:</p> <p>(i) 30 days qualifying sea service working on board commercial vessels ≥ 5 m long while working in a deck, or deck and engineering, capacity on board, and a completed approved task book; or</p> <p>(ii) 240 days qualifying sea service working on board commercial or recreational vessels ≥ 5 m long while working as a deck, or deck and engineering, capacity on board; and</p> <p>(d) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) For the qualifying sea service mentioned in paragraph (1)(c):</p> <p>(a) at least half must be seaward of sheltered waters; or</p> <p>(b) the applicant may be issued with a Coxswain</p>

	Grade 1 NC certificate restricted to sheltered waters.
Master <24 m NC	<p>The applicant must:</p> <p>(a) have completed a Master <24 m course at Certificate 3 level; and</p> <p>(b) hold a Marine Radio Operators Certificate of Proficiency issued by the Australian Communications and Media Authority, or higher qualification, or an equivalent qualification approved by the National Regulator; and</p> <p>(c) have at least:</p> <p>(i) 120 days of qualifying sea service in the 5 years before the application working on board commercial vessels ≥ 7.5 m long, and completed an approved task book; or</p> <p>(ii) 600 days of qualifying sea service, of which:</p> <p>(A) at least half must be accrued on vessels ≥ 7.5 m long; and</p> <p>(B) at least half must be accrued on commercial vessels; and</p> <p>(C) up to half may be accrued on recreational vessels ≥ 5 m long; and</p> <p>(d) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) The applicant must have accrued the qualifying sea service while working in a deck, or deck and engineering, capacity on board.</p> <p>(3) For the qualifying sea service mentioned in paragraph (1)(c):</p> <p>(a) at least half must be seaward of sheltered waters; or</p> <p>(b) the applicant may be issued with a Master <24 m NC certificate restricted to sheltered waters</p>
Master (Inland waters)	<p>The applicant must:</p> <p>(a) have completed a Master (Inland waters) course at Certificate 3 level; and</p> <p>(b) have at least:</p>

	<p>(i) 60 days qualifying sea service on commercial vessels ≥ 7.5 m long and a completed approved task book while working in any deck capacity on board; or</p> <p>(ii) 120 days qualifying sea service on vessels ≥ 7.5 m long while working on board in a deck, or deck and engineering, capacity on board; and</p> <p>(c) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) For subparagraph (1)(b)(ii), all the sea service may be on recreational vessels.</p>
<p>Master <35 m NC</p>	<p>The applicant must:</p> <p>(a) have completed a Master <35m course at Certificate 4 level; and</p> <p>(b) hold a Marine Radio Operators Certificate of Proficiency issued by the Australian Communications and Media Authority, or higher qualification, or an equivalent qualification approved by the National Regulator; and</p> <p>(c) while holding a Master <24 m NC or a Mate <80m NC certificate, or a certificate that the National Regulator considers is equivalent to it:</p> <p>(i) have 180 days qualifying sea service on commercial vessels ≥ 12 m long, including 120 days as person in charge of a navigational watch, and a completed approved task book; or</p> <p>(ii) have 360 days qualifying sea service on commercial vessels ≥ 12 m long, including 240 days as person in charge of a navigational watch; and</p> <p>(d) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) For the qualifying sea service mentioned in paragraph (1)(c):</p> <p>(a) at least half must be seaward of sheltered waters; or</p>

	(b) the applicant may be issued with a Master <35 m NC certificate restricted to sheltered waters
Mate <80 m NC	<p>The applicant must:</p> <p>(a) have completed a Master <35m course at Certificate 4 level; and (b) hold a Marine Radio Operators Certificate of Proficiency issued by the Australian Communications and Media Authority, or higher qualification, or an equivalent qualification approved by the National Regulator; and (c) have at least:</p> <p>(i) 300 days qualifying sea service working on board commercial vessels ≥ 12 m and a completed Master <35 m NC approved task book while working in any deck capacity on board; or (ii) 600 days qualifying sea service working on board commercial vessels ≥ 12 m while working in any deck capacity on board; and</p> <p>(d) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p>(2) For paragraph (1)(c): (a) at least half the sea service must have been seaward of sheltered waters; or (b) the applicant may be issued with a Mate <80 m NC certificate that is restricted to sheltered waters.</p>
Master <80 m NC	<p>The applicant must:</p> <p>(a) have completed a Master <80m course at Diploma level; and (b) hold a Marine Radio Operators Certificate of Proficiency issued by the Australian Communications and Media Authority, or higher qualification, or an equivalent qualification approved by the National Regulator; and</p> <p>(c) have at least:</p> <p>(i) while holding a Master <35 m NC certificate —</p>

	<p>180 days qualifying sea service on commercial vessels ≥ 24 m long including 120 days as person in charge of a navigational watch, and a completed approved task book; or</p> <p>(ii) while holding a Master < 35 m NC certificate — 360 days qualifying sea service on commercial vessels ≥ 24 m long including 240 days as person in charge of a navigational watch; or</p> <p>(iii) while holding a Mate < 80 m NC or other non-command certificate — 360 days as officer of the watch on commercial vessels ≥ 24 m long and a completed approved task book; or</p> <p>(iv) while holding a Mate < 80 m NC or other non-command certificate — 720 days as officer of the watch on commercial vessels ≥ 24 m long;</p> <p>and</p> <p>(d) after meeting all the other requirements for the certificate — pass a final assessment.</p> <p><i>Note for paragraph (1)(c)</i> The National Regulator considers the certificates mentioned in Schedule 3, as equivalent to the Master < 35 m NC certificate, to be equivalent.</p> <p>(2) For subparagraphs (1)(c)(iii) and (iv), a non-command certificate is a certificate other than one that allows its holder to command a vessel.</p> <p>(3) For paragraph (1)(c):</p> <p>(a) at least half the sea service must have been seaward of sheltered waters; or</p> <p>(b) the applicant may be issued with a certificate that is restricted to sheltered waters.</p>
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Source: AMSA NSCV Part D Crew Competencies

To summarise, there are three categories of qualification in the framework as follows:

a. Dual Certificates- These are for less than 12m long vessels with engine output of less than a stipulated amount, in inshore areas which allow the navigation and operation of the machinery of these vessels. These tickets include the General Purpose Hand, and Coxswain Grade 1 and 2 Near Coastal. These are entry level qualifications for smaller vessels with a limited total Kw installed.

b. Deck Certificates- Allows the holder to perform duties related to the navigation of a vessel within the length limits of the certificates. These are the Master (Inland Waters), Master less than 24, less than 35 and less than 80 and Mate less than 80m.

c. Engineering Qualifications- Allows the holder to operate machinery as a chief or other engineer of a vessel within the kw limits of the certificate. These are the Marine Engine Driver Grade 3, Grade 2 and Grade 1 (Near Coastal) , and the Engineer Class 3 (Near Coastal).

d. There are separate arrangements for persons holding Royal Australian Navy qualifications, foreign qualifications, and NZ domestic qualifications as well as numerous standing exemptions which alter the legislated qualifications structure. These are beyond the scope of the report and are by AMSA senior managers descriptions ‘works in progress’.

A detailed breakdown of the duties each qualification may perform is in **Table 3 (Below)** and is taken from Schedule 2 of Part D of the NSCV:

Table 3: Duties Holders May Perform

General Purpose Hand NC	(a) assist a master or engineer in any tasks that may be required on board, while working under the direct supervision of the person in charge of the vessel or its engines (b) work: (i) on deck or in the engine room of a vessel <80 m long in waters to the outer limits of the EEZ; and (ii) in the engine room only for a vessel with propulsion power <3000 kW
Marine Engine Driver Grade 3	(a) Chief Engineer on a vessel with an inboard engine with propulsion power <500 kW in waters to the outer limits of the EEZ (b) Second Engineer (second in charge of the engine room) on a vessel with an inboard engine with propulsion power <750 kW in waters to the outer limits of the EEZ (c) Chief Engineer or Second Engineer on a vessel with an outboard engine with unlimited propulsion in waters to the outer limits of the EEZ (d) assist an engineer in any tasks that may be required on board while working under the direct supervision of the person in charge of the

	<p>vessel's engines (e) work in the engine room of a vessel <80 m long with propulsion power <3000 kW Restricted to: (f) if subclause 1.2(2) of Schedule 1 applies — Chief Engineer or Second Engineer on a vessel with an outboard engine with unlimited propulsion in waters to the outer limits of the EEZ</p>
<p>Marine Engine Driver Grade 2NC</p>	<p>(a) Chief Engineer on a vessel with an inboard engine with propulsion power <750 kW in waters to the outer limits of the EEZ (b) Second Engineer on a vessel with an inboard engine with propulsion power <1500 kW in waters to the outer limits of the EEZ (c) Chief Engineer or Second Engineer on a vessel with an outboard engine with unlimited propulsion in waters to the outer limits of the EEZ (d) assist an engineer in any tasks that may be required on board while working under the direct supervision of the person in charge of the vessel's engines (e) work in the engine room of a vessel <80 m long with propulsion power <3000 kW</p>
<p>Marine Engine Driver Grade 1NC</p>	<p>(a) Chief Engineer on a vessel with an inboard engine with propulsion power <1500 kW in waters to the outer limits of the EEZ (b) Second Engineer on a vessel with an inboard engine with propulsion power <3000 kW in waters to the outer limits of the EEZ (c) Chief Engineer or Second Engineer on a vessel with an outboard engine with unlimited propulsion in waters to the outer limits of the EEZ (d) assist an engineer in any tasks that may be required on board while working under the direct supervision of the person in charge of the vessel's engines</p>

	(e) work in the engine room of a vessel <80m long with propulsion power <3000 kW
Engineer Class 3 NC	<p>(a) Chief Engineer on a vessel with an inboard engine with propulsion power <3000 kW in waters to the outer limits of the EEZ</p> <p>(b) Chief Engineer or Second Engineer on a vessel with an outboard engine with unlimited propulsion in waters to the outer limits of the EEZ</p> <p>(c) assist an engineer in any tasks that may be required on board while working under the direct supervision of the person in charge of the vessel's engines</p> <p>(d) work in the engine room of a vessel <80 m long with propulsion power <3000 kW</p>
Coxswain Grade 2 NC	<p>(a) command and operate the engines of a vessel <12 m long that is not carrying passengers:</p> <p>(i) in sheltered waters or within 5 nm from point of departure, shore base or aquaculture lease; and</p> <p>(ii) with propulsion power:</p> <p>(A) for an inboard engine — <100 kW unless endorsed to <500 kW inboard propulsion; or</p> <p>(B) for an outboard engine — unlimited</p> <p>(b) command and operate the engines of a vessel that is not carrying passengers:</p> <p>(i) as a tender or auxiliary vessel within 3 nm of a parent vessel in waters to the outer limits of the EEZ; and</p> <p>(ii) with propulsion power:</p> <p>(A) for an inboard engine — <100 kW unless endorsed to <500 kW inboard propulsion; or</p> <p>(B) for an outboard engine — unlimited</p>
Coxswain Grade 1 NC	<p>(a) command and operate the engines of a vessel <12 m long:</p> <p>(i) in inshore waters, or in waters designated for a specific purpose by a State or Territory authority in which it permits holders of this certificate to operate, subject to any conditions that it may impose;</p>

	<p>and</p> <p>(ii) with propulsion power:</p> <p>(A) for an inboard engine — <500 kW; or</p> <p>(B) for an outboard engine — unlimited;</p> <p>and</p> <p>(iii) if the vessel is a tender or auxiliary vessel — within 3 nm of a parent vessel in waters to the outer limits of the EEZ</p> <p>Restricted to:</p> <p>(b) if the holder completes only the entry level motor engineering unit of the Transport and Logistics Industry Skills Council Ltd maritime training package — vessels with unlimited outboard propulsion power or inboard propulsion power <100 kW; and</p> <p>(c) if the holder does not meet the sea service requirement mentioned in paragraph 1.7(2)(a) of Schedule 1 — command and operate the engines of a vessel only in sheltered waters or within 5 nm from point of departure, shore base or aquaculture lease</p>
Master <24 m NC	<p>(a) command a commercial vessel <24 m long in waters to the outer limits of the EEZ</p> <p>(b) act as Chief Mate or deck watchkeeper on a vessel <35m long in waters to the outer limits of the EEZ</p> <p>(c) act as Chief Mate or deck watchkeeper on a vessel <80m long in inshore waters</p> <p>Paragraph (a) restricted to:</p> <p>(d) if the holder does not meet the sea service requirement mentioned in paragraph 1.8(3)(a) of Schedule 1 — command of a vessel only in sheltered waters</p>
Master (Inland waters)	command a commercial vessel <24 m long in inland waters
Master <35 m NC	<p>(a) command a commercial vessel <35 m long in waters to the outer limits of the EEZ</p> <p>(b) be Master of a vessel <80 m long in inshore waters</p> <p>(c) act as Chief Mate or deck watchkeeper</p>

	on a vessel <80 m long in waters to the outer limits of the EEZ
Mate <80 m NC	be second in command of a commercial vessel <80 m long operating in waters to the outer limits of the EEZ
Master <80 m NC	(a) command a commercial vessel <80m long in waters to the outer limits of the EEZ (b) act as Chief Mate or deck watchkeeper on a vessel <80 m long in waters to the outer limits of the EEZ Restricted to: (c) if the holder does not meet the qualifying sea service requirement mentioned in paragraph 1.12(3)(a) of Schedule 1 — command of a vessel <80 m long in sheltered waters

2.5 Employment System and Restrictions for National/Residents and Foreigners

Employment in the salmonoid industry is regulated under national employment legislation. In general terms the industry is covered by a formal, federally registered agreement known in Australia as an 'Award'. It must be stressed that it is not entirely clear from the research conducted if this Award is the sole means of determining conditions and remuneration in the industry at present.

An award (The Award) sets out minimum conditions of employment, wages and entitlements. The industry award is ***the Aquaculture Industry Award 2010 [MA000114]***. The extract below provides some context as to the way wages are structured against responsibility levels and the general conditions people may expect when working in the industry.

Table 4: Minimum conditions of employment, wages and entitlements

Context	Section	Main Text								
Minimum Wage	14.1	<p>Employees are entitled to the following minimum wages for the classification in which they are employed:</p> <table border="1"> <thead> <tr> <th>Classification</th> <th>Minimum weekly wage</th> </tr> <tr> <th>Aquaculture attendants</th> <th>\$</th> </tr> </thead> <tbody> <tr> <td>Level 1</td> <td>694.90</td> </tr> <tr> <td>Level 2</td> <td>704.90</td> </tr> </tbody> </table>	Classification	Minimum weekly wage	Aquaculture attendants	\$	Level 1	694.90	Level 2	704.90
Classification	Minimum weekly wage									
Aquaculture attendants	\$									
Level 1	694.90									
Level 2	704.90									

		Level 3 Level 4	771.10 809.10
Schedule Classification Structure	B—	<p>Schedule B—Classification Structure</p> <p>B.1 Aquaculture Attendant Level 1</p> <p>B.1.1 Finfish stream A finfish attendant Level 1 means a person who has been employed for less than four months to:</p> <ul style="list-style-type: none"> (a) operate boats (including loading and unloading boats); (b) moor pens; (c) wash and change nets;and/or (d) move materials and equipment. <p>B.2 Aquaculture Attendant Level 2</p> <p>B.2.1 Finfish stream A finfish attendant Level 2 means a person with more than four months' service with one or more employer who is employed in finfish aquaculture to:</p> <ul style="list-style-type: none"> (a) operate boats (including loading and unloading boats); (b) moor pens; (c) wash and change nets;and/or (d) move materials and equipment and prepare the product for market/transport. performing, without constant supervision, some or all of the following functions: <p>B.3 Aquaculture Attendant Level 3</p> <p>B.3.1 Finfish stream A finfish attendant Level 3 is an employee who has demonstrated the competency to perform the tasks as below:</p> <ul style="list-style-type: none"> (a) harvest fish (including bleeding) and preparation for market/transport; (b) husband fish (including observing, separating, mortality retrieval, feeding);and/or (c) carry out general housekeeping and maintenance. <p>B.4 Aquaculture Attendant Level 4</p> <p>B.4.1 Finfish stream A Finfish attendant Level 4 means a person who has been employed to perform the following:</p> <ul style="list-style-type: none"> (a) husband fish (including observing, separating, mortality retrieval, feeding); 	

		<p>(b) carry out general housekeeping and maintenance;</p> <p>(c) carry out basic net repairs;and/or</p> <p>(d) may be required to perform diving duties.</p>
Hours of work-day workers	19.2	<p>(a) Subject to clause 19.5,the ordinary hours of work for a day worker will not exceed 38 hour per week on average, over a maximum of 12 weeks.</p> <p>(b) The ordinary hours of work may be worked on any five days Monday to Sunday inclusive.</p> <p>(c) The ordinary hours of work are to be worked continuously,except for meal breaks,at the discretion of the employer between 5.00 am and 7.00 pm for up to 10 hours a day.</p> <p>(d) Any work performed in excess of or outside the spread of hours must be paid for at overtime rates.</p> <p>(e) The rate to be paid to a day worker for ordinary time worked on a Saturday is time and a quarter.</p> <p>(f) The rate to be paid to a day worker for ordinary time worked on a Sunday is time and a half.</p> <p>(g) A day worker required to work on a public holiday must be paid for a minimum of three hours'work at the rate of 250%. The 250% rate must be paid to the employee until the employee is relieved from duty.</p> <p>(h) Where an employee was employed before 12 July 2013, the employee cannot be required to work shiftwork,unless the employee otherwise agrees.</p>

Hours of Work-Shift workers		<p>(a) Continuous shiftwork means work carried on with consecutive shifts of employees throughout the 24 hours of each of at least six consecutive days without interruption except for breakdowns or meal breaks or due to unavoidable causes beyond the control of the employer.</p> <p>(b) Subject to clause 19.3(c), the ordinary hours of work for a continuous shiftworker are, at the discretion of the employer, to average 38 hours per week inclusive of meal breaks and must not exceed 152 hours in 28 consecutive days. A continuous shiftworker is entitled to a 20 minute meal break on each shift which must be counted as time worked. This paid break is in place of the meal break set out in clause 21.1.</p> <p>(c) By agreement between the employer and the majority of employees concerned, a roster system may operate on the basis that the weekly average of 38 ordinary hours is achieved over a period which exceeds 28 consecutive days but does not exceed 12 weeks. Such 12 week period may be extended to 26 weeks provided that the daily ordinary hours shall remain a maximum of 10 ordinary hours and provided that the majority of the employees in the section or sections concerned agree by means of a vote.</p> <p>(d) Except at the regular changeover of shifts, an employee must not be required to work more than one shift in each 24 hours.</p>
Shift allowances	20.3	<p>(a) An employee who works on afternoon shift must be paid 15% extra for such shift.</p> <p>(b) An employee who works on night shift must be paid 30% extra for such shift.</p> <p>(c) An employee who works on an afternoon or night shift which does not continue:</p>

		<p>(i) for at least five successive afternoon or night shifts or six successive afternoon or night shifts in a six day enterprise (where no more than eight ordinary hours are worked on each shift);or</p> <p>(ii) for at least 38 ordinary hours (where more than eight ordinary hours are worked on each shift and the shift arrangement is in accordance with clauses 19.3 or 19.4);</p> <p>must be paid for each shift 50% extra for the first three hours and 100% extra for the remaining hours.</p>
Breaks	21	<p>21.1 Meal breaks</p> <p>(a) A period of not less than 30 minutes,not later than five hours after commencing work,will be allowed for a meal break.</p> <p>(b) Provided that for the purpose of ensuring completion of a task or tasks before change of tide or to ensure the timely return of fish to a growing or holding area in the water,the employer and employee may agree to a break for a meal occurring at some other time prior to the cessation of work on that day.</p> <p>21.2 Tea breaks</p> <p>(a) A tea break of 10 minutes'duration,to be counted as time worked,will be allowed during the morning and afternoon periods of each working day to each individual employee at a time to be arranged by the employer.</p> <p>(b) The afternoon tea break provided in clause 21.2(a) will not be taken in any establishment where the majority of employees agree to forego the break and cease normal work 10 minutes earlier each day.</p>

	<p>[21.2(c) inserted by PR538859 ppc 12Jul13]</p> <p>(c) The tea breaks set out in (b) above may be staggered throughout the day and taken at times which suit operational requirements and are consistent with the employer’s fatigue management plan .</p> <p>21.3 Crib breaks</p> <p>(a) An employee working overtime will be allowed a crib break of 20 minutes’ duration without deduction of pay after each four hours of overtime worked if the employee continues work after such a break.</p> <p>(b) Where the period of overtime is to be for more than one and a half hours, an employee will be allowed a meal break of 20 minutes after ordinary hours before commencing overtime. This break will be paid for at ordinary rates.</p> <p>(c) An employer and employee may agree to any variation of the provisions of clause 21.3 to meet the circumstances of the work at hand provided that the employer will not be required to make payment in respect of any time allowed in excess of 20 minutes.</p>
Note	<p>As with most Australian awards there are highly prescriptive clauses in place that cover every aspect of employment in the industries covered by this award. The full text should be referred to if information on a specific matter is required as this is a selected abstract only,</p>

Source: Aquaculture Industry Award 2010 [MA000114]

The Aquaculture Award (The Award) covers employers engaged in the breeding, production, farming and related harvesting of fish, shellfish, crustacea and marine vegetation, as well as related operations including initial preparation for market. Employees are covered if the award has a classification for the work they do. The following employers and employees are not covered by the Aquaculture Award: employees who fillet, weigh, clean or package, store or refrigerate fish, shellfish, crustacea and marine vegetation, employees who operate boats or sea vessels for

who are not part of the aquaculture industry. This indicates that some subcontractor vessel operators may not be employed on this basis- they could be sole traders or operating under some other framework. In general terms there are few non-Australian persons who are not permanent residents, NZ citizens or Australian citizens able to be employed within the industry due to Australia's strict immigration and employment requirements. The only exceptions may be highly qualified specialists with skills not available in Australia, who may be sponsored by employers on 457 or similar visa classes (Visa Information).

2.6 Regulatory Framework for the Protection of the Marine Environment from Vessels Involved in Aquaculture of Salmonids

Salmonoid aquaculture vessels are subject to the provisions of MARPOL, as called up under the Navigation Act. The AMSA website has comprehensive information on MARPOL and Australia's international convention obligations, which will be familiar to other Flag States. These provisions are given specific effect through the Navigation Act Marine Orders. In addition, Tasmania has legislation administered by the Environmental Protection Agency (EPA) and Department of Primary Industries, Parks, Water and Environment (DPIPWE). (DPIPWE WEBSITE). Most of these vessels are small and fall well under the tonnage limits of the MARPOL convention, although some of the larger vessels demonstrate compliance or are sailing with Flag issued exemptions. Local controls have been adopted by the various companies including no discharge areas, black water holding, garbage containment and restricted operational hours. The industry operates in an environment of strict environmental control, and a great deal of public and stakeholder scrutiny.

2.6.1 Environmental Management

Inland hatcheries

There are currently 16 inland fish farms operating in Tasmania, producing salmonids (salmon and trout). Most are hatcheries producing smolt (immature salmon) for marine fish farms. The growth of inland aquaculture has been closely tied to the rapid growth of marine farming. Under the Inland Fisheries Act 1995 the Inland Fisheries Service is responsible for licensing inland fish farms, and for ensuring adequate safeguards for the freshwater environment through specific licence agreements.

Marine farming

Under the Living Marine Resources Management Act 1995, marine farming development plans are prepared, designating areas in State waters where marine farming may occur. There are 44 licensed finfish marine farming leases in State waters, which occupy a total of 2,257 hectares in six marine farming development plan

areas. Each of these areas has a different set of environmental issues and management controls. Farming takes place in southeast Tasmania, in the Huon River estuary and D'Entrecasteaux Channel; at Nubeena on the Tasman Peninsula; in Macquarie Harbour on the West Coast; and in the Tamar Estuary in the north of the State. The agency responsible for the regulation of these aspects of the industry is the Water and Marine Resources Division of the Tasmanian Department of Primary Industries, Parks Water and Environment (DPIPWE).

Aquaculture species

Salmonid species currently commercially farmed in Tasmania include Atlantic salmon (*Salmo salar*) and rainbow trout (*Oncorhynchus mykiss*) (Inland Fisheries Service).

Environmental impacts

Impacts from freshwater hatcheries and marine farms may vary significantly, depending on factors relating to both the operation (size, style, technology) and the environment, including hydrological factors, weather and climate. Impacts to water quality resulting from inland hatcheries can occur from nutrients in feed inputs and fish metabolic waste being present in the farm discharge if treatment of effluent is inadequate, and this may cause visible impacts such as increased algal growth in surrounding waters.

Environmental impacts of marine farming include changes to the benthic habitat as a direct result of deposition of fish farm waste (ie fish food and faeces) at the lease sites. Changes to water chemistry such as lowered dissolved oxygen levels, are also a potential. These parameters are monitored by the industry and regulated by government, and a range of adaptive management controls are applied in response to the scientific modelling and regular monitoring.

Environmental monitoring and controls

The marine farming licence conditions require the companies to undertake regular visual monitoring of the benthic impacts associated with farming salmon at all farm sites in the State. There are a range of controls relating to the management of lease areas and to respond to any significant visual impact at defined compliance points 35 meters away for the lease boundary.¹³

Environmental regulation changes

The current situation for state of industry environmental regulation in Tasmania is as stated on the EPA website as follows (EPA Website)

Since the mid-1990s, environmental regulation for inland fish farms was via one or more of the following legal instruments: a licence from the Inland Fisheries Service

under the Inland Fisheries Act 1995; council permit under the Land Use Planning and Approvals Act 1993; Environment Protection Notice under EMPCA issued by council or EPA. The marine farming sector has been regulated by the Department of Primary Industries, Parks, Water and Environment (DPIPWE) under the Living Marine Resources Management Act 1995 and the Marine Farming Planning Act 1995.

In June 2016, the Tasmanian Government announced changes to the regulatory framework surrounding finfish farming activities, reflecting the significant growth in the industry. The EPA became responsible for the environmental regulation of both freshwater hatcheries and marine farms, and so that this could commence immediately, the EPA Director was provided relevant delegations under the Marine Farming Planning Act 1995 and Living Marine Resources Management Act 1995. The functions of industry planning and development however, remained under the jurisdiction of the Minister for Primary Industries and Water.

In order to transfer the environmental regulatory responsibility for finfish farming to the EPA into law in a permanent and comprehensive manner, changes to a number of pieces of legislation were required. To implement these changes, the Finfish Farming Environmental Regulation Bill 2017 was prepared and introduced into Parliament on 17 August 2017. It received Royal Assent on 4 December 2017, and the Act is now being implemented.

Finfish Farming Environmental Regulation Act

The Finfish Farming Environmental Regulation Act 2017 (Finfish Act) establishes the legal structure empowering the Director, EPA with an independent statutory role for the environmental regulation of the State's finfish farming industry, including marine and freshwater farms. It amends several Acts relating to the management of the finfish farming activities and establishes Tasmania's Environmental Management and Pollution Control Act 1994 (EMPCA) as the primary piece of environmental regulation legislation.

The Act provides an Environmental Licence (EL) as the new regulatory instrument for both marine and freshwater activities. This means that anyone operating a marine or inland fish farm must hold an EL under EMPCA in addition to holding a Fish Farm Licence under the Inland Fisheries Act 1995 (in the case of an inland farm or hatchery) or a Marine Farming Licence under the Living Marine Resources Management Act 1995 (in the case of a marine farm). However, existing operators of both marine and inland fish farming activities are not required to submit an application to the Director, EPA for an environmental licence under EMPCA. Instead, these activities may continue under the existing authorisation until an EL has been issued by the EPA.

2.7 SWOT Analysis

The results of SWOT analyses are presented in Table 5.

Table 5: SWOT Analysis

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> • Growing industry with considerable expansion potential • Major employer in Tasmania • Good political support across the spectrum • Single National Regulator for qualifications-AMSA 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> • Federation splits responsibilities between States and Commonwealth, potentially doubling or indeed missing regulatory aspects • No differentiation in equipment or crewing/qualification requirements for vessels operating here as opposed to those operating in wild catch sectors. • AMSA has limited presence in Tasmania and no one dedicated to support aquaculture specifically. • AMSA rules hard to access and interpret.
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> • Market is expanding as FTA grows. • Clean green credentials of Tasmania • AMSA fully in charge of National System may be able to reduce red tape and streamline requirements for this specific sector. 	<p style="text-align: center;">THREATS</p> <ul style="list-style-type: none"> • Environmental changes outside of local control • Changing market conditions/trade conditions • Reduced political support for industry

3. Conclusion

A summary of the findings of Work Package 6 can be found in Table 6.

Table 6: Summary of Findings

Regarding	Summary of Findings
S. 2 National Framework	AMSA is the Australian government department responsible for domestic vessels, their operations and operators.
S. 2.1 Vessel Framework	AMSA has been the regulator since 1 July 2013 and has evolved the system, using the states and the Northern Territory to act as delegates. On 1 July 2018 AMSA assume full service delivery responsibilities and are introducing a levy to fund their activity.
S. 2.2 Zones	The National Regulator defines operational classes and areas which then can be mapped against farmed areas, thereby ensuring that a vessels regulatory treatment is commensurate with the risk it is likely to encounter.
S. 2.3 Minimum Safe Manning	This is achieved through a combination of stipulated crew minima stated in the NSCV and a risk assessment and treatment by the operator.
S. 2.4 Seafarer Certification	AMSA determines training standards, sets the requirements for sea time and assesses and issues qualifications for low level combined tickets as well as deck and engineering certificates.
S. 2.5 Employment	Employment is under the federal governments Fair Work framework and is heavily regulated. There are few opportunities in the sector for non-specialist employment for non-Australian or NZ nationals or those with residence and work rights in Australia.
S. 2.6 Environmental regulation	An analysis of the current and emerging requirements for environmental regulations show the multiple considerations the salmonid industry must take into account when planning and conducting their operations. The takeaway here is that the government does not rely solely on international convention requirements but looks at local considerations and regulates accordingly.
S. 2.7.1 (Strengths)	Growing industry with considerable expansion potential Major employer in Tasmania Good political support across the spectrum Single National Regulator for qualifications-AMSA
S. 2.7.2 (Weaknesses)	Federation splits responsibilities between States and Commonwealth, potentially doubling or indeed missing regulatory aspects No differentiation in equipment or crewing/qualification requirements for vessels operating here as opposed to those operating in wild catch sectors. AMSA has limited presence in Tasmania and no one dedicated to support aquaculture specifically. AMSA rules hard to access and interpret.
S. 2.7.3 (Opportunities)	Market is expanding as FTA grows. Clean green credentials of Tasmania AMSA fully in charge of National System may be able to reduce red tape and streamline requirements for this specific sector.

S.2.7.4 (Threats/Risks)	Environmental changes outside of local control Changing market conditions/trade conditions Reduced political support for industry.
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References

ABARES REPORT Australian Government Department of Agriculture and Water Resources ABARES *Australian fisheries and aquaculture statistics 2016* published December 2017 – Attached as Annex

TMN <http://www.tmn.org.au/>

AMSA website address www.amsa.gov.au

AMSA Levy Proposals <https://www.amsa.gov.au/vessels-operators/domestic-commercial-vessels/cost-recovery-levy-national-system>

Part B of the NSCV (attached as Annex)

Part E of the NSCV (attached as Annex)

Part D of the NSCV (attached as Annex)

AMSA Skills and Knowledge Required for NSCV Certificates of Competency Part D Crew Competencies- (attached as Annex)

The Award ; Employment conditions (Aquaculture Award) may be found at <http://awardviewer.fwo.gov.au/award/show/MA000114>

Visa Requirements <https://www.homeaffairs.gov.au/Trav/Visa-1/457->

DPIPWE WEBSITE <http://dPIPWE.tas.gov.au/sea-fishing-aquaculture/marine-farming-aquaculture>

Inland Fisheries Service www.ifs.tas.gov.au

EPA Website <http://epa.tas.gov.au/regulation/salmon-aquaculture> -accessed 26/02/2018

Further Background Information

Tasmanian Salmonoid Companies

There are currently four main companies producing salmonid product in Tasmania. These are:

Tassal- <http://www.tassal.com.au/>

Huon Aquaculture- <https://www.huonaqua.com.au/>

Petuna- <http://www.petuna.com.au/>

Van Dieman Aquaculture- Nil website- email: info@vandiemenaquaculture.com.au

Representative Body

The Tasmanian Salmonid Growers' Association Ltd (TSGA) is Tasmania's peak body representing salmon growers . It is a not for profit organisation established by its grower members over 25 years ago to represent the Industry by working with Federal and State Governments and their Regulatory Agencies. Its website address is <https://www.tsga.com.au/> .

The TSGA is charged by its members with ensuring that reasonable and viable operating standards and conditions are established for the Industry by an Industry/Government partnership within an appropriate regulatory framework. Hitherto, more than 75% of TSGA's income has been committed to strategic projects, R&D and fish health monitoring programmes.

Key stated strategic goals for the TGSA are:

- collaborative research that aims to deliver quantifiable outcomes, lower production costs, sustainable growth, while maintaining and improving product quality; and
- working with Government to establish a workable framework of regulation and self-regulation aimed at ensuring long term sustainability

Annexes (Attached separately)

A. Australian Government Department of Agriculture and Water Resources ABARES *Australian fisheries and aquaculture statistics 2016* published December 2017

B. NSCV Parts B

C. NSCV Part D

D. NSCV Part E (All Current Editions)

E. Chart- Proposed grow and no grow zones for finfish in Tasmania (Figure 1)

F. Chart- nscv_-_b_-_determination_-_tasmania_overview_-_september_2016

G. AMSA 730_skills_and_knowledge_requirements_for_nscv_certificates

H. Sustainable industry Growth Plan for the salmon industry DPIPWE Tasmania

A2. The Commonwealth of Australia: Work Package

2

Acronyms

AMSA	Australian Maritime Safety Authority
COO	Certificate of Operation
COS	Certificate of Survey
DCV	Domestic Commercial Vessel
FMEA	Failure Mode Effect Analysis
GSO	General Safety Obligation
OHS&W	Occupational Health Safety and Welfare
NSAMS	National Standard for the Administration of Marine Safety
NSCV	National Standard for Commercial Vessels
UI	Unique Identifier

1. Introduction

The Australian Maritime Safety Authority (AMSA) is the sole regulator of commercial vessels in Australia since taking over from the States on 1 July 2013. This report examines the current certification requirements for vessels working in the salmonid sector as they currently stand and flags changes that are likely to be brought into these processes in the coming months and years.

As of February 2018, there were approximately 265 vessels (from Kedge Records) ranging in size from 4 to 65m owned and operated by salmonid producing companies in Australia. In addition, there are an estimated 20 vessels offering a variety of specialised support services including asset tow, feed delivery, net cleaning and general utility support not directly owned, but chartered by the main producers.

These 285 vessels are legally deemed commercial vessels under the national regulatory arrangements (The National System) and as such are predominantly regulated by AMSA under the Marine Safety (Domestic Commercial Vessel) National Law Act 2012 (*The National Law*) (National Law) which is the responsibility of the Australian Maritime Safety Authority (AMSA). There are a very small (c. 3) number of specialist foreign flagged vessels operating- these are reportedly in the process being phased out of the industry as local capacity increases. In addition to the *National Law*, Federal and local State laws specific to aquaculture and vessels generally as well as a number of international convention requirements apply to all vessels in the domestic commercial vessel fleet. AMSA publishes a Statement of Regulatory Approach which describes its regulatory philosophy and approach (Statement of Regulatory Approach).

This report aims to define the scope of the vessel certification requirements for vessels in this sector in light of this background, and in order to do so the author has relied on sources published by the Australian government, discussions and interviews with senior and operational level AMSA staff and discussions with senior staff of the 4 salmonid companies operating in Tasmania. This report should be read in conjunction with the report by the same author entitled Work Package 1 Australia.

2. Identification of Vessels Eligible and/or Used in Aquaculture of Salmonids and Supporting Activities

There are no type restrictions on vessels that may be used in the industry or by supporting industries in the *National Law*. In practice the bulk of the vessels are Class 3- Fishing Operations vessels although a limited number may be Class 2 (Non-

passenger) vessels, allowing, in spite of the name, up to 12 passengers to be carried in addition to the crew. There is no specific identifying mark applied to salmonid vessels under Australian legislation, only the Unique Identifier (UI) required under the *National Law*. This is basically a series of numbers and digits which have to be prominently displayed on the vessel.

3. Evaluation of the Registration Process of the Fleet involved in Aquaculture of Salmonids

3.1 Steps of the Registration Process of the Fishing Vessels / Limitations and Obligations

To gain the requisite permission, the vessel must go through an ***initial survey process***,⁴ followed by ***periodic and renewal survey*** (write the title of the reference here and take away footnote number)⁵. This has been consistently the case since the start of the National System on 1 July 2013. This may be about to change when the states are no longer delegated to issue certificates and administer the system on 1 July 2018.

The process for the grant of a Certificate of Operation⁶ has varied for the last 3 years, notwithstanding the National System being in effect. Some states have allowed owners to self-declare compliance whereas others have conducted desktop, or on-vessel audits of operators. In Tasmania the general rule has been to allow owners to self-declare and only conduct audits when a situation has arisen that merits it. This ad-hoc approach relies on the legislated General Safety Obligations of the *National Law*. Essentially these obligations place an onus on an operator to do the right thing in accordance with the law, and introduce very serious penalties for non-compliance.

Whilst the author is able to describe the situation as it currently stands in this regard, there are major changes flagged in this area by AMSA and post 1 July 2018 much of this information may not be correct. The full spectrum of proposed changes may be found on the AMSA website (AMSA Website)

3.2 Documentation and Certificates Needed Prior Registration

As described in Section 3.4 in the course of bringing a new vessel into survey there are a series of documented recommendations and accredited person or persons must make to the Regulator, AMSA, in order to support a recommendation for issue of a certificate of survey. Very few of these reports are prescribed formally and those accredited surveyors with their own Quality Management Systems are able to make recommendations in their own format, providing certain information is provided-in practice this information includes vessel dimensions, capacities, owners details, engine sizes and that information necessary for the regulator to issue statutory certificates.

3.3 Certificates Issued by Flag and that must be Carried on Board

Once the survey process is complete the owner is issued with a Certificate of Survey, and the vessel is added to the operators Certificate of Operation. Please note it is entirely possible for the vessel owner and operator to be two separate entities. There is no requirement for the operator to have a copy of either document on board- what often happens is that the larger vessels do have the certificates in the vessels books, and in some cases displayed, whereas the smaller vessels documents are kept at their base centrally in survey record books. These books are no longer issued by the Regulator, but the authors experience is that the operators have continued to create and maintain them as part of their individual vessel management systems.

3.4 Inspection Regime (prior and after registration)

All Tasmanian Salmonoid vessels are regulated under Scheme S of the National System. This means that there is an expectation that vessels have both initial then periodic surveys.

As matters currently stand, the outline process for **initial survey** is generally as follows:

- Designers submit vessel plans to AMSA accredited Naval Architect for formal structural, mechanical and systems approval
- Once approved building commences- at various phases AMSA accredited surveyor inspects against approved plans
- Once launched vessels stability is checked against NSCV requirements, stability information is produced and approved by an AMSA accredited Naval Architect and vessel is sea trialled and commissioned.
- A full set of approved plans, survey reports and approved stability is submitted to the Regulator by the accredited surveyor. Regulator then audits the submission against NSCV requirements and issues Certificate of Survey with a validity up to 5 years.
- The vessel is concurrently entered onto an operators' existing or issued a new Certificate of Operation, again with 5-year validity.

The detailed process expected from a surveyor for the conduct of an initial survey is as follows (Initial Survey Instruction to Surveyors):

Structure and documentation process to follow before, during and after conducting a survey.

This section sets out the survey process for accredited surveyors.

This section must be adhered to if you do not have your own ISO 9001 (or equivalent) Quality Management System (QMS). If you have your own QMS, you are encouraged to build the information contained within this section into your QMS.

3.4.1 Construction phase

At a minimum, the surveys specified in the below table should be conducted and documented, where applicable. You must retain the records of surveys including the

date, person inspecting, observations and conclusions of inspections undertaken throughout the construction phase.

Survey type	Required for Form to use	Description of survey
Hull structure composite	Vessels built from composite materials Initial survey composite construction report	Material certification Daily laminating record Thickness test Ultrasonic record Resin / glass content acceptance Verification of vessel built in accordance with plans
Hull structure welded construction	Vessels built from steel or aluminium Initial survey welded construction report	Material certification (including consumables) Welding procedure qualification (WPQR and WPS) Welder qualification Presentation and fit-up of plate in accordance with WPS Welding inspection records and compartment sign off sheets Member alignment Distortion and repairs Verification of vessel built in accordance with plans
Hull structure other	Vessels	Adequate inspections to ensure vessels complies with standards
Engineering	All vessels—as applicable Initial machinery and engineering survey report	Bilge systems (pipe materials, flex lengths, manifold and pump arrangements, etc) Hydraulic systems Steering systems (tiller arm and cross link arrangement, emergency steering) Fuel systems (shutoff valving, piping, transfer pump arrangement including remote stops and pressure bypass, etc) Valves (screw down valve seating, ball valve operation, valve materials, etc) Discharges (height and material) Exhaust system (height above dwl, valving, lagging, riser, water injection, etc)

Survey type	Required for	Form to use	Description of survey
Fuel tank	For each vessel fuel tank	Fuel tank inspection report	Internal inspection (material of tank, required thickness, baffle spacing, check drain, check filler location, check inspection opening, check sounding arrangement) Pressure test (confirm testing pressure, confirm no leaks)
Shaft	For each vessel shaft	Shaft survey report	Verification of shaft material Inspection of propeller taper, coupling taper, gland packing area, key and keyway Measurement of shaft and verification of straightness Inspection of propeller Witness of bluing
Fire systems and fitout material	All vessels— as applicable	Initial survey fire safety report	Galley fire systems Structural fire protection arrangement and installation Bulkhead penetrations Fire detection system (specification and installation) Fixed fire extinguishing system (specification and installation) Stairways and doorways arrangement and operation Verification of sound insulation, thermal insulation, linings and ceilings, furniture, draperies and curtains, bedding and deck finish materials
Draft marks	Vessels with draft marks	Draft marks report— under development	Determination of a baseline Record of the height of marks above and below baseline Calculation of draft mark height (vessel relative) and computation of error (if any)
Watertight integrity	All vessels	Initial watertight and weathertight integrity survey report for non-load line vessels	Verification of vent and air pipe heights Tests of closing devices Verification of sill heights Checks of hatches / coverings Check / test of doors

Survey type	Required for Form to use	Description of survey
Load line	Vessels of load line length Load line conditions of assignment report	<p>Verification of freeing port area</p> <p>Verification of vent and air pipe heights</p> <p>Tests of closing devices</p> <p>Verification of sill heights</p> <p>Checks of hatches / coverings</p> <p>Check / test of doors</p> <p>Verification of freeing port area</p> <p>Verification of load line placement</p>
LPG		<p>Certificate of compliance for gas installation</p>
Electrical	All vessels— as applicable Electrical survey report	<p>Generator tests (governor operation, parallel operations, load sharing, voltage regulation)</p> <p>Load testing of motors</p> <p>Testing of overload alarm circuits</p> <p>Testing of main engine safety alarms and trips</p> <p>Testing of remote controls, stops and limit switches</p> <p>Testing of emergency stop circuits</p> <p>Testing of vessels alarm systems</p> <p>Testing of any other systems and equipment installed on vessel</p> <p>Verification of electrical installation in accordance with AS3000</p>

3.4.2 Conducting the survey

Where conducting the above survey, you are expected to:

Before conducting survey:

- review approved drawings and associated documentation
- commence survey record / file applicable to the size and type of vessel
- confirm all required documentation is to hand
- collect appropriate survey equipment for type of survey being conducted
- collect PPE
- consider WHS issues that may arise for type of survey and vessel being surveyed (eg confined spaces, slips trip and falls etc)
- ensure surveyor ID card is carried.

On arrival at site:

- conduct visual site inspection prior to undertaking survey, observe appropriate practices and PPE and collect selected tools
- identify and greet client—issue warning to all persons at the worksite that you will be on site and for persons to be cautious
- identify and photograph vessel
- conduct WHS briefing with client
- undertake risk assessment—identify, evaluate and mitigate risks.

Conduct survey:

- constantly monitor the workplace and reassess as circumstances change
- conduct construction stage survey inspection using the appropriate form
- document and create photographic evidence where appropriate
- review previous issues / observations raised from past stage inspections to determine if any outstanding issues are to be re-addressed
- if issues are existing, review and close out if appropriate
- assist client in addressing any issues raised during the survey inspection
- arrange any subsequent visits that may need to be conducted to review any rectifications.

After survey complete:

- update your vessel files and survey record
- maintain all photographic evidence with the vessel file.

Where any deficiencies or deviations from original approved plans are identified, they should be referred back to the accredited surveyor who approved the plans, who should review the deficiencies and deviations that have been identified and determine how or if any changes to either the plans or vessel are required.

The commissioning phase

The commissioning phase is a series of tests and trials that are intended to verify a vessel's systems as operational and functional, establish any operational limits required, provide safety information to the master and to verify any assumptions made during the design and construction phases of survey (eg displacement, operational speed). Commissioning phase surveys may include, but are not limited to, sea trials, machinery trials, stability tests, essential systems trials, safety equipment and safety information checks.

A commissioning phase survey will generally include:

- survey of equipment
- a record of commissioning trials such as those described in [conducting sea trials](#) instruction to surveyors
- a stability assessment made in accordance with applicable standards and a record of the stability approval.

The results of an inclining experiment should be recorded on the [inclining experiment report](#). Lightship measurement should be recorded on the [vessel lightship report](#). Stability book or stability compliance report approvals are to include all relevant assumptions or conditions of the approval.

You must retain a copy of the approved stability. A copy should be supplied to the vessel owner for carriage on board the vessel and a further copy provided in support of your recommendation.

Periodic Survey and **Renewal Survey** requirements are in a state of transition as previously noted. A periodic survey is a survey which is conducted alternatively in and out of the water by an accredited surveyor, who submits a report certifying that the vessel meets the requirements of the standards to the Regulator. There is a list of items which must be sighted, tested or verified by the surveyor. These requirements are currently contained in the National Standard for the Administration of Marine Safety (NSAMS) Part 4. The surveyor is required to follow a stipulated format- the AMSA form 901 which is reproduced below. Those items not applicable to an individual vessel are struck out on the form, which is submitted to the Regulator.



