Referral of proposed action

Project Title: Modification of the Marine Aquaculture Research Lease and Huon Lease, Providence Bay, Port Stephens, NSW.

1 Summary of proposed action

1.1 **Short description**

NSW Department of Primary Industries (NSW DPI) and Huon Aquaculture Group Limited (Huon Aquaculture) have entered into a research partnership and are seeking approval from the NSW Department of Planning and Environment to modify the Pisces (DA No. 81-04-01 & Modification) and NSW DPI (SSI-5118) fish farming consents in Providence Bay, Port Stephens, NSW. NSW DPI on being granted consent for the Marine Aquaculture Research Lease (MARL) (SSI-5118), held an EOI process to obtain a research partner for the activities on the MARL. Huon Aquaculture was appointed as the research partner and it subsequently purchased the former Pisces Lease.

The proposed physical modifications include relocating the two leases further offshore into deeper water, increase the number and size of pens, expand the area of the leases to accommodate mooring lines and add a permanently moored feed storage barge to each lease site.

The proposed modification does not seek to alter any environmental monitoring and assessment requirements or marine fauna mitigation measures as outlined in the NSW DPI (SSI-5118) consent. However, it does seek to update the Pisces (DA No. 81-04-01 & Modification) consent conditions to be consistent with those in the NSW DPI (SSI-5118) consent.

The aquaculture engineering technologies currently used in the Australian aquaculture industry have evolved significantly since the Pisces and NSW DPI approved aquaculture farms were lodged for assessment. The proposed modifications would allow for the use of current leading edge technology and farming practices, as well as improve the capacity of the Marine Aquaculture Research Lease (MARL) in conjunction with the Huon Lease to provide commercially relevant research results.

The proposed modifications do not change the infrastructure type (sea pens), is contained within the same marine park zone and existing environmental monitoring and assessment requirements are to be standardised across both the MARL and Huon Lease. It is considered that the proposed action is consistent with the referral of the MARL to EPBC referrals in 2013.

1.2 **Latitude and longitude**

Marine Aquaculture Research Lease

1A	152° 16' 54.055" E	32° 38' 50.367" S
1B	152° 17' 9.934" E	32° 39' 3.794" S
1C	152° 16' 41.993" E	32° 39' 27.113" S
1D	152° 16' 25.894" E	32° 39' 13.496" S

Huon Lease

2D	152° 15' 32.896" E	32° 39' 59.018" S
2C	152° 15' 48.548" E	32° 40' 13.010" S
2B	152° 16' 16.944" E	32° 39' 49.321" S
2A	152° 16' 0.623" E	32° 39' 35.701" S

1.3 **Locality and property description**

The proposed modification is to relocate the current leases approximately 3.1 km (Huon Lease) and 4.7 km (MARL) from their original lease locations in Providence Bay (Please refer to Figure 1).

The proposed MARL and Huon Lease are located within the same Habitat Protection Zone of the Port Stephens Great Lakes Marine Park and over Crown Land (State) within State waters in Providence Bay, Port Stephens, NSW.

1.4	**Size of the development footprint or work area (hectares)**	MARL = 62 hectares Huon Lease = 62 hectares
1.5	**Street address of the site**	Offshore – NSW State waters, Providence Bay, Port Stephens, NSW.

1.6 **Lot description**

N/A Offshore – State waters of Providence Bay, Port Stephens, NSW

1.7 **Local Government Area and Council contact (if known)**

N/A No local government area over the subject site

1.8 **Time frame**

The MARL has consent for a period of five years from the time of granting of an aquaculture lease under the *NSW Fisheries Management Act 1994*.

In accordance with the *Fisheries Management Act 1994*, the Huon Lease is let for a maximum term of 15 years. The lessee is entitled to the first renewal for another term of 15 years and subsequent renewals, subject to conditions.

1.9	**Alternatives to proposed action**		**Yes**
1.10	**Alternative time frames etc**		**No**
1.11	**State assessment**		**Yes** (See item 2.5)
1.12	**Component of larger action**		**No**
1.13	**Related actions/proposals**		**No**
1.14	**Australian Government funding**		**No** The proponent for the MARL is NSW Department of Primary Industries in association with their research partner – Huon Aquaculture. The funding for the MARL project will be NSW Government, private sector funding and Australian Government research funding (Australian Seafood CRC, Fisheries Research Development Corporation). The proponent for the Huon Lease is Huon Aquaculture.
1.15	**Great Barrier Reef Marine Park**		**No**

2 Detailed description of proposed action

2.1 Description of proposed action

Objectives and Rationale of the Proposed Action

The principal objective of the MARL is to provide NSW DPI and Huon Aquaculture with the opportunity to extend successful marine hatchery research to its next stage in an offshore commercially relevant sea pen trial. This objective is still relevant to the proposed modification sites. A listing of the research objectives can be found in Section 3.2 (page 11) – *Principal Objectives and Rationale of the Proposal* of the accompanying MARL EIS and Section 2.2 (page 3) – Justification of the accompanying Modification Application.