Australian Government

Australian Maritime Safety Authority

SURVEY REPORT AND RECOMMENDATION

Marine Safety (Domestic Commercial Vessel) National Law Act 2012, Schedule 1
Marine Order 503 (certificates of survey – national law) 2017

This form may be used by an accredited surveyor when undertaking the survey of a vessel in accordance with the requirements of NSAMS Chapter 4.

If after conducting a periodic survey, the surveyor is satisfied that the vessel and/or equipment meets the requirements of the standards this form can be used to make a recommendation to the National Regulator. This form may also be used in conjunction with AMSA 606 when conducting an initial survey.

The accredited surveyor is required to keep a copy of this report for their records.

Vessel details

Vessel name	Unique Identifier	Standard
<input type="text"/>	<input type="text"/>	<input type="text"/>
Hull Material	Engine (kWp)	Length (metres)
<input type="text"/>	<input type="text"/>	<input type="text"/>

Survey location

Date of survey

Owner details

Title (Mr, Mrs, Dr, etc.)	Surname	Given name		
<input type="text"/>	<input type="text"/>	<input type="text"/>		
Company name		Trading name (if different to company name)		
<input type="text"/>		<input type="text"/>		
ACN / ABN				
<input type="text"/>				
Street number and name		Town/Suburb	State	Postcode
<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>
Contact numbers				
Home phone	Business phone	Mobile	Email	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Vessel/operation Type

Class	Crew	Unberthed passengers	Berthed passengers	Special persons	Operational limits
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Special Conditions (exemptions/equivalents)

	Periodic Survey	Out of Water Survey	Compass	Shaft
Date of Survey	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Next survey due	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

I declare that I have conducted survey(s) as indicated below of the above mentioned vessel, in accordance with the applicable standards as set out in Marine Order 503 Certificates of Survey, and that to the extent evident from the inspection/s carried out, am satisfied that the vessel meets the standards as defined in NSAMS Section 4.

Select all that apply:

Periodic survey In water survey Out of water survey Safety equipment survey Other – _____

On conducting the survey(s):

- No deficiencies were identified
 Minor deficiencies were identified as listed in survey activity report dated / / and rectified / / .
 Major deficiencies were identified as listed in survey activity report dated / / and rectified / / .

Name of Surveyor	Signature of Surveyor	Date of Completion	Surveyor Identification Number
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Documentation

Classification Society	Last Classification Survey
<input type="text"/>	<input type="text"/>

Life raft Certificate(s)		
Type	Serial No(s)	Due Date

Compass Adjusters Certificate	Fixed Fire Fighting Installation / Service Report / Certificate
Date of Adjustment: <input type="text"/>	<input type="text"/>

Radio Survey Date <input type="text"/>	Safety Management Plan <input type="text"/>
----------------------------------------	---------------------------------------------

Logbooks, maintenance records, training drill records and manifests on-board as necessary

Stability documentation on-board <input type="text"/>	LPG Compliance Certificate <input type="text"/>
-------------------------------------------------------	-------------------------------------------------

Ships Equipment

Item	Comment	
Pyrotechnics and Container		
Medical Supplies		
Torch(es)		
Daylight signalling lamp (SL 1 only)		
Code flags (SL 1 only)		
Lifejackets, Lights & Whistles	Type	No
Sound signals (Whistle / Bell / Horn)		
Magnetic Compass		
Nav.Aids - Radar, GPS, Barometer, Clock, AIS		
Depth Sounder/Lead Line		
Engine instruments (on the bridge)		
Radio Communications Batteries, Radio lights and voltmeter / Hydrometer	Radio Call sign	Station Called
	Time & Date	Signal Strength & modulation
Charts and publications		

Item	Comment	
EPIRB (test and record S/N)		
Lifebuoys	Type: Smoke/light: No. Type: Line: No. Type: Light: No. Type: Plain: No.	
Buoyant appliances	Type	Capacity
Life raft hydrostatic release		
Rescue boat/life raft, launching arrangements and lighting		
Portable Fire Extinguishers	Type:	No:
	Type:	No:
	Type:	No:
	Type:	No:
Fire bucket / blanket	Expiry:	
Fire and safety plan posted		
Fireman's outfit		

Anchor	Weight	Type	Chain: Size & Length	Rope: Size & Length
1.				
2.				

Deck Survey

Item	Comment
Anchor (condition)	
Anchor chain shackles / anchor rope (condition where visible)	
Anchor Windlass (SL 1 only)	
Bulwarks, guardrails, stairs and grab rails	
Hull / Deck (where visible)	
Escapes, Freeing ports and Scuppers	
Weather tight doors / hatches and latching devices (SL 1 only)	
Windows / Side scuttles and deadlights	
Passenger Boarding, Seating and Berths	
Bollards and Deck Cleats	

Engineering

Item	Comment
Engine	Make: Model: KWP:
Gearbox	Make:
Auxiliary machinery	
Machinery guards	
Raw Water piping	
Exhaust System/Lagging	
Valves and skin fittings (where visible)	
Bilge pumps /piping/ valves/ manifolds	Pump type:
Refrigeration equipment	
Compressors/Air Receivers/Relief Valves	
Instruments (within the machinery space)	
Engine room cleanliness	
Steering Gear	
Emergency Steering	
Bilge alarms (test)	
Emergency Power (test)	
Emergency lighting (test)	
Remote fuel shutoff (test)	

Fire Systems

Item	Comment
SFP (SL 1 Only)	
Fixed fire system (SL 1 only)	
Fire detectors/alarms (SL 1 only)	
Fire dampers (SL 1 only)	
Fire pump system (SL 1 only)	

Required during intermediate and renewal surveys only

Item	Comment
Hull / Deck external out of water	
Hull / Deck internally	
Tanks/ voids internally	
Anchoring (out of vessel)	
Internal Examination of Chain Locker	
Shaft Coupling and Stern Gland	
Shaft Bracket / Appendages	
Stern Bearing and Propeller Shaft Bearing Clearance:	
Propellers	
Rudder	
Rudder Stock Bearing	Clearance:
Test Anchor Windlass	

To be inspected during 10, 20 and 30 year renewal surveys

Item	Comment
UT Measurement of Hull (Metallic Vessels)	
Withdraw sample fastening from hull (Wooden vessels)	
Verify internal foam buoyancy (if not carried out at previous renewal survey)	
Pressure Test all Sea Water pipes	
NDT of Shaft/Rudder Stock iwo keyway, taper and threads	
Internal Inspection of Fuel Tanks	

Where to Lodge

Where to lodge: Roads and Maritime Services NSW • Maritime Safety QLD • Transport Safety VIC • Marine and Safety TAS • Department of Planning, Transport and Infrastructure SA • Department of Transport WA • Marine Safety NT.

Source AMSA website

It is likely that the aforementioned requirements for survey in future will be contained in a Marine Order, likely *Marine Order 503- Certificates of Survey*.

The bulk of the vessels in the salmonoid fleet are currently surveyed annually and it should be noted that many of the vessels in the fleet are 'grandfathered' with their survey requirements remaining the same as they were on 1 July 2013 under provisions in Regulations made under the *National Law*. AMSA has flagged major changes to these survey schedules and is due to consult on these in April and May 2018 with the changes due to take effect on 1 July 2018. It is anticipated that the requirement for formal survey may be that vessels will be seen every 2 years, with a renewal survey, a deeper examination of the vessel scheduled in the 5th year but these changes are not yet confirmed. (AMSA Changes to Survey Requirements)

There are two restricted survey arrangements, the Exemption 02 *Non-Survey* category (essentially owner self-declaration) and Exemption 40- *Restricted Operations* categories that some boats could be regulated under. There has been no take up of these options in the salmonoid fleet for two reasons- the first is that they seriously restrict areas of operation and preclude the use of cranes and other lifting apparatus which does not suit the industry, and secondly that effectively because of the water temperature in Tasmania the survey requirements under these schemes are little different to the more common Scheme S survey. (AMSA website and Kedge Records)

3.5 Role of Recognized Organizations

Currently, recognised organisations (RO's) or Class Societies are not heavily involved in the salmonoid industry fleets as the requirement under the NSCV for a vessel to be built and maintained to Class only become obligatory when the vessel is 35m in length or above. AMSA has flagged changes to the requirement and from 2020 intends to increase the length limit to 45m before a vessel is required to go to Class. In practice, many of the larger vessels in the fleet longer than 35m are either operating under grandfathered arrangements and are not in Class, or if new builds are seeking and being granted exemptions to allow them to be configured and surveyed in accordance with the NSCV. The role of an RO under the National Law is the same as an accredited surveyor, in that they can only make a recommendation, rather than issue statutory certificates for vessels they survey (AMSA Website).

4. SWOT Analysis

Table 1 presents the SWOT Analysis of WP 2.

Table 1: SWOT Analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • The process for bringing vessels into registration (survey) is well tested and the standards applied cover all aspects of the vessels physical and operational risk. • The companies understand the process and engage fully with it • The process aligns well with the general obligations placed on companies under OHS&W legislation • Periodic inspection ensures the fleet is maintained to the standard prescribed in the NSCV. 	<ul style="list-style-type: none"> • Some obligations for inspection and testing are outside of the National Law and in other legislative instruments which has the potential to cause confusion and have things overlooked • Slow processing times by AMSA delegates have left vessel tied up awaiting certification. • The complicated hierarchy of the National Law, Regulations, Marine Orders and NSCV requires a certain expertise and application in determining and applying the correct regulatory treatment to a particular vessel. • Large vessels requirements are not well defined by Flag and formal FMEA analysis is often required where this is the case.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Allow companies experienced in the regulation of these vessels the ability to directly issue certification after inspection as AMSA delegates to further identify responsibilities and reduce red tape • Further simplification of technical standards to increase understanding and likely application is possible. 	<ul style="list-style-type: none"> • Recently flagged changes by AMSA to survey depth and frequency without comprehensive risk data being available to underpin the changes could affect the safety of these vessels. • AMSA has flagged a considerable amount of change in the coming months and years including increases to levies and changed service delivery.

3. Conclusion

Table 2 shows the Summary of Findings for Work Package 2.

Table 2: Summary of Findings

Regarding	Summary of Findings
S. 2 Vessel ID	Vessels in this sector are not differentiated in terms of identification marking to other domestic commercial vessels
S. 3 Fleet Registration	The fleet is 'registered' in the same way as other Australian domestic commercial vessels.
S. 3.1 Steps to 'Registration'	Vessels undergo an initial survey process requiring plan approval, build surveys, stability and commissioning, and then currently are seen annually by an accredited, or licenced surveyor to maintain registration.
S. 3.2 Documentation	The accredited surveyor documents the vessels progress towards completion against the NSCV and provides the documentation to AMSA, who issue a Certificate of Survey for the Vessel. The author flags likely, announced changes to the regime in this section.
S. 3.3 Certificates Issued by Flag	The author indicates what certificates are issued by AMSA for vessels and confirms that they are not required to displayed nor carried on the vessels but that some of the larger vessels choose to do so.
S. 3.4 Inspection Regime	Domestic vessels are subject to initial and periodic surveys. These are currently detailed in NSAMS 4 but will probably change in the near future under plans communicated by AMSA.
S. 3.5 Role of RO's	The section details the limited role RO play in the inspection of the fleet
S. 4.1 (Strengths)	The process for bringing vessels into registration (survey) is well tested and the standards applied cover all aspects of the vessels physical and operational risk. The companies understand the process and engage fully with it. The process aligns well with the general obligations placed on companies under OHS&W legislation. Periodic inspection ensures the fleet is maintained to the standard prescribed in the NSCV
S. 4.2 (Weaknesses)	Some obligations for inspection and testing are outside of the National Law and in other legislative instruments which has the potential to cause confusion and have things overlooked Slow processing times by AMSA delegates have left vessel tied up awaiting certification. The complicated hierarchy of the National Law, Regulations, Marine Orders and NSCV requires a certain expertise and application in determining and applying the correct regulatory treatment to a particular vessel. Large vessels requirements are not well defined by Flag and formal FMEA analysis is often required where this is the case.
S. 4.3 (Opportunities)	Allow companies experienced in the regulation of these vessels the ability to directly issue certification after inspection as AMSA delegates to further identify responsibilities and reduce red tape Further simplification of technical standards to increase understanding and likely application is possible.
S. 4.4 (Risks/Threats)	Recently flagged changes by AMSA to survey depth and frequency without comprehensive risk data being available to underpin the changes could affect the safety of these vessels. AMSA has flagged a considerable amount of change in the coming months and years including increases to levies and changed service delivery.

References

Kedge Records - Estimate based upon Kedge Pty Ltd records held.

AMSA website

National Law -The *National Law* may be accessed via
<https://www.legislation.gov.au/Series/C2012A00121>

Statement of Regulatory Approach -<https://www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/our-regulatory-approach>

Initial Survey Process - Instructions to Surveyors <https://www.amsa.gov.au/vessels-operators/domestic-commercial-vessels/section-3-survey-and-inspection-process-initial-survey>

General guidance on survey of vessels may be accessed here:
<https://www.amsa.gov.au/vessels-operators/domestic-commercial-vessels/guidance-certificates-survey-scheme-s-domestic>

Certificates of Operation are described here: <https://www.amsa.gov.au/vessels-operators/domestic-commercial-vessels/certificates-operation>

AMSA published information on changes to survey requirements are published here:
<https://www.amsa.gov.au/vessels-operators/domestic-commercial-vessels/simplifying-vessel-survey-regime>

B1. The Kingdom of Norway : Work Package 1

Acronyms

CoC	Certificate of Competency
MAB	Maximum Allowed Biomass
NIS	Norwegian International Ship Register
NOR	Norwegian Ordinary Ship Register
NMA	Norwegian Maritime Authority
NDF	Norwegian Directorate of Fisheries

1. Introduction

This work package report provides an insight into the regulatory framework of Norway for vessels involved in Aquaculture of Salmonids. In addition, the areas of operation, as well as the limitations applicable, are examined. Furthermore, the safe manning

procedures, certificates and employment systems and restrictions for national and non-national seafarers are analyzed and discussed. Finally, the regulatory framework for the protection of the marine environment from vessels involved in aquaculture of salmonids is examined.

The study for Norway is based on both primary sources and secondary sources of law, as well as explanations and rational interpretations provided by respondents interviewed in January 2018. The author had interviews with two Senior Advisers from the Department of Ships Registration of the Norwegian Maritime Authority (hereinafter referred to as NMA). The author had also interviews with one owner of a large wellboat company, one interview with the HSEQ Manager of another wellboat company and one interview with the Managing Director of an aquaculture salmon facility. Information and guidance received from telephone and email communications from Statistics Norway, Directorate of Fisheries and the Norwegian Food Safety Authority have been incorporated in this Work Package, as well.

2. National framework regulating operations

Aquaculture production in Norway has experienced a tremendous growth the last decades and the sector is dominated by the production of Atlantic salmon farmed in marine cages. The salmon industry in Norway is made up by many small firms since the government’s policy promotes decentralised structures and local ownership. Table 1 indicates that the production of salmon reached 1.233.619 tonnes in 2016, occupying the 93% of the whole fish market share and noting an increase of 35.3% in first-hand value from 2015 to 2016.

Table 1: Norwegian Aquaculture sector

Aquaculture 2016	Fish for food (tonnes)	Share	Per cent 2015 – 2016	First-hand Value (NOK million)	Per cent 2015-2016
Total	1 326 156	100	-4	64 039	36.6
Salmon	1 233 619	93	-5.3	60 121	35.3
Rainbow trout	87 853	6.6	20.3	3 682	65.8
Char	333	0	28.1	19	23
Halibut	1460	0.1	17.4	162	13.3
Shellfish	2213	0.2	-20.2	25	-16.3

Source: Statistics Norway

Regarding Exports of farmed salmon in weekly figures, we note from Table 2 that in Week 7 of 2018 the quantity of fresh salmon reached 15.052 tonnes and frozen salmon 317 tonnes.

Table 2: Export of farmed salmon/ Week 7 2018

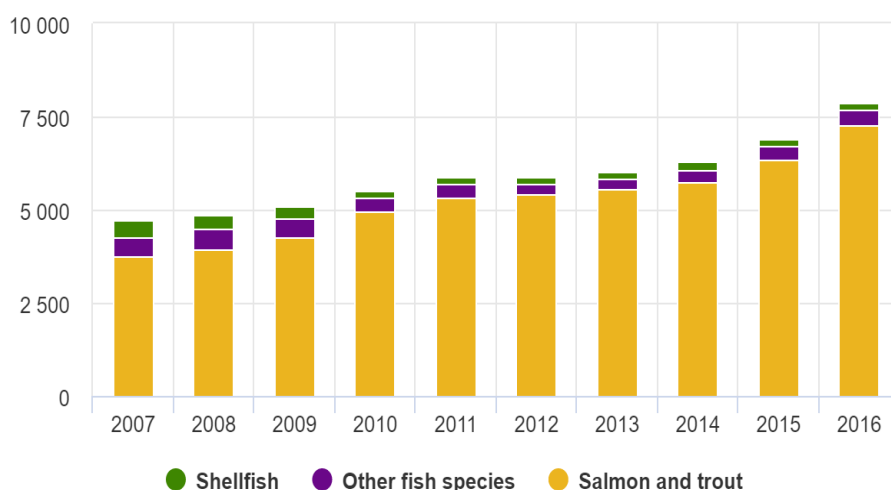
Weekly figures/Week 7 2018	
	Price per kilo (NOK)

Fresh or chilled salmon	56.52
Frozen salmon	55.3
	Quantity (tonnes)
Fresh or chilled salmon	15.052
Frozen salmon	317

Source: Statistics Norway

The Norwegian Directorate of Fisheries (NDF) is the responsible authority for the licences for the production of salmon and trout, the management of the Fish Farming Act and the Aquaculture Act. From 1994 until the end of 2017, NDF has issued a total of 1015 sea farming licenses, 220 smolt production licenses and 44 licenses for egg and spawn production (Directorate of Fisheries, 2017). According to Statistic Norway, the aquaculture industry in 2016 employed 7273 persons in the production of salmon and rainbow trout, 430 persons in the production of other fish species and 150 worked in shellfish farming (Table 3).

Table 3: Employees in aquaculture industry



Source: Statistics Norway.

The Norwegian Maritime Authority (NMA) is an agency of the Ministry of Trade, Industry and Fisheries that holds jurisdiction over ships registered in Norway and foreign ships arriving in Norwegian ports. The Authority's headquarter is in Haugesund with the Department of Ship Registration based in Bergen. NMA categorises its fleet into five groups: passenger vessels, cargo vessels, mobile offshore units, fishing vessels and recreational crafts.

The Register of NMA consists of the Norwegian Ordinary Ship Register (hereinafter referred to as NOR), the Norwegian International Ship Register (hereinafter referred to as NIS) and the Shipbuilding Register (a sub-unit to NOR). NIS was formed as a competitive alternative for Norwegian shipping companies operating in international waters for the registration of passenger, cargo ships and mobile offshore units. Since 2016, when various changes took place to soften up of the trade areas for ships in the NIS, vessels can transport freight between Norwegian ports as part of a European route and NIS registered construction vessels can operate on the Norwegian

continental shelf. More specifically, cargo ships are now permitted to carry cargo between ports in Svalbard and between Svalbard and the mainland. Cargo ships which a significant part of their activities takes place outside of Norwegian waters are permitted to carry cargo between Norwegian ports as a part of a regular route between a Norwegian and a foreign port or as carriage of petroleum in bulk from a unit on the Norwegian continental shelf or occasionally for up to 3 months. All the vessels in NIS can be registered according to the law of 12 June 1987 No. 48 relating to a Norwegian International Ship Register (NIS Act).

For the Norwegian Ordinary Ship Register (NOR), there is mandatory registration for all Norwegian ships of 15 meters and above voluntary registration of Norwegian fishing and commercial vessels less than 15 meters. The regulatory framework for registration to NOR is based upon the Norwegian Maritime Code of 24 June 1994 no. 39. The Senior Advisers of the Registry confirmed that the vessels for aquaculture are registered under the NOR regime.

Table 4 shows the fleet of Norway both in the NOR and NIS registries. For the year ending 2017, in the NOR there were 855 Norwegian owned vessels and 25 foreign-owned merchant fleet vessels, as well as 18.958 Norwegian owned vessels which do not belong to the merchant fleet and 78 foreign-owned which do not belong to the merchant fleet. Specifically for NOR, which is the focus of this study, the distribution of registered vessels is presented in Table 5. The Registry does not possess statistics about the exact number of vessels involved in aquaculture since there are too many codes for types of vessels in the registry and an aquaculture vessel may be registered as a wellboat in the bulk carrier category, general cargo, specialised vessel or other type of vessel.

Table 4: Vessels in NOR and NIS

Merchant Fleet 2017	Registry	Owned	Number of vessels
Ships in the Merchant fleet	NOR	Norwegian owned	855
		Foreign owned	25
	NIS	Norwegian owned	421
		Foreign owned	99
Ships not in the Merchant fleet	NOR	Norwegian owned	18958
		Foreign owned	78
	NIS	Norwegian owned	70
		Foreign owned	3

Source: Statistics Norway

Table 5: Vessels in NOR

Norwegian owned	Number of vessels in the Merchant Fleet
-----------------	-----------------------------------------

Tanker	22
Bulk vessel	106
General cargo/other dry cargo vessel	177
Passenger vessels	421
Offshore vessels	129
Foreign owned	Number of vessels in the Merchant Fleet
Bulk vessel	2
General cargo/other dry cargo vessel	4
Passenger vessels	1
Offshore vessels	18
Norwegian owned	Number of vessels not in the Merchant Fleet
Tanker	34
Bulk vessel	17
General cargo/other dry cargo vessel	479
Passenger vessels	775
Offshore vessels	5
Tug and salvage vessels	228
Fishing and hunting vessels	6115
Specialized vessels and support vessels	2680
Other	8625
Foreign owned	Number of vessels not in the Merchant Fleet
Passenger vessels	1
Offshore vessels	6
Tug and salvage vessels	4
Fishing and hunting vessels	2
Specialized vessels and support vessels	2
Other	63
Offshore vessels	24
Tug and salvage vessels	3
Specialized vessels and support vessels	41
Other	2
Specialized vessels and support vessels	3

Source: Statistics Norway

2.1 Framework for Vessels Involved in Aquaculture of Salmonids

The vessels involved in aquaculture fall under the cargo vessels regulatory regime. Cargo vessels are considered all vessels above 8 metres which are not passenger or fishing vessels or recreational craft or mobile offshore units. There is no specific regulatory framework for defining vessels operating in aquaculture. The regulatory framework for vessels in aquaculture is the same as the framework for cargo vessels.

All Norwegian cargo ships of 15 metres and above are required to register in the NOR. A Norwegian ship of less than 15 metres in overall length may, at the owner's request, be entered in the Ship Register if its overall length is at least 7 meters.

The Norwegian International Ship Register (NIS) has ratified most IMO/ILO Conventions, Protocols and Amendments, such as the Safety of Life at Sea Convention (SOLAS), International Safety Management Code (ISM), the Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STCW) 1978 as amended, the Marine Pollution Prevention Convention (MARPOL), ILO Convention No. 147 Merchant Shipping (Minimum Standards) and Maritime Labour Convention 2006.

The Norwegian Maritime Code of 24 June 1994 No. 39 (Maritime Act) sets the conditions for the nationality of shipping owner, registration of ships, deletion from the registry, ships under construction, ship management, collision and liability of the shipowner and investigation of marine accidents. The law is divided into six parts, which deal with ships, shipping companies, liability, freight agreements, maritime accidents and other regulations. Part I (ship) is related to the ship's nationality, name and registered place of business and registration procedures of ships. In Part II (shipping management) there are requirements regarding the master and provisions on alcohol and duty. Part III (Liability) contains general rules on liability, collision, limitation of liability and insurance as well as liability for damage from oil spill. Part IV (Freight Agreements) provides rules for the carriage of goods by road and chartering of ships whereas Part V (Marine Accidents) refers to salvage agreements. Part VI (Other Provisions) contains regulations on SDRs (special drawing rights) set by the International Monetary Fund) and final provisions. In Part I, Chapter 2, Sections 11-19 are related to the registration procedure stating that:

Section 11

Registration authority. Scope of the register

The Ship Register is a nationwide, national register. It is kept by an official appointed by the King. The Registrar decides whether the Registrar or an employee of the Register is incapacitated. If the Registrar finds reason for so doing, the question shall be submitted to the Ministry for decision. The provisions of the Property Rights Registration Act section 1 third paragraph relating to the delegation of authority and of section 2 relating to disqualification apply correspondingly. Norwegian ships of 15 metres in overall length and upwards shall be entered in the Ship Register or in the Norwegian International Ship Register if the conditions for registration there have been met. However, ships acquired from abroad shall be exempt from the registration requirement if the person who acquired the vessel declares to the Norwegian Maritime Authority that the ship will be scrapped without further trading. The King may issue regulations to the effect that State-owned ships shall be exempt from the registration requirement.

A Norwegian ship of less than 15 metres in overall length may, at the owner's request, be entered in the Ship Register if its overall length is at least 7 meters or if the ship is required to be registered under Act of 26 March 1999 No. 15 relating to the right to participate in fishing and catching (Participant's Act) or if it is to be used exclusively or mainly in trade. When such a ship is entered in the Ship Register, the provisions of this Chapter shall apply.

Registered rights in ships entered in the Ship Register cannot be contested on the grounds that the ship did not fulfil or no longer fulfils the conditions for registration.

Except for cases as mentioned in section 14 fifth paragraph, a ship may not be entered in the Ship Register until it has been delivered by the builder or until it enters service on the builder's own account. For registration or annotation in the Ship Register, a fee shall be paid as determined by the King. The same applies to a mortgage certificate relating to the Ship Register.

Claims arising from registration fees and fees for the provision of extracts of register entries etc. relating to a ship provide grounds for execution.

Amended by Acts of 26 March 1999 No. 15 (in force on 1 January 2000 pursuant to decree of 19 November 1999 No. 1178), 16 February 2007 No. 9 (in force on 1 July 2007 pursuant to decree of 16 February 2007 No. 170, third paragraph third and fourth sentences are repealed again 1 July 2008), 26 March 2010 No. 10, 11 January 2013 No. 3 (in force on 1 June 2013 pursuant to decree of 24 May 2013 No. 533), 13 December 2013 No. 114.

Section 12

Entry in the Ship Register, etc.

Entry in the Ship Register takes place upon notice from the owner of the ship to the Registrar. In the case of ships with a duty to register, such notice must be sent within 30 days of delivery from the shipyard in the case of a newbuilding, and apart from that within 30 days of it being considered Norwegian.

If the ship is owned by a shipping partnership or other company as mentioned in section 1 item 2, notice is given by the managing reder. In the case of other companies, it is given by the manager or by a member of the board who is authorized to sign on behalf of the company.

Amended by Act of 8 December 1995 No. 65 (in force on 1 January 1996).

Section 13

Particulars of ships in the register, notices, etc.

The Ship Register shall contain particulars of a ship's name, identification signal, gross and net tonnage; in case of vessels not subject to a measurement requirement; length, breadth and depth; place and year of construction, home port, ownership, and the nationality of the owner. If the ship is owned by a shipping partnership or other company as mentioned in section 1 item 2, the register shall contain particulars of the managing reder. If the ship is owned by a person, company or enterprise as mentioned in section 1 third paragraph, the register shall contain particulars on who is operating the ship from Norway.

In the event of any change in the particulars referred to in the first paragraph, the owner of the ship shall notify the Registrar unless the contrary follows from regulations issued by the Ministry. The same applies if the ship is lost or scrapped. Notice shall be given as soon as possible and not later than 30 days after the change or event. The Registrar may extend the time limit. The provisions of section 12 second paragraph apply correspondingly. In the event of a sale, notice is given by both the buyer and the seller, but by the seller if, as a result of the sale, the ship can no longer be regarded as Norwegian. Notice of ownership shall be accompanied by a builder's certificate, a bill of sale from the previous owner, a bill of forced sale, or similar documentation. The King can issue more detailed regulations in this regard and concerning the content and form of such notice and any document that must accompany such notice. If a ship is acquired from abroad, it cannot be registered unless the notice is accompanied by a certificate from the appropriate authority in the foreign country to the effect that the ship is not entered in the ship register or the shipbuilding register of that country, or that it will be deleted from such a register upon registration in another country. Such a certificate must also be presented to enable a ship that has not been considered Norwegian because it was registered in a foreign register, cf. sections 1 and 4, to be entered in the Ship Register.

Amended by Acts of 8 December 1995 No. 65 (in force on 1 January 1996), 21 January 2000 No. 8, 16 February 2007 No. 9 (in force on 1 July 2007 pursuant to decree of 16 February 2007 No. 170).

Section 14

Procedure, etc.

The Registrar shall keep a journal containing details of documents presented for registration, and a ship register with a separate leaf for each ship. Registration is carried out by entering an extract from the document in the journal and making a note of the document in the Ship Register.

A document which has been requested registered shall be entered in the journal as soon as possible according to the day and minute when it was received for registration, and shall be deemed to have

been entered at that time. A document received after a time of day fixed by the Ministry shall be entered in the journal at the Ship Register's following opening time.

Should the Registrar on receipt of the document find that it cannot be registered, he shall draw attention to the fact. If the document is not withdrawn, it shall be entered in the journal, and in the event be refused registration, cf. section 16. If it is evident that the document cannot be registered, it can be returned to the person who requested the registration, without any entry in the journal. The person in question shall at the same time be informed of why the document cannot be registered and that it has not been entered in the journal. The person in question shall moreover be informed that the document will be entered in the journal if this is demanded. If such a demand is advanced, the document is entered in the journal the day the demand is received, cf. the second paragraph.

If the conditions for registration are met, the document shall be noted in the Ship Register within two weeks of its entry in the journal. The document is returned to the person who presented it, or to a person designated by him or her.

If delivery of a ship from a foreign builder or seller to a new owner is expected at a time outside office hours of the Registrar's office, the entry of the ship in the Register and the registration of voluntarily established legal rights may be made prior to the ship's delivery, but the Registrar must retain the documents until he or she receives confirmation that the ship has been delivered. If the ship is not delivered within 1 week from the entry in the journal, the registration is null and void. Registered documents shall be stored electronically. The Ministry may by regulation issue further provisions concerning how registered documents shall be stored and managed.

The Ministry may by regulation prescribe requirements regarding the submission of a copy of the document to be registered, the certification of the copy and who may make such certifications.

Amended by Act of 17 June 2016 No. 71 (in force on 1 July 2016 pursuant to decree of 17 June 2016 No. 667).

Section 15

Requirements regarding documents, attestation of signatures, etc.

A person requesting the registration of a document shall send the document to the Registrar. A document presented for registration must be written in Norwegian, Danish, Swedish or English, and must be so legible and clear that no doubt arises as to how it should be noted. The Ministry can issue regulations relating to the form of such documents.

For a bill of sale or mortgage deed which was not issued by a public authority to be noted in the Register, the signature must be attested in accordance with regulations issued by the Ministry. It shall be expressly confirmed that the signature was written or acknowledged in the presence of the person concerned, and shall state whether or not the issuer is over 18 years of age. The same applies to notice of consent as referred to in section 22 first paragraph. More detailed regulations as to proof of the identity, and the age and authority of the signatory can be issued by the Ministry.

Amended by Act of 17 June 2016 No. 71 (in force on 1 July 2016 pursuant to decree of 17 June 2016 No. 667).

Section 16

Refusal of registration

The Registrar shall refuse to register a document if it is clear to him that the document is invalid or that the signatory thereto lacks the necessary right of disposal, or if any other requirement for noting the document in the Ship Register is not complied with. The decision shall be taken on the basis of the document itself and such other documents and evidence as are available. If the Registrar sees fit, he or she may himself or herself institute inquiries.

Instead of refusing to register a document in such cases as mentioned in the first paragraph, the Registrar may fix a time limit for rectification, if he or she has reason to believe that this will be done within a reasonable time. In that event, the document shall be provisionally noted in the Ship Register together with an explanation of the circumstances. If the deficiency is not made good within the time limit, registration of the document shall be refused.

Should registration of a document be refused, a note to that effect is made in the journal. The person who requested the registration shall immediately be notified by registered mail of the refusal and the reason for it, of the right to appeal and the time limit for lodging an appeal, and of the rule that legal proceedings in respect of such a refusal cannot be instituted without prior resort to the right of appeal, cf. section 19. If other persons are directly affected, such notice shall at the same time be given to them.

Notice as mentioned in the third paragraph shall also be given in other cases where a person has requested a step to be taken which has been refused by decision of the Registrar.

The Ministry may issue regulations refusing registration in the ship registers for vessels that are listed by regional public fishery administration organisations as committing unlawful, unreported or unregulated fishing. Such regulations may also be issued refusing registration of ships that are subject to bans under section 51 first paragraph a and b in the Wild Marine Resources Administration Act.

Amended by Act of 6 June 2008 No. 37 (in force on 1 January 2009 pursuant to decree of 12 December 2008 No. 1355).

Section 17

Certificate

The Registrar shall enter a certificate of registration on every document registered.

If the document shows anything relating to ownership, priority or the like which is inconsistent with that which has previously been registered, this shall be noted in the certificate. If the document is a mortgage deed or a letter of indemnity a note shall also be made of any registered encumbrances which may have a bearing on the rights of the mortgagee.

Any person shall be entitled upon request to receive a certificate of the ownership of and encumbrances on a registered ship.

Section 18

Errors in registration

If the Registrar becomes aware that an entry in the Ship Register is incorrect or that an error has otherwise been made, the Registrar shall correct the error. If any person, by reason of the error, has been incorrectly informed, the Registrar shall so far as is possible notify such person of the correction by registered mail.

Whoever is of the opinion that the contents of the Ship Register are incorrect and detrimental to his or her rights may demand registration of his or her request for correction, provided he or she can show the likelihood of the contention or furnish such security as may be determined by the Registrar. If he or she is unable to prove the claim within a time limit fixed by the Registrar, the claim shall be deleted from the Register.

Section 19

Appeals, etc.

Appeals against decisions of the Registrar may be lodged with the Ministry by any person whose appeal is based on a legal interest in the matter. An appeal by any person who has received notice under section 16 third or fourth paragraph must reach the Registrar within three weeks from the day upon which the notice was sent.

Appeals by others must reach the Registrar within three weeks from the day when the appellant learned or ought to have learned of the decision, cf. however the fourth paragraph. In exceptional circumstances, the Registrar may fix a time limit longer than three weeks.

Reinstatement notwithstanding the expiry of the time limit for appealing may be granted in accordance with the rules of section 31 of the Public Administration Act; cf. however the fourth paragraph below. Sections 32, 33 and 36 of the Public Administration Act also apply.

The provisions of sections 10 a and 10 b of the Property Rights Registration Act relating to certain limitations of the right to grant appeals shall apply correspondingly.

Any person who has received notice in accordance with section 16 third or fourth paragraph, may not institute legal proceedings without having first made use of his right of appeal and having had the appeal decided on by the Ministry. Section 27 b second sentence of the Public Administration Act shall however apply correspondingly.

The appropriate public body may set the time limit for raising legal action to three weeks from the time the notice of time limit reaches the concerning part. If the limit is exceeded, the Court may still allow legal action, provided that particular grounds exist for so doing and no circumstances are a hindrance to complying with the complaint, cf. this section's fourth paragraph.

Amended by Act of 17 June 2005 No. 90 (in force on 1 January 2008 pursuant to decree of 26 January 2007 No. 88) as amended by Act of 26 January 2007 No. 3.

Besides, Regulations as of 22 December 2011 No. 1523, last amended by Regulation of 27 December 2016 No. 1884, on qualifications and certificates for seafarers set the

standards for the certificates of seafarers who are employed on Norwegian ships, fishing vessels and mobile offshore units. According to Section 3, masters, chief mates and officers in charge of the deck watch shall hold an appropriate certificate of competency for deck officers in all the cargo ships of 15 metres or more in overall length irrespective of trade area. Engineer officers, shall hold a certificate of competency for engineer officers on ships with propulsion power of 750 kW or more. As per Section 8 all seafarers shall receive safety training and instruction to be able to communicate with other persons on board on safety matters, understand symbols, signs and alarm signals.

Regulations of 18 June 2009 No. 666 on the manning of Norwegian ships, last amended by Regulation of 20 December 2017 No. 2379, apply to Norwegian cargo ships of 50 gross tonnage and above and requires from each company to submit a request for a safe manning document to the Norwegian Maritime Authority. The Norwegian Maritime Authority will assess each vessel's requirements and will specify the minimum safe manning of the vessel.

2.2 Areas, Zones and Limitations Applicable to Vessels

For cargo vessels registered in the NOR, there are no restrictions for areas and trading zones. Only for cargo vessels that are registered in NIS, there are certain trade area restrictions on Norwegian ports/ Norwegian continental shelf since they are permitted to carry cargo between ports on Svalbard and between Svalbard and the mainland. Since 2016 the NMA decided to soften up of the trade areas for ships in the NIS extending the trade area for cargo ships. The changes in the provisions for areas and zones applicable to cargo and passenger ship of NIS can be found in Annex 1.

2.3. Definition of Minimum Safe Manning Certificates and Maximum number of Persons Allowed on Board

The Manning of Norwegian Ships is based on IMO Resolution A.890(21) "Principles of Safe Manning". NMA determines the minimum manning level of the ship upon application from shipowner. The proposed safe manning shall cover all relevant operations, tasks and functions required to safely operate the ship. In the application, the shipowner must evaluate the safe manning based on: the Safety Management System of the vessel, risk analysis, evacuation analysis, organization plan, job instructions for each post in the organization, technical standards of the ship, type and size of vessel, trading area, propulsion machinery output and working hours arrangements.

In the overall safe manning procedure, the NMA supports tripartite cooperation in the application process between the NMA, shipowner and employee representatives. The work load on the vessel varies greatly depending on type of vessel, market segment, route, traffic, etc.

Regulations as of 18 June 2009 No. 666 on the manning of Norwegian ships, last amended by Regulation of 20 December 2017 No. 2379, refer to Norwegian cargo ships of 50 gross tonnages and above and require from each company to submit a request for a safe manning document to the Norwegian Maritime Authority. The

Norwegian Maritime Authority will assess each vessel's requirements and will specify the minimum safe manning of the vessel.

Section 7 specifies that the NMA is responsible for determining the minimum safe manning, including job specifications and qualification requirements. The company, as per Section 8, is responsible to propose a minimum safe manning level which is necessary to maintain the safety of the ship and submit a request for a safe manning document to the NMA. The minimum requirement of the Certificate varies with trading requirements and type of vessel. The minimum requirements for safe manning are determined in Section 9:

(1) On ships of 15 metres in overall length and upwards or on ships which according to a Tonnage Certificate issued before 16 December 1983 is of 25 gross register tonnes or above, any person serving as master or deck officer shall hold a certificate pursuant to section 16 of the Ship Safety and Security Act.

(2) On ships with a propulsion machinery of 750 kW and upwards, any person serving as engineer officer shall hold a certificate pursuant to the Ship Safety and Security Act. In individual cases, the Norwegian Maritime Authority may require a certificate for service as engineer officer on ships of less propulsion power than provided in the first sentence where necessary on grounds of ship type, the vessel's activities, machinery, technical outfitting, trade area, area of operation or other special safety-related factors.

Section 10 is related to the Safe Manning Document and provides that:

(1) Ships to which these Regulations apply shall be provided with a safe manning document containing information about the crew's size, composition, qualification requirements and about operation or trade area, cf. sections 8 and 9.

(2) Safe manning documents issued by the Norwegian Maritime Authority before the entry into force of these Regulations are valid until a new safe manning document is issued and applied in accordance with these Regulations.

(3) The safe manning document shall be posted in the ship in such a manner that all persons on board can easily become acquainted with its contents. This also applies to any other official document referred to in the safe manning document. (4) Before minimum safe manning is determined all the necessary information shall be forwarded to the Norwegian Maritime Authority, cf. section 4. The preference for conventional job categories, alternation or ship mechanics, cf. sections 8, 9 and 11, shall be stated.

Section 11 sets provision for inadequate manning levels stating that:

If the circumstances should arise resulting in the ship not being manned in accordance with the stipulated minimum safe manning, the ship cannot leave the port, unless for short passages where the areas listed in the third paragraph of section 8 are attended to and provided that the working hours arrangements and provisions relating to hours of rest are not impinged upon. In such cases, an entry shall be made in the deck log concerning the deficiency. The Norwegian Maritime Authority shall be notified through a transcript of the entry.

Finally, Section 14 requires from every ship, irrespective of size, to carry a crew list showing the persons who are working on board at any time and this list will be updated when the ship is leaving port. The company shall have a copy of the crew list ashore. The application for Safe Manning requires from the shipowner the submission of one application form along with a relevant check list to NMA's form services. The check list for safe manning application is compatible with Manning Regulations of 18 June 2009 No. 666. Both forms can be found in Annexes 2 and 3. Concluding, it should also be mentioned that the shipowner has thus a duty to make constant assessments of the manning of the vessel.

2.4 Seafarers Certifications (e.g. Experience, Medical and Educational Certificates, General and Specific Training Obligations)

As stated in the introduction safety regulation in the national domestic vessel is the responsibility of the AMSA which administers the legislation enacted by the Australian Parliament that covers this area.

The Ship Safety and Security Act of 16 February 2007 No. 09 relating to Ship Safety and Security applies to Norwegian ships with an overall length of 24 metres or less. Section 16 sets provisions for the Qualification requirements and personal certificates.

Section 16

Qualification requirements and personal certificates

Any person who is working on board must have the qualifications and certificates required for the relevant position or the work to be performed. The certificate shall state that the necessary requirements were fulfilled at the time of issuance, including requirements regarding age, service, health condition, education, languages and training for the position. The Ministry may issue regulations containing further provisions relating to positions for which a certificate of competency is required and qualifications, including provisions concerning: a) the issue and grading of certificates; b) necessary documentation; c) recognition of foreign certificates; d) verification of qualifications; e) the right to withdraw certificates; f) the right to deviate from the requirements of the first paragraph; and g) mustering.

Regulations of 5 June 2014 No. 805 on medical examination of employees on Norwegian cargo ships of above 15 metres, specify that seafarers should be medically fit for service on board and possess a medical certificate, on the form prescribed by the Norwegian Maritime Authority, which should be shall be valid for two years. Medical certificates issued to persons under 18 years of age shall be valid for one year. The regulation sets also the standards for eyesight and hearing requirements and the physical capability requirements. A medical certificate may be limited to a particular trade area, period of time, or service on board. A Medical Certificate should be issued by seafarer's doctor approved by the Administration the purpose of conducting medical examinations. The list of approved doctors can be found at: <https://www.sdir.no/en/shipping/seafarers/approved-seafarers-doctors/>

Regulations of 22 December 2011 No. 1523 on qualifications and certificates for seafarers, last amended by Regulation of 27 December 2016 No. 1884, set the standards for the certificates of seafarers who are employed on Norwegian ships. Masters, chief mates and officers in charge of the deck watch shall hold an appropriate Certificate of Competency (CoC) in all the cargo ships of 15 metres or more in overall length irrespective of trade area. Section 7 sets the basic training standard of seafarers, Section 8 underlines the additional safety training of seafarers who are in the ship' muster list and section 9 sets the Requirements for basic safety training for seafarers indicated in the muster list. Specifically, Sections 7 to 9 state:

Section 7

Safety training of seafarers

Seafarers shall receive training and instruction to be able to:

- a) communicate with other persons on board on safety matters, understand symbols, signs and alarm signals;
- b) know what to do if smoke is detected, or the fire or abandon ship alarm is sounded, or a person falls overboard;
- c) identify muster and embarkation stations and emergency escape routes;
- d) locate and don lifejackets;
- e) raise the alarm and use portable fire extinguishers;
- f) secure the accident scene and give first aid; g) close and open the fire, weathertight and watertight doors fitted in the particular ship other than those for hull openings.

Section 8

Requirements for basic safety training for seafarers indicated in the muster list

(1) Seafarers who are assigned tasks in the ship's muster list shall, in addition to section 7, either hold:

- a) a certificate of competency;
- b) a certificate of proficiency which includes requirements for basic safety training; or
- c) certificates of proficiency documenting basic safety training.

(2) A certificate of proficiency in basic safety training may be issued to persons who have successfully completed basic safety training as specified in section 9. The training shall be documented by a certificate issued by the training centre.

(3) Seafarers other than deck officers and engineer officers who are to serve on board passenger ships of less than 300 gross tonnage and in trade area 1 during the period from 1 May to 30 September may, as an alternative, complete and pass a restricted safety course approved by the Norwegian Maritime Authority.

(4) Persons not required to hold a certificate on fishing vessels must have successfully completed safety training for fishermen

According to Section 9 the basic and advanced safety training, in order to form the basis for the Certificate of Competency shall be approved by the NMA. Competence shall be documented by approved upgrading training at least every five years. For seafarers who have served at least 12 of the last 60 months on ships with safety management systems that meet the requirements for safety competence, approved limited training is considered sufficient. Moreover, Section 11 sets the requirements for the language skills of the seafarers who should communicate in the in the working language of the ship determined by the company. Section 11 states that:

Section 11

Requirements for language skills

(1) Seafarers shall be able to communicate with each other in the working language of the ship determined by the company on basic safety matters and to be able to understand safety information in the form of text, symbols, and alarms.

(2) Seafarers who are in contact with pilots and shore-based authorities shall be able to communicate in English or in the language of the pilot or those authorities.

(3) Seafarers who form part of the minimum safe manning or additional manning on ships engaged in small coasting or greater trade shall, irrespective of the working language of the ship, have sufficient knowledge of English to understand commands, written muster lists and emergency instructions, and written information relating to the use and maintenance of life-saving equipment.

(4) Seafarers designated to guide and assist passengers in an emergency situation on passenger ships in regular service out of Norwegian ports, shall master English and a Scandinavian language. If the majority of the passengers on board do not speak English or a Scandinavian language, the seafarers shall be able to communicate with the passengers in the relevant language in an emergency situation.

The whole provisions of Regulation No. 1523 can be found in Annex 4 which includes a detailed description of the Certificate of Competency requirements of the seafarers.

Maritime personnel must possess either Norwegian certificates of competency or a Norwegian endorsement by NMA on their national certificates. All maritime personal certificates and endorsements issued by the NMA can be verified online in the site of the Administration. Every endorsement is valid only when accompanied by the valid national certificate. When an application of endorsement is made, a Declaration of competence (Annex 5) should be attached with a statement by the Norwegian shipping company of adequate English language skills and necessary knowledge of Norwegian maritime regulation. The attachment shall be uploaded in connection with all applications for endorsement of Deck Officer Certificate, Engineer Officer Certificate, ETO-certificate and Certificate of Officer on fishing vessels.

A complete guide for manning agents regarding the whole endorsement procedure for applications can be found at Annex 6, whereas Annex 7 includes a guide for Norwegian shipping companies.

The Guidelines of NMA for Application for endorsement of Certificate of Competency Deck- Engine- and Electro-Technical Officer for EEA nationals specify that the application form for endorsement should include the following documentation:

- completed application form, if the application is sent by mail or e-mail
- copy of national STCW certificate
- completed course in Norwegian maritime legislation (NIS course). **Master only.**
- completed declaration of competence form
- passport photo

The Guidelines of NMA for Application for exemption for Masters and endorsement of Certificate of Competency Deck-, Engine- and Electro-Technical Officer for non-EEA nationals state that:

Application for exemption from the nationality requirement for Masters. The application shall contain the following information:

- confirmation that you are applying for exemption from the nationality requirement
- master's name and birth date
- name of vessel(s) to which the exemption shall apply
- information regarding whether a CRA shall be issued
- company's organisation number

It should be also stated that NMA has created a digital page for seafarers in which they can log in and check the status of certificate applications, the courses they attended and are relevant to the NMA to issue certificates and certificate expiration date.

Annex 8 has a template that includes a summary of qualifications of ship's personnel that should be maintained at all times by the Master. This template is mandatory and shall be filled in by the master and always kept updated. Documentation of all information in the list must always be at hand in case check of documents is required.

2.5 Employment System and Restrictions for National/Residents and Foreigners

For the NOR, the Norwegian legal system has no restriction on employment of non-Norwegian seafarers with the exemption of the master, who should hold EEA

(European Economic Area) citizenship or hold a specific permit to work in Norway. However, it is possible to apply to the Norwegian Maritime Authority for dispensation from this requirement. Seafarers with non-Norwegian Certificate of Competency (COC) serving as Captain must complete a course in Norwegian maritime legislation ("NIS course"). All the questions and inquiries about the employment system in Norway should be sent to the Service Centre for Foreign Workers (<http://www.sua.no/en/>).

Owners of vessels must be Norwegian or EU companies or individuals. Application for dispensation may be sent to the Ministry of Trade, Industry and Fisheries, Maritime Department. The NIS is open to owners of all nationalities.

2.6 Regulatory Framework for the Protection of the Marine Environment from Vessels Involved in Aquaculture of Salmonids

In Norway, there is a strong regulatory framework for the protection of the marine environment from aquaculture facilities and vessels. Comprehensive efforts carried out by the NMA, governmental agencies and research institutes. The Directorate for Fisheries, the Food Safety Authority, the Coastal Administration, the Norwegian Maritime Authority, the regional authorities and the Directorate for Water and Energy play an important role in monitoring the impact of a farming facility on the environment.

Approval and licencing of establishments of aquaculture farms in Norway has been compulsory since 1985 and their operation must be technically, biologically and environmentally sound.

The Aquaculture Act of 17 June 2005 (LOV-2005-06-17-79) and the Food Safety Act of 19 December 2003 (LOV-2003-12-19-124) are the two most important regulatory instruments for fish farms. The Aquaculture Act is the means to regulate the management of aquaculture in inland and marine water and establishes the licensing system for aquaculture. The Food Safety Act regulates the production, processing and distribution of foodstuffs, including aquaculture production and fish processing.

Decree No. 1798 of 2004 (FOR-2004-12-22-1798), as amended in 2017 (FOR-2017-01-16-63) relative to authorizations for the breeding of salmon, trout and rainbow trout set limits for their production as "maximum allowed biomass" (MAB), which is the defined maximum volume of fish a company can hold at sea at all times. Every license sets a MAB of 780 tonnes, except in the northern counties of Troms and Finnmark, where the maximum MAB is 900 tonnes.

For licences interested parties should submit an extensive application to the Directorate for Fisheries. An assessment of the application will also be performed by the Food Safety Authority, the National Coastal Administration and the Directorate for Water and Energy. According to the Aquaculture Act of 2005 and relevant regulations, monitoring of environmental conditions is required at the sea bottom in the local impact zone, the intermediate impact zone and in the regional impact zone of aquaculture facilities. During the application process and throughout the life of farming facility, the owners are required to continually monitor the impact that their facilities are having on

the ocean floor and comply with the Norwegian Standards NS-9410:2007, "Environmental monitoring of benthic impact from marine fish farms".

There were 527 aquaculture farms in operation in Norway in 2017 according to the report of Norwegian Seafood Council for 2017. Since 2013, the Norwegian government has introduced a new type of licence for aquaculture farms, called "green licences", to farmers who use technological solutions to combat the issue of salmon lice and fish escapees. The Norwegian Food Safety Authority carries out at least one inspection annually and arranges for necessary samples to be analysed. In addition, all fresh water farms in Norway are subject to a minimum of twelve health inspections by veterinarians or aqua medicine biologists per year. Norwegian legislation requires from the Aquaculture plants to have mechanisms in place for effective control of diseases such as salmon lice. The Norwegian Medicines Agency is the relevant body for approving disinfectants to eradicate contagious disease in aquatic animals. Approval shall only be granted for good quality disinfectants and comply with the safety and efficacy requirements for human, animal and environmental reasons. The Norwegian Veterinary Institute (Veterinærinstituttet) testifies to the good health of Norwegian salmon from aquaculture. Employees of farms, slaughterhouses and transportation companies are obliged to possess an in-depth knowledge of the care and maintenance of fish and are obliged to undergo relevant training sessions every five years.

Traditionally, salmonids farmed in Norway have been farmed in through-flow systems in freshwater and in open cages in the sea. According to the Fish Health Report 2016 of the Norwegian Veterinary Institute, there is an increase of large Recirculating Aquaculture Systems (RAS) juvenile production units to minimise water consumption and achieve high rates of water re-use by mechanical, biological chemical filtration.

The increase in production of Atlantic salmon resulted in an increase of disease outbreaks the last three decades. The salmon lice is the most significant threat to the aquaculture industry. The effective use of vaccines and health management strategies have in various cases encountered efficiently the problem. According to the Fish Health Report 2016 of the Norwegian Veterinary Institute, the registered number of chemical-based treatments with pharmaceutical products fell by 41% in 2016, comparing to 2015, while use of mechanical de-licensing methodologies (i.e. mechanical, warm water or fresh water based treatment) increased more than six times (Table 6). Mechanical de-licensing is linked to the widespread resistance to chemical treatments and has resulted in mechanical injuries to the treated fish in many cases. Pancreas disease (PD) remains the most serious virus disease in sea-farmed salmonids. All the diseases of the industry must be reported to the Norwegian Food Safety Authority.

Table 6: Total number of lice treatments 2011-2016.

Treatment	2011	2012	2013	2014	2015	2016
Pharmaceutical	1348	2249	2185	3477	3269	1941
Mechanical		136	110	176	185	1174
Total	1348	2385	2295	3653	3454	3115

Source: Norwegian Veterinary Institute

Regarding the protection of the marine environment from vessels involved in aquaculture, all relevant IMO regulations apply. The International Convention for Prevention of Pollution from Ships (MARPOL) is incorporated into Norwegian legislation with Regulations of 30 May 2012 No. 488 on environmental safety for ships and mobile offshore units (FOR-2012-05-30-488). During MEPC 69, five different resolutions were adopted amending three different chapters of MARPOL and entering into force internationally on 1 September 2017. The details of amendments are found at the site of NMA and can be found in Annex 9.

Besides, the NMA has laid down rules implementing the International Convention for the Control and Management for Ships' Ballast Water and Sediments 2004 (BWM Convention) in Norwegian legislation. The BWM Convention entered into force on 8 September 2017. Regulations of 8 September 2017 No. 1368 on ballast water management on ships and mobile offshore unit (Annex 10) specify that ships shall have on board and implement a ballast water and sediments management plan. According to the participants of the study, there are some grey areas in the ballast water legislation for wellboats since these boats have a low amount of ballast water but an enormous amount of transfer water and consequently there should be more specific provisions for the transfer water of wellboats.

Furthermore, Sections 31 to 40 of the Act of 16 February 2007 No. 09 relating to Ship Safety and Security set the Environmental safety standard for Norwegian and foreign ships with an overall length of above 24 metres. The Act specifies that vessels ship shall be constructed and operated in a way that pollution does not occur. All the harmful substances should be delivered to special reception facilities ashore.

Besides, there is a considerable pressure on the operation of well boats to ensure fish welfare between aquaculture facilities and slaughterhouses for preventing the transmission of the diseases. Regarding disease transmission, the legislation requires transport vehicles and their equipment to be approved by the competent authorities and personnel to be trained to perform adequate wash and disinfection. All wellboats shall be approved every five years. At the time of approval, emphasis is given to the technical standards of the vessel and the internal control system of the company. The internal control system of the shipping company usually is the same for the whole fleet. Continuous proper maintenance of well boats and their working equipment is a prerequisite since they have to be cleaned and disinfected satisfactorily between each transport mission. Some of the equipment onboard a wellboat may require approval, as well. For example, a UV plant needs approval from the Veterinary Institute and the ozone plant from the Norwegian Medicines Agency.

Regulations 17 June 2008 No. 820, and relevant amendments on 29 August 2017 No. 1319 on the transport of aquaculture animals, ensure the good welfare of fish during transport to Norwegian territorial waters and in Norway's economic zone. Transportation of farmed salmon falls under this regulatory framework of transport of aquaculture animals. The transport means used for the transport of live aquaculture animals must be approved by the Norwegian Food Safety Authority. It is not allowed to carry farmed fish in unauthorized vessels. The Requirements for application for approval of transport means is described in Section 5 of the Regulation. Regarding wellboats the approval must include:

- The name of the transport means, ownership form, address, telephone number and mobile number.
- Information on the type of transport assignment.
- Drawings showing the transport unit's construction, water, well and / or piping systems.
- Internal control system that ensures compliance with requirements for contagious hygiene and well-being, including competence, cleaning and disinfection procedures, , water exchange and water quality monitoring.
- Documentation that location reporting equipment complies with the requirements of Regulation 24 March 2010 No. 454 on Equipment Requirements and Location Reporting Equipment Installation
- Information on equipment for automatic registration of the opening and closing time of bottom valves.
- Documentation prepared by a specialist confirming that the technical equipment for the treatment of transport water meets the standards for disinfecting effect set out in this regulation.

Section 9 specifies that for each transport assignment, the following information must be recorded in a journal:

- a) amount of aquaculture animals transported (number, species and size or weight),
- b) disease, damage to aquaculture animals and mortality.
- c) itinerary including aquaculture and slaughterhouses visited,
- d) time and place for any water change and closing and opening of valves,
- e) possibly consumption of oxygen,
- f) water temperature
- g) time, amount of cleaning and disinfectant and method of cleaning and disinfection of the transport unit.

The journal shall be available to the cargo supplier and recipient as well as to the relevant authorities for five years after it has been printed.

From 01.01.2016, wellboats which transport fish to or from aquaculture facilities, are required to have a position reporting equipment on board as per Section 9. Wellboats shall automatically send a message to the Directorate of Fisheries once every half hour which will contain the Unique identification of the vessel, vessel's geographic position, date and time of vessel position and speed. When a wellboat has sent automatic position messages from the same position for more than four hours, such messages can be sent once every twelve hours until the boat again changes position. If there are technical errors in the electronic reporting systems, the position reports must be manually sent and sent by email or fax to the Directorate of Fisheries at least once every four hours. Opening and closing of bottom valves must be registered automatically. Registrations of the position of the bottom valves shall be coupled to the position of the wellboat and may be sent electronically to the Norwegian Food

Safety Authority on request. Registrations of the position of the bottom valves shall be kept available to the supervisory authorities for at least five years.

Owners of vessels which transport aquaculture animals should have a contingency plan, as per Section 11, that will protect infectious hygiene and fish welfare in emergencies and mass death of fish. According to Section 16, the water quality and water volume must be monitored, as well. The content of carbon dioxide and total ammonium nitrogen in the transport water must be kept low. For transports lasting more than 2 hours, systematic measurement of O₂, pH, salinity and temperature shall be performed. Besides, as per Section 20, transport means must be cleaned and disinfected when transport has been carried out from a farm to a slaughterhouse, or after the completion of transport to a farming area which is subject to restriction as a result of listed infectious disease.

The Norwegian Food Safety Authority may at any time conduct unannounced or pre-agreed inspections on board on wellboats.

The discussions with the participants confirmed that the thorniest problem of the industry is the financial loss to aquaculture due to salmon lice. Besides, the escaping of farm salmon that interbreed with wild salmon is another a serious problem. The discussion with the owner of the world's largest well boat company for transport of live salmon and trout gave us more insight of the environmental practices that some of the well boats companies in Norway use. The company uses "closed system" technology, an environmentally friendly concept which limits the danger of infection. During the transportation of live fish, a closed valves system is utilised and no water is loaded or discharged to the sea during transportation and unloading of the fish. For minimalization of the risk of any transported fish being contaminated by diseases, the newly built vessels of the company have installed lice filters which collect lice and other organic materials from the water. Besides, the transportation method includes a Refrigerated Sea Water Cooling Systems, which reduces the temperature of the fish 1.5 degrees per hour, contributing to a less stressed fish during transportation. Wellboats in Norway are usually equipped with lice filters and UV disinfection system.

3. Conclusion

S. 2.1 Framework for Vessels	The vessels involved in aquaculture fall under the cargo vessels regulatory regime. Cargo vessels are considered all vessels above 8 metres which are not passenger or fishing vessels or recreational craft or mobile offshore units. There is no specific regulatory framework for defining vessels operating in aquaculture.
S. 2.2 Areas, Zones and Limitations	For cargo vessels registered in the NOR, there are no restrictions for areas and trading zones. Trading limitations apply to ships in the NIS.
S. 2.3 Minimum Safe Manning Certificates	The Manning of Norwegian Ships is based on IMO Resolution A.890(21) "Principles of Safe Manning". Regulations as of 18 June 2009 No. 666 on the manning of Norwegian ships refer to Norwegian cargo ships of 50 gross tonnages and above and require from each company to submit a request for a safe manning document to the Norwegian Maritime Authority. The Norwegian Maritime Authority will assess each vessel's requirements and will specify the minimum safe manning of the vessel.
S. 2.4 Seafarers Certifications	<p>Regulations of 22 December 2011 No. 1523 on qualifications and certificates for seafarers, last amended by Regulation of 27 December 2016 No. 1884, set the standards for the certificates of seafarers who are employed on Norwegian ships.</p> <p>Regulations of 5 June 2014 No. 805 on medical examination of employees on Norwegian cargo ships of above 15 metres, specify that seafarers should be medically fit for service on board and possess a medical certificate, which should be shall be valid for two years.</p>
S. 2.5 Employment System	For the NOR, the Norwegian legal system has no restriction on employment of non-Norwegian seafarers with the exemption of the master, who should hold EEA (European Economic Area) citizenship or hold a specific permit to work in Norway. Owners of vessels must be Norwegian or EU companies or individuals
S. 2.6 Framework for the Protection of the Marine Environment	For vessels involved in aquaculture, all relevant IMO regulations apply (e.g. MARPOL). Regulations 17 June 2008 No. 820, and relevant amendments on 29 August 2017 No. 1319 on the transport of aquaculture animals, ensure the good welfare of fish during transport to Norwegian territorial waters and in Norway's economic zone.

Table 7: Summary of Findings

References

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Annexes (Attached separately)

ANNEX 1: Trade Areas NIS Ships

ANNEX 2: Check list for safe manning applications

ANNEX 3: Application for Safe Manning Form

ANNEX 4: Regulations of 22 December 2011 No. 1523 on qualifications and certificates for seafarers

ANNEX 5: Declaration of Competence

ANNEX 6: Guidelines for endorsement for manning agents

ANNEX 7: Guidelines for online applications for endorsement– for Norwegian shipping companies

ANNEX 8: Summary of qualifications etc. of ship's personnel

Additional Information

Vessels of the organisations we conducted interviews.
(source: web page of the relevant organisations)



Main dimensions:

Length o.	75,80 m
Breadth	16,00 m
Depth	6,80 m
Speed last/ballast	13/14 Knot
Built year	2013
Crew	6 members
Market	Norway

Capacities:

Cargo hold	3 holds 3200 m ³ total
Fuel oil	250 m ³
Fresh water	140 m ³
Ballast water	1176 m ³
Bow and Stern thrusters	Rolls Royce Marine 2 x 630 Kw.
Rsw system	2 x 1960 kw.
Circ. pump	30.000 m ³ /h.
Vacuum pump	2 x 6.000 L.
Selection table	3 sizes with fish counter

Propulsion:

Diesel electric propulsion, Rolls Royce Marine
2 x main diesel generators, output approx 1.920 kw each
1 x aux engine, output approx 1.550 kw.
CP-propeller, dim. 3.300 mm
All engines equipped with SCR-control

Cargo systems:

Equipped with sliding bulkhead and under pressure loading system
Skimmer water treatment system with cap. 3 x 1.000 m³.
Ozon disinfection system

O2 production plant
Tank washing system
Filter for de-icing-system cap. 3.300 m³/h
Ballast treatment plant
Equiped for filering all water in cargo tanks.



Main dimensions:

Length o. 68,00 m
Breadth 14,00 m
Depth 6,30 m
Speed last/ballast 10,50/12 Knot
Built year 2009
Crew 12 members
Market Norway

Capacities:

Cargo hold 2 x 575 + 800m³
Fuel oil 120 m³
Fresh water 97 m³
Ballast water 450 m³
Bow and Stern thrusters 2 x Brunnvoll, 300 Kw. + 500 Kw.
Rsw system 2 x 600.000 Kcal.
Circ. pump 18.000 m³/h.
Vacuum pump 2 x 5.000 L.
Selection table 3 sizes with fish counter

Main engine:

1 x CAT 3516 TAHD / B 1920
BkW
Gear / Propel : Finnøy G XU600
FK
P85 in nozzle.

Cargo systems:

Equipped with sliding bulkhead and under pressure loading system
Skimmer water treatment system with cap. 1.000 m³/h.

Ozon disinfection system
O2 production plant



Main dimensions:

Length o. 57,07 m
Breadth 12,00 m
Depth 5,10 m
Speed last/ballast 10,50/11 Knot
Built year 2007
Crew 6 members
Market Norway

Capacities:

Cargo hold	2 x 575m ³
Fuel oil	150 m ³
Fresh water	48 m ³
Ballast water	165 m ³
Bow and Stern thrusters	2 x Brunnvoll, Type FU LTC 1.000, 300 Kw.
Rsw system	1.040 Kw
Circ. pump	12.000 m ³ /h.
Vacuum pump	2 x 5.000 L.
Selection table	3 sizes with fish counter

Main engine:

Diesel electric propulsion system
El prop. motors: 2 x 680 Kw
Prop. gear type: Finnøy G50
Propeller: Finnøy P70.22.250.4D in nozzle

Cargo systems:

Equipped with sliding bulkhead and under pressure loading system
Skimmer water treatment system with cap. 1.000 m³/h.

Ozon disinfection system
O2 production plant



Brønncapasitet: 3.500 m³
2 brønner, skyveskott
Automatisk tankrensingsystem og BlueMist (R) vask/desinfeksjon
100% Lusfiltrering og UV
Byggeår: 2016 ved Larsnes Mek Verksted AS
Kjenningssignal LDRC. IMO 9773260



Brønncapasitet: 1050 m³
Nasjonalitet: Norsk
Mannskap: Norsk
Lengde: 54,175 meter
LOA. 56,750 meter
Bredde: 10,000 meter
Dybde: 4,865 meter
Bruttotonnasje: 805
Byggeår: 2001/2010 (ombygg.) ved Aas Mek. Verksted AS
Kjenningssignal LLHI. IMO 9220665



Brønncapasitet: 4500 m³
2 brønner, skyveskott
Automatisk tankrensningssystem
Filtrering og UV
700 tonn levende laks/ørret
Byggeår: 2013 ved Aas AS
Kjenningsignal LCTO. IMO 9632571

Aquaculture facility in Øygarden.



B2. The Kingdom of Norway : Work Package 2

Acronyms

DOC	Document of Compliance
SMC	Safety Management Certificate
NIS	Norwegian International Ship
NOR	Norwegian flag Register
NMA	Norwegian Maritime Authority
RO	Recognised Organisation
SMC	Safety Management Certificate

1. Introduction

This work package report provides the steps of the registration process of the fleet including documentation submitted by the owner, and certificate issued by the maritime administration. In addition, the inspection regime prior and after registration will be examined along with the Role of Recognized Organizations (hereinafter referred to as Ros). The Certificates Issued by Flag and must be carried on board will also be discussed.

The study for the Kingdom of Norway is based on both primary sources and secondary sources of law, as well as explanations and rational interpretations provided by respondents interviewed in January 2018. The author had interviews with two Senior Advisers from the Department of Ships Registration of the Norwegian Maritime Authority (hereinafter referred to as NMA). The author had also interviews with one owner of a large wellboat company, one interview with the HSEQ Manager of another wellboat company and one interview with the Managing Director of an aquaculture salmon farming facility. Information and guidance received from telephone and email communication with Statistics Norway, Directorate of Fisheries, Norwegian Food Safety Authority have been incorporated in this Work Package, as well.

2. Identification of Vessels Eligible and/or Used in Aquaculture of Salmonids and Supporting Activities

All the vessels involved in the aquaculture of salmonids are treated as cargo vessels. Cargo vessels are considered all vessels above 8 metres which are not passenger or fishing vessels or recreational craft or mobile offshore units. There is not another special definition for cargo or aquaculture vessels.

The Registry may register an aquaculture vessel under the following categories: wellboats under the bulk carrier category, general cargo, specialised vessel or other types. Fishing vessels are not involved in aquaculture of salmonids.

Wellboats are the main vessels involved in the aquaculture of the Norwegian industry. These vessels are equipped with a well or tank and serve for the storage and transport of live fish and the application of pharmacological treatment against sea-lice and fresh water treatment against AGD.

The wellboat owners are organized into the Wellboat Owners Association (Brønnbåteiernes Forening) The wellboat fleet in Norway is usually registered in the Wellboat Owners Association which consists of 65 vessels that transport every year approximately 320 million smolts and more than 1.3 million tonnes harvested fish. There are no other statistics available for the number of vessels involved in aquaculture.

3. Evaluation of the Registration Process of the Fleet involved in Aquaculture of Salmonids

Norwegian vessels with a length of 15 meters or above must be registered in the Norwegian Ordinary Ship Register (hereinafter referred to as NOR) or the Norwegian International Ship Register (hereinafter referred to as NIS). The registration of passenger, cargo ships and mobile offshore units in NIS is open to owners of all nationalities and to Norwegian shipping companies operating in international waters. Some trade area restriction apply under the NIS regime. For registration to NOR, owners must be Norwegian or EU companies or individuals. Vessels registered under the NOR regime are not subject to trade area restrictions. The Senior Advisers of the Norwegian Registry confirmed that the vessels for aquaculture are registered under the NOR regime.

The regulatory framework for registration to NOR is based upon the Regulations of 30 July 1992 No. 593 on the registration of ships in the Norwegian Ordinary Ship Register (NOR) and the amendments made 18 December 2017 No. 2197 (FOR-2017-12-18-2197). Besides, the Norwegian Maritime Code of 24 June 1994 No. 39 (Maritime Act) sets the conditions for the nationality of shipping owner, registration of ships, deletion from the registry, ships under construction, ship management, collision and liability of the shipowner and investigation of marine accidents.

Vessels involved in the aquaculture do not require a licence in addition to registration. For the registration the conditions specified in the Norwegian Maritime Code S. 11. Vessels under construction in Norway and contracts for construction in Norway may be registered in the Shipbuilding Register.

3.1 Steps of the Registration Process of the Fishing Vessels / Limitations and Obligations

The whole registration process, which is based on the Regulations of 30 July 1992 No. 593, Annex 1, is clearly defined and well explained in the site of NMA. The steps involved in the registration process are taken by the site of NMA and were confirmed and discussed with the Advisors of the Registry.

3.1.1 Documentation requirements and steps for cargo vessels above 15 metres are outlined below:

a. Application for Certificate of Name

Each vessel name should be approved for registration purposes, according to the regulations of 27 June 2002 No. 754, Annex 2, on ship's name, call sign, marking and home port etc, as amended by Regulation of 28 December 2011 No. 1504 (FOR-2011-12-28-1504).

For registration, the vessel shall have a Latin name as determined by the owner, be assigned a call sign (distinctive numbers or letters) and if it is above 100 gross tonnage she shall be assigned an IMO identification number. The Form "Application for Certificate of Name", which can be found in Annex 3, should be sent to: post@nis-nor.no.

b. Notification for Registration

The Form "Notification for registration", Annex 4, must be completed and signed with binding signature by the owner and sent to post@nis-nor.no. If the owner is a company: according to the certificate of company registration. The Form includes general information about the vessel, owner's nationality, business address, Norwegian representative and managing company.

c. Tonnage Certificate

A Tonnage Certificate must be issued or approved by the NMA before registration.

d. Request for Survey

A valid Trading Certificate or Safety Certificates must be on board before the vessel sails. Such a certificate will be issued after a survey of the vessel has been carried out. The company should send a request for survey at the email address: post@sdir.no.

If the cargo vessel has a gross tonnage of 500 and above, and the company wants to designate the survey to a Recognized organization, then a "Declaration of Safety" (Annex 5) shall instead be sent to NOR by the RO. The RO will confirm that the ship to be registered in NOR can be issued with the required statutory certificates, as applicable, and that the ship's manning complies with the relevant manning certificate.

e. Ownership

An unbroken chain of ownership must be documented back to the last registered owner in the previous register or all the way back to the shipbuilder. If the ship is changing flag, then the last registered owner must correspond with the seller on Bill of Sale. If the vessel is a newbuilding not yet registered, then the Builder's Certificate has to be issued. All title documents are to be signed with a binding signature. If the seller is a Norwegian registered company the ownership will be proved according to the certificate of Company Registration. All title documents, i.e. Builder's Certificate and Bill of Sale must be submitted in original.

Registration may take place on the basis of electronic copies. The originals are then to be forwarded to the Ship Registers within three weeks from entry into the journal.

If documentation of ownership is not possible the vessel may still be registered. Ownership must then be acquired through the Norwegian Maritime Code of 24 June 1994 No. 39 Section 35.

f. Protocol of Delivery and Acceptance

If the vessel is a newbuilding and confirmation of delivery is not stated in Builder's Certificate, then an electronic copy signed by both the builder and the owner must be sent to the register prior to registration.

g. Owner's Nationality

The Norwegian Maritime Code in Section 1 describes the requirements for owner's nationality. To ensure fulfilment, a declaration must be submitted. For private individuals, it is sufficient to complete the form "Notification for Registration". All other entities must declare their nationality in a separate form, "Declaration of Nationality", sign it with a binding signature and sent it to post@nis-nor.no.

Section 1

Conditions for Nationality

A ship shall be regarded as a Norwegian ship when it has not been entered in the ship register of another State and is owned by:

- 1) a Norwegian national;
- 2) a shipping partnership or other Norwegian company, the members of which have unlimited liability for the obligations of the company, provided that Norwegian nationals are part owners of at least six tenths thereof;
- 3) a limited partnership, provided that Norwegian nationals hold at least six tenths of the capital invested by the general partners and at least six tenths of the capital invested by the limited partners;
- 4) a limited company not covered by item 3, provided the company's head office and the office of the board of Directors are in Norway and the majority of the directors, including the board chairman, are Norwegian nationals who are resident in Norway and have lived here for the past two years, and Norwegian nationals own shares or holdings corresponding to at least six tenths of the share capital and are entitled to exercise at least six tenths of the voting rights in the company. Regarded as equivalent for the purposes of this section to property owned by a Norwegian national shall be that owned by the Norwegian State, by an institution or a fund administered by the Norwegian State, by a Norwegian municipality, by a company that satisfies the conditions in the first paragraph, or by a Norwegian bank, foundation or association provided that the office of its board is in Norway and the majority of the board are Norwegian nationals resident in Norway. Equal for the purposes of this section in regards to property owned by a Norwegian national is that owned by a person, company or enterprise as included in the regulations in the EEA Agreement. If the ship is owned by a company, enterprise or similar, the activity must have been founded in accordance with the legislation in one of the states connected with the EEA Agreement and have its statutory head office, head administration or head enterprise in one of these countries. Equal to the requirement of Norwegian citizenship and address for the members of the board in the first paragraph item 4 is citizenship and address in a state connected to the EEA Agreement. It is a requirement that the ship is part of the owner's economic activities established in Norway and that the ship is operated from Norway. A ship used for recreational purposes and not part of economic activities may be owned by a person who is residing in Norway and is a citizen of a state connected to the EEA Agreement. If a ship is owned by a foreign national permanently resident in Norway and who is not from any state connected to the EEA Agreement, the Ministry may in exceptional circumstances recognize the ship as a Norwegian ship. Similarly the Ministry may in exceptional circumstances grant exemption from the requirements in the first paragraph items 2 to 4, cf. second paragraph, to the effect that Norwegian nationals must hold at least six tenths of the capital and be entitled to exercise at least six tenths of the voting rights. If the owner does not have his permanent address in Norway, he must appoint a representative, residing in Norway and with citizenship from a state connected to the EEA Agreement, who has the authority to accept law suits on behalf of the owner.

h. Certificate from the previous ship register/country

Dual registration is not permitted and consequently a certificate from the previous assets register in the country in which the ship has been built and/or transferred from must always be produced. If the vessel has not been registered before, this fact must be stated by the relevant register.

If the vessel has been registered in an assets register, the Deletion Certificate must contain the following information:

1. time of deletion
2. owner at the time of deletion
3. that the vessel was deleted free from registered encumbrances

If the vessel has not been registered in an assets register prior to registration in the NOR, a statement of this fact (often called "certificate of non-registry") must be produced by the relevant assets register. If the vessel has been owned, but not registered, in more than one

country prior to registration in the NOR, the assets registers in all relevant countries must issue a statement confirming "non-registry". For confirmation of the certificates issued by overseas ship registers, the certificates must be legalized by local authorities by the amendment of an Apostille or by a Norwegian consular station. Certificates issued by ship registers in the Nordic countries (Sweden, Finland, Denmark) are exempt from this requirement.

i. ISM and CSR

All cargo ships of 500 gross tonnage and upwards; as per Regulations of 5 September 2014 No. 1191 (FOR-2014-09-05 -1191) on a safety management system for Norwegian ships and mobile offshore units, last amended by Regulation of 27 December 2016 No. 1884 (FOR-2016-12-27-1884) should comply with the ISM Code and issued with a Safety Management Certificate (SMC) which shall be kept on board. The interested party should fill and send to Department of Ship Registration the form "Notification of assignment of responsibilities imposed by the ISM-Code" (Annex 6) in which will be confirmed that the manager is responsible for all duties imposed by the ISM Code, including the implementation and maintenance of the ISM Code, on board the above-mentioned vessel.

Besides, all passenger and cargo ships of 500 gross tonnage and upwards engaged in international trade must have a Continuous Synopsis Record (CSR) file on board based on the "Format and Guidelines for the Maintenance of the Continuous Synopsis Record (CSR)" developed by IMO. Whenever a change occurs to one of the items the flag registry should be notified via the Form "Amendments to the Continuous Synopsis Record (CSR)" of Annex 7. For new buildings the CSR history starts with application for CSR based on the Form "Application for Continuous Synopsis Record -CSR" in Annex 8.

Every CSR document is to be accompanied by a Form "Index of Amendments to CSR document number for the Ship with IMO Number".

j. Registration fees

For registration purposes each owner or company should pay NOK 3 390 and NOK 2 384 for each mortgage to be registered against the vessel. In addition, there will be charged initial- and annual fees according to:

- Regulations of 2 February 1996 No. 115 on collection of fees to the Treasury for surveys, issue of certificates, etc. carried out pursuant to the Ship Safety and Security Act (Fees Regulations), as amended by Decree 18 December 2017 (FOR-2017-12-18-2195). Regulations of 2 February 1996 No. 115 can be found in Annex 9.
- Regulations of 21 December 2009 No. 1738 on fees payable for services provided by the Norwegian Maritime Authority (Tariff of Fees), as amended by the Decree of 18 December 2017 No. 2229 (FOR-2017-12-18-2229). Decree No 2229, which includes the updates fees services performed by the NMA can be found in Annex 10.

k. Certificate of nationality/provisional certificate of nationality

If the ship is situated abroad at the time of delivery, the Department of Ship Registration will instruct the nearest Norwegian consular station to issue a provisional certificate of nationality as soon as the ship has entered the journal of the NOR. Accordingly, an original will be on board the ship upon departure. In the whole registration process, the relevant documents must be issued in one of the Scandinavian languages, English or be translated by a licensed translator.

3.1.2 Documentation requirements and steps for cargo vessels below 15 metres

The Documentation requirements for Cargo vessels below 15 metres are outlined below. All the information is taken from the site of NMA, as advised by the Senior Advisers of the Registry. The registration of vessels above 7 and below 15metres is voluntary and is similar to the one for vessels above 15 meters. The steps and documentation requirements for the registration process are taken from the site of NMA and were discussed one by one with the Advisors of the Registry.

a. Notification for registration

The owner or the company should fill the form "New registration of VESSEL less than 15 meters in The Norwegian Ship Register- NOR ", Annex 11, and forward it to post@nis-nor.no. If the owner is a company the registration should be made according to the Certificate of Company Registration.

b. Confirmation of marking of the call sign

The call sign shall be permanently marked on board a fixed structural member by cutting, welding or center punch marking.

c. Picture showing the call sign

A confirmation should be sent to the Registry as to where and how the call sign has been marked accompanied by a picture.

d. Vessel measurements

Length, breadth and draught or depth must be documented prior to registration, by submission of:

- Builder's Certificate from the manufacturer
- general arrangement drawings
- approved CE documentation
- other declaration from the manufacturer or similar documentation considered unobjectionable by the Registrar.

e. Ownership

An unbroken chain of ownership must be documented back to the last registered owner in the previous register or all the way back to the shipbuilder. If the ship is changing flag, then the last registered owner must correspond with the seller on Bill of Sale. If the vessel is a newbuilding not yet registered: Builder's Certificate has to be issued.

Upon registration of a Bill of Sale or another title document, the Register requires the full name and Personal ID Number (11 digits) of the person responsible for the business. In addition, the organization number to the sole proprietorship should be stated.

f. Protocol of Delivery and Acceptance (PDA)

If the vessel is a newbuilding and confirmation of delivery is not stated in the Builder's Certificate, then an electronic copy of the signed PDA (signed both the builder and the owner) must be forwarded to the Department of Ship Registration prior to registration. If

documentation of ownership is not possible the vessel may still be registered. Ownership must then be acquired through the Norwegian Maritime Code of 24 June 1994 No. 39 Section 36 or Section 35.

g. Registering vessels without documentation of ownership

If documentation of ownership is not possible the vessel may still be registered. Ownership must then be acquired through the Norwegian Maritime Code of 24 June 1994 No. 39 Sections 35 or 36.

Section 35

Acquisition of Registered Title by Consolidated Proceedings against possible Holders of Rights.

1. If the owner of a Norwegian ship lacks a registered title and it is impossible or unreasonably difficult for him or her to obtain registered title in any other manner, he or she can acquire registered title by a judgment confirming his or her title to the ship, obtained in consolidated proceedings against possible holders of rights and by registration of such judgment.
2. If the Court finds that the conditions have been met, it shall order that an extract of the writ be published in Norsk lysningsblad (the official gazette), with an announcement calling on any person claiming to have a better right to the ship than the plaintiff to appear in Court within a period, which shall be set at not less than 3 months, and prove his right.
3. If no defendant appears within the time limit, the Court shall give judgment without a hearing confirming that the plaintiff is the owner. Such judgment shall immediately become final and binding on each and every person and shall not be subject to the right of appeal.

Section. 36

Acquisition of Registered Title by Advertisement

1. Whenever a Norwegian ship with a greatest length of less than 15 meters belongs to someone who has no registered title, the person exercising an owner's rights of disposal and declaring in writing that he or she is the owner, can obtain registered title provided that he or she can show prima facie that he or she, together with those from whom he or she has acquired title, have been owners for at least ten years. As of 1 July 2016: or back to the boat was new / manufacturer.
2. If the Registrar finds that these conditions have been met, he or she shall publish an invitation to possible owners to appear within a time limit which shall be set to at least one month.
3. If no person appears, the Registrar shall enter the ship in the Register of Ships with the owner as registered titleholder or, if the ship is already registered, note that the title of the owner is in order.

h. Owner's nationality

The Norwegian Maritime Code Section 1 states the requirements about the owner's nationality. To ensure fulfilment, a declaration must be submitted. Private individuals should complete the form "Notification for registration". All other entities must declare their nationality in a separate form, "Declaration of Nationality" and sent to post@nis-nor.no.

There are also additional documentation requirements for owners who satisfy the requirements set out in the Maritime Code Section 1, third paragraph (EEA) but they are not resident in Norway.

- For companies: Management agreement confirming that the vessel is part of the owner's economic activities established in Norway and that the vessel is operated from Norway. BIMCO's standard agreement may be used.
- For companies and private individuals: Appoint a Norwegian Representative/ Process Agent on form "Appointment of Process Agent-Norwegian Representation" Annex 12.

Besides, the representative's agent must declare fulfilment of the nationality requirements in the Norwegian Maritime Code S. 1 by completing a "Declaration of Nationality".

In the event that the owner does not satisfy the requirements set out in the Maritime Code, an application for dispensation may be directed to the Ministry of Trade, Industry and Fisheries, Maritime Department.

i. Certificate from the previous ship register/ country

A certificate from the previous assets register in the country in which the ship has been built and/or transferred from must always be produced. If the vessel has not been registered before this fact must be stated by the relevant register.

If the vessel has been registered in an assets register, The Deletion Certificate must contain the following information:

1. time of deletion
2. owner at the time of deletion
3. that the vessel was deleted free from registered encumbrances

If the vessel has not been registered in an assets register prior to registration in the NOR, a statement to this fact must be produced by the relevant assets register.

If the vessel has been owned, but not registered, in more than one country prior to registration in the NOR, the assets registers in all relevant countries must issue a statement confirming "non-registry".

All the certificates, which are issued abroad the Nordic Countries, must be legalized by local authorities by the amendment of an Apostille or by a Norwegian consular station.

j. Registration fees

Fees for registration as of 1st January 2018 are 3 390 NOK, NOK 2 384 are for those vessels that need to be measured prior to registration and NOK 2 384 are required for each mortgage to be registered against the vessel. In addition, there will be charged initial- and annual fees as specified in Section 3.1.1, part 1, about registering vessels above 15m.

3.2 Documentation and Certificates Needed Prior Registration

All documents and certificates needed prior registration have been specified in Section 3.1. For vessels above 15 this the main forms and certificates that needed during the registration process are: "Application for Certificate of Name", "Notification for registration", Tonnage Certificate, Trading Certificate or Safety Certificates, Bill of Sale or Builder's Certificate, Deletion Certificate, "Notification of assignment of responsibilities imposed by the ISM-Code", Continuous Synopsis Record (CSR), Certificate of Nationality.

For vessels below 15metres are required: marking of the call sign, picture showing the call sign, Builder's Certificate, general arrangement drawings, approved CE documentation, other declaration from the manufacturer or similar documentation considered unobjectionable by the Registrar, documentation certifying an unbroken

chain of ownership (Bill of Sale., Builder's Certificate), Protocol of Delivery and Acceptance of new buildings, "Notification for registration" or "Declaration of Nationality".

3.3 Certificates Issued by Flag and that must be Carried on Board

Vessels involved in aquaculture are treated as cargo vessels and depending on their size and trading area, the certificates carried on board must comply with IMO's regulations, as confirmed with the Advisors of the Registry. IMO's "revised list of certificates and documents required to be carried on board ships, as of 19 July 2017" is located in Annex 13. According to IMO's list, these are some of the certificates that apply to cargo vessels: International Tonnage Certificate, International Ship Security Certificate, Cargo Ship Safety Construction Certificate (500 gt and above), Cargo Ship Safety Equipment Certificate (500 gt and above) and Cargo Ship Safety Radio Certificate (300gt and above). A certificate called Cargo Ship Safety Certificate may be issued after survey to a cargo ship which complies with the relevant requirements of chapters II-1, II-2, III, IV and V and other relevant requirements of SOLAS 1974 as modified by the 1988 SOLAS Protocol, as an alternative to the Cargo Ship Safety Construction Certificate, Cargo Ship Safety Equipment Certificate and Cargo Ship Safety Radio Certificate. Besides the list includes the: Safety Management Certificate, Document of Compliance with ISM, Continuous Synopsis Record (CSR), Ship Security Plan and associated records, International Oil Pollution Prevention Certificate (other ship of 400 gross tonnage and above), Shipboard Oil Pollution Emergency Plan (400 gross tonnage and above), Garbage Management Plan (100 gross tonnage and above) and International Ballast Water Management Certificate (400 gross tonnage and above).

The interviews with the participants from the Registry emphasised on the following requirements. All cargo vessels of 50 GT and more should carry a Safe Manning Certificate, in accordance with Regulation concerning the Manning of Norwegian Ships, which in turn is based on IMO Resolution A.890(21) "Principles of Safe Manning". The Certificate includes information about the crew's size, composition, qualification requirements and trade area. Regulation of 18 June 2009 No. 666 on the manning of Norwegian ships applies to Norwegian cargo ships of 50 gross tonnage and requires from each company/owner to make constant assessments of the manning of the vessel and submit a request for a Safe Manning Document to the Norwegian Maritime Authority. The Norwegian Maritime Authority will assess each vessel's requirements and will specify the minimum safe manning of the vessel. ROs' shall check the manning on delegated ships based on the instructions of the NMA Instructions to Class which is attached in Annex 14.

Vessels and mobile facilities shall be operated by a shipping company which has a Document of Compliance (DOC). A copy of the certificate of approval must be kept on board. Vessels and mobile facilities shall have a safety management certificate (SMC), which shall be kept on board. The shipping company must request certification prior to the first issue of DOC or SMC.

Section 3 of the Regulations of 5 September 2014 No. 1191 on a safety management system for Norwegian ships and mobile offshore units require from cargo ships of 500 gross tonnage and above to be operated by a company which has been issued with a

Document of Compliance (DOC). A copy of the Document of Compliance shall be kept on board. Vessels shall be issued with a Safety Management Certificate (SMC) which shall be kept on board for a period which should not exceed five years by the administration or an organisation recognised by the administration. The company shall request certification before initial issue of a DOC or a SMC.

Regulations of 22 December 2014 No. 1893 on supervision and certificates for Norwegian ships and mobile offshore units apply to cargo ships of 15 metres in overall length and upward, ships not used for commercial purposes and of 24 metres in overall length and upwards and barges of 15 metres in overall length and upwards. According to Section 24 of the Regulations of 22 December 2014 No. 1893, a Trading Certificate will be issued by the NMA after a document control and survey of the vessel have been carried out. The ships which shall have a Cargo Ship Trading Certificate with defined trade area are: a) cargo ships of 15 metres in overall length and upwards engaged on domestic voyages; b) cargo ships of 15 metres in overall length and upwards, and of less than 500 gross tonnage, engaged on foreign voyages. Besides, cargo ships of 8 metres in overall length and upwards engaged on domestic voyages in trade area 1 or greater, and cargo ships of less than 300 gross tonnage engaged on foreign voyages should possess a Safety Radio Certificate.

Ships of 400 gross tonnage and upwards engaged on foreign voyages which are constructed to carry ballast water, shall have a Ballast Water Management Certificate with a validity of up to five years. Furthermore, cargo ships of 500 gross tonnage and upwards engaged in international trade must have a Continuous Synopsis Record (CSR) file on board. The Continuous Synopsis Record provides an onboard record of the history of the ship with respect to the information recorded therein.

3.4 Inspection Regime (prior and after registration)

The NMAs inspection regime on Norwegian flagged vessels requires that various inspections should be carried before the registration of the vessel in the NOR and the issuance of the relevant certificates. For smaller vessels, the survey is conducted by NMA. The company should send a request for survey to NMA at the email address: post@sdir.no. If the cargo vessel has a gross tonnage of 500 and above, and the company wants to designate the survey to a Recognized organization, then a "Declaration of Safety" shall instead, be sent to NOR by the RO.

Before the registration of the vessel, depending on ship's size and trading area, NMA requires from shipowners to apply for the following certificates:

- Safe Manning (All passenger vessels. Cargo vessels of 50 GT and more).
- CLB Bunker Oil (All vessels of 100 GT and more)
- CLC Oil Pollution Damage (all ships carrying more than 2 000 tons of persistent oil as cargo in bulk)
- DMLC Part I (seafarers' working and living conditions)
- PRL (Certificate on the Liability of Carriers of Passengers by Sea in the Event of Accidents)

- Wreck removal certificates(all ships of 300 GT and more). Norway has an agreement with Denmark for issuance.
- Ship Sanitation Certificate. Administered by the Norwegian Directorate of Health.

Following the application, the NMA will inspect the relevant vessels and will issue the Certificates.

After Registration, the usual inspection international regime for cargo vessels applies. The majority of ship certificates and survey rules can be found in the Regulations of 22 December 2014 No. 1893 on supervision and certificates for Norwegian ships and mobile offshore units, Annex 15. For example, the Safety Radio Certificate of cargo ships of 8 metres in overall length and upwards engaged on domestic voyages in trade area 1 or greater, and cargo ships of less than 300 gross tonnage engaged on foreign voyages should be inspected every five years.

Apart from NMA, the vessels should comply with requirements set by the Norwegian Food Safety Authority, the Norwegian Medicines Agency and the Norwegian Veterinary Institute. There should be a continuous proper maintenance of the equipment of the vessels involved in aquaculture. The managing director of a family farming company confirmed that every month the big equipment of the vessel, such as cranes, is surveyed at frequent intervals. These vessels have to be cleaned and disinfected satisfactorily between each transport mission. Some of the equipment onboard may require approval, as well. For example, a UV plant needs approval from the Veterinary Institute and the ozone plant from the Norwegian Medicines Agency.