The principal objective of the proposed Huon Lease is to conduct a commercial finfish farming operation to support future demands of food security for the State and reduce Australia's reliance on wild fish stocks. The interactions of the activities between the commercial lease and the MARL will further enhance the research to be undertaken as part of the MARL activities.

The aquaculture engineering technologies currently used in the Australian aquaculture industry have evolved significantly since the Pisces and NSW DPI approved aquaculture farms were lodged for assessment. The proposed modifications would allow for the use of current leading edge technology and farming practices which would enhance the objectives of the MARL to provide commercially relevant research for the development of a sustainable and viable aquaculture industry in NSW.

Worldwide and in Australia, aquaculture developments are providing economic benefit through sustainable production of quality seafood. Aquaculture has the potential to create employment, reduce harvesting pressure on natural fish populations and produce seafood of the highest quality. Demand for high quality, locally produced seafood is increasing in Australia at an average annual rate of 3% between 2000–01 and 2012–13, from 248 515 tonnes to 345 326 tonnes. Domestic seafood supply over this period grew by less than consumption, at an average annual rate of 1%. Imports of seafood increased to fill the gap between demand and available domestic supply at an average annual rate of 4% between 2000–01 and 2012–13. In 2012–13 imports accounted for 66% of Australia's total apparent seafood consumption.

Australia wide the sea pen aquaculture sector has grown significantly over the past decade and is located in Tasmania (Salmon and Trout), South Australia (Tuna and Kingfish) and Western Australia (Barramundi and Kingfish). The largest contributor to Australian aquaculture production in 2012–13 was salmonids, which made up 54% of total aquaculture production volume and 48% of the value. Farmed tuna is the second largest contributor by value and volume to Australian aquaculture production, which accounted for 15% of the total value of Australian aquaculture production in 2012–13. The value of farmed tuna production rose by $4 million (2%) between 2011–12 and 2012–13, to $154 million.

In addition, there will be significant flow-on benefits from the purchase of materials, services and labour associated with the operation of the MARL and Huon Lease in Providence Bay. In South Australia for example, each job generated directly from the aquaculture industry is thought to generate an additional 1.52 -1.57 jobs in the rest of the state (EconSearch, 2009).

Site Description

The proposed modification is to relocate the current leases within the same Habitat Protection Zone of the Port Stephens Great Lakes Marine Park to approximately 7.5 km (Huon Lease) and 9.1 km (MARL) north east of Hawks Nest, NSW. The proposed MARL and Huon Lease sites are located over an area of soft sediment that is dominated by fine to coarse grained sand with a depth of about 38 to 43 metres.

Details of the site are contained within Section 6 (page 55) – *The Existing Coastal Environment* of the accompanying MARL EIS. Any details of the sites which have changed due to the relocation of the leases since the MARL EIS was submitted are within Section 5.1.1 (page 17) – *Relocation of Sites*, Section 8.1.1 (page 43) – *Habitat Loss and Shading* of the accompanying Modification Application and Section 2.3.10 (page 49) – *Site Selection and Lease Tenure* of the accompanying Submissions Report.

Lease Sites

The modification lease sites are to be located approximately 3.1 km (Huon Lease) and 4.7 km (MARL) from their original lease locations in Providence Bay. Please refer to Figures 1 (page 12) of the accompanying Modification Application. The leases are proposed to be increased to 62 ha to accommodate the additional length of mooring infrastructure in the deeper water.

The proposed leases are located in a Habitat Protection Zone of the Port Stephens – Great Lakes Marine Park which is a multiple use zone that caters for a wide range of sustainable activities. The proposed aquaculture lease activities are permissible within this zone.

Further details are contained within Section 6 (page 55) – *The Existing Coastal Environment* of the accompanying MARL EIS, as well as in Section 5.1.1 (page 17) – *Relocation of Sites*, Section 8.1.1 (page 43) – *Habitat Loss and Shading* of the accompanying Modification Application and Section 2.3.10 (page 49) – *Site Selection and Lease Tenure* of the accompanying Submissions Report.