The Norwegian Food Safety Authority may at any time conduct unannounced or pre-agreed inspections on board on wellboats. Regulation 17 June 2008 No. 820, and relevant amendments on 29 August 2017 No. 1319 on the transport of aquaculture animals ensures the good welfare of fish during transport to Norwegian territorial waters and in Norway's economic zone. The transport means used for the transport of live aquaculture animals must be approved by the Norwegian Food Safety Authority. It is not allowed to carry farmed fish in unauthorized vessels. Wellboats should have an internal control system that ensures compliance with requirements for contagious hygiene and well-being, including competence, cleaning and disinfection procedures, water exchange and water quality monitoring.

3.5 Role of Recognized Organizations

NMA is the responsible body for inspections of Norwegian ships. However, there are cases in which inspections and supervisions are delegated to the following Recognised Organisations: American Bureau of Shipping, Bureau Veritas- BV, DNV GL, Lloyds Register of Shipping, RINA S.p.A- RINA and Nippon Kaiji Kyokai- ClassNK. If the cargo vessel has a gross tonnage of 500 and above, and the company wants to designate the survey to a Recognized organization, then a "Declaration of Safety" shall instead, be sent to NOR by the RO. The Class Agreement that is made between NMA and Ros can be found in Annex 16.

4. SWOT Analysis

4.1 Strengths

The Norwegian flag assures owners and managers of vessels that they will experience a smooth and clear process for registering their vessels. The steps and documents required for vessels are clearly specified in the site of NMA. The site specifies the conditions for registering and there is a broad collection of English forms used in connection with the formal registrations in NIS, NOR and the Shipbuilding Register. During the registration process, emphasis is placed on offering complete information at the initial point of contact.

The NMA strives for clear and user-friendly legislation and several documents can be found in the English language. The whole registration of the vessels is made via the completion of form and submission to the electronic email address of the registry. Besides, the NMO can provisionally register vessels based on copies of documents and make a preliminary registration. The owners have 3 weeks to send the original documents. The Administration offers a high level of service, is ISO 9001:2008 certified and has an officer on call from 7 a.m. until midnight.

Regarding the personnel working on board vessels, the Norwegian Maritime Authority certifies and endorses certificates issued by other maritime thousands of Norwegian seafarers annually. The administration approves seafarer's doctors and maritime education, taking always into account the welfare of the seafarers.

The inspection regime, the NMA provides a high level of auditing and the whole process includes document control and inspection to ensure compliance with the international and national legislation. The main aim of the regime is to build strong behavioural attitudes with regard to health, safety and the environment. The NMA has entered into agreements with 6 renowned Recognised Organisations (ROs) to carry out surveys and inspections and issue statutory certificates on behalf of the Norwegian administration.

Furthermore, continuous coordinated efforts are being made to limit pollution and other possible adverse effects from aquaculture between NMA, the Norwegian Food Safety Authority, The Norwegian Medicines Agency and the Norwegian Veterinary Institute.

4.2 Weaknesses

The major weakness of the whole registration and administration process is that there is not a dedicated unit which deals with the registration and the administration of the aquaculture vessels. Aquaculture vessels are treated as cargo vessels and there is not a specific body which will guide the owner and interested parties for the different regulatory requirements and legislations of the different types of aquaculture vessels, since their size and trading area varies. Moreover, the registry does not know the number of vessels involved in aquaculture. The Registry may register an aquaculture vessel under the following categories: wellboats under the bulk carrier category, general cargo, specialised vessel or other types. Furthermore, although that the registration procedure for cargo vessels is clearly defined in the site of NMA, the regulatory requirements for cargo vessels are not fully updated. The administration

needs to categorise the IMO and national regulation for vessels below 15 meters, vessels of 15 meters and up to 24 meters and vessels above 24 meters.

It should be also mentioned that there are various agencies involved with the environmental aspects and inspection of aquaculture fleet. For example, the Norwegian Food Safety Authority is a governmental body, whose aim is, through regulations, control and inspections to promote plant, fish and animal health. The Norwegian Medicines Agency is to safeguard public and animal health and approves disinfectants for use in preventing, limiting and eradicating infectious diseases in aquatic animals. The Norwegian Veterinary Institute is a national biomedical research institute that assess the health situation in our farmed animals. For a better understanding of the inspection and control process of the aquaculture vessels, there should be more common guidelines and clear location of the relevant documents and regulations.

According to the discussions that took place in the meeting with the participants of the Registry, a major weakness is the strict requirement of the nationality of the owner for registration in NOR. Owners must be Norwegian or EU companies or individuals. The Registry has been involved in discussion with the government for exploring the possibility of changing this provision but this is not possible due to the governmental policy.

Besides, the Registry does not accept bareboat registration and there are ongoing discussions to take measures and change this provisions in the forthcoming months. Bareboat registration involves the parallel registration in two countries of a vessel on bareboat charter. The Registry has proposed to open up the bareboat registration of vessels in and out of the two Norwegian ship registries in an attempt to boost the attractiveness of the Norwegian flag and make it more flexible in line with other ship registries, such as the Danish registry which opened up for bareboat registration more than 20 years ago.

4.3 Opportunities

A major opportunity would be the establishment of a dedicated unit which would deal with the registration and the administration of the aquaculture vessels. Besides, the unit would be responsible to guide the owners of the aquaculture vessels on the whole legislative and administrative regime. Documentation and requirements from the NRO, the Norwegian Food Safety Authority, the National Institute of Nutrition and Seafood Research, the Norwegian Medicines Agency and the Norwegian Veterinary Institute could be provided by this dedicated unit.

Besides, more flexibility should be given in the nationality of the owner for registration in NOR. Owners abroad Norway or EU could also be accepted. Furthermore, open up for bareboat registration in and out of Norway would create opportunities offered by other major international flags and accommodate the need for the Norwegian maritime industry to be able to fly foreign flags in limited periods to meet local requirements under their contracts.

Another opportunity is the creation of provisions for the registration of barges without mechanical propulsion. The Advisers from the Registry confirmed that barges without mechanical propulsion are not under legislation but there is a need for provisions since they are an indispensable element for fish farm operations and maintenance.

More digitalisation is also under way and especially for the smaller vessels there are plans for the creation and establishment of a fully and integrated database which will enable the owner to upload documents and certificates automatically.

4.4 Threats

The biggest threat comes from the absence of a dedicated unit for the registration and operation of the aquaculture fleet. Norway is one of the biggest players in the global arena for the export of salmon. If the sector is to continue to expand, the government's position should be to overcome the competition and promote an easy registration and operation of the vessels involved in aquaculture. Owners and interested parties who want to register their vessel in NOR, they should have easy and direct access to the relevant regulation and operation of the different categories and types of aquaculture vessels. In the future there should be a dedicated unit for aquaculture because there are many things that are not yet regulated. There are many authorities involved in the aquaculture of salmonids and there have been noted cases of not an immediate access of all the information pertinent to aquaculture vessels.

Besides, the lack of provisions for bareboat registration of vessels in and out of the two Norwegian ship registries, reduces the attractiveness of the registries and does not facilitate the retention of the Norwegian flag following a sale leaseback transaction.

5. Conclusion

A brief summary of the Work Package 2 is made on Table 1.

Table 1: Summary of the Findings

Regarding	Summary of Findings
S. 2 Identification of Vessels Used in Aquaculture of Salmonids	All the vessels involved in the aquaculture of salmonids are treated as cargo vessels. Cargo vessels are considered all vessels above 8 metres which are not passenger or fishing vessels or recreational craft or mobile offshore units.
S. 3 Evaluation of the Registration Process of the Fleet	Norwegian vessels with a length of 15 meters or above must be registered in the NOR or the NIS. The Senior Advisers of the Norwegian Registry confirmed that the vessels for aquaculture are registered under the NOR regime. For registration to NOR, owners must be Norwegian or EU

	companies or individuals. The registration of vessels above 7 meters and below 15 metres is voluntary.
S. 3.1 Steps of the Registration Process	<p>For cargo vessels above 15 metres the documentation requirements are based on the following step by step application process in the site of NMA:</p> <ul style="list-style-type: none"> Application for Certificate of Name Notification for Registration Tonnage Certificate Request for Survey Ownership Documentation Protocol of Delivery and Acceptance Owner's Nationality Certificate from the previous ship register/country Notification of assignment of responsibilities imposed by the ISM-Code and Continuous Synopsis Record Registration fees Certificate of nationality/provisional certificate of nationality <p>For cargo vessels below 15 metres the documentation requirements are based on the following step by step application process:</p> <ul style="list-style-type: none"> Notification for Registration Confirmation of marking of the call sign Picture showing the call sign Vessel measurements Ownership Protocol of Delivery and Acceptance (PDA) Registering vessels without documentation of ownership Owner's nationality Certificate from the previous ship register/ country Registration fees
S. 3.2 Documentation and Needed Prior Registration	Check section 3.1
S. 3.3 Certificates must be Carried on Board	Vessels involved in aquaculture are treated as cargo vessels and depending on their size and trading area, the certificates carried on board must comply with IMO's regulations, as confirmed with the Advisors of the Registry (Annex xx)
S. 3.4 Inspection Regime	The NMAs inspection regime on Norwegian flagged vessels requires that various inspections should be carried before the registration of the vessel in the NOR. For smaller vessels, the survey is conducted by NMA. If the cargo vessel has a gross tonnage of 500 and above, and the company wants to designate the survey to a Recognized organization, then a "Declaration of Safety" shall instead, be sent to NOR by the RO. After Registration, the usual inspection international regime for cargo vessels applies.

S. 3.5 Role of Recognized Organizations	In various cases, inspections and supervisions are delegated to the following Recognised Organisations: American Bureau of Shipping, Bureau Veritas- BV, DNV GL, Lloyds Register of Shipping, RINA S.p.A- RINA and Nippon Kaiji Kyokai- ClassNK
S. 4.1 Strengths	<p>Smooth and clear process for registering cargo vessels. During the registration process, emphasis is placed on offering complete information at the initial point of contact. User-friendly legislation and relevant documentation in the English language.</p> <p>The whole registration of the vessels is made via the submission of forms to the email address of the Registry. NMO can make a preliminary registration of vessels based on copies of documents. NMA certifies and endorses certificates issued by other maritime authorities.</p> <p>The administration approves seafarer's doctors, maritime educations, taking measures for the health and welfare of seafarers.</p> <p>High level of auditing and inspection of cargo vessels to ensure compliance with the international and national legislation. Continuous coordinated efforts between various agencies to limit pollution and other possible adverse effects from aquaculture</p>
S. 4.2 Weaknesses	<ul style="list-style-type: none"> - Absence of a dedicated unit which would deal with the registration and the administration of the aquaculture vessels. - The Registry does not possess information on the number of vessels involved in aquaculture. - The part about the regulation for cargo vessels is not fully updated in the site of NMA. - Various agencies involved with the environmental aspects and inspection of aquaculture fleet. - Strict requirement of the nationality of the owner for registration in NOR. - The Registry does not accept bareboat registration.
S. 4.3 Opportunities	<p>Establishment of a dedicated unit for the registration and administration of the aquaculture vessels.</p> <p>Flexibility could be given in the strict requirement of the nationality of the owner for registration in NOR.</p> <p>Provisions for the registration of barges without mechanical propulsion.</p> <p>Creation and establishment of a fully and integrated database of registration, especially for the smaller vessels.</p>
S. 4.4 Risks/Threats	<p>The absence of a dedicated unit for the registration and operation of the aquaculture fleet impacts negatively on the powerful image of the registry.</p> <p>The lack of provisions for bareboat registration of vessels in and out of the two Norwegian ship registries, reduces the attractiveness of the registries.</p>

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Annexes (Attached separately)

ANNEX 1: Regulations of 30 July 1992 No. 593 on the registration of ships in the Norwegian Ordinary Ship Register (NOR)

ANNEX 2: Regulations of 27 June 2002 No. 754 on ship's name, call sign, marking and home port, etc.

ANNEX 3: Application for Certificate of Name

ANNEX 4: Notification for Registration

ANNEX 5: Declaration of Safety

ANNEX 6: Notification of Assignment of Responsibilities imposed by the ISM Code

ANNEX 7: Amendments to the Continuous Synopsis Record

ANNEX 8: Application for Continuous Synopsis Record

ANNEX 9: Regulations of 2 February 1996 No. 115 on collection of fees to the Treasury for surveys, issue of certificates, etc. carried out pursuant to the Ship Safety and Security Act (Fees Regulations)

ANNEX 10: Regulations amending the regulations on fees for services performed by the Norwegian Maritime Directorate (Norwegian Maritime Directorate's fee)

ANNEX 11: New registration of VESSEL less than 15 meters in The Norwegian Ship Register- NOR

ANNEX 12: Appointment of Process Agent/Norwegian Representative

ANNEX 13: List of Certificates and Documents required to be carried on board ships, 2017

ANNEX 14: Instruction to Class

ANNEX 15: Regulations of 22 December 2014 No. 1893 on supervision and certificates for Norwegian ships and mobile offshore units

ANNEX 16: The Class Agreement

C1. Republic of Ireland : Work Package 1

1. Introduction

This work package report provides the steps of the registration process of the fleet including documentation submitted by the owner, and certificate issued by the maritime administration. In addition, the inspection regime prior and after registration will be examined along with the role of Recognized Organizations (hereinafter referred to as ROs). The Certificates Issued by Flag must be carried on board will also be discussed.

The study for Ireland is based on both primary sources and secondary sources of law, as well as explanations and rational interpretations provided by respondents interviewed in January 2018. The author had an in-depth interview with the Registrar General and three other advisors from the Fisheries Administration Division of the National Seafood Centre in Clonakilty. Besides, a second interview was scheduled with the Deputy Chief Surveyor and a Ship Surveyor of the Marine Survey Office (MSO) of the Irish Maritime Administration which is a department of Transport, Tourism & Sport in Dublin. A third interview was scheduled with an industry and national expert of the aquaculture sector from the Irish Sea Foods Development Agency (BIM) in Dublin. BIM is the relevant body responsible to grow a thriving Irish seafood industry

and provides various aquaculture technical, environmental and business support services to the sector.

The discussions in BIM helped us to gain a good overall understanding the aquaculture sector in Ireland. BIM conducts every year the Annual Aquaculture Production and Employment Survey in which all aquaculture companies are requested to submit economic and operational details for the year. According to the *2017 BIM Annual Aquaculture Survey*, the oyster sector (Gigas and native species combined) is by far the largest one in the aquaculture industry. Besides, the following interesting findings were presented in the Annual Survey of BIM:

- ✓ The aquaculture production topped 44,000 tonnes in 2016 – a 9% increase in volume from 2015.
- ✓ In 2016, Gigas oyster production at 10,000 tonnes accounted for 25% of Ireland's overall aquaculture production – up 11% on 2015. In value terms, Gigas oysters now account for 74% of Ireland's shellfish aquaculture.
- ✓ Production of salmon reached 16,300 tonnes of salmon valued at €105m in 2016 – an increase of 24% and 16% respectively comparing to 2015.
- ✓ The aquaculture sector contributes 1,900 jobs to the Irish economy, out of which the 1,300 belong to the oyster sector.

From the discussions it was made clear that salmon farming is a small sector of the whole aquaculture industry since it suffers from economies of scale to maximize the profit margin. The differentiator factor that makes the sector profitable is the exporting of organic salmon. The organic salmon thrives in the Ireland's westerly coastline and the fish produced are nourished with a diet containing only organic approved natural ingredients from sustainable sources. The largest producer of organic Atlantic salmon is Marine Harvest Ireland. The rest of companies are smaller privately-owned players. Almost all of the quantity of high-priced organic salmon is exported to France, Germany and Switzerland. For internal consumption, farmed salmon is imported from Scotland and Norway.

The industry wishes to grow but there are major protests from different parties against the proposals for the further development of salmon farms. The main protests come from the sports sector and persons who fish for salmon in rivers since they support that the large runs of big spring fish have dwindled dramatically. Fly fishing, which is a method of fishing by means of an "angle" (fish hook) is the main salmon angling method in Ireland. The natural levels for wild salmon have decreased the last decades and the protesters support that sea lice infestations spread by salmon farms have significantly reduced the runs of white trout and salmon. People involved in the fishing of salmon participate in various environmental groups which have good connections with the media and the legal system creating strong forces against the entire salmon farming industry. Furthermore, big international foundations, which are against intensive food production of any kind, create more burden on the operation and licensing of additional salmon farming facilities.

The number of vessels involved in salmon farming is small but not exact statistics exist in the register. These vessels are governed by the same regulations with commercial vessels and have to comply with the passenger or cargo international standards. There is a totally different regime for fishing vessels, equipped with a fishing gear, which are involved in aquaculture. This segment contains 97 fishing vessels which provide service within the aquaculture facility and used exclusively in the harvesting, transport, handling and/or landing of aquaculture products. These vessels are not involved in salmon farming.

2. National framework regulating operations

Under the auspices of the Department of Transport, Tourism and Sport in Dublin is found the Irish Maritime Administration (IMA) which is responsible for statutory survey and certification of Irish flagged vessels, Port State Control and port and ship security functions. IMA is comprised of the Maritime Safety Directorate, the Irish Coast Guard, the Maritime Transport Division and a new Maritime Services Division. The Maritime Safety Directorate comprises of two main sections: the Maritime Safety Policy Division (MSPD) and the Marine Survey Office (MSO). The Mercantile Marine Office (MMO) also belongs to the Directorate. The MSPD is responsible for maritime safety and security policy, and legislation. The MSO, in which we conducted the interviews, deals with the inspection, survey, certification and licensing of vessels along with the examination and certification of seafarers' competencies. The MMO maintains the Register of Shipping and the Register of Seafarers and its function has statutory origins in two pieces of legislation, the Merchant Shipping Act, 1894 and the Mercantile Marine Act, 1955.

MSO, which is the more relevant unit for this study, regulates the operation of any vessel operating on commercial basis no matter the length of the vessel. The spectrum of the vessels encompasses merchant ships, passenger vessels, fishing vessels and leisure craft sectors and focus on the promotion of fishing vessel safety; the enhancement of the passenger vessel safety regime; the encouragement of best practice in the recreational/leisure sector. MSO is responsible for the implementation of all national and the international legislation of International Maritime Organisation (IMO) in relation to the safety of shipping and the prevention of pollution of the marine environment from ship-based sources.

Besides, the Ministry of Agriculture, Food and the Marine leads the sustainable development of the agri-food, forestry and marine sector. In the Department of Agriculture, Food and the Marine exists the National Seafood Centre in Clonakilty which was established in 2011 and is dedicated to the development of new, high-value seafood products and the expansion of sustainable aquaculture in Ireland. In the Seafood Centre, there is an Aquaculture Licensing Section which handles the licencing of fishing vessels. All applications for sea-fishing boat licences are considered by the Licensing Authority for Sea-Fishing Boats in the National Seafood Centre. The Registrar General of Fishing Boats has responsibility for maintaining a Register of Fishing Boats and for the proper management of the capacity (gross tonnes and kilowatts) of Irish fishing vessels. The Registrar General also has

responsibility for sea-fishing boat licensing and is independent of the Minister in his decision making in this regard. While the Registrar General maintains a Register of Fishing Boats and licenses sea-fishing boats under strict criteria outlined in the notes, he has no role in fishing vessel safety, in seafarers' competencies, in food safety or in grants in respect of aquaculture.

It should be made clear that fishing vessel safety and seafarers' competencies are the responsibility of the MSO. The Aquaculture Licensing Section of the National Seafood Centre is only relevant to the licencing of fishing boats. Moreover, if the vessel is regulated as commercial or fishing vessel is dependent on its activity. For a fishing vessel if a licence is being granted by the National Seafood Centre, then the MSA treats it as a fishing vessel. The vessels involved in aquaculture of salmonids and service the salmon fishing farms of Ireland are mainly treated as cargo or passenger vessels, as they carry passengers on board and are under the authority of MSO. For these cargo or passenger vessels involved in aquaculture of salmonids, a licence is not required from the National Seafood Centre.

2.1 Framework for Vessels Involved in Aquaculture

The framework for vessels involved in aquaculture will be split into two sections. The first one will discuss the framework for fishing vessels which are involved in aquaculture and the second one the framework for non-fishing vessels involved in aquaculture.

2.1.1 Framework for fishing vessels involved in aquaculture

In this section the regulatory framework will be explained for fishing vessels involved in aquaculture. Irish fishing fleet comprises five ring-fenced Segments: Aquaculture, Specific, Polyvalent, Beam Trawl and Refrigerated Sea Water (RSW) Pelagic.

During the interview with the Registrar General and three other advisors from the Fisheries Administration Division of the National Seafood Centre in Clonakilty, the documentation given to us during the meeting, is incorporated in sections 2.1.1.1 till 2.1.1.9. It should be explained that fishing vessels are treated as vessels which have a fishing gear on board. The Licensing Authority requires any vessel with fishing gear on board, including dredges, and which is fishing commercially, to be entered on the Fishing Boat Register and licensed to fish. This requirement also applies to vessels exclusively engaged in aquaculture activities which have fishing gear on board, including dredges, and are fishing commercially. Vessels licensed for aquaculture must be used exclusively in the harvesting, transport, handling and/or landing of aquaculture products and can, subject to an authorisation under section 13 of the Sea-Fisheries and Maritime Jurisdiction Act 2006, collect wild mussel seed as part of a service to aquaculture installations, subject to certain restrictions determined in the context of Regulation (EU) No 1380/2013. The vessels usually involved in the aquaculture of salmonids do not comply with the regulatory framework for fishing vessels and all the relevant licencing procedures since they don't carry a fishing gear.

2.1.1.1 Definition of a Sea-Fishing Boat

Council & EP Regulation No 1380/2013 states that a “fishing vessel” means any vessel equipped for commercial exploitation of marine biological resources or a blue fin tuna trap.

National legislation under Section 97 of the Sea-Fisheries and Maritime Jurisdiction Act 2006 defines “sea-fishing boat” and “Irish sea-fishing boat” as follows:

“sea-fishing boat” means any ship, boat or other vessel of whatsoever kind used for sea-fishing and includes any vessel or boat used for the treatment of fish or partly or wholly for the transport of fish;

“Irish sea-fishing boat” means a sea-fishing boat which is—

- (a) entered in the Register of Fishing Boats,
- (b) required by regulations under section 76 to be so entered, or
- (c) exempt from such registration by regulations under that section;

National legislation under the Merchant Shipping (Registry, Lettering and Numbering of Fishing Boats) Regulations 2005 (S.I. No. 261 of 2005) defines a fishing boat as:-

“a boat employed or intended to be employed in sea fishing, and intended for the catching or taking for sale of sea fish ...”

Based on the aforementioned definitions, the Licensing Authority requires any vessel with fishing gear on board, including dredges, and which is fishing commercially, to be entered on the Fishing Boat Register and licensed to fish. This requirement also applies to vessels exclusively engaged in aquaculture activities which have fishing gear on board, including dredges, and are fishing commercially.

2.1.1.2 Fishing Fleet Segments

Ministerial Policy Directive 2 of 2003, as amended by Ministerial Policy Directive 1 of 2006, Ministerial Policy Directive 1 of 2011 and Policy Directive 2 of 2011, provides that the Irish fishing fleet comprises five ring-fenced Segments (i.e. Aquaculture, Specific, Polyvalent, Beam Trawl and Refrigerated Sea Water (RSW) Pelagic). The Polyvalent Segment and Specific Segment are broken into four and two sub-segments respectively.

Aquaculture vessels may only engage in aquaculture activities (i.e. fish farming). Specific vessels may only engage in aquaculture activities and fish for wild bi-valve molluscs (e.g. scallops, mussels, clams, oysters, razorfish etc.) subject to an Authorisation issued by the Department where required). Polyvalent vessels generally fish for multi-species (e.g. aquaculture, bi-valve molluscs, lobster, crab, whitefish (cod, haddock, flatfish etc.) and pelagic species (herring and mackerel etc.) subject to an Authorisation issued by the Department where required. Beam Trawl vessels must fish exclusively by means of beam trawls for whitefish (cod, haddock, flatfish etc.) subject to an Authorisation issued by the Department where required. RSW Pelagic vessels fish for pelagic species (mackerel, herring etc.) subject to an Authorisation issued by the Department where required. Polyvalent Potting vessels are a sub-segment of the Polyvalent Segment and fish exclusively by means of pots (i.e. lobsters, crabs etc.).

The transfer of capacity between Segments and Sub-segments is prohibited. A fishing vessel may only be registered and licensed in one Segment or Sub-segment of the fleet at any given time.

2.1.1.3 Functions of the Licensing Authority for Sea Fishing Boats

The licensing and registration of Irish sea-fishing boats is in accordance with National and EU legislation and Policy Directives issued by the Minister. All applications for sea-fishing boat licences are considered by the Licensing Authority for Sea-Fishing Boats in the National Seafood Centre, Clogheen, Clonakilty.

EU rules require that there should be a stable and enduring balance between fishing capacity and fishing opportunities and in this regard lay down maximum capacity (i.e. gross tonnage and kilowatts) limits for member States' fishing fleets. Entries and exits from the fleet must be managed in such a way that the entry of new capacity into the fleet must be compensated by the previous withdrawal of at least the same amount of capacity (i.e. gross tonnage and kilowatts) in accordance with Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy. Ireland's Fishing Capacity Ceiling set from 1 January 2014 is set at 77,568GT and 210,083kW. Detailed reporting on the fishing fleet to the EU is also required.

2.1.1.4 Sea-Fishing Boat Licensing and Registration

The Fisheries (Amendment) Act 2003 transferred the function of sea-fishing boat licensing from the Minister to the Licensing Authority for Sea-Fishing Boats which operates on an independent basis subject to criteria set out in section 3 of the Act and Ministerial Policy Directives. The Licensing Authority is the Registrar General of Fishing Boats, an official of the Department of Agriculture, Food and the Marine or, under the superintendence of the Registrar General, the Deputy Registrar General of Fishing Boats. All applications for sea-fishing boat licences are considered by the Licensing Authority. Fishing Boat Registration is not independent and remains a Departmental function. Before a sea fishing boat may engage in commercial sea fishing activities the vessel must be entered on the Fishing Boat Register and hold a current sea fishing boat licence.

2.1.1.5 Licensing & Registration Primary Legislation

The primary legislation governing sea-fishing boat licensing is set out in Section 4 of the 2003 Act (as inserted by Section 97 of the Sea Fisheries and Maritime Jurisdiction Act 2006).

The legislation governing sea-fishing boat registration is set out in sections 74-80 and section 100 of the **Sea Fisheries and Maritime Jurisdiction Act 2006** and in the Merchant Shipping (Registry, Lettering and Numbering of Fishing Boats) Regulations 2005 (S. I. No. 261 of 2005). Section 75(2) of the Maritime Jurisdiction Act 2006 charges the Registrar General with the proper management of the capacity of the Irish fleet and states that he may either enter a sea-fishing boat in the Register or remove it from the Register. Section 75(3) of the Sea Fisheries and Maritime Jurisdiction Act 2006 states that a sea-fishing boat shall not be entered in the Fishing Boat Register unless at the time of entry the vessel holds a valid sea-fishing boat licence or will hold a valid sea-fishing boat licence on entry (see link hereunder).

The Merchant Shipping (Registry, Lettering and Numbering of Fishing Boats) Regulations 2005 (S. I. No. 261 of 2005) govern the procedures involved in fishing boat registration (see Annex 1).

2.1.1.6 Who May Apply for a Sea-Fishing Boat Licence

Section 4 of the Fisheries (Amendment) Act 2003 (as inserted by Section 97 of the sea Fisheries and Maritime Jurisdiction Act 2006) states that a sea-fishing boat licence shall not be granted unless the boat in question is wholly owned by a National of a Member State or a State belonging to the European Economic Area or a body corporate established under and subject to the law of a Member State and having its principal place of business in a Member State or a State belonging to the European Economic Area.

Where a sea-fishing boat is owned by a body corporate, the name, address and nationality of the beneficial owner or owners of the shares in, or of the person or persons who otherwise controls or control, the body corporate shall be given to the Licensing Authority on application for a sea-fishing boat licence in respect of the boat, or where a sea-fishing boat licence is in force in respect of the boat, if there is any change in such ownership or control.

A body corporate applying for a sea-fishing boat licence must have an agent in the State and give the name and address and contact details of the agent to the Licensing Authority for the purpose of being contacted at any time on or on behalf of the Licensing Authority. The Licensing Authority may refuse to grant or may suspend a sea-fishing boat licence where the body corporate is not complying with the requirement of having an agent in the State who is contactable at any time.

2.1.1.7 Economic and Social Benefits

In deciding on whether to grant or renew a sea-fishing boat licence or the attachment of terms and conditions to licences, the Licensing authority may take account of economic and social benefits which the operation of a boat would be likely to contribute to the coastal communities and regions which the quotas within the meaning of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy are designed to benefit, including:

- I. The projected annual number of landings at ports in the State,
- II. The projected annual tonnage and value of fish landed in the State,
- III. The projected annual level of expenditure in the State on wages, fuel, supplies, equipment and service, and,
- IV. The projected annual level of social security and tax payments in the State in respect of employees and the operation of the boat, and the protection, conservation and sustainable exploitation, of living marine aquatic species and requirements of the Common Fisheries Policy of the European Communities.

2.1.1.8 Shipping Register

The Shipping Register is maintained under the Merchant Shipping Acts 1894 to 2005 by the Department of Transport. However, the maintenance of the Shipping Register is administered by the 13 Local Registrars of Shipping who are attached to the Office

of the Revenue Commissioners. A sea-fishing boat of less than 15 metres length overall is exempt from the obligation to be registered under the Mercantile Marine Act of 1955 (i.e. Part 1 Registration).

2.1.1.9 Fishing Boat Register

Steps were taken in the year 1989 to introduce a new Fishing Boat Register to replace the then existing Register. In order for a boat registered on the old Register to be entered in the new Register, it was necessary for the owner to apply for registration before 31 January 1990. This requirement was set out in the Merchant Shipping (Registry, Lettering and Numbering of Fishing Boats) Regulations 1989 (SI No. 344 of 1989) under which the new Register was established. These regulations also allowed for applications to be accepted up to six months after the making of the Regulations, i.e. up to 15 June 1990, if the Registrar General of Fishing Boats was satisfied that there was a valid reason for the failure to apply for registration by 31 January 1990.

2.1.2 Framework for commercial non-fishing vessels involved in aquaculture

Ireland has ratified most of the major international maritime conventions including International Convention for the Prevention of Pollution from Ships 1973, (MARPOL 73/78), The International Convention for the Safety of Life at Sea (SOLAS), International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), the Oil Pollution Fund Convention 1992 etc.

Merchant Shipping (Load Line) Rules 2001, found in Annex 2, is the main regulatory framework for vessels involved in the aquaculture of salmonids. All the relevant amendments of the Rules can be found in the Irish Statute Book. Load Lines rules have been incorporated from the International Convention on Load Lines, 1966 along with the Protocol of 1988 relating to the 1966 Convention of the International Maritime Organisation. The Rules include provisions for the survey and certification requirements with those contained in the SOLAS and MARPOL conventions. The application of the Load Line Rules applies to all vessels, not only those above 24 meters, excluding fishing vessels and recreational crafts. In the case of a Convention-size ship, an International Load Line Certificate should be issued, whereas in the case of any other ship, an Irish Load Line Certificate is required. Vessels involved in aquaculture are issued with the "Irish Load Line Certificate and the relevant form of this Certificate is prescribed in Schedule 8 of Annex 2. It should be noted that S.I. No. 416/2002 - Merchant Shipping (Load Lines) (Exemption) Order 2002 amends Load Line Rules and exempts from the provisions of the Act vessels under eighty tons register engaged solely in the coastal trade while not carrying cargo. Thus, a vessel in respect of which a Passenger Boat licence has been issued under the provisions of the Merchant Shipping Act 1992 and carries no more than twelve passengers on voyages which at any point are no more than fifteen miles (exclusive of any smooth waters) from the point of departure and no more than three miles from land, will be excluded from the provisions of Load Line Rules.

The other important piece of legislation is the Merchant Shipping Act, 1992 which regulates vessels who carry passenger on board. Amendments of the Act can be found

in the Irish Statute Book. The definitions of passenger ships and boats in Ireland are clearly distinguished below.

According to the Act of 1992, a passenger boat means:

- (a) a vessel carrying **not more than 12** passengers for reward or having on board for the purposes of carriage for reward not more than 12 passengers, or
- (b) a vessel that is carrying not more than 12 passengers, or has on board for the purposes of carriage not more than 12 passengers, and is on hire pursuant to a contract or other arrangement under which a crew or part of a crew is provided for the vessel by its owner

and includes a vessel carrying not more than 12 persons to or from their place of work, or having on board not more than 12 persons for the purposes of such carriage, and owned by or on hire to their employer and a vessel registered outside the State and carrying not more than 12 passengers between places in the State, or having on board not more than 12 passengers for the purposes of such carriage, but does not include such a vessel carrying passengers to or from the State or having on board passengers for the purposes of such carriage, a fishing vessel, a ferry boat working in chains or a vessel in respect of which a certificate is in force;

Regarding the definition of passenger ships, in the Act of 1992 it is stated that:

“passenger ship” means a vessel carrying **more than 12 passengers** or having on board more than 12 passengers for the purposes of carriage and includes a vessel carrying more than 12 persons to or from their place of work, or having on board more than 12 persons for the purposes of such carriage, and owned by or on hire to their employer and a vessel registered outside the State and carrying more than 12 passengers between places in the State, or having on board more than 12 passengers for the purposes of such carriage, but does not include such a vessel carrying passengers to or from the State or having passengers on board for the purposes of such carriage, a fishing vessel or a ferry boat working in chains;

Passenger boat fleet category, that includes the carriage of not more than 12 passengers on board (excluding the owner or a person to whom the vessel is on hire) is the most relevant fleet sector for the aquaculture of salmonids as stated by the participants of this study. For passenger boats, there is another important regulatory instrument and this is the S.I. No. 273/2002 **Merchant Shipping (Passenger Boat) Regulations 2002**, found in Annex 3, which specifies the equipment to be fitted on board. For the purposes of these regulations passenger boats are arranged in 6 Classes (P1 to P6), depending on the area of operation, and number of passengers on board.

Passenger ships, open vessels of no less than 4 meters in length, carrying no more than 3 passengers on board for the purpose of angling and engaged on domestic voyages in smooth waters on canals, rivers, lakes and loughs are exempt from the requirement to have a passenger boat licence. This exemption is subject to compliance with the Licensing for Passenger Boat (Exemption) Regulations, 2002 as amended by Licensing for Passenger Boat (Exemption Amendment) Regulations, 2002.

There are additional and stricter requirements for passenger vessels carrying more than 12 passengers but these requirements are not applicable to aquaculture vessels. The vessels used in aquaculture sector usually do not carry more than 3 or 4 persons on board.

The discussions in the MSO revealed that there is a regulatory gap in the legislation of Ireland. The Load Line provisions apply only on seagoing vessels. If the vessel does not carry passengers but only crew, and carries only cargo inside sheltered Inland Water, which is usually the case in aquaculture of salmonids, then there are no requirements for the operation of these vessels. The Marine Safety published the Marine Notice 1 of 2018 – Port and Sea Areas with all the sheltered waters in Ireland and can be found in Annex 4. From the discussions it was concluded that a vessel which carries only crew inside smooth waters in Ireland, is not required to have a Load Line Certificate or any other certificate from the Marine Safety Department, thus it can operate perfectly legally inside sheltered waters with no special restrictions and relevant certificates. There are only some General Duties regulations under the Safety, Health and Welfare at Work Act 2005 which aims to secure a preventive approach to occupational health and safety of all workers.

The Merchant Shipping Act of 2010, as amended on 16 May 2017, applies to ships of 500 gross tonnage and upwards. The Act makes provision in relation to giving further effect to the International Convention For The Safety Of Life At Sea (SOLAS Convention) signed in London on 1 November 1974 and its protocols, providing access to passenger vessels for persons with reduced mobility, to enable sunken vessels to be raised, to give the force of law to the Maritime Labour Convention 2006 adopted at Geneva on 23 February 2006, to amend the Merchant Shipping Acts 1894 to 2005 and to amend and extend part IV of the Harbours Act 1996 and to provide for related matters. This Act concerns principally the construction and use of Irish vessels and, in particular, carriage of goods by those vessels. Specific provision is made for, among other things: safe manning, the carriage of nuclear material, the carriage of liquefied gas and in respect of chemical tankers. The Act also amends the Merchant Shipping Act 1992 in relation to safety for fishing vessels.

The Merchant Shipping (Registration of Ships) Act 2014, Annex 5, when implemented will be the new regulatory framework of the registration process of vessels, which will replace the Mercantile Marine Act 1955. With the exception of section 69, the Act has not yet been commenced. The Act aims to update the ship registration legislation dating from 1955 and will allow for the establishment and regulation of a modern ship registration system with a new, centralised, electronic and accessible national ship register. All new and existing commercial and passenger ships of 24 and above metres and fishing boats above 15 metres should be registered under the new framework. In the Act there will be provisions for a range of vessels including sea-fishing boats less than 15 metres in length overall.

Moreover, The Maritime Safety Act 2005 regulates craft such as fast power craft and personal watercraft. The aim of these guidelines is to assist local and harbour authorities in the proper management of water resources through the introduction by them of bye-laws which would deal with all aspects of the local use of mechanically powered recreational craft.

The Act includes specific provisions Relating to the Foreshore and to Foreshore and Aquaculture Licences, etc.

Lastly, the registration of commercial vessels in Ireland is subject to the Mercantile Marine Act 1955, as amended, which will be presented in the Work Package 2.

2.2 Areas, Zones and Limitations Applicable to Vessels

For ships involved in aquaculture of salmonids and carry passengers on board, there are specific trade limitations based on their Class categorisation. There are 6 categories of passenger vessels in Ireland and each category is allowed to operate in a specific area as per Merchant Shipping (Passenger Boat) Regulations 2002. For the purposes of these regulations, passenger boats are categorised into Classes as follows. In each category different trade areas and zone apply.

- Class P1. Passenger boats **with no more than three passengers** on board used for domestic voyages in **smooth waters** in the course of which the passengers are engaged in activities other than those specified in Class P4.
- Class P2. Passenger boats with **no more than twelve passengers** on board used for domestic voyages **in smooth waters** in the course of which the passengers are engaged in activities other than those specified in Class P4.
- Class P3. Passenger boats with **no more than twelve passengers** on board used for domestic voyages in smooth waters, in partially smooth waters or to sea in the course of which the passenger boats are **within fifteen miles** (exclusive of any smooth waters or partially smooth waters) from their designated points of departure and **within three miles from land**.
- Class P4. Passenger boats with **no more than three passengers** on board used for domestic voyages in smooth waters, in partially smooth waters, within harbour limits or to sea in the course of which the passenger boats are **within half a mile** (exclusive of any smooth waters or partially smooth waters) from their designated points of departure; provided that the passengers are engaged exclusively in the course of their employment in connection with marine civil engineering, survey of harbour limits dredging or similar commercial activities.
- Class P5. Passenger boats with **no more than twelve** passengers on board used for domestic voyages in **smooth waters, in partially smooth waters or to sea**.
- Class P6. Passenger boats **with no more than twelve** passengers on board used for domestic voyages **in smooth waters, in partially smooth waters or to sea**, in the course of which the passengers are engaged actively and solely in waterborne activities in which the passenger boats form an integral and necessary part of those activities.

Besides, as stated before, if a vessel carries only crew inside smooth waters, and not passengers, is not required to carry any special certificates from the MSO as long as it operates inside sheltered waters. For fishing vessels involved in aquaculture, the Registrar informed us that most of them operate only within the limits of the farming facility.

2.3. Definition of Minimum Safe Manning Certificates and Maximum number of Persons Allowed on Board

For Irish sea-going ships of 100 gross tonnage the Merchant Shipping Act of 2010, as amended, provides the safe manning regulations. Safe manning regulations comply with the IMO principles of safe manning. Employers of seafarers and the owners of commercial vessels have a legal obligation to ensure that their vessels are adequately manned by qualified seafarers. The safe manning of these vessels are dependant on their size, the service for which such ships are to be employed, the nature and duration of voyages to be undertaken and the type of cargo carried including the severity of the environmental and safety hazards involved. A minimum safe manning document is issued to the vessels that comply with the Merchant Shipping Act of 2010). However, many of the aquaculture vessels are below 100 gross tonnage or not seagoing; thus, the Merchant Shipping Act of 2010 does not apply to them.

For passenger vessels, the Passenger Ship Certificate specifies the maximum number of passengers on board. According to Section 8 of the Merchant Shipping Act, 1992 a Passenger Ship Certificate is required which specifies the maximum number of passengers that the vessel shall carry (specifying, if necessary, the numbers to be carried in different parts of the vessel) and any conditions and variations to which the number is subject. No vessel can be used as a passenger ship unless a certificate is in force in relation to it.

For passenger boats, which is one of the main types of vessel involved in aquaculture of salmonides, the Passenger Boat Licence states the maximum number of persons onboard. Merchant Shipping (Passenger Boat) Regulations 2002 specify that passenger boat fleet category includes the carriage of not more than 12 passengers on board. For the purposes of these regulations passenger boats are arranged in 6 Classes (P1 to P6), depending on the area of operation, and number of passengers on board.

2.4 Seafarers Certifications (e.g. Experience, Medical and Educational Certificates, General and Specific Training Obligations)

The Merchant Shipping (Medical Examinations) Regulations 2014 (S.I. No. 246 of 2014) implement the changes required to comply with the Maritime Labour Convention 2006 and the Manila Amendments to the International Convention and Code on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), in relation to medical fitness examination and certification. The Regulations apply to all seagoing Irish ships wherever they may be. According to the Regulation 2014 “seagoing”, in relation to a ship, means:

- (a) a ship in respect of which a certificate is required to be in force in accordance with the Merchant Shipping (Load Lines) Act 1968 (No. 17 of 1968),
- (b) a passenger boat of Class P5 or P6 in respect of which a passenger boat licence is required to be in force in accordance with the Act of 1992 and which proceeds to sea and operates beyond 40 miles from a sheltered harbour or bay where a vessel can safely berth alongside or be safely anchored,
- (c) a passenger ship of Class I, II, II(A), III or VI in respect of which a passenger ship certificate is required to be in force in accordance with the Act of 1992,
- (d) a passenger ship of Class A, B, C or D in respect of which a passenger ship safety certificate is required to be in force in accordance with the Regulations of 2011,

(e) a high-speed passenger craft in respect of which a HighSpeed Craft Safety Certificate and a Permit to Operate High Speed Craft outside waters of Categories A, B, C or D are required to be in force in accordance with the Regulations of 2011, or
(f) a Dynamically Supported Craft (in this paragraph referred to as a “DSC”) in respect of which a DSC Construction and Equipment Certificate, and a DSC Permit to Operate High Speed Craft outside waters of Categories A, B, C or D are required to be in force in accordance with the Regulations of 2011.

The Medical Examinations Regulations 2014 make it a legal requirement for any seafarer employed on board every Irish seagoing ship, and which is ordinarily engaged in commercial maritime operations to hold a valid certificate attesting the medical fitness for the work for which they are employed. From the definitions above, it is made clear that a seagoing ship is one that is certified under Merchant Shipping Legislation for navigation at sea. Commercial maritime operations will normally be taken to include all vessels engaged in trade, carrying cargo or fare-paying passengers. The requirements of these regulations do not apply to seafarers employed or engaged on fishing vessels, pleasure vessels, dredgers and barges employed in harbours or off shore installations whilst on their working stations.

Applicants for a seafarer medical certificate must be at least 16 years of age and should contact directly one of the Approved Doctors published in this document and on the Department’s website. Medical fitness certificates are issued by an Approved Doctor in accordance with the provisions of the Regulations. The Approved Doctor must ensure that the seafarer is fit for service and meets the visual acuity and colour vision standards. Seafarers applying for certificates of competency as deck or dual career officers have full colour vision. A deck applicant who fails the Ishihara test may arrange for their colour vision to be retested using the Holmes Wright B Lantern at the designated centre. Failure in this test will mean that a medical certificate may only be issued with a restriction excluding navigational watch/lookout duties. Applicants intending to work as engineer or radio officers must also meet the colour vision requirements and those who fail the Ishihara test may be retested at the designated centre using the City University test. Failure in these tests will mean that a certificate will only be issued with a restriction excluding work with coloured cables and equipment. The medical fitness certificate under the Regulations is valid up to a maximum period of 2 years or 1 year for seafarers under the age of 18. All the relevant information about the medical fitness of seafarers can be found in the Marine Notice No. 38 of 2014, Annex 6.

Besides, the Merchant Shipping (Passenger Boat Manning) Regulations 2005 (S.I. No. 649/2005) relates to the manning of passenger boats apply to passenger boats of classes P1 to P6, which are less than 80 gross tons or less than 24 metres registered length. The participants in the project informed us that the Marine Notice No 27 of 2005 includes all the relevant certifications for crew on passenger ships (Table 2). The content of the Marine Notice No 27 is presented below in parts A-D.

A. Certificate for passenger crew.

All masters of the classes of passenger boats of less than 80 gross tons or less than 24 metres registered length and engaged exclusively in passenger boat operations in the P1 to P6 categories are required to hold a certificate as specified in Table 1.

Table 1: Categories for Commercial endorsement issued for Irish Sailing Association Certificates.

Category	Age	Sea Survival	Medical Fitness	First Aid	Service Requirements
A	> 18 Years	PST Certificate	Medical incl. eye test	Elementary First Aid	None
B	> 18 Years	PST Certificate	Medical incl. eye test	Elementary First Aid	12 months or 50 logged hours
C	> 18 Years	PST Certificate	ENG 11	Proficiency in Medical Care	None

Note 1: Qualifications differing from those tabled, but which could be considered of equal standing, may be considered.

Note 2: In addition to the commercial endorsement, every vessel should carry at least one person holding a Radio Operator's Certificate suitable for the radio equipment on board and suitable for the area of operation of the vessel.

Note 3: A, B and C refer to the category of commercial endorsement required for the relevant certificates.

Table 2: Certificates In Passenger Boats																			
Class of passenger boat licence		P1		P2		P3		P4		P5			P6			P6 (sail)			
Type of water €		Sea	Lakes & Rivers	Sea	Lakes & Rivers	Sea	Lakes & Rivers	Sea	Lakes & Rivers	All waters			All waters			All waters			
Distance from “safe haven” €		-	-	-	-	<15'	<15'	<0.5'	<0.5'	< 40'	<150'	>150'	<40'	<150'	>150'	< 40'	<150'	>150'	
Certificate required by Master	YM Ocean (Motor)	A	A	A	A	A	A	A	A	A	C	C	A	C	C	-	-	-	
	YM Ocean (Sail)	A	A	A	A	A	A	A	A	A	C	C	A	C	C	A	C	C	
	YM Offshore (Motor)	A	A	A	A	A	A	A	A	A	C	C	A	C	-	-	-	-	
	YM Offshore (Sail)	A	A	A	A	A	A	A	A	A	C	C	A	C	C	A	C	C	
	YM Coastal (Motor)	A	A	A	A	A	A	A	A	A	-	-	A	-	-	-	-	-	
	YM Coastal (Sail)	A	A	A	A	A	A	A	A	A	-	-	A	-	-	A	-	-	
	Day Skipper (Motor)	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	-	-	B ¹	-	-	-	-	-
	Day Skipper (Sail)	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	B ¹	-	-	B ¹	-	-	B ¹	-	-
	Advanced Powerboat Certificate	B	B	B	B	B	B	B	B	B	B	-	-	B	-	-	-	-	-
	National Powerboat Certificate	-	B ¹	-	B ¹	-	-	-	-	B ¹	-	-	-	-	-	-	-	-	-
	National Powerboat Certificate (Coastal)	B ¹	B ¹	B ¹	B ¹	-	-	-	B ¹	B ¹	-	-	-	-	-	-	-	-	-
	Inland Waterways Motorboat Skippers Certificate	-	B ¹	-	B ¹	-	B ¹	-	B ¹	-	-	-	-	-	-	-	-	-	-
	Certificates issued by Maritime Safety Directorate ²	A	A	A	A	A	A	A	A	A	A	C	C	A	C	C	A	C	C
Certificate required by Crew	YM Ocean (Motor)	-	-	-	-	-	-	-	-	-	A	A	-	A	A	-	-	-	
	YM Ocean (Sail)	-	-	-	-	-	-	-	-	-	A	A	-	A	A	-	A	A	
	YM Offshore (Motor)	-	-	-	-	-	-	-	-	-	B	B	-	B	B	-	-	-	
	YM Offshore (Sail)	-	-	-	-	-	-	-	-	-	B	B	-	B	B	-	A	A	
	YM Coastal (Motor)	-	-	-	-	-	-	-	-	-	B	B	-	B	B	-	-	-	
	YM Coastal (Sail)	-	-	-	-	-	-	-	-	-	B	B	-	B	B	-	B	B	

¹ – For operation, during daylight hours only, from one or more designated departure points.

² – These certificates typically include fishing and merchant shipping qualifications issued by Dept. of Communications, Marine & Natural Resource

B. Commercial Endorsements

All masters of passenger boats are required to hold a commercial endorsement, incorporating the following: Personal Survival Techniques Course or equivalent, First Aid Training and a Medical Fitness Certificate.

C. Medical Fitness Certificates for passenger crew

The master and anyone else who is employed on board and who has safety responsibilities should hold a medical fitness certificate. For those employed on passenger boats that operate no further than 40 miles from a safe haven, a satisfactory report from any registered medical practitioner is acceptable including evidence of satisfactory colour vision. A satisfactory medical practitioner's report is valid for 5 years for those up to age 65 and for two years thereafter.

In the case of passenger boats operating beyond 40 miles from a safe haven the master must have the standard medical fitness certificate for anyone employed at sea. This medical certificate is acceptable for any area of operation (unless it includes a specific restriction) and is valid for a maximum of two years, in line with international requirements.

D. Radio Qualifications for passenger crew

Every passenger boat, which carries a radio should have at least one person holding a Radio Operator's Certificate suitable for the radio equipment on board and suitable for the area of operation of the vessel.

Besides, the Marine Notice No 27 of 2005 includes for guidance purposes -and are not part of the Merchant Shipping (Passenger Boat Manning) Regulations – the following recommendations:

- In any vessel that carries radar, the Master and any member of the crew who is liable to use the radar should have appropriate training in its use.
- The master of a passenger boat which is required to be provided with an approved stability booklet should have knowledge of stability appropriate to the vessel.
- Operators should ensure that all vessels are sufficiently manned to avoid the need to work excessive hours. The master is responsible for ensuring, so far as is reasonably practicable, that he/she and all crew members are properly rested when they begin work and obtain adequate rest when not on duty.

The Department of Transport, Tourism and Sport has issued detailed Directions for seafarers who want to possess a Certificates of Competency:

- a. Directions as to the Examination of Deck Officers under the Merchant Shipping Acts which are located in Annex 7 of this Work Package. These directions, issued under the Merchant Shipping (Certification of Officers) Regulations, 1998 ("Officers Regulations") made under Section 3 of the Merchant Shipping (Certification of Seamen) Act, 1979, specify the standards of competency and the conditions to be satisfied before a Certificate of Competency under those Regulations will be issued. These examination directions are produced in order to comply with the requirements of the Seafarer's Training Certification and Watchkeeping (STCW) Convention and Code, as amended.

- b. Directions as to as to the Examination of Engineer Officers, Marine Engine Operators and Engine Room Watch Ratings under the Merchant Shipping Acts which are located in Annex 8 of this Work Package. These directions, issued under the Merchant Shipping (Training and Certification) Regulations, 2014, and the Merchant Shipping (Certification of Seamen) Act, 1979, specify the standards of competency and the conditions to be satisfied before Engineer Officer Certificates of Competency, Electro-technical Officer Certificates of Competency, Marine Engine Operator Licences and Engine Room Rating Certificates are issued. All engineer officer and electro-technical officer certificates of competency must be issued in accordance with STCW 1978, as amended, to retain their validity.

2.5 Employment System and Restrictions for National/Residents and Foreigners

The Irish legal system has no restrictions on the employment and nationality of non-Irish seafarers. Immigration restrictions may only apply in some cases.

In general restrictions apply only to Sea-Fishing Boat Licence. For Fishing vessels, Section 4 of the Fisheries (Amendment) Act 2003 states that a sea-fishing boat licence shall not be granted unless the boat in question is wholly owned by a National of a Member State or a State belonging to the European Economic Area or a body corporate established under and subject to the law of a Member State and having its principal place of business in a Member State or a State belonging to the European Economic Area. Where a sea-fishing boat is owned by a body corporate, the name, address and nationality of the beneficial owner or owners of the shares in, or of the person or persons who otherwise controls or control, the body corporate shall be given to the Licensing Authority on application for a sea-fishing boat licence in respect of the boat, or where a sea-fishing boat licence is in force in respect of the boat, if there is any change in such ownership or control.

A body corporate applying for a sea-fishing boat licence must have an agent in the State and give the name and address and contact details of the agent to the Licensing Authority for the purpose of being contacted at any time on or on behalf of the Licensing Authority. The Licensing Authority may refuse to grant or may suspend a sea-fishing boat licence where the body corporate is not complying with the requirement of having an agent in the State who is contactable at any time.

2.6 Regulatory Framework for the Protection of the Marine Environment from Vessels Involved in Aquaculture of Salmonids

The Framework for the protection of the marine environment from vessels involved in aquaculture falls under the responsibility of the MSO which cooperates with Irish departments and Agencies and with authorities in other countries to implement measures for the protection of the marine environment. The discussions in the MSO informed us that the most relevant regulatory instrument for the vessels in aquaculture is the MARPOL Convention. The Sea Pollution Act, 1991, as updated in 1st September 2017, enabled Ireland to ratify MARPOL 73/78. More specifically:

Sea Pollution (Prevention of Oil Pollution) Regulations 2007 [S.I. No. 788 of 2007] give effect to Annex I of MARPOL 73/78. The Regulations apply to all Irish ships wherever they may be and to all other ships when they are in the territorial waters of the State.

The Regulations prohibit and control discharge into the sea of oil and oily mixtures. Ships are required to be surveyed for the purposes of the Regulations and to carry an International Pollution Prevention Certificate.

As per Prevention of Pollution by Sewage from Ships, Regulations 2006 (S.I. No. 269 of 2006), Regulations 2012 (SI No. 492 of 2012) and Regulations 2008 (S.I. No. 281 of 2008) require from the vessels to have an International Sewage Pollution Prevention Certificate. The Regulations apply to the following ships engaged in international voyages or in the State:

- ✓ new ships of 400 gross tonnage and above,
- ✓ new ships of less than 400 gross tonnage that are certified to carry more than 15 persons,
- ✓ existing ships of 400 gross tonnage and above, from 1 August 2010, and
- ✓ existing ships of less than 400 gross tonnage that are certified to carry more than 15 persons, from 1 August 2010.

The Regulations 2008 (S.I. No. 281 of 2008) make also provisions also for control of sewage originating from spaces on ships containing living animals.

As per Annex V of Marpol, Prevention of Pollution by Garbage from Ships, regulations 2012(SI No.372 of 2012), apply to all Irish ships wherever they may be and to all other ships when they are in the territorial seas and inland waters and prohibit the discharge of all garbage into the sea for Garbage Management Plan for the following categories of vessels :

- ✓ every fixed and floating platform;
- ✓ every ship of 100gt and above;
- ✓ and every ship certified to carry 15 or more persons

Regarding Annex VI of Marpol, the Sea Pollution (Prevention of Air Pollution from Ships) Regulation 2010 (SI No. 313 of 2010) and (Amendment) Regulations 2011 (SI No. 383 of 2011) apply to Irish ships everywhere and to other ships when they are in the inland waters and territorial seas of the State. The Regulation controls emissions from ships and includes provisions for improved specification of marine diesel engines, reduction of sulphur content of marine fuels, regulation of ozone-depleting substances, volatile organic compounds and shipboard incineration of wastes.

Overall, in Ireland various efforts have been taken both from aquaculture facilities and vessels to protect the environment and fish health. Each farm must have a regular water monitoring program to maintain water quality to fish health. All equipment should be properly designed and maintained to safeguard the welfare of stock at all times. The Farmed Salmonid Health Handbook was developed in 2011 by the AquaPlan project, with the support of the Marine Institute, to serve as a detailed manual on fish health for Ireland's salmon and trout farming. According to the Handbook high levels of biosecurity measures are required by wellboat owners to minimise the risk of infectious disease transmission from one site to another. Wellboat operators should register with the Marine Institute and to observe the biosecurity standards presented in Table 3.

Table 3: Biosecurity standards and stages for Wellboats

Stage	To be completed	Biosecurity steps	When/where	Paperwork
1	After each consignment of fish is unloaded.	Brush or clean solids from all surfaces. Pressure clean the deck, wells, equipment, pumps and protective clothing using an appropriate detergent.	As soon as work has been completed on a site	The cleaning checklist is signed off by the skipper and witnessed by another crew member.
2	When coming to Ireland from abroad AND when moving between bays in Ireland, except when carrying out shuttle runs between agreed management areas.	Steam clean and disinfect all surfaces, including the hull down to the waterline.	At a location at least 5km from an active fish farm	<p>The cleaning / disinfection checklist is signed off by the skipper and witnessed by another crew member. The manager of the site where the well boat is to be used must satisfy him/herself that cleaning and disinfection has been completed thoroughly by boarding the vessel, speaking with the skipper and carrying out an inspection. The site manager's signature on the cleaning / disinfection checklist is necessary before the boat can commence site operations.</p> <p>In situations where a well boat is coming in from outside the country, (except where a Stage 3 disinfection is required), the checklist referred to in the bullet point above must be faxed / e-mailed through to the MI at this point. Boats must travel with a clean (non-fouled) hull, when coming into the country from outside.</p> <p>The site manager must also satisfy him / herself in relation to the travel plan used by the well boat, en route to his / her site. This is done by inspecting the vessel's Transportation Log.</p>
3	When leaving an area infected or suspected of being infected with a listed disease, either within Ireland or abroad. OR If the vessel is entering Irish waters with a fouled hull that has not been de-fouled in the previous six months.	Slip the vessel, clean and disinfect the hull below the waterline.	<p>A suitable port in the country of origin, or Belfast, Cork or Dublin Ports. Once slipped, the boat should steer a course at least 5km from an active fish farm *</p> <p><i>*It may not always be possible to steer a course which is 5km or more from a fish farm. In such cases, wellboats must travel with their wells closed. Ballast water may not be discharged within 5 km of a fish farm.</i></p>	Cleaning and disinfection must be signed off by a vet and a copy of the completed checklist must be faxed through to the Marine Institute before work commences on a new site.

Source: The Farmed Salmonid Health Handbook 2011

According to the Handbook, wellboats are required to maintain at all times a Transportation Log containing the information such as: date/ time of loading, name and address of the site of origin, destination and species transported. Wellboats are also required to undertake an annual independent audit of operations completed by a private veterinary practitioner and spot inspections by Marine Institute personnel.

3. Conclusion

The Findings of the Work Package 1 are summarised in Table 4.

Table 4: Findings of WP1

Section	Content
S. 2.1 Framework for Vessels	The framework for vessels involved in aquaculture will be split into two sections. The first one discusses the framework for fishing vessels which are involved in aquaculture (Section 2.1) and the second one (Section 2.1.2) the framework for non-fishing vessels involved in aquaculture. The framework of Section 2.1.2, which mainly involves vessels involved in aquaculture of salmonids, includes the following main instruments: Merchant Shipping (Load Line) Rules 2001, Merchant Shipping Act, 1992 S.I. No. 273/2002 Merchant Shipping (Passenger Boat) Regulations 2002. The registration of commercial vessels in Ireland is subject to the Mercantile Marine Act 1955.
S. 2.2 Areas, Zones and Limitations	For ships involved in aquaculture of salmonids and carry passengers on board, there are specific trade limitations based on their Class categorisation. There are 6 categories of passenger vessels in Ireland and each category is allowed to operate in specific areas. If a vessel carries only crew inside smooth waters, and not passengers, is not required to carry any special certificates from the MSO as long as it operates inside sheltered waters.
S. 2.3 Minimum Safe Manning Certificates	<p>For Irish sea-going ships of 100 gross tonnage the Merchant Shipping Act of 2010, as amended, provides the safe manning regulations. Safe manning regulations comply with the IMO principles of safe manning. Usually, vessels involved in the aquaculture of salmonids are not required to carry a Minimum Safe Manning Certificate since many of them that are currently in the registry are below 100 gt or are not sea-going vessels.</p> <p>For passenger boats, which is one of the main types of vessel involved in aquaculture of salmonides, the Passenger Boat Licence states the maximum number of persons onboard. Merchant Shipping (Passenger Boat) Regulations 2002 specify that passenger boat fleet category includes the carriage of not more than 12 passengers on board. For the purposes of these regulations passenger boats are arranged in 6 Classes (P1 to P6), depending on the area of operation, and number of passengers on board.</p>
S. 2.4 Seafarers Certifications	Any seafarer employed on board every Irish seagoing ship, and which is ordinarily engaged in commercial maritime operations, is required to hold a valid medical certificate. Besides, Marine Notice No 27 of 2005 includes all the relevant certifications for crew on passenger ships (Table 2).

S. 2.5 Employment System	The Irish legal system has no restrictions on the employment and nationality of non-Irish seafarers. Some Restrictions apply only to Sea-Fishing Boat Licence
S. 2.6 Framework for the Protection of the Marine Environment	The main regulatory framework for the protection of the marine environment is MARPOL 73/78.

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Annexes (Attached separately)

ANNEX 1: Merchant Shipping (Registry, Lettering and Numbering of Fishing boats) Regulations 2005 (S.I. No. 261 of 2005).

ANNEX 2: S.I. No. 424/2001 – Merchant Shipping (Load Line) Rules, 2001.

ANNEX 3: S.I. No. 273/2002 - Merchant Shipping (Passenger Boat) Regulations 2002

ANNEX 4: Marine Notice No. 01.2018

ANNEX 5: Merchant Shipping (Registration of Ships) Act 2014

ANNEX 6: Marine Notice No. 38.2014

ANNEX 7: Directions as to the Examination of Deck Officers Under the Merchant Shipping Acts.

ANNEX 8: Directions as to the Examination of Engineer Officers Under the Merchant Shipping Acts

C2. Republic of Ireland : Work Package 2

1. Introduction

This work package report provides the steps of the registration process of the fleet including documentation submitted by the owner and Certificates issued by the Irish Maritime Administration (hereinafter referred to as IMA). In addition, the inspection regime prior and after registration will be examined along with the Role of Recognized Organizations (hereinafter referred to as Ros). A SWOT analysis will also be conducted for the registration and operation of aquaculture sector and vessels involved in it.

The study for Ireland is based on both primary sources and secondary sources of law, as well as explanations and rational interpretations provided by respondents interviewed in January 2018. The author had an in-depth interview with the Registrar General and 3 other advisors from the Fisheries Administration Division of the National Seafood Centre in Clonakilty. Besides, a second interview was scheduled with the Deputy Chief Surveyor and a ship surveyor of the Marine Survey Office (MSO) of the IMA which is a department of Transport, Tourism & Sport in Dublin. A third interview was scheduled with an industry and national expert of the aquaculture sector from the Irish Sea Foods Development Agency in Dublin (BIM).

2. Identification of Vessels Eligible and/or Used in Aquaculture of Salmonids and Supporting Activities

2.1 Fishing vessels involved in aquaculture

The fishing fleet segments internal document was provided by the interviewees in the National Seafood Centre in Clonakilty and is incorporated in this part.

As fishing vessel is considered any vessel having on board a fishing gear, including dredges, and engaging in commercial sea-fishing activity. Ministerial Policy Directive 2 of 2003, as amended by Ministerial Policy Directive 1 of 2006, Ministerial Policy Directive 1 of 2011 and Policy Directive 2 of 2011, provides that the Irish fishing fleet comprises five ring-fenced Segments: Aquaculture, Specific, Polyvalent, Beam Trawl and Refrigerated Sea Water (RSW) Pelagic. The Polyvalent Segment and Specific Segment are broken into four and two sub-segments respectively. The transfer of capacity between Segments and Sub-segments is prohibited. A fishing vessel may only be registered and licensed in one Segment or Sub-segment of the fleet at any given time. The Aquaculture Sector is the one which is more relevant to the aims of the study.

A more specific description of the Irish Fleet Segments/Sub-segments is as follows:

Aquaculture Segment: This segment contains 97 vessels with a total capacity of 3,475GT and 10,356kW. Vessels in the aquaculture segment range from 4.38m to 49.07m in length overall, from 0.57GT to 561GT in volume and 7.30kW to 748kW in engine power. The Aquaculture Segment is not subject to the entry/exit regime (i.e. replacement capacity in the form of gross tonnes and kilowatts is not required to be provided). The capacity of the

Aquaculture Segment is not part of Ireland's Fishing Capacity Ceiling set from 1 January 2014 under Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy. Vessels licensed in this segment must be used exclusively in the harvesting, transport, handling and/or landing of aquaculture products and can, subject to an authorisation under section 13 of the Sea-Fisheries and Maritime Jurisdiction Act 2006, collect wild mussel seed as part of a service to aquaculture installations, subject to certain restrictions determined in the context of Regulation (EU) No 1380/2013.

Specific Segment: This segment contains 140 vessels, which are permitted to fish for bivalve molluscs and aquaculture species. There are two sub-segments:

- o Scallop sub-segment - vessels equal to or over 10m in length overall with qualifying track record in the scallop fishery, as defined in Ministerial Policy Directive 2 of 2003, as amended by Ministerial Policy Directives 1 of 2006, 1 of 2011 and 2 of 2011
- o Specific general sub-segment - vessels in this segment range from 6.61m to 35.59m in length overall, from 1.39GT to 187GT in volume and 14.17kW to 560kW in engine power.

Polyvalent Segment: This segment comprises 1,726 vessels, the greater part of the sea-fishing fleet. Polyvalent vessels are multi-purpose and include small inshore vessels (netters and potters), and medium and large offshore vessels, targeting whitefish, pelagic fish and bivalve molluscs. Vessels in this segment range from 3.06m to 38m in length overall, from 0.19GT to 1,119kW in engine power. The segment has four sub-segments:

- vessels under 18m in length overall
- vessels equal to or over 18m in length overall
- the Scallop sub-segment – vessels equal to or over 10m in length overall with qualifying track record in the scallop fishery, as defined in Ministerial Policy Directive 2 of 2003, as amended by Ministerial Policy Directives 1 of 2006, 1 of 2011 and 2 of 2011
- the Potting sub-segment – vessels licensed and registered under the “Potting Scheme”. (The Scheme for the Licensing of Traditional Pot Fishing Boats in the Irish inshore Fleet was introduced in 2003 in order to regularise the position of a substantial number of under 12-metre vessels engaged in pot fishing. Vessels in the sub-segment must fish by means of pots only and may not target quota species. The capacity of the vessels was awarded free of charge; however, it is not eligible as replacement capacity in any other segment/sub-segment of the fleet and cannot be traded, transferred or otherwise used. The licence may however be transferred to an immediate family member).

Beam Trawler Segment: This segment contains 8 vessels, dedicated to beam trawling. Vessels in this segment may fish only by means of beam trawls, and target demersal species, including plaice, sole, turbot etc. They range in size from 20.04m to 28.05m in length overall, from 68GT to 196GT in volume and 221kW to 473kW in engine power.

Refrigerated Seawater (RSW) Pelagic Segment: This segment contains 23 vessels engaged predominantly in fishing for pelagic species (mainly herring, mackerel, horse mackerel, blue whiting and boarfish). Vessels in the RSW segment range in size from 27.35m to 71m in length overall, from 325GT to 1,988GT in volume and 522kW to 3,460kW in engine power.

Table 1 table provided by the Registrar of the fishing fleet includes Fleet Segments and Main Target Species.

Table 1: Fleet Segments and Species

Fleet Segments	Main Target Species	
	Fin Fish	Shellfish
Refrigerated Sea Water (RSW) Pelagic	Pelagic (e.g. Mackerel, Herring, Horse Mackerel, Blue Whiting, Boarfish, Albacore)	
Polyvalent (sub-divided into:- Potting Sub-segment; Scallop Sub-segment; ≥ 18 metre length overall Sub-segment and < 18 metre length overall Sub-segment)	Demersal (e.g. Whiting, Haddock, Hake, Cod, Halibut, Sole, Plaice, Monkfish, Megrim, Skate) Pelagic (e.g. Mackerel, Herring, Horse Mackerel, Blue Whiting, Boarfish, Albacore)	Lobster, Crab, <i>Nephrops</i> , Shrimp, Whelk, Bi-Valve Molluscs (e.g. Mussels, Scallop, Razor Clam, Clam, Oyster etc.)
Beam Trawl	Demersal (e.g. Whiting, Haddock, Hake, Cod, Halibut, Sole, Plaice, Monkfish, Megrim, Skate)	<i>Nephrops</i> , Scallop
Specific (sub-divided into Scallop Sub-segment and General Sub-segment)	N/A	Farmed species and wild Bi-Valve Molluscs (e.g. Mussels, Scallop, Razor Clam, Clam, Oyster etc.)
Aquaculture	Farmed species only	Farmed species only

2.1 Non-Fishing vessels involved in aquaculture

There is not a special definition for non-fishing vessels involved in the aquaculture. All the vessels involved in the aquaculture of salmonids are treated mainly as passenger vessels or cargo vessels, despite their length or size. However, after the discussions in the MSO these vessels are usually passenger vessels since vessels involved in the aquaculture of salmonids may carry personnel who work on the farming facilities, carry food for fishing farms or transfer live fish. The size of a passenger vessel varies and may come down to 5 meters. Six categories of passenger vessels exist in Ireland based on the number of Load Line Certificates and number of boat Passenger issued:

- Class P1. Passenger boats **with no more than three passengers** on board used for domestic voyages in **smooth waters** in the course of which the passengers are engaged in activities other than those specified in Class P4.
- Class P2. Passenger boats with **no more than twelve passengers** on board used for domestic voyages in **smooth waters** in the course of which the passengers are engaged in activities other than those specified in Class P4.
- Class P3. Passenger boats with **no more than twelve passengers** on board used for domestic voyages in smooth waters, in partially smooth waters or to sea in the course of which the passenger boats are **within fifteen miles** (exclusive of any smooth waters or partially smooth waters) from their designated points of departure and **within three miles from land**.

- Class P4. Passenger boats with **no more than three passengers** on board used for domestic voyages in smooth waters, in partially smooth waters, within harbour limits or to sea in the course of which the passenger boats are **within half a mile** (exclusive of any smooth waters or partially smooth waters) from their designated points of departure; provided that the passengers are engaged exclusively in the course of their employment in connection with marine civil engineering, survey of harbour limits dredging or similar commercial activities.
- Class P5. Passenger boats with **no more than twelve** passengers on board used for domestic voyages in **smooth waters, in partially smooth waters or to sea.**
- Class P6. Passenger boats **with no more than twelve** passengers on board used for domestic voyages **in smooth waters, in partially smooth waters or to sea,** in the course of which the passengers are engaged actively and solely in waterborne activities in which the passenger boats form an integral and necessary part of those activities.

The MSO does not possess statistics about the number of vessels registered and used in the aquaculture of salmonids since the Irish merchant ships are not categorised based on their type of activity. The discussions in the MSO revealed that, to the best of their knowledge, there may be approximately 3 registered passenger vessels involved in aquaculture of salmonids. Besides, there may be approximately 2-3 small well boats of thirty meters and another 15-20 work boats which are mainly used inside the aquaculture establishments for the harvesting and feeding of salmon. A large number of plastic boats, between 7-10 meters are utilised in the sector, but these are not obliged to get registered. The identification of the type of a vessel is not an easy task for MSO.

3. Evaluation of the Registration Process of the Fleet involved in Aquaculture of Salmonids

The Irish fishing fleet is divided into 5 segments, one being the aquaculture segment. The Fisheries Administration Division of the National Seafood Centre in Clonakilty has the responsibility for maintaining a Register of Fishing Boats and the proper management of the capacity (gross tonnes and kilowatts) of Irish fishing vessels. The Licensing Authority is the Registrar General of Fishing Boats, an official of the Department of Agriculture, Food and the Marine or, under the superintendence of the Registrar General, the Deputy Registrar General of Fishing Boats. All applications for sea-fishing boat licences are considered by the Licensing Authority.

Before a sea fishing boat may engage in commercial sea fishing activities the vessel must be entered on the Fishing Boat Register and hold a current sea fishing boat licence. The segment or sub-segment of the Irish fishing fleet in which a vessel is registered and licensed generally determines a vessel's fishing activity and the fish stocks it may target, subject to an authorisation which may be required under Section 13 of the Sea-Fisheries and Maritime Jurisdiction Act 2006. While the Registrar General maintains a Register of Fishing Boats and licenses sea-fishing boats under strict criteria outlined in the notes, he has no role in fishing vessel safety, in seafarers' competencies, in food safety or in grants in respect of aquaculture. Fishing vessel safety and seafarers' competencies are the responsibility of the MSO of the Department of Transport, Tourism and Sport. Overall, before a sea fishing boat may engage in commercial sea fishing activities the vessel must be entered on the Fishing Boat Register and hold a current sea fishing boat licence.

Regarding the registration process of non-fishing vessels which are involved in aquaculture, this falls under the same regime for cargo or passenger vessels. The registration of vessels in Ireland is subject to the Mercantile Marine Act 1955, as amended. The chief officer of customs and excise at any port of registry and any other officer of customs and excise appointed for the purpose by the Revenue Commissioners are registrars of ships. MSO is involved in the registration process only for the issuance of the Tonnage Certificate. The interested owner should make an application for an initial survey of the ship and pay the relevant fees.

3.1 Steps of the Registration Process of the Aquaculture Fleet

The steps for the Registration of fishing vessels involved in aquaculture and for the Registration of non- fishing vessels involved in aquaculture, will be described in the following sections 3.1.1 and 3.1.2.

3.1.1 Registration for fishing vessels involved in aquaculture

The licensing and registration process notes given to us by the Registrar General outline the sea-fishing boat licensing and registration procedures. Before a sea fishing boat may engage in commercial sea fishing activities the vessel must be entered on the Fishing Boat Register and hold a current sea fishing boat licence. The following steps must be complied with in order to regularise the registration and licensing position:

- The vessel owner(s) must complete a sea fishing boat Licence Application Form which is found in Annex 1. In the Form the relevant parties should fill the applicants and vessel information, category of licence applied for, capacity of the vessel, fishing activity, crew nationality /qualifications and ownership.
- The Licensing Authority must issue a licence offer on foot of receiving the completed application form which can be found in Annex 2.
- The vessel owner(s) must comply with all the conditions of the offer, including (a) having the characteristics of the vessel determined by a surveyor of ships (Marine Survey Office of the Department of Transport, Tourism and Sport) for vessels required to be registered under Part I of the Mercantile Marine Act 1955 (≥ 15 metres length overall) and for vessels not requiring such registration (< 15 metres length overall not registering a marine mortgage), measured by an authorised person and gross tonnage established by formula (Regulation (EU) 2017/1130 of the European Parliament and of the Council) (b) the provision of replacement capacity (i.e. gross tonnage and kilowatts) and (c) safety requirements.
- The Licensing Authority must issue a non-operative licence to enable the vessel to be entered on the Fishing Boat Register.
- The vessel owner(s) must apply for registration to a Local Registrar of Shipping using the "Blue Form".
- Following endorsement of the particulars on the Blue Form by the Local Registrar, is delivered by the Local Registrar to the Registrar General for examination and approval.

- The vessel, following approval, must be entered on the Fishing Boat Register and licensed to fish.
- In general, sea-fishing boat licences are for one year and are renewed annually subject to the vessel continuing to comply with its licensing conditions, including vessel safety.

The Licensing Authority is empowered to attach terms and conditions to or attach further terms or conditions to a sea-fishing boat licence or to vary any such terms or conditions or to remove any such terms and conditions.

Regarding the removal of a fishing vessel from the Fishing Boat Register, Section 75 of the Sea-Fisheries and Maritime Jurisdiction Act 2006 states that "the Registrar General may, in the interest of proper management of the capacity of Irish sea-fishing boats, enter a sea-fishing boat in the Register or remove it from the Register". While the majority of fishing vessels removed from the Fishing Boat Register are as a result of voluntary applications made by vessel owners, the Registrar General has the power under the Merchant Shipping (Registry, Lettering and Numbering of Fishing Boats) regulations 2005 (S.I. No. 261 of 2005) to compulsorily remove a vessel from the Register in certain circumstances. These Regulations provide, inter alia, that where a vessel is no longer engaged in fishing activities (Regulation 13) or where there has been a change of ownership (Regulation 15), the Registrar General may, by notice in writing under paragraphs (4) of each Regulation, request a submission as to the circumstances pertaining to the boat or require the completion of an application to have the boat removed from the Register, and for the return of the certificate of registry of the fishing boat. The Registrar General may, taking into account any submission made within 30 days of the request or where no application to remove the vessel is received, remove the vessel from the Register of Fishing Boats under paragraphs (5) of each Regulation.

The procedures for removing a vessel from the Register of Fishing Boats include, inter alia, encumbrance checks with the Local Registrar of Shipping for outstanding marine mortgages, BIM for outstanding loans/grants, the Sea Fisheries Protection Authority for SAT Link and Harbours Section for outstanding harbour dues. In this respect, Section 4 of the Fishery Harbour Centres Act 1968 (as amended by Section 102 of the Sea Fisheries and Maritime Jurisdiction Act 2006) states the following in Subsection (2A):

"(2A) (a) Any ship or boat in respect of which any rate, toll or other charge payable pursuant to an order under subsection (2)(b) is in arrears may not be disposed of without the consent of the Minister.
(b) A reference in this subsection and in subsection (2) to a ship or boat includes the capacity of it."

Regarding off-register capacity (i.e. Gross Tonnes and kilowatts), in accordance with the Fisheries (Amendment) Act 2003, the Minister issued Policy Directive 2/2003 to the Licensing Authority for Sea-fishing Boats in November 2003. This Policy Directive specified, inter alia, that "... in future capacity taken off the Fishing Boat Register must be re-introduced onto the Sea Fishing Boat Register within 2 years of its removal from the fleet register otherwise the entitlement will be lost to its owner. The two year rule will also apply to all existing "off register" capacity from 1/1/04".

The expiry date of off-register capacity is mandatory and set by the terms of Ministerial Policy Directive 2/2003 and is not a decision of the Licensing Authority. The legislation does not give power to the Licensing Authority to vary the requirements of a Policy Directive, such as to extend the two-year period of validity of off-register capacity. The Licensing Authority is therefore precluded from granting any extension with regard to the period of validity of off-register capacity. Following the customary written notification issued on de-registration of a vessel and on the purchase or sale of capacity, the Licensing Authority will not issue reminders of off-register capacity held and its expiry date(s) other than where contact concerning the off-register capacity is initiated by its owner(s).

3.1.2 Registration for non-fishing vessels involved in aquaculture

The registration of commercial vessels in Ireland is subject to the Mercantile Marine Act 1955, as amended. The Mercantile Marine Act 1955, Annex 3, has delegated the Actual Registration of the vessels to the customs. The chief officer of customs and excise at any port of registry and any other officer of customs and excise appointed for the purpose by the Revenue Commissioners are registrars of ships. The Revenue Commissioners (Revenues) is the Irish Government agency responsible for customs taxation and related matters. A local registrar is a designated Customs official at the port of Cork, Drogheda, Dublin, Dundalk, Galway, Limerick, Skibbereen, Sligo, Tralee, Waterford, Westport, or Wexford. Every registrar shall keep a book to be called the register book, and entries in that book shall be made in accordance with provisions of the Act.

The owner of the vessel should go through the local register of shipping in the Customs and prove the legal aspects ownership of the vessel. Exceptions may occur, but as a general rule of registration of a commercial ship in Ireland, the owner or majority owner must be a national of an EU Member State or a body corporate established under and subject to the law of an EU Member State and having its principal place of business in an EU Member State.

Besides, the interested owner should make an application for initial survey of the ship to the MSO based on the Form of Annex 4, paying the relevant fee. Thus, MSO is involved in the process because it issues the Tonnage Certificate. If the vessel is less than 15 meters the measurements include length, breadth, depth, tonnage, engine power and such other particulars descriptive of the identity of the ship. Along with the survey application to MSO, the following documents should be submitted:

- Copy of Proof of Ownership
- Copy of Certificate of Registry (When a ship is Registered)
- Copy of Bill of Sale or Other document (When a ship is not a registered ship)
- Written authorisation to act on behalf of the owner, when the applicant is not the owner
- The appropriate Fee

The Mercantile Marine Act 1955 specifies the registration process. There is a general exemption from the vessels less than 15 tonnes NET and are involved in voyages around Ireland and the United Kingdom. If the vessel is above 15 tonnes NET the

registration is compulsory. The vessel owner(s) must comply with all the conditions of the offer, including:

- (a) having the characteristics of the vessel determined by a surveyor of ships (Marine Survey Office of the Department of Transport, Tourism and Sport) for vessels required to be registered under Part I of the Mercantile Marine Act 1955 (≥ 15 metres length overall) and for vessels not requiring such registration (< 15 metres length overall not registering a marine mortgage), measured by an authorised person and gross tonnage established by formula (Regulation (EU) 2017/1130 of the European Parliament and of the Council),
- (b) the provision of replacement capacity (i.e. gross tonnage and kilowatts) and
- (c) safety requirements.

Specifically the Act, specifies, before registration, the survey requirement for the tonnage measurement and marking of a ship. According to Section 25 of the Act and tonnage.

Section 25 Survey and measurement of ship

(1) Every ship shall, before registry under this Act, be surveyed by a surveyor of ships and her tonnage ascertained in accordance with the tonnage regulations of this Act, and the surveyor shall grant his certificate specifying the ship's tonnage and build, and such other particulars descriptive of the identity of the ship as may for the time being be required by the Minister, and the certificate shall be delivered to the registrar before registry.

(2) If the Minister is satisfied that, in another country, the rules for the measurement of the tonnage and build of ships are similar to the tonnage regulations of this Act, he may recognise certificates of measurement and build issued by the appropriate authority in that country, and such certificates shall be deemed to have been granted under subsection (1) of this section.

Section 26 Marking of ship

1) Every ship shall, before registry under this Act, be marked permanently and conspicuously to the satisfaction of the Minister in the following manner:

(a) the ship's name shall be marked on each of her bows, and her name and the name of her port of registry shall be marked on her stern, on a dark ground in white or yellow letters, or on a light ground in black letters, and the letters shall be not less than four inches in length and of proportionate breadth;

(b) the ship's official number and the number denoting her registered tonnage shall be cut on her main beam;

(c) a scale of feet denoting the ship's draught of water shall be marked on each side of her stem and of her stern post in Roman capital letters or in figures not less than six inches in length, the lower line of such letters or figures to coincide with the draught line denoted thereby, and those lines or figures shall be marked by being cut in and painted white or yellow on a dark ground, or in such other way as the Minister approves.

Regarding Section 27, the Act states that an application for registry of a ship shall be made, by the person/s requiring to be registered as owner and Section 28 requires from applicants to make and sign a declaration of ownership, referring to the ship as described in the certificate of the surveyor, and containing such particulars as the Minister may require. Section 29, makes provisions on the first registry of a ship the following evidence shall be produced in addition to the declaration of ownership:

(1) On the first registry of a ship the following evidence shall be produced in addition to the declaration of ownership:

(a) in the case of a ship built in the State, a builder's certificate, that is to say a certificate signed by the builder of the ship and containing a true account of the proper denomination and of the tonnage of the ship, as estimated by him, and of the time when and the place where she was built, and of the name of the person (if any) on whose account the ship was built and, if there has been any sale, the bill of sale under which the ship, or a share therein, has become vested in the applicant for registry;

- (b) in the case of a ship built outside the State, the same evidence as in the case of a ship built in the State unless the declarant who makes the declaration of ownership declares that the time and place of her building are unknown to him, or that the builder's certificate cannot be procured, in which case there shall be required only the bill of sale under which the ship, or a share therein, became vested in the applicant for registry;
 - (c) in the case of a ship condemned by any competent court, an official copy of the condemnation.
- (2) The builder shall grant the certificate required by this section, and any such person as the Revenue Commissioners recognise as carrying on the business of the builder of a ship shall be included, for the purposes of this section, in the expression "builder of the ship".
- (3) If the person granting a builder's certificate under this section wilfully makes a false statement in that certificate he shall be guilty of an offence and shall be liable, on summary conviction thereof, to a fine not exceeding one hundred pounds.

Section 30 specifies the information that should be entered in the register and these are:

- (a) the name of the ship and her port of registry;
- (b) the details comprised in the surveyor's certificate;
- (c) the particulars respecting her origin stated in the declaration of ownership; and
- (d) the name and description of her registered owner or owners, and if there are more owners than one, the proportions in which they are interested in her.

It should be also mentioned that passenger vessels need a Passenger Vessel Licence, which is an 1-day application process. The interested owners should submit to the Revenues their authorisation under the Merchant Shipping Act and proof of ownership to the National Excise Licence Office with the completed Passenger Vessel Application Form found in Annex 5. The application should be signed by:

- the licensee, if a sole trader
- one of the partners, if a partnership
- the company secretary or a director of the company, in the case of an incorporated firm.

When Revenue has processed the application will issue a First Time Application Notice. This notice invites the interested parties to complete the application and pay online for the licence. The National Excise Licence Office will send a renewal notice in early September each year.

It is worth noting that the new Merchant Shipping (Registration of Ships) Act 2014, Annex 5 of Work Package 1, has been drafted but it's not yet implemented. The Act is to replace and update the Mercantile Marine Act 1955, as amended, and provide a legal framework for the establishment and regulation of a modern and comprehensive ship registration system that will be more efficient, user-friendly and accessible for ship owners. The Act will create one central electronic Irish Register of Ships will digitalise the registration procedure for all types of vessels.

3.2 Documentation and Certificates Needed Prior Registration

All documents and certificates needed prior registration have been specified in Section 3.1. For example, for a fishing vessel a Licence Application Form is required by the owner. Besides, the Licensing Authority must issue a Licence Offer in which the characteristics of the vessel determined by a surveyor of ship. The Authority must

also issue a non-operative licence to enable the vessel to be entered on the Fishing Boat Register.

For non-fishing vessels which are involved in aquaculture of salmonids a licence is not required. For passenger or cargo ships, there should be, before registration, a proof of ownership (e.g. Builders Certificate, Bill of Sale). Besides, every ship before registration should be surveyed by a surveyor of MSO and grant a certificate specifying the ship's tonnage and such other particulars descriptive of the identity of the ship. The certificate shall be delivered to the registrar before registry. A Load Line Certificate cannot be issued if the vessel is not registered.

3.3 Certificates Issued by Flag and that must be Carried on Board

The MSO is the relevant body for survey and inspection of vessels after an application has been made by interested party or parties. Overall the list of certificates that should be carried on board, based on size, type and trade area of the vessel, are:

- Passenger Boat License (Vessels carrying less than 12 passengers. P1, P2, P3, P4, P5, P6 category),
- Passenger Ship Certificate (Irish passenger ships carrying more than 12 passengers, Class I, II, IIA, III, IV, V, VI) ,
- Passenger Ship Safety Certificate (Class A, B, C, D) ,
- Fishing vessel certificate of compliance (over 24m. Sea Areas A1, A2, A3),
- Fishing Vessel Safety Certificate (vessels 15-24m. Sea Areas A1, A2, A3),
- International Load Line Certificate,
- Irish Load Line Certificate,
- Irish Load Line Exception Certificate,
- Cargo Ship Safety Certificate,
- Cargo Ship Safety Certificate,
- International Tonnage Certificate (vessels over 24m in registered length engaged on International voyages),
- Irish Tonnage Certificate (all vessels on domestic voyages or vessel on International voyages that are less than 24 m in registered length),
- Statement of Maritime Labour Compliance Part 1.

The MSO issues “MARPOL” certificates to vessels that are not in Class. Certificates such as the Sewage Pollution Prevention Certificate issued to most domestic passenger vessels, carrying more than 12 persons. by the MSO.

Usually for non-fishing vessels which are involved in aquaculture, the issuance of an Irish Tonnage Certificate, specifying the ship's tonnage and build, and such other particulars descriptive of the identity of the ship is required by a surveyor. Besides, Merchant Shipping (Load Line) Rules, 2001 require a Load Line Certificate or Passenger Load Line Certificate. Subject to the provisions of rule 8, the Assigning Authority shall issue an International Load Line Certificate in the case of a Convention-size ship, or an Irish Load Line Certificate in the case of any other ship, for a period which shall not exceed a period of five years.

Regarding Passenger ships, the Merchant Shipping Act, state that the operation of a Passenger Vessel is required to hold one of the following:

- a Passenger Ship Safety Certificate for Irish passenger ships carrying more than 12 passengers
- a High speed Craft Safety Certificate for Irish high speed crafts carrying 12 passengers or more
- a Passenger Boat Licence for vessels carrying less than 12 passengers.

The Merchant Shipping (Passenger Boat) Regulations 2002, as amended by the Merchant Shipping (Passenger Boat Amendment) Regulations 2002, require from passenger boats to hold a passenger boat licence. There is an exemption for passenger boat licence, relevant to fishing on lakes, for open vessels of no less than 4 meters in length, carrying no more than 3 passengers on board for the purpose of angling and engaged on domestic voyages in smooth waters on canals, rivers, lakes and loughs.

According to Section 8 of the Merchant Shipping Act, upon successful completion of an initial survey of a vessel carrying more than 12 passengers, which is not the usual case in aquaculture, a Passenger Ship Certificate should be issued and carried on board. The Certificate will describe the limits (if any) beyond which the vessel shall operate and the maximum number of passengers that the vessel shall carry (specifying, if necessary, the numbers to be carried in different parts of the vessel) and any conditions and variations to which the number is subject.

From the above analysis, it should be underlined that in Ireland small non-fishing vessels which carry no more than 3 passengers and are operating only in shallow water may perfectly legally operate, without the issuance of Certificates since they are not regulated under a special regime.

For Fishing Vessels, their licence and registration should be carried on board. The Licensing Authority may only grant or renew a Sea Fishing Boat licence only if the vessel has a current safety certificate. Vessels under 15 meters should hold a valid Declaration of Compliance with the Code of Practice in relation to the Safety of Fishing Vessels of less than 15 Metres which is issued by an authorised private surveyor from the panel established by the MSO. Vessels that are between 15-24 meters, must hold a valid Fishing Vessel Safety Certificate issued by the Marine Survey Office. Vessels in the greater than or equal to 24 metre category must hold a valid Certificate of Compliance issued by the Marine Survey Office. It is the practice of the Licensing Authority to alert vessel owners well in advance of the expiry of their licenses if their safety certification will be out of date at the due time.

3.4 Inspection Regime (prior and after registration)

MSO of the Irish Maritime Administration is the responsible body for flag state regulatory control and vessels surveys in Ireland. The Office carries out the initial approval of designs and drawings for new vessels or modifications to existing vessels and then carries out the surveys necessary for the certification of those vessels. Prior

registration, the vessel surveyor should confirm the identity of the ship, tonnage and marking requirements.

The first Certificate of any vessel before going to the sea is the Load Line Certificate. Under the Merchant Shipping Act 1992, all passenger boats carrying up to twelve passengers are required also to hold a valid passenger boat licence.

After registration and licencing, for Load Line vessels there is an Annual Inspection. Besides, there is a two years survey for passenger ships. For passenger ships licensed to carry more than 12 people, which is not typical for aquaculture vessels, are required to pass an annual safety inspection carried out by MSO.

Overall the inspection regime of the MSO, depending on vessel type, size and trading area is the following:

- Passenger Boat License: Initial and Renewal
- Passenger Ship Certificate: Initial and Renewal
- Passenger Ship Safety Certificate: Initial and Renewal
- Fishing vessel certificate of compliance (over 24m): Initial, Renewal, Two Year Periodical (Hull, Machinery, Safety Equipment and Radio), One Year Periodical (Radio)
- Fishing Vessel Safety Certificate (vessels 15-24m): Initial, Renewal, Two Year Periodical (Hull, Machinery, Safety Equipment and Radio), One Year Periodical (Radio)
- International Load Line Certificate: Initial, Annual, Renewal,
- Irish Load Line Certificate: Initial, Annual, Certificate Extension
- Irish Load Line Exception Certificate: Initial, Annual, Renewal
- Cargo Ship Safety Certificate: Initial, Annual, Intermediate, Initial (SE Only), Annual (SE Only), Intermediate (SE Only)
- Cargo Ship Safety Radio Certificate: Initial, Annual, Intermediate, Certificate Extension, Radio
- International Tonnage Certificate 1969 (vessels over 24m engaged on International voyages): Initial and Re-measurement (including change of engine)
- Irish Tonnage Certificate (all vessels on domestic voyages or vessel on International voyages that are less than 24 m in registered length): Initial and Re-measurement (including change of engine)

3.5 Role of Recognized Organizations

There are 7 ROs which perform inspections on behalf of the Administration and these are: American Bureau of Shipping (ABS), Bureau Veritas (BV), Det Norske Veritas Germanischer Lloyd (DNV GL), Registro Italiano Navale (RINA), Lloyds Register of Shipping (LRS), Russian Maritime Register of Shipping (RMRS), Nippon Kaiji Kyokai (NKK).

For all the vessels up to 24 meters, certificates are issued only by the MSO. However, the inspections that have been conducted by a Recognized Organisation, will be taken into account from MSO when issuing the Certificate. For vessels over 24 meters, the

Administration may delegate the annual surveys to a RO and it is the responsibility of the owner to appoint and pay the RO. ROs cannot issue Passenger Boat licences.

The European Communities (Ship Inspection and Survey Organisations) Regulations 2011 gave effect to the EU Directive 2009/15/EC on common rules and standards for ship inspection and survey organisations and for the relevant activities of maritime administrations. It contains articles relating to the financial liability of recognised organisations for any marine casualty caused by wilful act, omission or gross negligence.

For fishing vessels, according to Marine Notice No. 45 of 2017 which can be found in Annex 6, the Marine Survey Office (MSO) wishes to appoint a panel of qualified marine surveyors and organisations to conduct surveys of fishing vessels of less than 15m length overall, in accordance with a Code of Practice for such vessels. The role of the Surveyor will include: Inspecting the Fishing Vessel for Compliance with the Code.

4. SWOT Analysis

The main strengths, weaknesses, opportunities and threats identified in the whole registration and administration procedure of vessels involved in aquaculture are presented in sections 4.1- 4.4.

4.1 Strengths

First of all, the registration system both for fishing boats and commercial vessels is fairly transparent since there are strict procedures based on a series of statutes, cited collectively as the Merchant Shipping Acts 1894 to 2014, that create a straight forward procedure for registration.

Besides, the staff of the MSO consists mainly of experts Marine Surveyors drawn from backgrounds that ensure expertise in the different professional disciplines of navigation, engineering and naval architecture. MSO performs strict safety regulations for the operation of fishing or commercial vessels, ensuring their seaworthiness. The inspection regime provides a high level of auditing and the whole process includes document control and inspection to ensure compliance with the international and national legislation. Actual safety certification for small vessels is made in house and is not delegated to ROs. The main aim of the regime is to build strong behavioural attitudes with regard to safety and the environment. IMA has entered into agreements with 7 renowned Recognised Organisations (ROs) to carry out surveys and inspections and issue statutory certificates for vessels over 24 meters.

Furthermore, the Irish Sea Foods Development Agency (BIM) is the governmental body with the mission to grow even further the aquaculture sector. Through technical advice, business support and funding, BIM intends to grow the aquaculture sector, provide more products and open new positions.

4.2 Weaknesses

From the discussions it was made clear that salmon farming is a small sector of the whole aquaculture industry since it suffers from economies of scale to maximize the

profit margin. The differentiator factor that makes the sector profitable is the exporting of organic salmon. Small is also considered the number of vessels involved in the farming of salmonids.

A major weakness of the whole registration and administration process is that there is not a dedicated unit which could deal with the registration and the administration of all the aquaculture vessels. The procedure for licencing and registering of fishing vessels involved in aquaculture is different for the vessels which do not have a fishing gear. The latter are treated as commercial vessels for which all the relevant international and national cargo or passenger regulations apply, depending on their size and area of activity. Although there are statistics for fishing vessels involved in aquaculture, data could not be provided for passenger or cargo vessels which are involved in the aquaculture of salmonids; thus the maintenance of a database which could record statistics about the overall size of the fleet is considered essential.

The major weakness identified from the discussions with the MSO is the regulatory gap that exists for non-seagoing vessels that don't carry passengers. The discussions revealed that a vessel which carries only crew, and not passengers, inside smooth waters in Ireland, is not required to have a Load Line Certificate or any other certificate from the Marine Safety Department; thus it can operate perfectly legally inside sheltered waters with no special restrictions and relevant certificates.

Besides, all the registration, licencing and operational procedures of the vessels should comply with a series of statutes and amendments cited collectively as the Merchant Shipping Acts 1894 to 2014. These Acts are supplemented by a plethora of statutory instruments which legislate for specific issues. This rigid regime which is based on statutory instruments instead codes of practices, creates a non-user-friendly procedure for the stakeholders.

Furthermore, there is a strict safety inspection regime for fishing and commercial vessels for which have been reported cases in which surveyors hold vessels on small grounds whereas other countries are more pragmatic during inspections or when issuing safety certificates.

From the discussions with the MSO participants, it was concluded that another weakness is the lack of human resources. The age profile of surveyors is high and so recruiting new surveys is a challenge for the Office to maintain the expertise and high standards imposed on the inspections and surveys of the vessels.

4.3 Opportunities

A major opportunity would be the establishment of a dedicated unit which would deal with the licencing, registration and the operation of all aquaculture vessels. Besides, the unit would be responsible to guide the owners of the aquaculture vessels on the whole legislative and administrative regime.

Another opportunity is the immediate enforcement of the new Merchant Shipping (Registration of Ships) Act 2014 which will replace the Mercantile Marine Act 1955. The Act will provide a legal framework for the establishment and regulation of a

modern and comprehensive ship registration system that will be more efficient, user friendly and accessible for ship owners. The Act will create one central electronic Irish Register of Ships and will digitalise the registration procedure for vessels.

Besides, more flexibility should be given by surveyors during inspections. Marine surveyors could share experience with their counterparts in UK or Norway and create similar standards for workboats. Irish surveyors examine only a low number of vessels every year; thus, the exchange of knowledge and experience from other countries would be beneficial. All European countries follow a similar international maritime regime, but the implementation and interpretation differs substantially.

4.4 Threats

The industry wishes to grow since the salmon for internal consumption is imported from Norway and Scotland. However, there are major protests from different parties against the proposals for the further development of salmon farms. The main protests come from persons who fish for salmon in rivers since they support that the large runs of big spring fish have dwindled dramatically. People involved in the fishing of salmon participate in various environmental groups and anglers' federations which have good connections with the media and the legal system. These groups are so powerful that there have been noted cases in which they managed to withdraw applications for large organic salmon farms. Furthermore, big international foundations, which are against intensive food production of any kind, create more burden on the operation and licensing of additional salmon farming facilities.

Another major threat is that the West Coast is suffering a huge loss of population since the residents move either to the East or North. West coast with its pristine Atlantic waters is an ideal location for fish farming and production of organic salmon. Aquaculture and salmon farming efforts is the only way to create vacancies and maintain the population in these areas.

Brexit presents also a threat to the seafood sector– when the UK eventually does leave the European Union. The threat for the aquaculture sector is on the tariffs that will be imposed on Scottish salmon which is used for internal consumption. Besides, salmon feed is manufactured in Scotland and this may create another issue to the salmon farming industry.

5. Conclusion

A brief summary of the Work Package 2 is made on Table 1.

Table 1: Summary of the Findings

Section	Summary of Findings
S. 2 Identification of Vessels Used in Aquaculture of Salmonids	<p>All the vessels involved in the aquaculture of salmonids are treated as commercial vessels and are governed by the same international and national regulations that apply to cargo or passenger vessels. The fleet of commercial vessels involved in aquaculture is small, but not statistics could be provided by IMA.</p> <p>Besides, the aquaculture segment contains 97 fishing vessels which are equipped with a fishing gear. These vessels are not usually involved in aquaculture of salmonids.</p>
S. 3 Evaluation of the Registration Process of the Fleet	<p>The registration of commercial vessels in Ireland is specified in the Mercantile Marine Act 1955.</p> <p>For the fishing boats involved in aquaculture, Sea-Fisheries and Maritime Jurisdiction Act 2006 and the Fisheries Act 2003 apply. The Fisheries Administration Division of the National Seafood Centre in Clonakilty has the responsibility for maintaining a Register of Fishing Boats.</p>
S. 3.1 Steps of the Registration Process	<p>The steps of the registration process for fishing vessels is described in Section 3.1.1.</p> <p>The steps of the registration process for commercial vessels is described in Section 3.1.2: The owner of the vessel should go through the local register of shipping in the Customs and prove the legal aspects ownership of the vessel. Besides, the interested owner should make and pay an application to MSO for an initial survey of the ship. The surveyor will perform the tonnage measurement and marking of a ship. Next, the owner should sign a declaration of ownership, referring to the ship as described in the certificate of the surveyor, and containing such particulars as the Mercantile Marine Act 1955 requires.</p>
S. 3.2 Documentation and Needed Prior Registration	<p>Check section 3.1</p>
S. 3.3 Certificates must be Carried on Board	<p>The list of certificates that should be carried on board, based on size, type and trade area of the vessel, are:</p> <ul style="list-style-type: none"> • Passenger Boat License (Vessels carrying less than 12 passengers. P1, P2, P3, P4, P5, P6 category) • Passenger Ship Certificate (Irish passenger ships carrying more than 12 passengers, Class I, II, IIA, III, IV, V, VI) • Passenger Ship Safety Certificate (Class A, B, C, D) • Fishing vessel certificate of compliance (over 24m. Sea Areas A1, A2, A3) • Fishing Vessel Safety Certificate (vessels 15-24m. Sea

	<p>Areas A1, A2, A3)</p> <ul style="list-style-type: none"> • International Load Line Certificate • Irish Load Line Certificate • Irish Load Line Exception Certificate, • Cargo Ship Safety Certificate • Cargo Ship Safety Certificate • International Tonnage Certificate (vessels over 24m in registered length engaged on International voyages) • Irish Tonnage Certificate (all vessels on domestic voyages or vessel on International voyages that are less than 24 m in registered length), • Statement of Maritime Labour Compliance Part 1.
<p>S. 3.4 Inspection Regime</p>	<p>Overall the inspection regime of the MSO, depending on vessel type, size and trading area is the following:</p> <ul style="list-style-type: none"> • Passenger Boat License: Initial and Renewal • Passenger Ship Certificate: Initial and Renewal • Passenger Ship Safety Certificate: Initial and Renewal • Fishing vessel certificate of compliance (over 24m): Initial, Renewal, Two Year Periodical (Hull, Machinery, Safety Equipment and Radio), One Year Periodical (Radio) • Fishing Vessel Safety Certificate (vessels 15-24m): Initial, Renewal, Two Year Periodical (Hull, Machinery, Safety Equipment and Radio), One Year Periodical (Radio) • International Load Line Certificate: Initial, Annual, Renewal, • Irish Load Line Certificate: Initial, Annual, Certificate Extension • Irish Load Line Exception Certificate: Initial, Annual, Renewal • Cargo Ship Safety Certificate: Initial, Annual, Intermediate, Initial (SE Only), Annual (SE Only), Intermediate (SE Only) • Cargo Ship Safety Radio Certificate: Initial, Annual, Intermediate, Certificate Extension, Radio • International Tonnage Certificate 1969 (vessels over 24m engaged on International voyages): Initial and Re-measurement (including change of engine) • Irish Tonnage Certificate (all vessels on domestic voyages or vessel on International voyages that are less than 24 m in registered length): Initial and Re-measurement (including change of engine).
<p>S. 3.5 Role of Recognized Organizations</p>	<p>There are 7 ROs which perform inspections on behalf of the Administration. For all the vessels up to 24 meters, certificates are issued only by the MSO.</p>

S. 4.1 (Strengths)	<ul style="list-style-type: none"> ✓ Fairly transparent registration system based on a series of statutes ✓ MSO performs strict safety inspections and consists mainly of experts Marine Surveyors drawn from backgrounds that ensure expertise in the different professional disciplines of navigation, engineering and naval architecture. ✓ BMI takes various measures to grow even further the aquaculture sector, through technical advice, business support and funding.
S. 4.2 (Weaknesses)	<ul style="list-style-type: none"> ❖ Salmon farming is a small sector of the whole aquaculture industry since it suffers from economies of scale to maximize the profit margin. Besides, the number of vessels involved in aquaculture of salmonids is low. ❖ No existence of a dedicated unit which could deal with the registration and the administration of all the aquaculture vessels. The procedure for licensing and registering fishing vessels involved in aquaculture is different for the vessels which do not have a fishing gear. ❖ Fleet data could not be provided for passenger or cargo vessels which are involved in the aquaculture of salmonids. ❖ There is an important regulatory gap for non- seagoing vessels that don't carry passengers. ❖ The rigid regulatory regime is based on statutory instruments instead codes of practices and creates a non-user-friendly procedure for the stakeholders. ❖ Strict safety inspection regime for fishing and commercial vessels. ❖ The age profile of surveyors is high and so recruiting new surveys is a challenge for MSO.
S. 4.3 (Opportunities)	<ul style="list-style-type: none"> ➤ Establishment of a dedicated unit which would deal with the licencing, registration and the operation of all aquaculture vessels. ➤ Immediate enforcement of the new Merchant Shipping (Registration of Ships) Act 2014. ➤ Digitalisation of the registration procedure for fishing boats, personal watercraft and small fast powered craft and vessels carrying not more than 3 passengers.

	<ul style="list-style-type: none"> ➤ Marine surveyors could share experience with their counterparts in UK or Norway and create similar standards for workboats.
S. 4.4 (Risks/Threats)	<ul style="list-style-type: none"> ❖ There are major protests from different parties against the proposals for the further development of salmon farms. ❖ West Coast is suffering a huge loss of population since the residents move either to the East or North ❖ Brexit presents a threat to the seafood sector, especially for the import tariffs on Scottish salmon and salmon feed.

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Annexes (Attached separately)

ANNEX 1: Sea-Fishing Boat Licence Application Form

ANNEX 2: Licence Offer for Aquaculture Segment

ANNEX 3: Mercantile Marine Act, 1995

ANNEX 4: Application For Survey or Inspection by the Marine Survey Office.

ANNEX 5: Passenger Vessel Licence Application

ANNEX 6: Marine Notice No. 45 of 2017

D1. Republic of Chile : Work Package 1

Acronyms

APS	Automatic Positioning System
Aquatic Contamination Regulation	Regulation for the Control of Aquatic Contamination Decree No. 1 (1992)
Environmental Law	Environment General Basis Law – Law 19300 promulgated by Decree-Law No. 34810 (1994)
Environmental Regulation	Aquaculture Environmental Regulation Supreme Decree No. 320 (2001)
HAB	Harmful Algal Bloom
High-Risk Diseases Regulation	Regulation for the Protection, Control and Eradication of High-Risk Diseases in Hydrobiological Species Supreme Decree No. 319 (Minecon) (2001)
Navigation Law	Chilean Navigation Act. Decree-Law No. 2222 (1978)
Plagues Control Regulation	Plagues Control Regulation Supreme Decree No. 345 (2005)
Positioning System Regulation	Regulation of the Automatic Positioning System in Fishing Vessels and Research Vessels Supreme Decree No. 139 (1998)
Regulation of Titles and embarking permits	Supreme Decree No. 680 (1985) – Regulation of professional titles, embarking permit for Merchant Marine Special Vessels Officers
Regulation of Work	Regulation of Work on Fishing Vessels Supreme Decree No. 101 (2004)
Safe Manning Regulation	Supreme Decree No. 31 (1999) is the Regulation for the Definition of Minimum Safe Manning
The Service	National Fisheries and Aquaculture Service

Republic of Chile

1. Introduction

The Chilean National Aquaculture Policy released in 2003 was the outcome of a deep analysis that included representation of all the most relevant actors in the Aquaculture sector in Chile. Its objectives considered the promotion of Aquaculture maximum economic growth, environmental sustainability and the access to the activity on an equity basis based in two main aspects:

- a. Definition of the desirable level for aquaculture sector and
- b. Identification of the types of Policies to be defined.

Unfortunately, this framework was not enough to prevent several crises through which the Industry has gone through, the most serious in 2007 when the Infectious Salmon Anemia (ISA) caused a dramatic impact in the Salmon Industry.

The Under Secretariat of Fisheries and Aquaculture, as the Government Entity whose Institutional Mission is to Regulate and Manage Fishing and Aquaculture activities, had to assume its leading role in search of major changes in the regulations.

In 2010 the Fisheries and Aquaculture Law had important modifications, defining new measures and regulations. New and stronger restrictions came into force through improved sanitary regulations and programs, generating a huge change in the salmon farming industry.

A crucial role has also played the National Fisheries and Aquaculture Service (hereinafter referred to as The Service) as the Government Entity whose Institutional Mission is to contribute to the sustainability of the sector and the protection of hydrobiological resources and their environment, through comprehensive control programs and sanitary management that enhances the sectorial behavior promoting compliance of regulations.

The present Report is a review and evaluation of the current regulatory framework of the fleet involved in the aquaculture of salmonids in Chile.

2. Evaluation of the Regulatory Framework of the Fleet involved in Aquaculture of Salmonids

2.1 Framework for vessels involved in aquaculture of salmonids

The Fisheries and Aquaculture Law – Law 18892 - promulgated by Decree-Law No. 430 (1991) is legal instrument that regulated the Fishing and Aquaculture activities in Chile.

In aquaculture matters it is the regulatory framework for the import of hydrobiological resources, access to aquaculture activities, licensing processes, environmental and sanitary conditions, aquaculture research, control and enforcement.

Aquaculture is one of the most regulated activities in Chile, with the involvement of an important number and variety of government offices:

- The Under Secretariat of Fisheries and Aquaculture, entity that regulates the activities and defines technical conditions under which they can be carried out.
- The Under Secretariat for the Armed Forces that issues the licences of occupation defining the areas where aquaculture can be developed.
- The Environmental Assessment Service that environmentally assesses the aquaculture projects
- The National Fisheries and Aquaculture Service in charge of controlling compliance of the regulations as well as the compilation of all the official data.
- The General Directorate of the Maritime Territory and Merchant Marine that is involved in all matters related to navigation regulation and compliance.

The main regulations involving the transportation of salmonids in the Chilean Aquaculture are:

Laws and Codes

- Fisheries and Aquaculture Law – Law 18892 - promulgated by Decree-Law No. 430 (1991).
- Navigation is regulated by the Navigation Law - Decree-Law No. 2222 (1978) - (hereinafter referred to as Navigation Law).
- Environmental aspects are regulated by the Environment General Basis Law – Law 19300 – promulgated by Decree-Law No. 34810 (1994) (hereinafter referred as Environmental Law)
- Labour Code of Chile – Decree with Force of Law No. 1 (2002)
- Code of Commerce of Chile – Law 20720

- Safe working conditions - Law of Work Accidents and Professional Diseases – Law No. 16744 (1968)

Other Regulations

- Regulation of Aquaculture Tenures – Supreme Decree No. 290 (1993)
- Aquaculture Environmental Regulation – Supreme Decree No. 320 (2001) (hereinafter referred to as Environmental Regulation)
- Regulation for the Protection, Control and Eradication of High-Risk Diseases in Hydrobiological Species - Supreme Decree No. 319 (Minecon) (2001) (hereinafter referred to as High-Risk Diseases Regulation)
- Plagues Control Regulation – Supreme Decree No. 345 (2005) (hereinafter referred to as Plagues Control Regulation)
- Regulation for the Control of Aquatic Contamination – Decree No. 1 (1992) (hereinafter referred to as Aquatic Contamination Regulation)
- Sanitary General Program of disinfection Methods and Techniques of Water, Control Procedures and Treatment of Solid Organic Waste - Resolution No. 4866 (2014)
- Resolution No; 1468 (2012) approves the General Sanitary Program for the Handling of Mortalities and its Standardized Classification System According to Pre-established Categories.
- Regulation of the Automatic Positioning System in Fishing Vessels and Research Vessels – Supreme Decree No. 139 (1998) (hereinafter referred to as Positioning System Regulation)
- Regulation of equipment in ships and non-self-propelled vessels – Supreme Decree (Mindef) No. 319 (2001)
- Supreme Decree No. 31 (1999) - Minimum Safe Manning Regulation
- Regulation of Work on Fishing Vessels – Supreme Decree No. 101 (2004) (hereinafter referred to as Regulation of Work)
- Loading and Offloading's Security and Safety Measures in case of an Emergency due to Massive Mortalities of Fish - Circular No. O-31/020 (2016)
- Procedure for the Net Washing and Transportation – Resolution 1648 (2011).
- Regulation of Hazardous Substances Storage – Decree No. 43 (2015)
- Regulation of Prevention of Professional Hazards – Supreme Decree No. 40 (1969)

- Regulation of Basic Sanitary and Environmental Conditions in Workplace – Supreme Decree No. 594 (1999)

International Conventions, agreements and guidelines

- Decree-Law 3175 (1985) – Approves International Convention for the Safety of Life at Sea 1974 (SOLAS 1974)
- Supreme Decree (M) No. 777 (1978) – Approves International Maritime Dangerous Goods Code (IMDG)
- Supreme Decree 1689 (1995) – Promulgates the International Convention for the Prevention of Pollution from Ships (MARPOL)
- Supreme Decree No. 543 (1985) – Promulgates Torremolinos International Convention for the Safety of the Fishing Vessels

2.2 Areas, zones and limitations applicable to vessels

Due to the serious outbreak of the Infectious Salmon Anemia (ISA) in 2007 that widespread and catastrophically affected the Industry in Chile, drastic measures to try to keep the disease under control were taken in order to minimize its impact.

The factors that were determined to be the most important in the dissemination of the disease were the high density of fish in farms, the closeness of farms, and the bad practices in farming, mortality handling and transportation.

Since then many important improvements were made to the sanitary regulation and the most important addressed and updated in the “High-Risk Diseases Regulation” and the “Plagues Control Regulation”.

Both Regulations take care of the measures to prevent the introduction and/or spreading of High-Risk Diseases as well as Plagues and Harmful Algal Blooms (hereinafter referred to as HAB)

The High-Risk Diseases Regulation addresses define measures for avoidance of spreading high-risk diseases form contaminated areas to others of lower or non-contamination levels.

The Plague Control Regulation takes care of species that are or can become a plague and that are not included in the High-Risk Diseases Regulation.

Some of the main improvements related to the ships that provide services to the aquaculture of salmonids are:

- Classification of high-risk diseases in three groups, List 1, List 2 and List 3 according to the level of potential impact in hydrobiological resources. (Art. 3 of the High-Risk Diseases Regulation):

- List 1: High-risk disease not detected previously in the country.
 - List 2: High-risk disease not in List 1 or of a high prevalence or high distribution in the national territory or high mortality impact in hydrobiological species.
 - List 3: High-risk disease not in List 1 or List 2, detected in the country in some regions causing variable mortality impact and which epidemiology is still not well known.
- Definition of farming areas or groups with similar sanitary and geographic characteristics, informally called “neighborhoods” (Art. 2 number 39 of the High-Risk Diseases Regulation)
 - Definition of macro-zones defined as zones that include two or more groups (or neighborhoods). (Art. 59 letter L of the High-Risk Diseases Regulation)
 - Definition of a five nautical miles navigational tracks between macro-zones (Art. 59 letter L of the High-Risk Diseases Regulation)
 - Restrictions for the transportation of live fish from areas where a plague or HAB has been detected (Art. 22 of the Plague Control Regulation)
 - Under a sanitary emergency, The Service can restrict the navigation of vessels that provide services to the salmon aquaculture between macro-zones. (Art. 58L of the High-Risk Diseases Regulation)

These changes generated new rules for the operation of vessels that provide services to the Aquaculture of Salmonids, restricting the free navigation between farms and defining improved procedures for their operation. Title X (Arts. 48 through 54A) of the High-Risk Diseases Regulation states conditions under which the Transportation must be carried out. The main limitations for vessels are:

1. Mandatory installation of an Automatic Positioning System in those vessels that transport live fish (Art. 49A of the High-Risk Diseases Regulation as stated in Art 15 letter L of the Fisheries and Aquaculture Law)
2. Transportation of fish must be done in closed containers, avoiding leaking. Containers properly identified and labeled. (Art. 48 of the High-Risk Diseases Regulation)
3. Ships must have a Contingency Plan in the event of mortality during the transportation process (Art. 48 of the High-Risk Diseases Regulation and Circular O-31/20 (2016)).
4. Transportation of live harvest must be carried out in vessels that have a Water Recirculation System or a Water Disinfection System for effluents approved by The Service (Art. 48 of the High-Risk Diseases Regulation).

5. As stated in Art. 48 of the High-Risk Diseases Regulation, vessels must have a Water Disinfection System for effluents or Water Recirculation System in the following cases:
 - a. Transport of fish diagnosed to have a high-risk disease of List 1.
 - b. When it is required by the specific control program of a List 2 disease.
 - c. Transport of fish diagnosed to have a high-risk disease of List 3.
 - d. Transport of live harvest
6. Vessels that have a Water Recirculation System or a Water Disinfection System for water and effluents in accordance with the specific sanitary program when transporting Fingerlings, Smolts or Juveniles (Art. 48 of the High-Risk Diseases Regulation).
7. Any transportation unit as well as all containers, gear and others used in the transportation process must be disinfected according to the sanitary program when going to or coming from a farm, stocking facility, processing plants (Art. 49 of the High-Risk Diseases Regulation).
8. Transportation of nets in the water is prohibited. Vessels that transport nets must disinfect all surfaces and deck before and after the transportation (Art. 52A of the High-Risk Diseases Regulation). Art. 9 of the Environmental Regulation additionally states that nets must be transported in labeled and tightly closed and sealed containers.
9. Vessels and farms must keep records of all transportations details (Art. 52A of the High-Risk Diseases Regulation).
10. Loading and offloading of hydrobiological resources, alive or dead, its parts, the feed and other components used in aquaculture activities must be carried out at a loading and offloading facility that guarantees the avoidance of pathogen dissemination. Conditions that this facility must comply with are:
 - a. Separate and exclusive loading and offloading areas.
 - b. Areas that allow an adequate cleaning and disinfection.
 - c. Disinfection equipment and materials specified in the sanitary programs.
 - d. Control systems that guarantee the compliance of the sanitary procedures.

Additionally, Art. 32C of the High-Risk Diseases Regulation states that the transportation of dead fish to processing plants, reduction plants or other authorized facility must be carried out avoiding at all time any blood, water or liquid leaking that has been part of the fish transportation.

2.3 Definition of minimum safe manning certificates and maximum number of persons allowed on board

Decree-Law No; 3175 (1985) approved the International Convention for the Safety of Life at Sea (SOLAS), 1974.

Supreme Decree No. 31 (1999) is the Regulation for the Definition of Minimum Safe Manning (hereinafter referred to as Safe Manning Regulation).

Art. 3 of the regulation defines minimum safe manning of a ship or a non-self-propelled vessel as the number of officers and seafarers required to ensure the safety of the crew, passengers, load and the rest of the assets on board as well as the protection of the marine environment.

Art. 4 states that the minimum safe manning are the Captain or Fishing Master, officers and deck and engine seafarers, including personal assigned to telecommunications on board.

Art. 8 states that the number and professional qualifications of the officers and seafarer of the minimum safe manning will be determined according to the regulations, recommendations and guidelines of the International Maritime Organization. Nevertheless, the shipowner may cover the positions with crewmembers that possesses a higher qualification than requested as well as increase its number of the crew if considered necessary within the limit stated in the Safety and Security Certificate. Same indication is stated in Art. 9 of the Regulation of Work on Fishing Vessels – Supreme Decree No. 101 (2004).

Art. 9 states that the Minimum Safe Manning of larger ships (over 50 tonnes of Gross Tonnage) will be defined by the General Directorate, whereas for the smaller vessels (equal or less than 50 tonnes of Gross Tonnage) will be defined by the local Marine Authority where the vessel has its base port of operation. (referred to Work Package 1 for further details on the definition of Larger and Smaller vessel).

Art. 11 states that the General Directorate will keep a Reference Scale for the purpose of determining the minimum safe manning according to the regulations, recommendations and guidelines of the International Maritime Organization.

Application process

1. Submit application to the closest Maritime Authority Office where the vessel operates.
2. The vessel must be registered in Chile or be authorized to enter the territory if purchased in a foreign country with a temporary entry permit.
3. Provide a description of the type of vessel, its main specifications and geographic area of operation.
4. Provide a Gross Tonnage Certificate
5. Proposal by the ship owner of the Minimum Safe Manning
6. The certificate will be issued within the next 30 business days

2.4 Seafarers certifications

Article 4. of the Navigation Law states that vessels are classified as merchant vessels and special vessels and, depending on its size, in Larger and Smaller vessels. Merchant vessels are those that provide transport services, nationally or internationally. Special vessels are those used in services, specific work or for specific purpose, and that have their own features for the work they perform, such as tug boats, fishing vessels, dredges, research vessels or for pleasure and others

Article 48. of the same law states that seafarers are divided in the following categories:

1. Merchant vessels seafarers
 - a. Captain
 - b. Officers
 - c. Seamen
2. Special vessels seafarers
 - a. Skipper
 - b. Special vessels officers
 - c. Special vessels seamen
 - d. Artisanal fishers

The Navigation Law also states in Art. 61, 65 and 71 that in order to be seafarer of a Chilean vessels, seafarers must be Chilean, be in possession of the required title or licence and be register in the national registry.

Supreme Decree No. 680 (1985) – Regulation of professional titles, embarking permit for Merchant Marine and Special Vessel Officers (hereinafter referred to as Regulation of Titles and embarking permits) has been repealed keeping its validity only in matters of Fishing Vessels.

Article 2. defines:

Skipper: Officer in possession of its professional title who has been declared by the General Directorate capable of assuming the responsibility of being in command of specific special vessels.

Professional title: Valid document issued by the General Directorate that authorizes the holder to assume positions on board according to the Regulation.

Embarking Licence: Document issued by the General Directorate that accredits a Professional Title, its validity, boarding and offboarding records (sea time).

Article 3. States deck, engineering and radiocommunication officers must be in possession of a professional title.

Article 4. states the general requirements for all professional title applicants:

- a. Be a Chilean citizen
- b. Met the military obligations
- c. Document issued by the National Health Authority certifying compatible health for life in the sea, especially regarding vision, hearing and speaking.
- d. Police background checking certificate no older than 30 days.

Article 25 provides the following classification of officers of special vessel:

- a. Fishing vessels Officers
 - i. Deep sea fishing skipper First Class, called Fishing Captain
 - ii. Deep sea fishing skipper Second Class
 - iii. Coastal fishing skipper First Class
 - iv. Coastal fishing skipper Second Class
- b. Navigation Officers of interior waters, rivers and lakes
 - i. Harbour skipper
 - ii. Lake skipper
 - iii. River skipper
- c. Engineering Officers
 - i. First Engineer
 - ii. Second Engineer

Article 26. States the requirements and qualification to be fulfilled for each title and the authorized work that can be performed. Summary is shown in Table 1.

Article 49. States the requirements of medical examinations and the list of diseases and physical limitations that are not compatible with the activities on board:

- a. Officers must annually submit to the General Directorate a medical examination certificate issued by the Public Service or a recognized authority.
- b. List of diseases and physical limitations considered not compatible with work on board:
 - 1) Heart problems of any kind
 - 2) Tuberculosis or any other contagious disease
 - 3) Epilepsy
 - 4) Irreversible hearing problems
 - 5) Advanced vision problems, color blindness
 - 6) Chronic alcoholism
 - 7) Physical or mental problems that can disable the correct performance of the officer on board

Table 1
Requirements for fishing vessels seafarers according to the Chilean Regulations

Title	Requirements	Authorizations to work
Fishing vessels Officers		
1. Deep sea fishing skipper First Class, called Fishing Captain	<ol style="list-style-type: none"> 1. Be in possession of the title of Deep Sea fishing skipper Second Class 2. Approve the Professional Thesis requirement as stated in the regulation 3. Pass all the courses defined for the title 	<ol style="list-style-type: none"> 1. Command of fishing vessels and fish factory vessel of any size 2. First Officer of Chilean Merchant Marine vessels previous approval of courses defined for the title
2. Deep sea fishing skipper Second Class	<ol style="list-style-type: none"> 1. Have 48 months of sea service as Coastal fishing skipper First Class 2. Pass all the courses defined for the title 	<ol style="list-style-type: none"> 1. Command of fishing vessels up to 1,600 tonnes 2. First Officer of deep sea fishing vessels or fish factory vessel 3. Second Officer of Chilean Merchant Marine vessels previous approval of courses defined for the title
3. Coastal fishing skipper First Class	<ol style="list-style-type: none"> 1. Have 36 months of time of sea service as Coastal fishing skipper Second Class 2. Pass all the courses defined for the title 	<ol style="list-style-type: none"> 1. Command of fishing vessels up to 800 tonnes in coastal navigation to a maximum distance of 60 nautical miles 2. Second Officer of fishing vessels or fish factory vessel
4. Coastal fishing skipper Second Class	<ol style="list-style-type: none"> 1. Be 18 years of age or older 2. Comply with one of the following requirements: <ol style="list-style-type: none"> i. Have a degree in fisheries in fisheries from a recognized University, Collerge, Institute or Technical School. ii. Be in possission of the Regional skipper title. iii. 36 months of sea service as first fisherman. 3. In case of 2.i) and 2.ii.) have 6 montsh of sea service on a fishing vessel 4. Pass all the courses defined for the title 	<ol style="list-style-type: none"> 1. Command of fishing vessels up to 400 tonnes in coastal navigation to a maximum distance of 60 nautical miles 2. Watchkeeping Officer in a Coastal Fishing vessel of any size 3. Regional skipper previous approval of the courses required for the title
Engineering Officers		
1. First Engineer	<ol style="list-style-type: none"> 1. Have 36 months of time of sea service as having the second engineer title 2. Pass all the courses defined for the title 	<ol style="list-style-type: none"> 1. Chief engineer in special vessels with engine power up to 5,000 BHP 2. Watchkeeping Engineering Officer in cabotage vessels with engine power up to 1,500 BHP
2. Second Engineer	<ol style="list-style-type: none"> 1. Be 18 years of age or older 2. Having elementary school certificate or equivalent 3. Comply with some of the following requirements: <ol style="list-style-type: none"> i. Having approved a recognized mechanics course ii. Be a engine helper of the chilean merchant marine and have 24 months of sea service 4. Pass all the courses defined for the title 	<ol style="list-style-type: none"> 1. Chief engineer in special vessels with engine power up to 1,500 BHP 2. Watchkeeping Engineering Officer in cabotage vessels with engine power up to 1,000 BHP

Source: Regulation of professional titles, embarking permit for Merchant Marine and Special Vessel Officers (1985)
Supreme Decree (MINDEF) 680

2.5 Employment system and restrictions for nationals/residents and foreigners

Article 14. of the Navigation Law also states that in the vessel registered under the Chilean Flag, all the crew, including Captain, Officers and Seafarers must be Chilean. However, under specific circumstances and if it is strictly necessary, the Director of the General Directorate may authorize hiring foreign crew temporarily although the Captain must always be Chilean

The Labour Code is the legal instrument that regulates the working relationships between employers and employees in Chile.

Articles 22 defines the regular weekly working hours, general conditions and limitations.

Article 23 states conditions of working hours per day as well of days off regime in fishing vessels.

Supreme Decree No. 101 (2004) is the Regulation of Work in Fishing Vessels for vessels over 50 tonnes of GT.

Article 6 states that besides the instructions provided in Article 10 of the Code of Labor, where it defines what the Work Contract must include, the following information must also be provided:

- Name of the vessel
- Allowances and travel expenses
- Responsibility for equipment and gear
- Disembarking port

Article 11 states that the crew could be hired to provide services in one or more vessels of the same shipowner.

Chapter IX of the General Regulation of Sea, Lakes and River Seafarers Licensing, states provisions under which foreign workers can be eventually hired in fishing vessels.

Article 54. states that foreign workers can be hired as a part of the crew when requested by the shipowner as a critical member for the operation. The foreign worker will be issued a temporary permit that must be renewed annually, previous fulfilment of the requirements.

2.6 Regulatory framework for the protection of the marine environment from vessels involved in aquaculture of salmonids

Protection of the marine environment from vessels involved in the aquaculture of salmonids is provided by the following regulatory framework:

National regulations

- Navigation Law - Decree-Law No. 2222 (1978)

Title IX of the Navigation Law states the provisions related to the measures and precautions that should be taken to avoid any contamination of the marine environment by oil and harmful substances. It also states there must be a specific and detailed Regulation, that came into force through Decree No.1 (1992).

This Title also ensures the compliance with the international regulations on this matter.

- Regulation for the Control of Aquatic Contamination – Decree No. 1 (1992).

This regulation came into force as stated by Title IX of the Navigation Law. It addresses the prevention of contamination by oil and other substances.

- Technical specifications for the approval of sewage treatment plants - Circular A-52/04 of the General Directorate -
- General Fisheries and Aquaculture Law – Law 18892 - promulgated by Decree-Law No. 430 (1989).

Article 136 states penalties due to contamination of any agent that could harm life in the marine environment.

- Plagues Control Regulation – Supreme Decree No. 345 (2005)

Regulates the conditions under which transportation of fish must be carried out in order to avoid the transmission of diseases or other biological non-desired agents from one area to other.

- Regulation for the Protection, Control and Eradication of High-Risk Diseases in Hydrobiological Species, also known as the Aquaculture High-Risk Diseases Regulation - Supreme Decree No. 319 (2001)
- Safety and security measures in the event of massive fish mortality in transportation, loading or offloading – Circular O-31/020 (2016) of the General Directorate.

International Conventions

Chile has also approved and promulgated the following International Conventions related to the Prevention of Contamination of the Marine Environment:

- Supreme Decree (M) No. 777 (1978) – Approves International Maritime Dangerous Goods Code (IMDG)
- Supreme Decree 1689 (1995) – Promulgates the International Convention for the Prevention of Pollution from Ships (MARPOL 73)
- Supreme Decree 1089 (1977) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. (London Convention 1972)
- Supreme Decree 296 (1986) – Approves Convention for the Prevention of the Contamination of the South East Pacific
- Recommendation on international effluent standards and guidelines for the performance tests for sewage treatment plants – IMO Resolution MEPC 2(6) (1977)
- Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants – IMO Resolution MEPC 169(55) (2006)

3. SWOT Analysis

The Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis is presented in Table 2.

Table 2: SWOT Analysis

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none"> ▪ Automatic Position System allows good information ▪ Definition of farm areas and zoning has proven to be effective ▪ Good data collection ▪ High level of control 	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none"> ▪ Activity extremely regulated. ▪ Definition of minimum safe manning is not satisfactory for the industry. ▪ Too many government officers working in controlling activities
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> ▪ Development of new and better technologies for water treatments ▪ Learning curve based in past experience ▪ Better coordination between services ▪ Development of an integrated information system ▪ Definition of a “aquaculture vessel” 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> ▪ Spreading of Plagues. HAB has become a concern. ▪ Long distances trips with live salmon to processing facilities ▪ Over regulation ▪ Emergencies in vessel operation

4. Conclusions

A summary of the findings for Work Package 1 is made in Table 3.

Regarding	Concluding Remarks
Framework for Vessels	<ol style="list-style-type: none"> 1. There is a strict regulatory framework for vessels that provide services to the aquaculture of salmonids, mainly to those who transport live fish. 2. Regulatory offices can keep a close control on the operations of vessels. 3. Companies had to relocate some of their operations in remote and distant areas which involves longer trips and higher risk 4. High number of new government officers are working in control
Areas, Zones and Limitations	<ol style="list-style-type: none"> 1. Important restrictions were applied to the vessel operation 2. All vessels that operate in the transportation of live fish must install automatic positioning system and water treatment system 3. Vessel operation in new zoning is working properly. 4. There is good information provided by the fleet
Minimum Safe Manning Certificates	<ol style="list-style-type: none"> 1. Industry is not satisfied with the current procedure for the definition of safe manning. 2. Industry considers that safe manning number can be reduced
Seafarers Certifications	<ol style="list-style-type: none"> 1. There is not a definition of “aquaculture vessel” that could allow the development of a new certification procedure for seafarers of this industry. 2. Current procedure of certification is clearly defined
Employment System	<ol style="list-style-type: none"> 1. Only Chilean citizens are allowed to work in Chilean vessels 2. Authorizations for foreign workers is only allowed in case of being a critical member of the operation.
Framework for the Protection of the Marine Environment	<ol style="list-style-type: none"> 1. Chile has approved as internal regulations the most important international conventions in this matter. 2. The protection of the marine environment from vessels is properly address by the Chilean regulation.

References

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Code of Commerce of Chile – Law 20720

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Environment General Basis Law, 1994 – Law 19300 – Promulgated by Decree-Law No. 34810 on 9 March 1994.

General Fisheries and Aquaculture Law, 1991 - Law 18892 - Promulgated by Decree-Law No. 430 on 28 September 1991.

General Sanitary Program for the Handling of Mortalities and its Standardized Classification System According to Pre-established Categories, 2012. Resolution No. 1468. Ministry of Economy

Labour Code of Chile, 2002 – Decree with Force of Law No. 1 of 31 July 2002

Law of Work Accidents and Professional Diseases, 1968 – Law No. 16744

Loading and Offloading's Security and Safety Measures in case of an Emergency due to Massive Mortalities of Fish, 2016 - Circular No. O-31/020. General Directorate of Maritime Territory and Merchant Marine

Minimum Safe Manning Regulation, 1999 - Supreme Decree No. 31. Ministry of Defense

Navigation Law, 1978 - Decree-Law No. 2222

Plagues Control Regulation, 2005 – Supreme Decree No. 345. Ministry of Economy

Procedure for the Net Washing and Transportation, 2011 – Resolution 1648. Ministry of Economy

Recommendation on international effluent standards and guidelines for the performance tests for sewage treatment plants, 1977 – IMO Resolution MEPC 2(6)

Regulation for the Control of Aquatic Contamination, 1992 – Decree No. 1. Ministry of Defense

Regulation for the Protection, Control and Eradication of High-Risk Diseases in Hydrobiological Species, 2001 - Supreme Decree (MINECON) No. 319. Ministry of Economy

Regulation of Aquaculture Tenures, 1993 – Supreme Decree No. 290. Ministry of Economy

Regulation of Basic Sanitary and Environmental Conditions in Workplace, 1999 – Supreme Decree No. 594.

Regulation of Equipment in ships and non-self-propelled vessels, 2001 – Supreme Decree (MINDEF) No. 319. Ministry of Defense

Regulation of Hazardous Substances Storage, 2015 – Decree No. 43

Regulation of Prevention of Professional Hazards, 1969 – Supreme Decree No. 40

Regulation of professional titles, embarking permit for Merchant Marine and Special Vessel Officers, 1985 - Supreme Decree (MINDEF) No. 680. Ministry of Defense

Regulation of the Automatic Positioning System in Fishing Vessels and Research Vessels, 1998 – Supreme Decree No. 139

Regulation of Work on Fishing Vessels, 2004 – Supreme Decree No. 101. Ministry of Jobs

Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants, 2006 – IMO Resolution MEPC 169(55)

Sanitary General Program of disinfection Methods and Techniques of water and effluents, Control Procedures and Treatment of Solid Organic Waste, 2014 - Resolution No. 4866. Ministry of Economy

Supreme Decree (M) No. 777, 1978 – Approves International Maritime Dangerous Goods Code (IMDG). Ministry of Foreign affairs

Supreme Decree 1089, 1977 Approves Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. (London Convention 1972). Ministry of Foreign Affairs

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Supreme Decree No. 543, 1985 – Promulgates Torremolinos International Convention for the Safety of the Fishing Vessels. Ministry of Foreign Affairs

Technical specifications for the approval of sewage treatment plants, 2007 - Circular A-52/04 of the General Directorate. General Directorate of the Maritime Territory and Merchant Marine.

D2. Republic of Chile : Work Package 2

Acronyms

APS	Automatic Positioning System
Article 345 CCP	Provisions regarding legalizing documents of a purchase of a vessels in a foreign country
Article 832 Ccom	Article 832 of the Code of Commerce Provisions regarding the purchase of vessels in Chile and in foreign countries
CCom	Code of Commerce
CCP	Code of Civil Procedures
Construction, Maintenance and Inspections Regulation	Regulation for Construction, repairs and maintenance of merchant ships, larger special ships, non-self-propelled vessels, their inspections and surveys - Supreme Decree No. 146 (1978)
General Directorate	General Directorate of Maritime Territory and Merchant Marine
IMO	International Maritime Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
Navigation Law	Chilean Navigation Act. Decree-Law No. 2222 (1978)
Registry Regulation	Regulation for Registry of Ships and non-self-propelled vessels Supreme Decree No. 163 (1981)
Regulation of Order, Safety and Discipline	General Regulations of Order, Safety and Discipline Discipline in Vessels and in the Republic's Littoral Decree No. 1340 (1941)
Sanitary Program Regulation	Sanitary General Program of Disinfection Methods and Techniques of Affluents and Effluents, Control Procedures and Treatment of Solid Organic Waste Resolution No. 4866 (2014)
SOLAS	International Convention for the Safety of Life at Sea
Surveys Regulation	Regulations of surveys of ships and non-self-propelled vessels Supreme Decree No. 248 (2004)
The Service	National Fisheries and Aquaculture Service
TORREMOLINOS	The Torremolinos International Convention for the Safety of Fishing Vessels
WTS	Water Treatment System

Republic of Chile

1. Introduction

With its over 800,000 tonnes of farmed salmon (and trout) produced in the past years, Chile has recovered and even increased the levels of production that had prior to the collapse of the Industry back in 2007. Added this fact to the new regulatory framework implemented to prevent the propagation of diseases, an increasing demand of services, mainly in the transportation area has arisen.

The General Directorate of Maritime Territory and Merchant Marine (herein after referred to as General Directorate) is the high-level agency of the Navy of Chile. Its mission is to ensure compliance with the laws and international agreements in force, to guarantee safety to navigation, to protect human life in the sea, to preserve the aquatic environment and the marine natural resources and to supervise the activities that are developed in the maritime field of its jurisdiction, with the purpose of contributing to the maritime development of the Nation.

The National Fisheries and Aquaculture Service (hereinafter referred to as The Service) is the Government Entity whose Institutional Mission is to contribute to the sustainability of the sector and the protection of hydrobiological resources and their environment, through comprehensive control programs and sanitary management that enhances the sectorial behavior promoting compliance of regulations

This report provides an evaluation of the registration process of the vessels that provide services to the Aquaculture of Salmonids in Chile.

2. Identification of Vessels Eligible and/or used in Aquaculture of salmonids and supporting activities

The Chilean Navigation Law, promulgated by Decree-Law 2222 on 21st May 1978 (herein after referred to as Navigation Law) is the Law that regulates in Chile all the navigation activities and others related to them.

Article 1. of the Navigation Law states that “all the activities concerning navigation and others related to them will be regulated by the present law, whose provisions will prevail over any other regulation in this matter”.

Article 3 of Title II of Decree-Law 3059 (1979) - Law for the Merchant Marine Development, states that cabotage in Chile can only be carried out by Chilean vessels.

Article 11 of the Navigation Law states that in order to register a fishing vessel in Chile, the owner must be Chilean or be a Chilean Company. Notwithstanding, applying the principle of international reciprocity, the Maritime Authority may release from the requirements of this article, under conditions of equivalence, fishing companies incorporated in Chile with a majority share of foreign capital, when in the country of origin of these capitals there are requirements for the registration of foreign vessels and provisions for the development of fishing activities in accordance with this principle, to which natural or legal Chilean Companies may be admitted.

Article 14. of the Navigation Law also states that in vessel registered under the Chilean Flag, all the crew, including Captain, Officers and Seafarers must be Chilean. However, under specific circumstances and if it is strictly necessary, the Director of the General Directorate may authorize hiring foreign crew temporarily although the Captain must always be Chilean.

Article 4. of the Navigation Law states that vessels are classified as merchant vessels and special vessels and, depending on its size, in Larger and Smaller vessels. Merchant vessels are those that provide transport services, nationally or internationally. Special vessels are those used in services, specific work or for specific purpose, and that have their own features for the work they perform, such as tug boats, fishing vessels, dredges, research vessels, or others such as pleasure crafts.

The same Article 4 also states that Larger vessels are those with more than fifty (50) tonnes of Gross Tonnages (hereinafter referred to as GT), and Smaller vessels, those with fifty (50) or less tonnes of GT.

Title II of the Navigation Law states that the registration of vessels and the registration of other acts related to them that require this solemnity, will be made in any of the following Registries:

- a) Registry of Larger Ships;
- b) Registry of Smaller Ships;
- c) Record of Ships under Construction;
- d) Registry of non-self-propelled Larger vessels

- e) Registry of non-self-propelled Smaller vessels, and
- f) Registry of Mortgages, Liens and Prohibitions

As stated in Article 10 of Title II of the Navigation Law, the rules regarding the organization and operation of the Registries, and the procedure, formalities and solemnities of the registrations, came into force with Supreme Decree No. 163 (1981) - Regulation for Registry of Ships and non-self-propelled vessels - (hereinafter referred to as Registry Regulation).

Additionally, the Guide for the Registration of Smaller Vessels and Smaller non-self-propelled Vessels available – (General Directorate Instructions DGTM y MM 12600/200 vrs. (1997)) – provides the instructions for the registration of small vessels, propelled and non-self-propelled.

Article 4 of the Registry Regulation states that all ship and non-self-propelled vessel owned by a Chilean natural person or a Chilean Company must be registered in one of the mentioned Registries.

The General Directorate is the entity responsible for keeping the Registry of all Chilean vessels. Registry stated in a), c), d) and f) are kept at the main Office level, whereas Registry of Smaller ships, stated in b) and e) are kept at local level, where the vessel has its main operation, by the local Maritime Authority under the responsibility of the Captain of the Port.

Article 26 of Title II of the Registry Regulation states that all ship or non-self-propelled vessel with a GT over 50 must be registered in the Registry of Larger Ships. Vessels under 50 GT must be registered in the Registry of Smaller Ships.

The General Directorate is responsible for officially determining the Tonnage of vessels in order to classify them as Larger or Smaller.

Once Registered, vessels will be issued the Registration Certificate and the Safety Certificates in the case of Larger Vessels and the Navigability Certificate in the case of Smaller Vessels.

2. Evaluation of the Registration Process of the Fleet involved in Aquaculture of Salmonids

3.1 Steps of the registration process of the fishing vessel / limitations and obligations

For the registration of a vessel as a service provider for the aquaculture of salmonids, two main steps must be followed:

1. Registration of the vessel under the Chilean regulations as stated in the Navigation Law and related Regulations and Instructions. The application and all required documents must be submitted personally in hard copies. No digital documents are accepted. All documents must be original or duly certified (notarized or other).
2. Registration of the vessel as Aquaculture Service provider. The application must be submitted to the National Fisheries and Aquaculture Service (hereinafter referred to as The Service) enclosing all the required documents.

The Registration of the vessel as Aquaculture Service Provider must be submitted filling a special Form available on line for this purpose.

Services of transportation in the Aquaculture of Salmonids are classified in seven groups when applying for the registration:

1. Live Fish
2. Dead fish and its products
3. Nets and containment gear, anchors, buoys, protection gear
4. Dead fish or ensilage
5. Feed
6. General supplies
7. Personnel

Table 1 provides an updated list of all the vessels registered as Aquaculture Service provider, separated by type of vessel and service. A total of 864 vessels are currently registered, 79 of them authorized for the transportation of live fish.

Vessels with a Water Treatment System, also called as Water Disinfection System (hereinafter referred to as WTS) that want to provide services of Live Fish transportation, must complete the Application Form enclosing all the information and documents required and submit it to The Service. Resolution No. 4866 (2014) - Sanitary General Program of disinfection Methods and Techniques of Effluents and water, Control Procedures and Treatment of Solid Organic Waste (hereinafter referred to as Sanitary Program Regulation) - stipulates the requirements to be fulfilled for the approval.

Additionally, the vessel will be required to install an Automatic Positioning System (hereinafter referred to as APS) in order to verify the compliance with the restriction of navigation within areas with different disease risk classification. The installation will be inspected and authorized by the Maritime Authority. The identification of the equipment and its detailed information must be provided to the Service

TABLE 1

CHILE : Authorized vessels that provide services to the aquaculture industry

Type of Vessel (*)	Total authorized Vessels	TRANSPORTATION SERVICE						
		Live Fish	Dead Fish and pieces	Nets	Dead fish or silage	Feed	General supplies	Crew
Vessels with Water Recirculation System (WRS)								
Wellboat	54	54	6	8	8	8	8	4
Fish Boat	25	25	10	10	4	10	12	7
Subtotal WRS	79	79	16	18	12	18	20	11
Vessels with NO Water Recirculation System (No-WRS)								
Ice Boat	8	2	8	1	6	1	1	0
Landing Craft	279	170	232	267	237	255	266	170
Motor Vessel	64	11	19	43	18	59	48	15
Smaller Vessel	369	28	110	214	139	157	229	252
Other no specified	65	7	14	47	21	24	31	27
Subtotal No-WRS	785	218	383	572	421	496	575	464
TOTAL Vessels	864	297	399	590	433	514	595	475

Source: National Fisheries and Aquaculture Service website database (updated 13 March 2018) (www.sernapesca.cl)
http://sernapesca.cl/index.php?option=com_remository&Itemid=246&func=startdown&id=4886

Note (*): The Type of Vessel classification is the one defined by the National Fisheries and Aquaculture Service in the data base and is not the classification provided by General Directorate, i.e. it does not related to length or GT

3.2 Documentation and certificates needed prior registration

3.2.1 Registration of Vessel

Prior to registration, the following documentation is needed according to the type of vessel. This documentation must be enclosed with the application package submitted for registration.

Fees for these services and others are defined in Supreme Decree No. 427 (1979) - Regulation of Fees Tariff of the General Directorate of Maritime Territory and Merchant Marine.

3.2.1.1. Larger Ships

1. Application Letter to the General Director of the General Directorate with information of the applicant and vessel.
2. General Arrangement plan of the ship, authorized by the Ship Inspection Service of the Directorate of Safety and Maritime Operations.
3. Photographs of the ship showing a view of the starboard side, a view of the port side, a view of the bow and one of the stern, where the name of the ship and the port of Registry can be seen clearly on the hull.
4. Tonnage Certificate issued by the General Directorate
5. Safety Certificates issued by the General Directorate
6. Certificate of Classification granted by a Classification Society recognized in Chile in the case of fishing vessels that have legally entered the country to carry out operations in Chile.
7. Customs release documents of the ship and proof of payment if the vessel has been purchased in a foreign country.
8. Duly legalized certificate of deregistration of the ship if it has been previously registered. If the previous registration has been in a foreign country, all documents must be certified according to Article 345 of the Code of Civil Procedure (hereinafter referred as CCP)
9. Ownership documents of the ship, in accordance with Article 832 of the Code of Commerce (hereinafter referred to as CCom).
10. In case of self-construction, a Notarized affidavit, along with the invoices and/or purchase receipts of the main materials and equipment (such as: engine, navigation equipment, communications, etc.). Also include authorization for self-construction issued by the Ship Inspection Service, dependent department of the General Directorate.

11. Articles of incorporation and modifications (if applicable) of the Chilean company owner of the ship, including a certificate of the existence issued within the 3 previous months.
12. Proofs that the Company is Chilean as stated in Article 11 of the Navigation Law.
13. Appointment as signing authority on behalf of the Chilean Company.
14. Complementary Information Form, properly notarized.

All documents listed above must be original or certified copies of the original. Any document in a language other than Spanish must include a certified translation

Template of Safety Certificates can be seen in Annex I

3.2.1.2. Ship under construction

1. Application Letter to the General Director of General Directorate with general information of the applicant and vessel.
2. Certificate issued by the shipyard or the ship builder certifying that the vessel is under construction, with information regarding its progress. This certificate must be notarized.
3. Construction contract in accordance with Article 832 of the CCom. In the case of self-construction, an Notarized affidavit must be included instead.
4. Articles of incorporation and modifications (if applicable) of the Chilean company owner of the ship, including a certificate of the existence issued within the 3 previous months.
5. Proofs that the Company is Chilean as stated in Article 11 of the Navigation Law.
6. Appointment as signing authority on behalf of the Chilean Company.
7. Complementary Information Form, properly notarized.

All documents listed above must be original or certified copies of the original. Any document in a language other than Spanish must include a certified translation

3.2.1.3. Larger non-self-propelled vessels

1. Application Letter to the General Director of General Directorate with general information of the applicant and vessel.
2. General Arrangement plan of the ship, authorized by the Ship Inspection Service of the Directorate of Safety and Maritime Operations.
3. Photographs of the ship showing a view of the starboard side, a view of the port side, a view of the bow and one of the stern, where the name of the ship and the port of Registry can be seen clearly on the hull.
4. Light displacement certificate issued by the General Directorate.
5. Safety Certificates issued by the General Directorate.
6. Customs release documents of the ship and payment proof if the vessel has been purchased in a foreign country.
7. Duly legalized certificate of deregistration of the ship if it has been previously registered. If the previous registration has been in a foreign country, all documents must be certified according to Article 345 of the CCP.
8. Ownership documents of the ship, in accordance with Article 832 of the CCom
9. In case of self-construction, a Notarized affidavit, along with the invoices and/or purchase receipts of the main materials and equipment (such as: engine, navigation equipment, communications, etc.). Also include authorization for self-construction issued by the Ship Inspection Service, dependent department of the General Directorate.
10. Articles of incorporation and modifications (if applicable) of the Chilean company owner of the ship, including a certificate of the existence issued within the 3 previous months.
11. Proofs that the Company is Chilean as stated in Article 11 of the Navigation Law.
12. Appointment as signing authority on behalf of the Chilean Company.
13. Complementary Information Form, properly notarized.

All documents listed above must be original or certified copies of the original. Any document in a language other than Spanish must include a certified translation.

3.2.1.4. Smaller Ship

1. Application Letter to the Maritime Authority (Captain of Port) with the information of the applicant and as much information as possible of the vessel.
2. Ownership documents of the ship.
3. Tonnage Certificate issued by the General Directorate
4. Certificate issued by the Maritime Authority stating that the applicant has fulfilled the requirements regarding the construction and safety of the vessel according to Articles 279 through 292 of the Decree No. 1340 (1941) - General Regulations of Order, Safety and Discipline in Vessels and in the Republic's Littoral (hereinafter referred to as Regulation of Order, Safety and Discipline).
5. General Arrangement plan of the ship, approved by the Maritime Authority.
6. Four (4) photographs of the ship where the name and port of registry can clearly be seen in the hull.
7. Articles of incorporation and modifications (if applicable) of the Chilean company owner of the ship, including a certificate of the existence.
8. Duly legalized certificate of deregistration of the ship if it has been previously registered. If the previous registration has been in a foreign country, all documents must be certified according to Article 345 of the CCP.
9. If applicable, Customs release documents of the ship and payment proof if the vessel has been purchased in a foreign country.

Any document in a language other than Spanish must include a certified translation

3.2.2. Registration as Aquaculture Service Provider

The information and documents required in all cases are the following (see Annex II):

1. If Incorporated company, articles of incorporation and modifications (if applicable) of the Chilean company owner of the ship, including a certificate of the existence.
2. Appointment as signing authority on behalf of the Company.
3. If natural person, only personal information of the owner.
4. Valid Certificate of Registration
5. Safety Certificate for larger than 50 GT
6. Valid Certificate of Navigability for vessels smaller than 50 GT
7. Photos of the vessel (side or stern) where the Registration Number can be clearly seen.

3.2.3 Registration for Live Fish Transportation

Title IX of the Sanitary Program Regulation stipulates the requirements to be authorized for the transportation of Live Fish. Vessels with a WTS must apply to The Service providing the following information and documents. (see Annex III):

- a) Monograph with the technical features of the ship which must include:
 - i. Hold capacity or tanks volume for fish transport (in cubic meters).
 - ii. Schematic of the water flow, including flow rate, monitoring or sampling points, water intake and outflow.
- b) Contingency Plan in case of failure of the disinfection system.
- c) Maximum number of water changes of the hold or tanks that transport fish.
- d) Description of the water valve opening/closure activity and it's logging procedure. It can be in writing or digital, must be signed by the Captain, be up to date and available at all time.
- e) Description and specifications of the filtering system to be applied for removing particles in suspension previously to disinfection.
- f) Regarding the UV-C disinfection system, please indicate:
 - i. Technical specifications
 - Brand, model, supplier
 - Lamp specifications and other components of the equipment
 - Number of lamps
 - Expected operative life of lamps according to the manufacturer
 - Logging information regarding lamp replacement and cleaning as well as filter maintenance
 - ii. Operational description of the equipment
 - Water flow rate to be disinfected
 - Operational logs during transportation. Lamp use time logs
- g) Regarding the Ozone disinfection, please indicate:
 - i. Specifications of:
 - Water volume to be disinfected
 - Technical Specifications of the Ozone Generator
 - Tanks or contact system
 - ii. Schematic of vessel features, including water filters, generation system, application and ozone contact.
 - iii. Procedures, control points and frequency, cleaning, general maintenance. Logging system of information.
 - iv. Logging procedure for the ozone doses, concentration, time, conversion to CT values.

3.3 Certificates issued by flag and that must be carried on board

Article 3 of Title II of the Merchant Marine Law, states that cabotage in Chile can only be carried out by Chilean vessels. Therefore, any vessel that provides services to the Salmon industry must operate under the Chilean flag.

Responder could not provide the information of what were all the certificates that must be carried on board at all time. It is also not clearly stated in the regulation. However, Article 41 of the Surveys Regulation states that in ships and non-self-propelled

vessels, valid certificates and other documents required by International Conventions and Chilean regulations must be carried on board at all time and available for the Maritime Authority if required. A guide of all the certificates required to be carried on board is provided by the International Maritime Organization (hereinafter referred to as IMO) on CIRC\MSC\01\1462.

Article 41 also states that Certificates will be issued as similar as possible to the templates approved by the IMO.

Main certificates issued that must be carried on board are:

1. Original Registration Certificate issued by the General Directorate.
2. For larger vessels, Safety Certificates which include:
 - a. Certificate of structure, engine and other equipment
 - b. Certificate of life safety equipment
 - c. Certificate of radio electric equipment
 - d. Certificate of the Inventory of Equipment for Safety purpose.
 - e. Certificate of minimum safe manning
 - f. Certificate of the Automatic Positioning System
3. For smaller vessel, Certificate of Navigability

3.4 Inspection regime (prior and after registration)

Inspections and surveys of ships are regulated by:

- Supreme Decree No. 146 (1978) - Regulation for Construction, repairs and maintenance of merchant ships, larger special ships, non-self-propelled vessels, their inspections and surveys - (hereinafter referred to as Construction, Maintenance and Inspections Regulation) and
- Supreme Decree No. 248 (2004) - Regulations of surveys of ships and non-self-propelled vessels - (hereinafter referred to as Surveys Regulation)

Instructions for the issuance, renewal or extension of Certificates are provided in Circular No. O-71/012.

The Survey Regulation define that for Merchant Ships, surveys will be carried out under the Guidelines provided in the Harmonized System of Survey and Certification (HSSC) that were introduced and came into force under MARPOL 73/78 stated in

For special vessels, although MARPOL 73/78 are not mandatory, the survey regime is also guided by this regulation:

Initial survey: The initial survey, before the ship is put into service, should include a complete inspection, with tests when necessary, of the structure, machinery and equipment to ensure that the requirements relevant to the particular certificate are complied with and that the structure, machinery and equipment are fit for the service for which the ship is intended.

Annual survey: The annual survey should enable to verify that the condition of the ship, its machinery and its equipment is being maintained in accordance with the relevant requirements.

Renewal survey: The renewal survey should consist of an inspection, with tests when necessary, of the structure, machinery and equipment to ensure that the requirements relevant to the particular certificate are complied with and that they are in a satisfactory condition and are fit for the service for which the ship is intended.

Intermediate survey: The intermediate survey should be an inspection of items relevant to the particular certificate to ensure that they are in a satisfactory condition and are fit for the service for which the ship is intended. I

Periodical survey: The periodical survey should consist of an inspection, with tests when necessary, of the equipment to ensure that requirements relevant to the particular certificate are complied with and that they are in a satisfactory condition and are fit for the service for which the ship is intended.

Additional survey: It is the inspection that is performed whenever an accident occurs to a ship or a defect is discovered which affects the safety or integrity of the ship or the efficiency or completeness of its equipment.

Surveys and inspections of vessels built after 2 September 1985 are performed in conformity with Torremolinos Convention, whereas for those vessels built before this date, surveys and inspections will continue under yearly inspection regime.

Article 129 of the Construction, Maintenance and Inspections Regulation states that larger ships must go through maintenance and repair every twenty-four (24) months.

Article 124 of the same regulation states that inspectors from the Ship Inspection Commissions, acting on behalf of the Maritime Authority, will be the only authorized inspectors to perform inspections in ships under construction or maintenance and repair.

Article 20 of the Survey Regulation states that, surveys and inspections for the renewal of Safety Certificates will follow the procedures stated in the Chilean regulation, MARPOL and SOLAS as well as other international conventions, including any provision and instruction approved by IMO, which will be a supplement to the Chilean Regulation

Article 21 stipulates that all merchant ship and special ship, as well as non-self-propelled vessel will be inspected every twelve (12) months for the renewal of the Safety Certificates.

Instructions in Circular No. O-71/012 state that for Fishing Vessels there will be a special survey regime based in the HSSC introduced in MARPOL 73/78.

Article 22 stipulates that for the issuance, endorsement or renewal of the Safety Certificates of any ship or non-self-propelled vessel, the ship will need to comply with the following surveys and inspections:

Larger ships:

- a) One initial inspection
- b) One inspection for Safety Certificates renewal every five (5) years
- c) One inspection to be carried out in the date of expiration of the second or third year of the Equipment Certificate. For Radio Electrical Certificates, the inspection must be carried out on the date of expiration.
- d) An inspection once a year for the Safety Certificates.
- e) One inspection to be carried out in the date of expiration of the second or third year of the Safety Certificates. This inspection will replace one of the annual inspection.
- f) A minimum of two inspections of the external condition of the bottom of the hull, under the water level, in the period of five (5) years of validity of this Certificate. The timeframe between these two inspections cannot be more than 36 months.

Non-self-propelled vessels

- a) One initial inspection
- g) One inspection for Safety Certificates renewal every five (5) years
- h) An inspection once a year for the Safety Certificates.
- i) A minimum of two inspections of the external condition of the bottom of the hull, under the water level (if steel or wood), in the period of five (5) years of validity of this Certificate. The timeframe between these two inspections cannot be more than 36 months. If the material of the hull is any other than steel or wood, this requirement can be reduced to one inspection in five years if the safety of the vessel is not at risk.

Smaller ships and non-self-propelled vessels

- a) One initial inspection
- b) One inspection for renewal every twelve (12) months

3.5 Role of Recognized Organizations

The current regulation in Chile does not required for fishing vessels to be Classified. Classification of Vessels is a voluntary decision of the ship owner.

Responder to the interview has noted that international organization do not play a major role in the current administration system. Chile has developed a complete National Regulation in accordance with international standards and recommendations such as those generated in conventions of MARPOL, SOLAS, TORREMOLINOS.

It is the Navy of Chile through its General Directorate of the Maritime Territory and Merchant Marine who regulates, enforces and supervises all the activities related to the vessel construction, repair, maintenance and operation.

4. SWOT Analysis

The Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis is presented in Table

Table 2: SWOT Analysis

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none"> ▪ Automatic Position System allows good information and control ▪ Good information of the fleet ▪ Services quality has improved ▪ Government and private sector have good communication ▪ Parties seeking improvements. 	<p style="text-align: center;">Weaknesses</p> <p>General Directorate Registration</p> <ul style="list-style-type: none"> ▪ Application must be in person, centralized in main office. ▪ Application is in hard copy. No digital allowed. ▪ All documents must be originals or notarized ▪ All calculations are determined by the Maritime Authority ▪ Too much paperwork ▪ Time consuming and expensive ▪ Slow process ▪ Too many regulations lead into confusion ▪ Similar requirements for non-propelled vessels than ships <p>The Service Registration</p> <ul style="list-style-type: none"> ▪ Too many officers <p>Full registration process</p> <ul style="list-style-type: none"> ▪ No combined data base ▪ No definition of Aquaculture vessel.
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> ▪ Development of a new improved and integrated registration process ▪ Online application allows reduction of time and money ▪ Better coordinated work ▪ Position Chile as a leading country in this matter. 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> ▪ Concern for potential opening of cabotage to foreign vessels. In discussion ▪ Loss of trust between parties ▪ Well Boats are not required to be classified ▪ Too many vessels.

5. Conclusions

A summary of the findings for Work Package 1 is made in Table 3.

Table 1: Summary of the Findings

Section	Summary of Findings
Identification of Vessels Used in Aquaculture of Salmonids	<ol style="list-style-type: none"> 1. The General Directorate as the high-level agency of the Navy of Chile is the authority that keeps the Registry of vessels. 2. Only Chilean vessels can be register in the registry 3. Only Chilean companies or Chilean natural persons can register a vessel 4. Vessels are classified in ships and non-self-propelled vessels 5. Vessels are also classified as larger vessels (more than 50 GT) and smaller vessels (up to 50 GT) 6. Larger vessels are registered in the main office of the General Directorate and smaller vessels in the local offices.
Steps of the Registration Process	<ol style="list-style-type: none"> 1. The process of registration of vessels as aquaculture service provider requires two steps: <ol style="list-style-type: none"> a. Registration of the vessel in one of the registries kept by the General Directorate b. Registration of the vessel as aquaculture service provider in the registry kept by the Fisheries and Aquaculture National Service 2. There are currently 864 vessels of all sizes registered as service providers for the aquaculture. 79 vessels are authorized to transport live fish 3. Vessels authorized to transport live fish must installed an APS on board as well as WTS
S. 3.2 Documentation and Needed Prior Registration	<ol style="list-style-type: none"> 1. Registration process, mainly for larger vessels, is extremely inefficient. <ol style="list-style-type: none"> a. Application must be submitted in hard copy including original documents or duly certified b. Application must be done in person in the General Directorate's main office c. Feedback procedure is slow d. (Responder noted that an amendment must be submitted as a new application) 2. Registration at the General Directorate has not been upgraded

	<ol style="list-style-type: none"> 3. Being the General Directorate an agency of the Navy of Chile, all procedures are followed by naval standards, which not always satisfy the “client’s” expectations. 4. Registration as aquaculture service provider is simpler and faster once having all the documents and information required. Forms are available on line
<p>S. 3.3 Certificates must be Carried on Board</p>	<ol style="list-style-type: none"> 1. No foreign vessel can operate in Chile in cabotage and therefore as aquaculture service provider 2. No clear information was available on this regard 3. Regulation however, states that IMO recommendation on this regard should be followed
<p>S. 3.4 Inspection Regime</p>	<ol style="list-style-type: none"> 1. Although stated in the national regulation, the survey and inspection regime follow the guidelines provided in the Harmonized System of Surveys stated in MARPOL 2. Larger vessels should go through maintenance and repair once every 24 months 3. Safety certificates are renewed every five years 4. Smaller vessel must go through inspection every 12 months
<p>S. 3.5 Role of Recognized Organizations</p>	<ol style="list-style-type: none"> 1. Although stated in the national regulation, the survey and inspection regime follow the guidelines provided in the Harmonized System of Surveys stated in MARPOL 2. Larger vessels should go through maintenance and repair once every 24 months 3. Safety certificates are renewed every five years 4. Smaller vessel must go through inspection every 12 months

Annex I

Safety Certificate Template

ORDINARIO/PERMANENTE
CIRCULAR O-71/012
PUBLICO

ANEXO "G"
CERTIFICADO GENERAL DE SEGURIDAD PARA BUQUE PESQUERO

El presente certificado llevará como suplemento un inventario del equipo (Modelo "Q")



REPÚBLICA DE CHILE

Expedido en virtud de las disposiciones del
REGLAMENTO DE LAS COMISIONES DE INSPECCIÓN DE NAVES
Aprobado por D.S. (M) N° 70 del 16 de Enero de 1985
(Reglamento 7-50/7) y/o del
CONVENIO INTERNACIONAL DE TORREMOLINOS PARA LA SEGURIDAD DE LOS BUQUES PESQUEROS, 1977
Aprobado por D.S. (M). RR.EE. N° 543 del 14 de Junio de 1985
CHILE

por la **GOBERNACIÓN MARÍTIMA DE** _____
DIRECCIÓN GENERAL DEL TERRITORIO MARÍTIMO Y DE MARINA MERCANTE
ARMADA DE CHILE

Nombre del buque	
Número o letras distintivas	
Puerto de matrícula	
Arqueo bruto	
Eslora del buque ¹	
Tipo de buque ²	
Zonas marítimas en las que el buque está autorizado a operar ³	
Fecha en que se colocó la quilla del buque o en que la construcción de éste se hallaba en una fase equivalente o, cuando proceda, fecha en que comenzaron las obras de transformación o de reforma o modificación de carácter importante.	

SE CERTIFICA:

1. Que el buque ha sido objeto de reconocimiento, de conformidad con lo prescrito en el artículo 401 y 409 del Reglamento 7-50/7.
2. Que el reconocimiento ha puesto de manifiesto lo siguiente:
 - 2.1 Que el estado del casco, maquinarias, instalaciones radioeléctricas, equipos contra incendio y los dispositivos de salvamento, son satisfactorios en todos los sentidos, y el buque cumple con las prescripciones aplicables.
 - 2.2 Que el calado máximo de servicio admisible, correspondiente a cada una de las condiciones operacionales del buque, está indicado en el Certificado de "Calado Máximo de Operación" de fecha.....
 - 2.3 Que las últimas inspecciones de la obra viva del buque se realizaron el : _____ y el _____ (fechas)
- 3 Que se ha expedido / no se ha expedido⁴ un Certificado de exención.

El presente Certificado es válido hasta el _____ a condición de que se relicen los reconocimientos anuales, periódicos e intermedios, según corresponda, y las inspecciones de la obra viva del buque.

(Lugar y fecha de expedición)

(Firma y sello del Gobernador Marítimo) →

GOBERNACIÓN MARÍTIMA DE

¹ De acuerdo a lo indicado en la regla I/2.5 del Convenio Torremolinos-77.
² Señalar el tipo de nave, ejemplo: buque de cerco, de arrastre, palangrero, etc.
³ Solo para buques con instalaciones radioeléctricas del SMSSM.
⁴ Táchese según corresponda

REFRENDO DE RECONOCIMIENTOS ANUALES RELATIVOS A LA ESTRUCTURA, LAS MÁQUINAS Y OTROS EQUIPOS

SE CERTIFICA que el buque ha sido objeto de reconocimiento de conformidad con lo prescrito en las reglas I/6 1) b) y c), del Convenio TORREMOLINOS y/o artículos 129, 132 y 133 del Reglamento para la Construcción, Reparaciones y Conservación de las Naves Mercantes y Especiales, 1987.

Primer reconocimiento Anual
Firmado.....
Lugar.....
Fecha.....

Segundo reconocimiento Anual o Intermedio¹
Firmado.....
Lugar.....
Fecha.....

Tercer reconocimiento Intermedio o Anual¹
Firmado.....
Lugar.....
Fecha.....

Cuarto reconocimiento Anual
Firmado.....
Lugar.....
Fecha.....

REFRENDO DE LA INSPECCIÓN DE LA OBRA VIVA DEL BUQUE

SE CERTIFICA que el buque ha sido objeto de reconocimiento de conformidad con lo prescrito en el artículo 129 del Reglamento para la Construcción, Reparaciones y Conservación de las Naves Mercantes y Especiales, 1987.
(Se adjunta al Certificado de Seguridad, el Informe de Inspección de Carena respectivo)

Primera Inspección
Firmado.....
Lugar.....
Fecha.....

Segunda Inspección
Firmado.....
Lugar.....

¹ Táchese según proceda

ORDINARIO/PERMANENTE
CIRCULAR O-71/012
PUBLICO

Fecha.....

REFRENDO DE LA INSPECCIÓN DE LA OBRA VIVA DEL BUQUE

SE CERTIFICA que el buque ha sido objeto de reconocimiento de conformidad con lo prescrito en el artículo 129 del Reglamento para la Construcción, Reparaciones y Conservación de las Naves Mercantes y Especiales, 1987.
(Se adjunta al Certificado de Seguridad, el Informe de Inspección de Carena respectivo)

Tercera Inspección

Firmado.....

Lugar.....

Fecha.....

Cuarta Inspección

Firmado.....

Lugar.....

Fecha.....

REFRENDO DE RECONOCIMIENTOS ANUALES RELATIVOS A LOS DISPOSITIVOS DE SALVAMENTO Y OTROS EQUIPOS.

SE CERTIFICA que el buque ha sido objeto de reconocimiento de conformidad con lo prescrito en la regla I/6 1) b) del Convenio TORREMOLINOS y/o el artículo 401 del Reglamento 7-50/7, y se ha comprobado que el buque cumple con las prescripciones.

Primer reconocimiento Anual

Firmado.....

Lugar.....

Fecha.....

Segundo reconocimiento Anual o Periódico¹

Firmado.....

Lugar.....

Fecha.....

Tercer reconocimiento Periódico o Anual

Firmado.....

Lugar.....

Fecha.....

Cuarto reconocimiento Anual

Firmado.....

Lugar.....

¹ Táchese según proceda

ORDINARIO/PERMANENTE
CIRCULAR O-71/012
PUBLICO

Fecha.....

REFRENDO DE RECONOCIMIENTOS ANUALES RELATIVOS A LAS INSTALACIONES RADIOELÉCTRICAS

SE CERTIFICA que el buque ha sido objeto de reconocimiento de conformidad con lo prescrito en la regla I/6 1) b) del Convenio TORREMOLINOS y/o el artículo 401 del Reglamento 7-50/7, y se ha comprobado que el buque cumple con las prescripciones.

Primer reconocimiento periódico

Firmado.....
Lugar.....
Fecha.....

Segundo reconocimiento periódico

Firmado.....
Lugar.....
Fecha.....

Tercer reconocimiento periódico

Firmado.....
Lugar.....
Fecha.....

Cuarto reconocimiento periódico

Firmado.....
Lugar.....
Fecha.....

REFRENDO PARA PRORROGAR LA VALIDEZ DEL CERTIFICADO POR UN PERÍODO MÁXIMO DE 5 MESES HASTA LA LLEGADA DEL BUQUE AL PUERTO DONDE SE HARA EL RECONOCIMIENTO DE RENOVACIÓN.

El presente certificado, se aceptará como válido de conformidad con las disposiciones reglamentarias vigentes, hasta el : _____

Firmado.....
Lugar.....
Fecha.....

REFRENDO PARA PRORROGAR LA VALIDEZ DEL CERTIFICADO POR UN PERÍODO DE GRACIA MAXIMO DE 1 MES

ORDINARIO/PERMANENTE
CIRCULAR O-71/012
PUBLICO

El presente certificado, se aceptará como válido hasta el : _____

Firmado.....
Lugar.....
Fecha.....

**REFRENDO PARA PRORROGAR LA VALIDEZ DEL CERTIFICADO POR UN PERIODO MAXIMO DE 5 MESES CUANDO
HABIENDO APROBADO EL RECONOCIMIENTO DE RENOVACIÓN , NO HA SIDO POSIBLE EXPEDIR O ENTREGAR
AL BUQUE UN NUEVO CERTIFICADO**

Se certifica, que el buque cumple con las prescripciones reglamentarias pertinentes para renovar el presente
Certificado, el que se aceptará como válido hasta el : _____

Firmado.....
Lugar.....
Fecha.....

INVENTARIO DEL EQUIPO ADJUNTO AL CERTIFICADO GENERAL DE SEGURIDAD PARA BUQUES PESQUEROS (MODELO "Q")

INVENTARIO DEL EQUIPO QUE PERMITE CUMPLIR CON LAS DISPOSICIONES REGLAMENTARIAS SOBRE SEGURIDAD

1 Datos relativos al buque	
Nombre	
Número o letras distintivas	
Número mínimo de personas con la titulación requerida para utilizar las instalaciones radioeléctricas	

2 Pormenores relativos a los dispositivos de salvamento

1 Número total de personas para las que se han provisto dispositivos de salvamento			
		A babor	A estribor
2	Número total de botes salvavidas		
2.1	Número total de personas a las que se puede dar cabida		
2.2	Número de botes salvavidas parcialmente cerrados		
2.3	Número de botes salvavidas parcialmente cerrados autoadrizables		
2.4	Número de botes salvavidas totalmente cerrados		
2.5	Otros botes salvavidas		
2.5.1	Número		
2.5.2	Tipo		
3	Número total de botes salvavidas a motor (comprendidos en el total de botes salvavidas que se acaba de indicar)		
4	Número de botes de rescate		
4.1	Número de botes comprendidos en el total de botes salvavidas que se acaba de indicar		
5	Balsas salvavidas		
5.1	Balsas salvavidas para las que se necesitan dispositivos aprobados de puesta a flote		
5.1.1	Número de balsas salvavidas		
5.1.2	Número de personas a las que se puede dar cabida		
5.2	Balsas salvavidas para las que no se necesitan dispositivos aprobados de puesta a flote		
5.2.1	Número de balsas salvavidas		
5.2.2	Número de personas a las que se puede dar cabida		
6	Número de aros salvavidas		
7	Número de chalecos salvavidas		

8	Trajes de inmersión	
8.1	Número total	
8.2	Número de trajes que cumplen con las prescripciones aplicables a los chalecos salvavidas	
9	Número de ayudas térmicas⁵	
10	Instalaciones radioeléctricas utilizadas en los dispositivos de salvamento	
10.1	Número de respondedores de radar	
10.2	Número de aparatos radiotelefónicos bidireccionales	

3 Pormenores relativos a las instalaciones radioeléctricas
3.1 Sólo para buques con instalaciones radioeléctricas del SMSSM.

Elemento		Disposiciones y equipos existentes a bordo
1	Sistemas Primarios	
1.1	Instalación radioeléctrica de ondas métricas:	
	1.1.1 Codificador de LSD	
	1.1.2 Receptor de escucha de LSD	
	1.1.3 Radiotelefonía	
1.2	Instalación radioeléctrica de ondas hectométricas:	
	1.2.1 Codificador de LSD	
	1.2.2 Receptor de escucha de LSD	
	1.2.3 Radiotelefonía	
1.3	Instalación radioeléctrica de ondas hectométricas / decamétricas:	
	1.3.1 Codificador de LSD	
	1.3.2 Receptor de escucha de LSD	
	1.3.3 Radiotelefonía	
	1.3.4 Radiotelegrafía de impresión directa	
1.4	Estación terrena de buque de INMARSAT	
2	Medios secundarios para emitir alerta	
3	Instalación para la recepción de información sobre seguridad marítima	
3.1	Receptor NAVTEX	
3.2	Receptor de LIG	
3.3	Receptor radiotelegráfico de impresión directa de ondas decamétricas	
4	RLS satelitaria	
4.1	COSPAS – SARSAT	
4.2	INMARSAT	

⁵Excluidas las exigidas como equipo de los botes, balsas y botes de rescate

5	RLS de ondas métricas	
6	Respondedor de radar del buque	
7	Receptor de escucha para la frecuencia radiotelefónica de socorro de 2 182 KHz	
8	Dispositivo para generar la señal radiotelefónica de alarma de 2 182 KHz	

4 Métodos utilizados para garantizar la disponibilidad de las instalaciones radioeléctricas

4.1 Sólo para buques con instalaciones radioeléctricas del SMSSM.

4.1	Duplicación del equipo	
4.2	Mantenimiento en tierra	
4.3	Capacidad de mantenimiento en la mar	

5 Buques sin instalaciones radioeléctricas del SMSSM.

5.1 Para los buques obligados a llevar equipo radiotelegráfico de conformidad con el Reglamento General de Radiocomunicaciones del Servicio Móvil Marítimo, vigente.

	Prescripciones de las reglas	Disposiciones y equipos existentes a bordo
• Horas de escucha por operador		
• Número de operadores		
• ¿Hay autoalarma?		
• ¿Hay instalación principal?		
• ¿Hay instalación de reserva?		
• El transmisor principal y el de reserva, ¿están eléctricamente separados o combinados?		

5.2 Para los buques obligados a llevar equipo radiotelefónico de conformidad con el Reglamento General de Radiocomunicaciones del Servicio Móvil Marítimo, vigente.

	Prescripciones de las reglas	Disposiciones y equipos existentes a bordo
• Horas de escucha		
• Número de operadores		

SE CERTIFICA que este inventario es correcto en su totalidad.


(Lugar y fecha de expedición)

(Firma y sello del Gobernador Marítimo)→

GOBERNACIÓN MARÍTIMA DE

Annex II

Registration Form for Aquaculture Service Provider

 SERNAPESCA Ministerio de Economía, Fomento y Turismo Gobierno de Chile	INFORMACIÓN EMBARCACIONES PRESTADORAS DE SERVICIOS DE ACUICULTURA EMBARCACIONES PRESTADORAS DE SERVICIOS DE ACUICULTURA El armador de la embarcación es responsable de la información contenida en el presente formulario, el cual deberá ser enviado en formato Excel o compatible al correo electrónico navesacuicultura@sernapesca.cl o en su defecto entregarlo en papel en la oficina de la jurisdicción del domicilio del armador.							
FECHA	FOLIO							
IDENTIFICACIÓN DEL REPRESENTANTE LEGAL								
Nombre								
Apellidos								
RUT (Ej: 12564896)	Dig. Verificador							
Fono contacto								
Correo electrónico								
Domicilio legal								
Ciudad								
IDENTIFICACIÓN DEL ARMADOR								
Los armadores de embarcaciones cuya razón social corresponde a una persona jurídica, deberá completar los antecedentes correspondientes al representante legal y al armador, adjuntando certificado de vigencia del representante legal o similar. Los armadores cuya razón social corresponde a una persona natural sólo deberán completar los antecedentes correspondientes al armador.								
Nombre								
Apellidos								
RUT (Ej: 12564896)	Dig. Verificador							
Fono contacto								
Correo electrónico								
Domicilio legal								
Ciudad								
INFORMACIÓN DE LA EMBARCACIÓN								
Los antecedentes correspondientes a la información de la embarcación, deberán ser acreditados adjuntando certificado de matrícula vigente; certificado de navegabilidad vigente para naves menores o igual a 50 TRG o certificado general de seguridad vigente para naves mayor a 50 TRG. Por otra parte, se debe adjuntar foto de la embarcación por banda o por proa, en que se visualicen claramente número de matrícula y señal distintiva, en formato JPG o JPEG, de tamaño mínimo 1000 pixeles y cuyo peso no sea superior a 300 Kb.								
Nombre de la nave								
Matrícula (Ej: 2215) y Puerto								
Señal Distintiva (Ej: CB 2545)								
Año de construcción								
Tipo de embarcación								
Material de la cubierta en contacto con la carga								
Material de la bodega en contacto con la carga								
Material construcción casco								
TRG	(tons)	Capacidad de bodega	m ³					
Velocidad crucero	(nudos)	Potencia motor principal	(HP)					
Eslora total	Manga	Velocidad máxima	(nudos)					
		Puntal	(metros)					
INFORMACIÓN EQUIPO POSAT								
Una vez instalado el equipo POSAT y habiendo solicitado la inspección y sellado del equipo a la Autoridad Marítima, deberá remitir a la Dirección de Intereses Marítimos y Medio Ambiente Acuático (DIRINMAR) al Jefe del Departamento Marina de Pesca y R. M. al Fax N° 32-2208662 o al e-mail fpesca@directemar.cl y con copia a Sernapesca al e-mail navesacuicultura@sernapesca.cl carta que señala el código de identificación o ID del equipo satelital.								
Certificado por DGTM y MM								
Equipo primario	Tecnología							
	Modelo							
*Equipo secundario	Tecnología							
	Modelo							
* Contar con un equipo secundario de posicionamiento satelital no es obligatorio, en caso que la embarcación disponga de uno, deberá indicar la tecnología y modelo de éste.								
ACTIVIDAD O SERVICIO DE TRANSPORTE								
En el casillero situado a la izquierda de cada actividad listada, indique el número correspondiente a la o las actividades o servicios que prestará Ej: servicio de transporte de Alimento indique "5", NO marque el casillero con una "X".								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">1. Peces muertos y sus productos</td></tr> <tr><td style="text-align: center;">2. Redes y elementos de contención, de fijación (fondeo), flotación y/o protección</td></tr> <tr><td style="text-align: center;">3. Mortalidades o ensilajes</td></tr> </table>	1. Peces muertos y sus productos	2. Redes y elementos de contención, de fijación (fondeo), flotación y/o protección	3. Mortalidades o ensilajes	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">4. Peces vivos</td></tr> <tr><td style="text-align: center;">5. Alimento</td></tr> <tr><td style="text-align: center;">6. Insumos generales</td></tr> <tr><td style="text-align: center;">7. Personal</td></tr> </table>	4. Peces vivos	5. Alimento	6. Insumos generales	7. Personal
1. Peces muertos y sus productos								
2. Redes y elementos de contención, de fijación (fondeo), flotación y/o protección								
3. Mortalidades o ensilajes								
4. Peces vivos								
5. Alimento								
6. Insumos generales								
7. Personal								
OBSERVACIONES								
NOMBRE Y APELLIDOS RESPONSABLE DE LA INFORMACIÓN								

Annex III

Registration Form for WTS approval



SOLICITUD APROBACION *

SISTEMAS DE TRATAMIENTO DE LAS AGUAS EMPLEADAS POR EMBARCACIONES EN LA OPERACIÓN DE TRANSPORTE DE PECES VIVOS (Res. Sernapesca N°2327/2010)

El armador o propietario de la embarcación es responsable de la exactitud de la información suministrada. El formulario y los antecedentes deben enviarse a: *Unidad de Salud Animal, Dirección Nacional, Servicio Nacional de Pesca, Victoria 2832, Valparaíso, Chile*, o en su defecto entregada en la oficina de jurisdicción del domicilio del armador.

FECHA	21-Dec-12	FOLIO	41264
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INFORMACION DEL PROPIETARIO / REPRESENTANTE LEGAL			
La nave debe estar inscrita en la N°mina de Navas de la Acuicultura.			
IDENTIFICACIÓN DEL ARMADOR			
2 Nombre / Razón Social			
3 RUT (ej: 12564896)		Dig. Verificador	
4 Fono contacto			
5 Correo electrónico			

INFORMACIÓN DE LA EMBARCACIÓN A APROBAR			
6 Nombre de la nave			
7 N° Matrícula		Puerto base de operación	
8 Tipo de embarcación			
9 Si es otro, especificar			

SISTEMA TRATAMIENTO AGUAS TRANSPORTE PECES			
La revisión de los antecedentes se iniciara sólo cuando esten completos de acuerdo a lo requerido en la norma Adjuntar fotos de los sistemas de tratamiento, incluyendo el dispositivo o reactor y sus sistemas de control.			
10 Tipo sistema tratamiento aguas transporte peces			
INFORMACION SUMINISTRADA			
Recepción	Información Técnica requerida según Res. Sernapesca N°2327/2010	Formato	
11	Monografía con características técnicas de la embarcación (Arts. 3.1.1 a 3.1.2)		
12	Plan Contingencia ante emergencias que imposibiliten uso sistemas (Art. 3.2)		
13	Antecedentes del N° max. renovaciones agua/hr bodegas transporte (Art. 3.3)		
14	Antecedentes del sist. registro activación apertura/cierre compuertas (Art. 3.4)		
15	Antecedentes del sistema filtrado particulas pre-desinfección (Art. 3.5)		
16	Especificaciones técnicas equipo UV-C (Arts. 3.6.1 a 3.6.3)		
17	Especificaciones técnicas sistema ozonificación (Arts. 3.7.1 a 3.7.4)		
18			
19			

RECEPCION SERNAPECA			
NOMBRE, APELLIDOS, FIRMA RESPONSABLE ENTREGA INFORMACIÓN *			

*El presente formulario debe ser entregado en 2 copias, con nombre, RUT y firma del responsable de la entrega de la información. Adicionalmente, debe enviarse por correo electrónico a nmancilla@sernapesca.cl.

La recepción de los antecedentes, no constituye conformidad que ellos cumplan con todos los requerimientos establecidos en la norma y sólo indica fecha, lugar y funcionario que recibe la información.

Annex IV: (Comments & Questions Addressed)

Kingdom of Australia:

1) Pg 53 - Is there a lower limit of the size of the vessel for state 'close up' inspections?

"All Tasmanian Salmonoid vessels are regulated under Scheme S of the National System. This means that there is an expectation that vessels have both initial then periodic surveys. "

Answer:

There are currently no lower limits. The test applied is that if a vessel falls within the legislated definition of a Domestic Commercial Vessel it is treated as such.

2) Pg 62 - Can we receive more detail on these Exemptions?

There are two restricted survey arrangements, the Exemption 02 Non-Survey category (essentially owner self-declaration) and Exemption 40- Restricted Operations categories that some boats could be regulated under. There has been no take up of these options in the salmonoid fleet for two reasons- the first is that they seriously restrict areas of operation and preclude the use of cranes and other lifting apparatus which does not suit the industry, and secondly that effectively because of the water temperature in Tasmania the survey requirements under these schemes are little different to the more common Scheme S survey. (AMSA website and Kedge Records)

[Transport Canada - limit is 24M, with no intention to increase.]

Answer:

Please find attached the full texts of these exemptions below:

Accessed 17/04/2018

Exemption 02

<https://www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/exemption-2-marine-safety-certificates-survey>

and

Exemption 40

<https://www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/exemption-40-marine-safety-class-c-restricted>

AMSA EX02

Marine Safety (Certificates of survey) Exemption 2017 (No. 2)

I, Gary Prosser, Acting Chief Executive Officer of the Australian Maritime Safety Authority (the National Marine Safety Regulator under section 9 of the *Marine Safety (Domestic Commercial Vessel) National Law*), make this instrument under subsection 143(1) of the *Marine Safety (Domestic Commercial Vessel) National Law*.
27 November 2017

Gary Prosser

Acting Chief Executive Officer

1 Name of instrument

This instrument is *Marine Safety (Certificates of survey) Exemption 2017 (No. 2)*.

2 Duration

This instrument commences 1 January 2018 and ceases to have effect at the end of 31 May 2020.

3 Repeal

Marine Safety (Certificates of survey) Exemption 2017 made on 9 May 2017 is repealed.

4 Definitions — the dictionary

A definition in the dictionary applies to each use of the word or expression in this instrument.

Note The dictionary is located at the end of the instrument.

5 Exemption from requirement to have certificate of survey

(1) Each vessel mentioned in Schedule 1 is exempt from the requirement to have a certificate of survey for sections 43 and 44 of the national law, subject to:

- (a) any conditions mentioned for the vessel in Schedule 1; and
- (b) approval in writing from the National Regulator if the vessel:
 - (i) is not a vessel to which Division 5 of Schedule 1 applies; and

2 Marine Safety (Certificates of survey) Exemption 2017 (No. 2)
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(ii) is not any of the following:

- a human powered vessel mentioned in item 2.3 of Schedule
- a sailing vessel mentioned in item 2.4 of Schedule 1;
- a personal watercraft — whether or not the PWC has an aerial freestyle device attached.

Note 1 An application for approval can be part of the application for a certificate of operation or a separate application. For the form of application and how it will be processed, contact the National Regulator.

Note 2 A fee may be charged — see s 9 of the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012*.

(2) For paragraph (1)(a), if more than 1 Division of Schedule 1 applies to the vessel, the owner of the vessel may choose which Division is to apply.

(3) The National Regulator may make an approval mentioned in paragraph (1)(b)

subject to conditions that take account of the local conditions of the water in which the vessel is to operate.

6 Exemption for heritage vessels

(1) A heritage vessel is exempt from sections 3 to 5, paragraphs 6(1)(b), 7(1)(a) and 7(1)(f) of Marine Order 503 if:

(a) the owner of the vessel gives the National Regulator a vessel management plan for the vessel; and

(b) the National Regulator approves in writing the provisions to which the exemption is to apply.

Note A heritage vessel must have a certificate of survey unless it is exempt under section 5 (eg it is an existing vessel mentioned in Division 5 of Schedule 1).

(2) The exemption mentioned in subsection (1) is subject to the following conditions:

(a) the heritage vessel must be maintained and operated in accordance with the vessel management plan;

(b) the owner of the vessel must receive approval from the National Regulator for any change to the matters in the vessel management plan.

(3) The National Regulator may make an approval subject to conditions that take account of the local conditions of the waters in which the vessel is to operate.

7 Transitional matters

An approval issued under any of the following instruments continues to be in force as if the instrument had not been repealed:

(a) *Marine Safety (Certificates of survey) Exemption 2017*;

(b) *Marine Safety (Certificates of survey) Exemption 2016*;

(c) *Marine Safety (Certificates of survey) Exemption 2015*;

(d) *Marine Safety (Certificates of survey) Exemption 2013*;

(e) *Marine Safety (Heritage vessels) Exemption 2013*.

Schedule 1 Vessels and conditions

(section 5)

Division 1 Vessels generally

Item	Kind of vessel	Conditions
1.1	Vessel that is being moved for the purpose of obtaining a certificate of survey or certificate of operation, including returning the vessel after the survey or other process has been completed	The vessel must be moved and returned by the most direct and practical route.
1.2	Tender	The vessel must: (a) if the parent vessel is a vessel

		in survey — be inspected with the parent vessel whenever the parent vessel is surveyed; and (b) meet design, construction and equipment standards mentioned for tenders in NSCV Part G.
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Division 2 Non-survey vessels

Item	Kind of vessel	Conditions
2.1	<p>Class 2, 3 or 4 vessel:</p> <p>(a) that is <7.5 m long; and</p> <p>(b) that operates only in sheltered (D or E) waters; and</p> <p>(c) if a Class 2 vessel — that carries no passengers or up to 4 day passengers; and</p> <p>(d) if a Class 3 vessel — that carries no passengers; and</p> <p>(e) that does not carry dangerous goods, other than petroleum or gas products intended for use on the vessel or fireworks carried on the vessel only for use on the vessel for a fireworks display; and</p> <p>(f) if a net reel, crane, lifting device or deck load is installed on the vessel:</p> <p>(i) on which the use of the net reel, crane, lifting device or deck load is not likely to adversely affect the stability or watertight integrity of the</p>	<p>The vessel must meet the design, construction and equipment standards mentioned in:</p> <p>(a) NSCV Part G that apply to the vessel; or</p> <p>(b) a standard determined by the National Regulator.</p>

	vessel; and (ii) for which a marine surveyor accredited in stability approval has made a written recommendation to the National Regulator stating	
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Item	Kind of vessel	Conditions
<p>that the surveyor is satisfied that the net reel, crane, lifting device or deck load is unlikely to:</p> <p>(A) generate a heeling moment that may endanger or capsize the vessel; or</p> <p>(B) create a loading condition that exceeds the maximum loading for the vessel; and</p> <p>(g) that is not operated primarily for towage; and</p> <p>(h) that does not have an inboard petrol engine, other than a personal watercraft; and</p> <p>(i) that is not:</p> <p>(i) a support vessel in the offshore oil or gas industry; or</p> <p>(ii) an overnight hire and drive vessel; or</p> <p>(iii) a landing barge that is of a design or for a use that the National Regulator has determined is likely to adversely affect its stability</p> <p><i>Note for subparagraph (f)(ii)</i> The heeling moment may be calculated using the lesser of:</p> <p>(a) the force the device or load is able to generate; and</p> <p>(b) the breaking strain of any weak links or safety reliefs.</p>		

2.2	A vessel that is: (a) <24 m long; and (b) used by a sailing school or training organisation to train members of the public for recreational boating qualifications; and (c) engaged only in inshore operations	
2.3	A human powered vessel, other than a Class 1 vessel, that: (a) is only propelled by human powered devices; or (b) is a canoe or kayak that has human powered devices as its primary source of propulsion and has fitted: (i) an electric propulsion motor of ≤ 24 volts; or (ii) a motor of ≤ 3.5 kW propulsion power <i>Note for paragraph (a)</i> Examples of human powered devices are oars, paddles or pedal systems. <i>Note</i> A dragon boat is a human powered vessel.	
2.4	A sailing vessel, other than a Class 1 vessel, that: (a) is <7.5 m long; and (b) has no auxiliary engine, or an auxiliary engine of ≤ 3.5 kW propulsion power	

Item	Kind of vessel	Conditions
2.5	A personal watercraft	

Note An application for a certificate of operation for a vessel mentioned in Division 2 must include a declaration that the vessel complies with the condition — see *Marine Order 504 (Certificates of operation — national law) 2013*.

Division 3 VMR vessels

Item	Kind of vessel	Conditions
3.1	Class 2D or 2E vessel that: (a) is <12 m long; and (b) does not carry passengers; and (c) is not exempted under <i>Marine Safety (Class C restricted operations) Exemption 2017</i> from the requirement to have a certificate of survey; and (d) is a VMR vessel	1. The vessel must meet the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel. 2. The owner of the vessel must: (a) for approval under paragraph 5(1)(b) — give the National Regulator a declaration stating that the vessel meets the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel; and (b) between 11 and 12 months after the last declaration: (i) complete a further declaration stating that the vessel meets the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel; and (ii) keep it with the vessel's safety management system.
<i>Note</i> Other exemptions may apply to some VMR vessels — see <i>Marine Safety (Emergency services vessels) Exemption 2016</i> .		

Division 4 Fire service vessels

Item	Kind of vessel	Conditions
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4.1	<p>Class 2D or 2E vessel that:</p> <p>(a) is <12 m long; and</p> <p>(b) does not carry passengers; and</p> <p>(c) is not exempted under <i>Marine Safety (Class C restricted operations) Exemption 2017</i> from the requirement to have a certificate of survey; and</p>	<p>1. The vessel must meet the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel.</p> <p>2. The owner of the vessel must:</p> <p>(a) for approval under paragraph 5(1)(b) — give the National Regulator a declaration stating that the vessel meets the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel; and</p>
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Item	Kind of vessel	Conditions
(d) is a fire service vessel	<p>(b) between 11 and 12 months after the last declaration:</p> <p>(i) complete a further declaration stating that the vessel meets the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel; and</p> <p>(ii) keep it with the vessel's safety management system.</p>	
Division 5 Existing vessels		
Item	Kind of vessel	Conditions
5.1	Existing vessel for which, on 30 June 2013, a survey certificate was not required	1. The vessel must meet the design, construction and equipment (other than safety equipment) standards that applied to the vessel on 30 June 2013.

		<p>2. The vessel must, if it is of a kind that were it a new vessel would be required to have a certificate of survey — meet the standards for safety equipment, that apply to the vessel in accordance with the NSCV Parts C and F, on and after 1 January 2018.</p> <p>3. The vessel must, if it is of a kind that were it a new vessel would not be required to have a certificate of survey — meet the equipment standards of NSCV Part G on and after 30 June 2016.</p> <p>4. The vessel may be altered or modified to the extent that it must be reassessed against the construction, subdivision or stability standard that applies to it only if:</p> <p>(a) the National Regulator considers there will not be an increased level of risk because of the proposed alteration or modification and has approved the alteration or modification in writing; and</p> <p>(b) the vessel complies with any requirements determined by the National Regulator for the vessel.</p> <p>5. The vessel's operations or service category may change only if:</p> <p>(a) the National Regulator</p>
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		considers there will not be an increased level of risk because of the change in the vessel's
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Item	Kind of vessel	Conditions
operations or service category and has approved the change in writing; and (b) the vessel complies with any requirements determined by the National Regulator for the vessel.		
6. The vessel may operate in an area other than the area in which the vessel was permitted to operate before 1 July 2013 only if: (a) the National Regulator has approved the change in writing; and (b) the vessel complies with any requirements determined by the National Regulator for the vessel system.		
<i>Note for condition 2</i> Annex I of NSCV Part C7A applies to existing vessels that are Class 1, 2 or 3. NSCV Part F2 applies to vessels that are Class 4. NSCV Part F1 applies to vessels that are fast craft. <i>Note for condition 3</i> Examples of the kinds of vessels required to meet NSCV Part G include vessels that are mentioned in items 1.2, 2.1, 3.1, 4.1 and 6.1 of this Schedule and		

also vessels exempt under <i>Marine Safety (Class C restricted operations) Exemption 2017.</i>		
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Division 6 PWCs with aerial freestyle device attached

Item	Kind of vessel	Conditions
6.1	Personal watercraft: (a) that is in service category Class 2C, 2D or 2E; and (b) to which an aerial freestyle device is attached; and (c) that is used in aerial freestyle device operations	<ol style="list-style-type: none"> 1. The vessel must meet the design, construction and equipment standards mentioned in NSCV Part G that apply to the vessel. 2. The aerial freestyle device hose must be fastened to the bow of the PWC without any strain on the hose coupling. 3. The aerial freestyle device must not be modified to enable a person to take full flight control from an instructor. 4. The PWC must carry an air horn.

Division 7 Other vessels

Item	Kind of vessel	Conditions
7.1	Waterski or wakeboard towing vessel with an inboard engine	The vessel must meet the design, construction, equipment and survey requirements that applied to the vessel, or to
7.2	Permanently moored vessel	

Item	Kind of vessel	Conditions
7.3	Ferry-in-chains	vessels of the same kind as the vessel, on 30 June 2013.

7.4	Submersible or wing-in ground effect craft	
7.5	Novel vessel for which the NSCV does not provide an appropriate technical solution	
7.6	A vessel used by a volunteer search, rescue, or search and rescue, organisation for which a certificate of operation was issued before the day this exemption was made	

Dictionary

(section 4)

airial freestyle device means a device that:

- (a) is connected to a PWC that directs the water output of the PWC under pressure through nozzles to lift a person on the device above the surface of the water or to allow a person on the device to dive underwater; and
- (b) is fitted with footholds or straps to secure the person to the device.

airial freestyle device operation means an operation in which:

- (a) a PWC is controlled by an instructor and creates thrust to propel an aerial freestyle device through and out of the water; and
- (b) the person on the aerial freestyle device can control flight direction, including the direction of the PWC.

A New Tax System Act means the *A New Tax System (Goods and Services Tax) Act 1999*.

being constructed means:

- (a) a vessel's keel has been laid; or
- (b) construction identifiable with the vessel has begun and at least the lesser of 50 tonnes, or 10% of the estimated mass of all structural material, of the vessel had been assembled.

dangerous goods has the meaning given by the *Navigation Act 2012*.

day passenger, for a vessel, means a passenger who is not provided with sleeping accommodation.

design approval, for an existing vessel, means:

- (a) vessel design, plans or construction drawings approved by a State or Territory; or
- (b) a certificate of compliance for design for a State or Territory agency responsible for marine safety.

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dragon boat has the meaning given by NSCV Part G.

existing vessel means a vessel that:

(a) for a vessel that was constructed before 1 July 2013 — was entitled under an Australian State, Territory or Commonwealth law to operate in connection with a commercial, governmental or research activity for the 2 year period ending on 30 June 2013, or other period ending on 30 June 2013 determined by the National Regulator, and it was not a foreign vessel at any time in that 2 year period or other period determined by the National Regulator; and

(b) for a vessel that was being constructed on 30 June 2013 — it would have been entitled to operate in connection with a commercial, governmental or research activity if it had been completed on 30 June 2013, and, if completed after 30 June 2013, it has been used in connection with a commercial, governmental or research activity in the 2 year period after its completion; and

(c) for a vessel that had not commenced construction before 1 July 2013 — was being constructed on 30 June 2016 and has design approval that was lodged before 1 July 2013, and subsequently approved, for use in connection with a commercial, governmental or research activity and, if completed after 30 June 2016, it has been used in connection with a commercial, governmental or research activity in the 2 year period after its completion; and

(d) is not a vessel which has not operated as a domestic commercial vessel for a period of at least 2 years, or other period determined by the National Regulator.

fire service organisation means an organisation established by State, Territory or Commonwealth legislation to provide the following services:

(a) prevention, mitigation and suppression of fires;

(b) protection of people from dangers to their safety and health from fire;

(c) protection of property from destruction or damage by fire.

fire service vessel means a vessel used by a fire service organisation:

(a) to transport volunteers and employees of the organisation and equipment to help with fire fighting activities; or

(b) for on-water fire fighting activities; or

(c) to help government agencies and non-government organisations with transport, search and fire fighting activities in relation to fires or emergency events; or

(d) to train volunteers and employees of the organisation; or

(e) for fire awareness programs.

heritage vessel means a vessel that is:

(a) owned and operated by a not-for-profit organisation; and

(b) listed on the Australian Register of Historic Vessels.

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increased level of risk, for a vessel's operations, means an increase in the level of risk in the operation of the vessel, or to a person on the vessel, including an increase because of any of the following circumstances:

(a) an upgrade in the service category of the vessel;

(b) a change in the propulsion power of the vessel;

(c) a change in the vessel's displacement;

(d) the commencement of overnight operations;

- (e) an increase in the passenger numbers for the vessel;
- (f) a modification of the vessel that may affect safety;
- (g) a change to the vessel that requires a review of the vessel's stability.

instructor means a person who controls a PWC used for an aerial freestyle device operation.

landing barge has the meaning given by *Marine Order 504 (Certificates of operation — national law) 2013*.

marine surveyor accredited in stability approval means a person who is accredited under section 24 of the *Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013* in the category of initial survey — stability approval mentioned in paragraph 21(b) of the Regulation.

national law means the Marine Safety (Domestic Commercial Vessel) National Law set out in Schedule 1 to the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012*.

new vessel means a vessel that is not an existing vessel.

NSCV — see section 6 of the national law, meaning of **National Standard for Commercial Vessels**.

NSCV Part B means *Part B — General requirements* of the NSCV.

NSCV Part G means *Part G — Non-survey vessels* of the NSCV.

personal watercraft (or **PWC**) has the meaning given to **personal watercraft** in NSCV Part G.

recreational boating qualification means a qualification that permits the holder to operate or be the member of the crew of a recreational vessel.

Examples

<ul style="list-style-type: none"> • a State or Territory recreational boat licence. • a Royal Yachting Association qualification.

tender has the meaning given by NSCV Part B.

vessel management plan, for a heritage vessel, means a management plan, certified by an accredited marine surveyor with heritage vessel experience, knowledge and skills, that includes the following matters:

- (a) the history of the vessel and its significance;
- (b) the standards to which the vessel was built (if any);
- (c) the proposed use and operating profile of the vessel;

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(d) a detailed evaluation, based on a report by an accredited marine surveyor, of the vessel's current condition and fitness for purpose for its proposed use and proposed operating profile as set out in the safety management system;

- (e) the repair and maintenance schedule for the vessel;
- (f) how any non-compliance of the vessel with the National Standard for Commercial Vessels is to be managed;
- (g) survey and inspection arrangements that will apply to the vessel.

VMR organisation, for a VMR vessel, means an organisation:

- (a) established for the primary purpose of providing marine search, rescue and public safety services; and
- (b) that may be given responsibilities by a State, Territory or Commonwealth government in an emergency or disaster.

Note The responsibilities mentioned in paragraph (b) may be set out in a State, Territory or Commonwealth emergency management or search and rescue plan or subplan.

VMR vessel means a vessel that:

(a) is owned by a VMR organisation; and

(b) either:

(i) is used for the purpose prescribed by paragraph 7(a) of the *Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013*;

or

(ii) is mentioned in section 9 of the *Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013*; and

(c) may be used only in connection with:

(i) a commercial activity for which the supply is GST-free under section 38-250 of the A New Tax System Act; or

(ii) search and rescue activities for which no compensation is payable.

Note for subparagraph (c)(i) Section 38-250 of the A New Tax System Act allows for nominal compensation to be charged for a supply.

Note for subparagraph (c)(ii) The vessel may be used, for example, for training, maintenance, fundraising work and any other activity related to the search or search and rescue activities of the vessel, provided no fee is charged.

For paragraph (c)(i), a VMR organisation that is not an endorsed charity under the A New Tax System Act is to be taken to be an endorsed charity for section 38-250 of that Act.

Note **Foreign vessel** and **owner** is defined in the national law — see section 6. **Owner** includes the person with overall general control and management of the vessel.

AMSA EXEMPTION 40

Marine Safety (Class C restricted operations) Exemption 2017

I, Michael Kinley, Chief Executive Officer of the Australian Maritime Safety Authority (the National Marine Safety Regulator under section 9 of the *Marine Safety (Domestic*

Commercial Vessel) National Law), make this instrument under subsection 143(1) of the *Marine Safety (Domestic Commercial Vessel) National Law*.

9 May 2017

Michael Kinley

Chief Executive Officer

1 Name of instrument

This instrument is *Marine Safety (Class C restricted operations) Exemption 2017*.

2 Duration

This instrument:

- (a) commences on 1 July 2017; and
- (b) ceases to have effect at the end of 31 May 2020.

3 Repeal

Marine Safety (Class C restricted operations) Exemption 2015 made on 27 April 2015 is repealed.

4 Definitions — dictionary

A definition in the dictionary applies to each use of the word or expression in this instrument.

Note The dictionary is located at the end of the instrument.

5 Interpretation

In this instrument, a reference to a standard means the standard as in force from time to time.

6 Exemption

A domestic commercial vessel is exempt from the requirement to have a certificate of survey for sections 43 and 44 of the *Marine Safety (Domestic Commercial Vessel) National Law*, if the vessel:

- (a) is a non-passenger vessel (Class 2 vessel) or a fishing vessel (Class 3 vessel) under NSCV Part B; and
- (b) operates only in any of the following operational areas:
 - (i) that part of operational area C determined by the National Regulator;
 - (ii) operational area D;
 - (iii) operational area E.

Note for paragraph (b)(i) For the part of operational area C determined by the National

Regulator under paragraph (b) — see the AMSA website at <http://www.amsa.gov.au>.

Conditions

- 7 The exemption is subject to the conditions mentioned in Schedule 1.

Schedule 1 Conditions

(section 7)

Division 1 Operations

1.1 Operational requirements

- (1) The vessel must be <12 m long.
- (2) The vessel must not:
 - (a) carry passengers; or
 - (b) carry more than 3 people who are either crew, including the master, or special personnel; or
 - (c) carry dangerous goods; or
 - (d) have installed a net reel, crane, lifting device or deck load, the use of which is likely to adversely affect the stability or watertight integrity of the vessel;or
- (e) be a support vessel in the offshore oil industry; or

- (f) be set up for towage operations; or
 - (g) have an inboard petrol engine; or
 - (h) be a landing type powered barge; or
 - (i) have berthed accommodation; or
 - (j) be a sail vessel.
- For paragraph (d), a net reel, crane, lifting device or deck load installed on the
- (3 vessel adversely affects the stability or watertight integrity of the vessel if it is
 -) capable of:
 - (a) generating a heeling moment that may endanger or capsize the vessel; or
 - (b) creating a loading condition that exceeds the maximum loading for the vessel.

(4) A marine surveyor accredited in stability approval must verify the calculation of the heeling moment or maximum loading for the vessel as part of the initial inspection required under Division 4.

- N*
- of* The heeling moment may be calculated
- e* using the lesser of:
- (a) the force the device or load is able to generate; and
 - (b) the breaking strain of any weak links or safety reliefs.

Division 2 Design and construction requirements

2.1 Design and construction to be fit for purpose

The vessel must be designed and constructed so that it is fit for the purpose for which the vessel is intended by the owner, to the satisfaction of the person who inspects the vessel under subclause 4.1.

2.2 Vessel flotation

- (1) The vessel must have, to the satisfaction of the National Regulator:
 - (a) level flotation; or
 - (b) basic flotation.
 - (If the vessel has basic flotation, it must also carry:
 - 2 (a) enough life rafts, that comply with the requirements in NSCV
 -) Subsection
- C7A for Class 2C and 3C vessels, for the maximum number of persons the vessel is permitted to carry; or
- (b) a lifebuoy (with a light) for each person on board the vessel and, if a second lifebuoy is carried, a buoyant line — unless the National Regulator approves otherwise; or
 - (c) a carley float.

However, paragraphs (2)(b) and (c) apply only if:

- 3 (a) a risk assessment has been conducted for the vessel that confirms that it is

likely to be safe for a person to be in the water in which the vessel operates;
and

(b) the risk assessment has been documented and the document kept up to date;
and

(c) each person on board the vessel wears a coastal lifejacket that complies with the requirements in NSCV Subsection C7A for Class 2C and 3C vessels.

Note for paragraph (a) The kinds of matters that may be considered include if the mean

monthly temperature of the water is < 15°C and if the water has hazardous flora or fauna.

Examples of hazardous fauna are crocodiles, Irukandji jellyfish and some species of sharks.

Note for paragraph (c) The vessel must carry enough coastal lifejackets for the maximum

number of persons the vessel is permitted to carry — see paragraph 3.1(2)(a).

2.3 Stability requirements

The vessel must have stability characteristics so that it is fit for the purpose for which the vessel is intended by the owner, to the satisfaction of the person who

2.4 Load capacity

The vessel must not exceed the load capacity that applies to the vessel in any of the following standards that applies to a vessel of its kind:

(a) *ABYC Standards and Technical Information Reports for Small Craft H-5 Boat Load Capacity*;

(b) *AS 1799-2009 Small craft Part 1: General requirements for power boats*;

(c) *ISO 6185 Parts 1 to 4 — Inflatable boats*;

(d) *ISO 14946:2001 — Small craft - Maximum load capacity*.

2.5 Machinery — bilge pumps

(1) The vessel must have a bilge pump that can drain all bilges or closed under floor compartments other than airtight void spaces.

(2) For an open vessel, the bilge system must be able to operate and be protected from damage when the vessel is swamped.

2.6 Machinery — fuel tanks, pipes etc

(1) Any under deck fuel tank must comply with NSCV Subsection C5A.

(2) Fuel piping for any non-portable fuel tank must be of seamless, heavy gauge metal.

(3) However, flexible fuel lines that comply with ISO 7840:2013 *Small craft* —

Fire-resistant fuel hoses requirements for type A1 or with SAE J1527: *Marine fuel hoses* requirements for type A:

(a) may be used between the fuel shut-off valve or cock and the main engine; and

(b) if used — must be installed to avoid chafing and to allow regular inspection.

(4) Any shafting fitted must comply with either of the following standards or with a standard determined by the National Regulator to be equivalent to either standard:

(a) *ABYC Standards and Technical Information Reports for Small Craft, P-6*

(ANS) *Propeller Shafting Systems*, July 2010;

(b) NSCV Subsection C5A.

2.7 Propulsion power

The vessel must not have propulsion power more than the limit for the vessel set by any of the following standards:

(a) *ABYC Standards and Technical Information Reports for Small Craft*,

(b) *AS 1799-2009 General Requirements for Power Boats*;

(c) *ISO 6185 Parts 1 to 4 Inflatable boats*;

(d) *ISO 11592:2001: Small craft less than 8 m length of hull — Determination of maximum propulsion power rating*.

2.8 Electrical

The vessel must comply with NSCV Subsection C5B.

2.9 Vision and window light transmission

The vessel must comply with the requirements for field of vision, windows and decks of *AS 1799.1 — 2009 Small craft Part 1: General requirements for power boats*.

2.10 Watertight and weathertight integrity

(1) Penetration fittings through the hull of the vessel must comply with:

(a) NSCV Subsection C5A; or

(b) *ISO 9093-1:1994 Small craft — Seacocks and through-hull fittings — Part 1: Metallic*.

(2) Any deck opening that may be open during fishing or other operations carried out at sea must be arranged near to the centreline.

(3) Any sea inlet must be fitted with a valve in an easily accessible position at the hull side.

(4) Any penetration through the hull that is not a sea inlet below the loaded waterline must be fitted with a non-return valve at the hull side.

(5) Any scupper or discharge pipe that passes through the side of the vessel must be fitted with a valve or cock in an easily accessible position against the vessel's side, unless:

(a) a bilge alarm is fitted and other means are provided to stop the entry of

water that are to the satisfaction of the person who inspects the vessel under subclause 4.1; or

(b) the discharge is ≤ 50 mm internal diameter, the lowest point of which is ≥ 225 mm above the deepest load waterline.

(6) However, any waste or soil discharge > 50 mm internal diameter from a space above the freeboard deck that is led through the vessel's side ≥ 225 mm above the designed load waterline may be fitted with an automatic non-return valve instead of a valve or cock.

(7) For this clause, a valve must be:

(a) made of steel or material of an equivalent strength and robustness; and

(b) if possible — attached direct to the hull.

2.11 Steering systems

(1) The vessel's steering equipment must be fit for the purpose for which the vessel is intended by the owner, to the satisfaction of the person who inspects the vessel under subclause 4.1.

(2) A vessel ≥ 7.5 m long must have an emergency means of steering.

Division 3 Equipment requirements

3.1 Safety equipment

(1) All equipment carried must comply with the specification, installation and servicing requirements of NSCV Subsection C7A.

The vessel must carry the following:

2 (a) a coastal lifejacket with a whistle and light for each of the maximum

number of persons the vessel is permitted to carry;

(b) a lifebuoy (with a light);

(c) 2 red hand flares;

(d) an orange hand-held smoke signal;

(e) 3 parachute distress rockets;

(f) when operating in remote enclosed water or > 2 nm from shore — an EPIRB 406 MHz. registered with AMSA;

(g) a battery-operated signalling torch;

(h) a V sheet marine distress signal;

(i) a first aid kit in accordance with workplace health and safety requirements;

(j) at least 2 litres of emergency drinking water for each person on board.

Note for paragraph (b) If a vessel carries at least 1 lifebuoy in accordance with subsubparagraph 2.2(1)(b)(ii)(B) the vessel satisfies paragraph (b).

3.2 Fire equipment

(1) A vessel that carries fuel or a battery or that has on it a gas installation or fuel stove must carry:

(a) at least 2 \times 4.5 kg DCP portable fire extinguishers; or

(b) the kind and quantity of fire extinguisher mentioned in AS 1799.1.

(2) Each fire extinguisher must:

- (a) comply with AS/NZS 1841:1:2007 *Portable fire extinguishers — general requirements*; and
 - (b) be serviced in accordance with AS/NZS 1841:1:2007 *Portable fire extinguishers — general requirements*.
- (3) A vessel that has a main engine that has an engine power of >120 kw and is located in an enclosed space must have a means of smothering fire in the space, including remote stops for fuel and air intake.

3.3 Navigation equipment

- (1) The vessel must carry:
 - (a) a sound signal (horn) and a spare canister; and
 - (b) a magnetic compass that:
 - (i) complies with NSCV Subsection C7C other than the compass adjustment requirements; and
 - (ii) has a magnetic compass card with diameter ≥ 75 mm; and
 - (c) nautical charts of the area of operation (including charts in electronic form), of a suitable scale and properly corrected at the time of sailing; and
 - (d) if the vessel is ≥ 7.5 m long — a black ball day shape signal at least 300 mm in diameter.
- (2) Any navigation lights must be fitted in accordance with, and comply with, NSCV Subsection C7C.
- (3) If navigation lights are not fitted, the vessel may operate only:
 - (a) in daylight hours; and
 - (b) if there is no restricted visibility.

3. Communications equipment

- 3. The vessel must comply with NSCV Subsection
- 4 C7B.

3. Other equipment

- 3. The vessel must
- 5 have:
 - (a) an anchor and cable that complies with NSCV Subsection C7D; and
 - (b) a 9 litre robust bucket with a lanyard attached; and
 - (c) if the vessel is <5 m long — 2 oars.

Division 4 Other requirements

4.1 Inspection requirements and reports

- (1) The vessel must undergo an initial inspection and a 5 yearly (in and out of water) inspection to determine if the vessel complies with Divisions 2 and 3.
- (2) The initial and periodic inspections
 - (a) must be conducted by an accredited marine surveyor; and
 - (b) must comprise a physical inspection of the vessel; and
 - (c) may include testing of the vessel or its equipment unless the surveyor considers it appropriate to rely instead upon documentation.

Examples of documentation

- CE certification
- National Marine Manufacturers Association (NMMA) certification
- SOLAS certification for safety equipment.

(3) The owner of the vessel must give the initial and periodic inspection reports to the National Regulator.

4.2 Pre-national system vessel

If a person was entitled to operate the vessel commercially within the 2 years ending on 30 June 2013, its operation must comply with NSCV Part E.

Note Domestic commercial vessels that are not pre-national system vessels must also comply

with NSCV Part E — see *Marine Order 504 (Certificates of operation — national law) 2013*.

4. Application requirements

- 3 The vessel must be approved by the National Regulator.

Note 1 For the form of application and how it will be processed, contact the National Regulator.

Note 2 A fee may be charged — see s 9 of the *Marine Safety (Domestic Commercial Vessel)*

National Law Act 2012.

Dictionary

(section 4)

accredited marine surveyor means a person who is accredited under section 24 of the *Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013*.

long, for a vessel, means the measured length of the vessel calculated in accordance with NSCV Part B.

Marine Safety (Domestic Commercial Vessel) National Law — see Schedule 1 to the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012*.

marine surveyor accredited in stability approval means a person who is accredited under section 24 of the *Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013* in the category of initial survey — stability approval mentioned in paragraph 21(b) of the Regulation.

NSCV — see section 6 of the national law, meaning of **National Standard for Commercial Vessels**.

open vessel has the meaning given by NSCV Part B.

operational area C has the same meaning as in NSCV Part B.

operational area D has the same meaning as in NSCV Part B.

operational area E has the same meaning as in NSCV Part B.

remote enclosed water means waterways where assistance from shore based facilities or other vessels is not readily available and rescue services are likely to be required in an emergency.

sail vessel means a vessel designed to carry sail as its primary means of propulsion.

special personnel has the meaning given by NSCV Part B.

Note **National Regulator** and **owner** are defined in the *Marine Safety (Domestic*

Commercial
Vessel) National Law — see section 6.

3) Pg 63 - Strengths: OSH - Does Tasmania have both separate national and state regulated OSH systems similar to Canada? (e.g. CLC and Prov Work Place H & S Program)

Answer:

Yes. For an overview of the various agencies and their respective responsibilities please see <https://www.australia.gov.au/information-and-services/jobs-and-workplace/whs-workplace-health-and-safety>

Kingdom of Norway

1) Pg 70 - Does this include all aquaculture vessels of less than 15M in length?

"For the Norwegian Ordinary Ship Register (NOR), there is mandatory registration for all Norwegian ships of 15 meters and above voluntary registration of Norwegian fishing and commercial vessels less than 15 meters. The regulatory framework for registration to NOR is based upon the Norwegian Maritime Code of 24 June 1994 no. 39. The Senior Advisers of the Registry confirmed that the vessels for aquaculture are registered under the NOR regime. "

Answer:

Yes, this include all type of vessels.

According to the Section 11 of the Norwegian Maritime Code, with later amendments up to and including Act of 17 June 2016 No. 71.:

"A Norwegian ship of less than 15 metres in overall length may, at the owner's request, be entered in the Ship Register if its overall length is at least 7 meters or if the ship is required to be registered under Act of 26 March 1999 No. 15 relating to the right to participate in fishing and catching (Participant's Act) or if it is to be used exclusively or mainly in trade. When such a ship is entered in the Ship Register, the provisions of this Chapter shall apply".

2) Pg 70 - this problem exists in Canada as well, in fact there is no audit in Canada to confirm the activity of the vessel 'as registered'. Therefore, I believe the Canadian Ship Register to be unreliable for the purposes of statistical information, or vessel definition.

Answer:

The Norwegian Registry does not possess statistics about the exact number of vessels involved in aquaculture since there are too many codes for the various types of vessels and an aquaculture vessel may be registered as a wellboat, general cargo, general cargo/refrigerated cargo, specialised vessel, etc. The codes used by the Registry can be found at: <https://www.sdir.no/globalassets/skjemaer/ks-0051-codes-for-type-of-vessel-eng.pdf>

The Canadian Ship Register could simplify the categorisation of vessels by creating a separate code for aquaculture vessels with different sub codes, such as: specialised vessel- small work boat, specialised vessel: dredger/sludge/barge, general cargo ship, well boat, dry fodder barge, etc.

3) Pg 72 - "There is no specific regulatory framework for defining vessels operating in aquaculture. "

"A Norwegian ship of less than 15 metres in overall length may, at the owner's request, be entered in the Ship Register if its overall length is at least 7 meters."

Answer:

The above sentence refers only to the definition of an aquaculture vessel; not to the registration of the vessels below 15 meters. Question 2 included in the questionnaire of the study was the following:

"Is there a specific framework defining vessels operating in aquaculture?"

The discussions with the Administration revealed that there is no special definition for aquaculture vessels in the regulatory documents of the Register. The vessels involved in aquaculture fall under the cargo vessels regulatory regime. Cargo vessels, as per regulatory documents, are considered all vessels above 8 metres which are not passenger or fishing vessels or recreational craft or mobile offshore units.

4) Pg 83 - Has this been considered in the Canadian context, specifically 'Thermolicers' discharge. What happens to it? DFO input?

"Furthermore, Sections 31 to 40 of the Act of 16 February 2007 No. 09 relating to Ship Safety and Security set the Environmental safety standard for Norwegian and foreign ships with an overall length of above 24 metres. The Act specifies that vessels ship shall be constructed and operated in a way that pollution does not occur. All the harmful substances should be delivered to special reception facilities ashore. "

Answer:

There are no specific provisions in the Norwegian legislation about 'Thermolicers' discharge. We don't know if 'Thermolicers' discharge has been considered in the Canadian Context, as it goes beyond the aims of this study.

5) Pg 98 - This statement appears to dismiss the requirement for feed barges/vessels, general purpose workboats, crew boats, etc. "Wellboats are the main vessels involved in the aquaculture of the Norwegian industry. "

This statement appears to be more accurate.

"There are no other statistics available for the number of vessels involved in aquaculture. "

Answer:

No objection to it. However, it should be noted that the participants in the study emphasised the crucial role of wellboats in the Norwegian aquaculture industry.

Norwegian wellboat companies are in the forefront regarding technology, operations, and environmental solutions.

Republic of Ireland:

1) Pg 121 - This is both very important and somewhat confusing....but if I read it correctly, it is the same system Canada uses....up to 24M in length.

"It should be made clear that fishing vessel safety and seafarers' competencies are the responsibility of the MSO. The Aquaculture Licensing Section of the National Seafood Centre is only relevant to the licencing of fishing boats. Moreover, if the vessel is regulated as commercial or fishing vessel is dependent on its activity. For a fishing vessel if a licence is being granted by the National Seafood Centre, then the MSA treats it as a fishing vessel. The vessels involved in aquaculture of salmonids and service the salmon fishing farms of Ireland are mainly treated as cargo or passenger vessels, as they carry passengers on board and are under the authority of MSO. For these cargo or passenger vessels involved in aquaculture of salmonids, a licence is not required from the National Seafood Centre. "

Answer:

Yes, the framework for vessels involved in aquaculture could be considered as bureaucratic. However, it should be kept in mind that:

1. For vessels used in aquaculture-both for fishing boats and commercial vessels (cargo vessels or passenger boats)- the safety and seafarers' competencies are the responsibility of the MSO;
2. The Licensing Authority of fishing boats is the Registrar General of Fishing Boats, an official of the Department of Agriculture, Food and the Marine or, under the superintendence of the Registrar General, the Deputy Registrar General of Fishing Boats. Fishing Boat Registration is not independent and remains a Departmental function. Before a fishing boat engage in commercial sea fishing activities, the vessel must be entered on the Fishing Boat Register and hold a current sea fishing boat licence; and
3. The registration of commercial vessels in Ireland is subject to the Mercantile Marine Act 1955, as amended which has delegated the Actual Registration of the vessels to the customs. The Revenue Commissioners (Revenues) is the Irish Government agency responsible for customs taxation and related matters.

2) Pg 122 - Essentially what our MPRs state. Except no mention of 24M.

"Based on the aforementioned definitions, the Licensing Authority requires any vessel with fishing gear on board, including dredges, and which is fishing commercially, to be entered on the Fishing Boat Register and licensed to fish. This requirement also applies to vessels exclusively engaged in aquaculture activities which have fishing gear on board, including dredges, and are fishing commercially."

Answer:

No additional comments.

3) Pg 146 - Identification of Vessels.... Do I understand correctly that the vessel is 'registered' as a fishing vessel, and 'licensed' to conduct the activity of Aquaculture. So is this vessel permitted to conduct a non-fishing activity in aquaculture e.g. Feeding?

Answer:

As long as the vessel has a fishing gear, it should be licenced and registered as a fishing vessel in one of the five segments of the Authority and its operation is pre-specified. For example, Fishing Vessels licensed in the Aquaculture Segment must be used exclusively in the harvesting, transport, handling and/or landing of aquaculture products and can, subject to an authorisation under section 13 of the Sea-Fisheries and Maritime Jurisdiction Act 2006, collect wild mussel seed as part of a service to aquaculture installations, subject to certain restrictions determined in the context of Regulation (EU) No 1380/2013.

Nonetheless, we have also sent a question about this issue to the participants of the study but a response has not been received yet.

4) Pg 149 - What is it based on then....

"The MSO does not possess statistics about the number of vessels registered and used in the aquaculture of salmonids since the Irish merchant ships are not categorised based on their type of activity. "

Answer:

The participants from MSO informed us that the vessels involved in the aquaculture of salmonids are treated mainly as passenger boats or cargo vessels, depending on their length or size and the carriage of passengers. The size of a passenger vessel varies and may come down to 5 meters. Six categories (P1-P6) of passenger vessels exist in Ireland based on the number of Load Line Certificates and number of boat Passenger issued.

However, we agree that the above statement could be revised to:

"The MSO does not possess statistics about the number of vessels registered and used in the aquaculture of salmonids since the Irish merchant ships could be categorised based on their type of activity, their length or size and the possibility of carrying passengers. "

5) Pg 149 - A well boat is not considered a fishing boat?? Does it not transfer live fish or slaughtered fish to and from the site?

Answer:

Well boats in Ireland are not usually equipped with a fishing gear; thus they are not considered as fishing boats. The discussions with the participants from the Fisheries Administration Division of the National Seafood Centre in Clonakilty underlined that in the Fishing Boat Register are registered and licenced only fishing vessels which have a fishing gear on board. The Licensing Authority requires any vessel with fishing gear on board, including dredges, and which is fishing commercially, to be entered on the Fishing Boat Register and licensed to fish.

1) Pg 192 - How would the National Ship Registry know that a vessel was subsequently registered as a aquaculture vessel?

Answer:

"1. Registration of the vessel under the Chilean regulations as stated in the Navigation Law and related Regulations and Instructions. The application and all required documents must be submitted personally in hard copies. No digital documents are accepted. All documents must be original or duly certified (notarized or other).

0. Registration of the vessel as Aquaculture Service provider. The application must be submitted to the National Fisheries and Aquaculture Service (hereinafter referred to as The Service) enclosing all the required documents.

The Registration of the vessel as Aquaculture Service Provider must be submitted filling a special Form available on line for this purpose.

Services of transportation in the Aquaculture of Salmonids are classified in seven groups when applying for the registration:

- 0. LiveFish*
- 0. Deadfish and its products*
- 0. Nets and containment gear, anchors, buoys, protection gear*
- 0. Dead fish or ensilage*
- 0. Feed*
- 0. General supplies*
- 0. Personnel "*

Answer:

The National Fisheries and Aquaculture Service has in its institutional website a simple updated Data Base (in Excel Format) with all the approved vessels that provide services to the Aquaculture of Salmonids. This data base is of public access and has the following information:

Type of vessel

- Vessels with Water Treatment System (WTS)
- Vessels without Water Treatment System (WTS)

For both types of vessels, the following information is provided:

- Name of the Vessel
- National Registration Number
- Ship station call sign
- Ship Owner
- Contact phone number
- Contact email address

http://sernapesca.cl/index.php?option=com_remository&Itemid=246&func=startdown&id=4886

2) Pg 200 - Are other countries, Australia, Norway, U.K. not also using the Torremolinis Convention?

"Surveys and inspections of vessels built after 2 September 1985 are performed in conformity with Torremolinos Convention, whereas for those vessels built before this date, surveys and inspections will continue under yearly inspection regime."

[N.B. As a request of the consultant, the question was rephrased as:

Does Chile apply the Torremolinos Convention?]

Answer:

Yes, Chile applies Torremolino Convention.

Supreme Decree No. 543 of the Ministry of Foreign Affairs dated 14th June 1985, that came into force on 2nd September 1985, approved as a regulation to be applied in Chile the Torremolinos Convention (1977), and its addenda, for the Safety of Fishing Vessels.

Accordingly, the "Regulation for the Construction, Repairs and Maintenance of Merchant Vessels, Large Special Vessels and None-self-propelled Vessels, their Inspections and Surveys" (Supreme Decree No. 246 of 6th February 1987) states in its first article:

Article 1

"The construction, repair and maintenance of large merchant vessels or special vessels and none-self-propelled vessels, their inspections and surveys, will be governed on this regard by the International Convention of Load Lines, 1966, approved by Decree-Law No. 891 (1975); the International Convention for the Safety of Life at Sea (1974), approved by Decree-Law No. 3175 (1980); the Torremolinos International Convention for the Safety of Fishing Vessels (1977), approved by Supreme No. 543 (1985) and by all the other provisions stated in the present regulation."

References

Code of Commerce of Chile – Law 20720

Code of Civil Procedures, 1902 – Law 1552

Decree No. 1340, 1941 - General Regulations of Order, Safety and Discipline in Vessels and in the Republic's Littoral. Ministry of Defense

Guide for the Registration of Smaller Vessels and Smaller non-self-propelled Vessels available, 1977 – General Directorate Instructions DGTM y MM 12600/200 vrs

Instructions for the issuance of safety certificates in fishing vessels, 2006 Circular No. O-71/012. General Directorate of the Maritime Territory and Merchant Marine

Law for the Merchant Marine Development, states that cabotage in Chile can only be carried out by Chilean vessels, 1979. Decree-Law 3059

List of certificates and documents required to be onboard ships, 2013 -IMO CIRC\MSC \01\1462.

Navigation Law, 1978 - Decree-Law No. 2222

Regulation for Construction, repairs and maintenance of merchant ships, larger special ships, non-self-propelled vessels, their inspections and surveys Supreme, 1978. Decree No. 146. Ministry of Defense

Regulation for Registry of Ships and non-self-propelled vessels, 1981. Supreme Decree No. 163. Ministry of Defense

Regulation of Fees Tariff of the General Directorate of Maritime Territory and Merchant Marine, 1979. Supreme Decree No. 427. Ministry of Defense

Sanitary General Program of disinfection Methods and Techniques of Effluents and water, Control Procedures and Treatment of Solid Organic Waste, 2014 Resolution No. 4866. Ministry of Economy