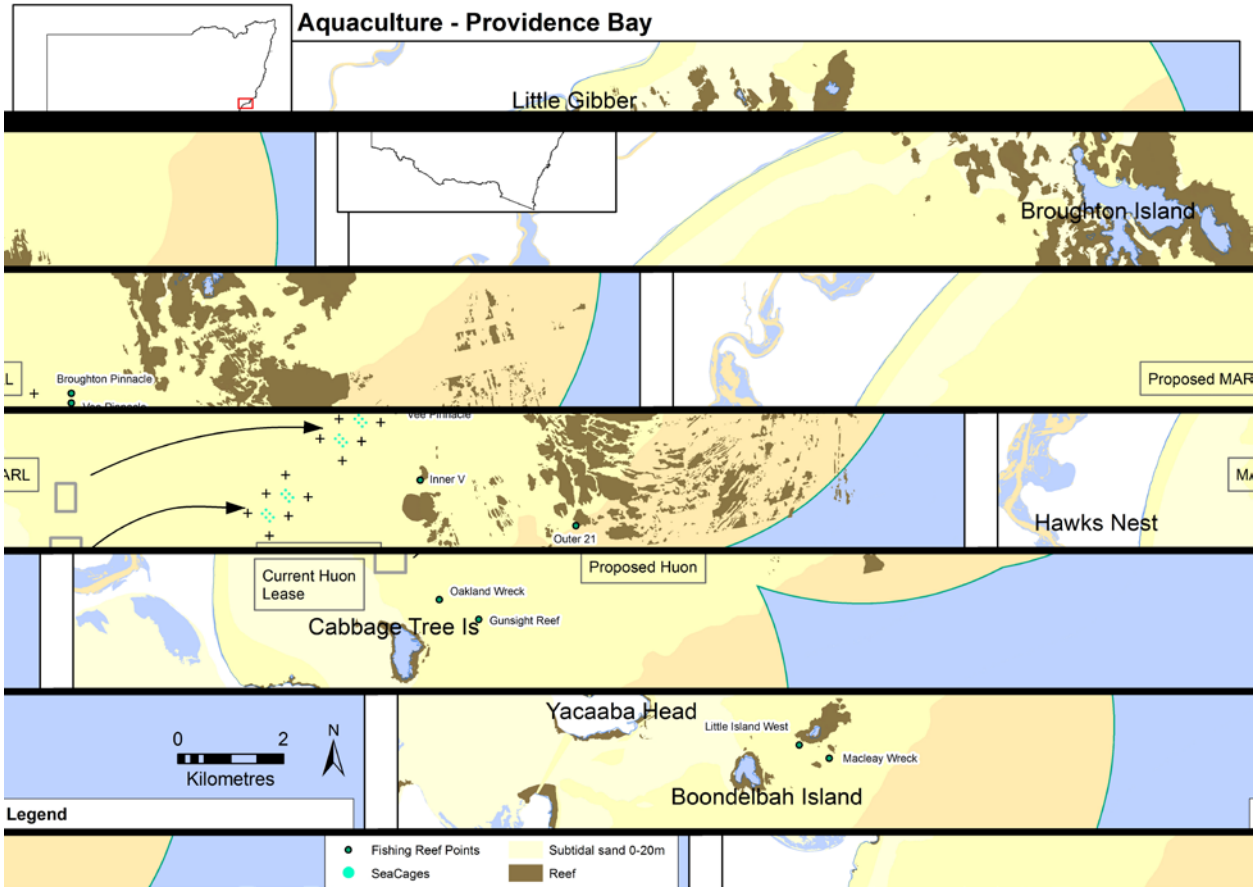

Figure 1: Existing lease areas in relation to proposed lease sites (Source: NSW DPI, 2016).

Land Based Site

This proposal does not include the development of new land base sites. Permanent land based activities (e.g. gear storage and processing) would be subject to a separate approval (under Part 4 of the *Environmental Planning and Assessment Act 1979*).

It is proposed that existing facilities at the Port of Newcastle, Port Stephens Fisheries Institute at Taylors Beach and the Nelson Bay Commercial Fishermen's Co-operative will be utilised for construction and operational activities. Existing marina facilities in Port Stephens would also be used for personnel and service vessels.

Planning consent for the Huon Lease (DA No. 81-04-01) permitted the use of a site at Oyster Cove for operational activities. It is not anticipated that this site would be part of any future operational activities.

Structure Design

The proposed lease infrastructure consists of the latest technologically advanced sea pens known as Fortress pens which incorporate features to mitigate marine fauna interactions. They have a minimum design size of between 120 and 168 m circumference. For further details on this matter please refer to Appendix A – *Sea Pen Specifications* of the accompanying Modification Application, Section 2.3.1 (page 10) – *Alteration of Migratory, Residency and Predatory Patterns of Marine Fauna* and Section 2.3.4 (page 25) - *Entanglement* and Section 2.3.8 (page 42) – *Climate Change and Structural Integrity* of the accompanying Submissions Report.

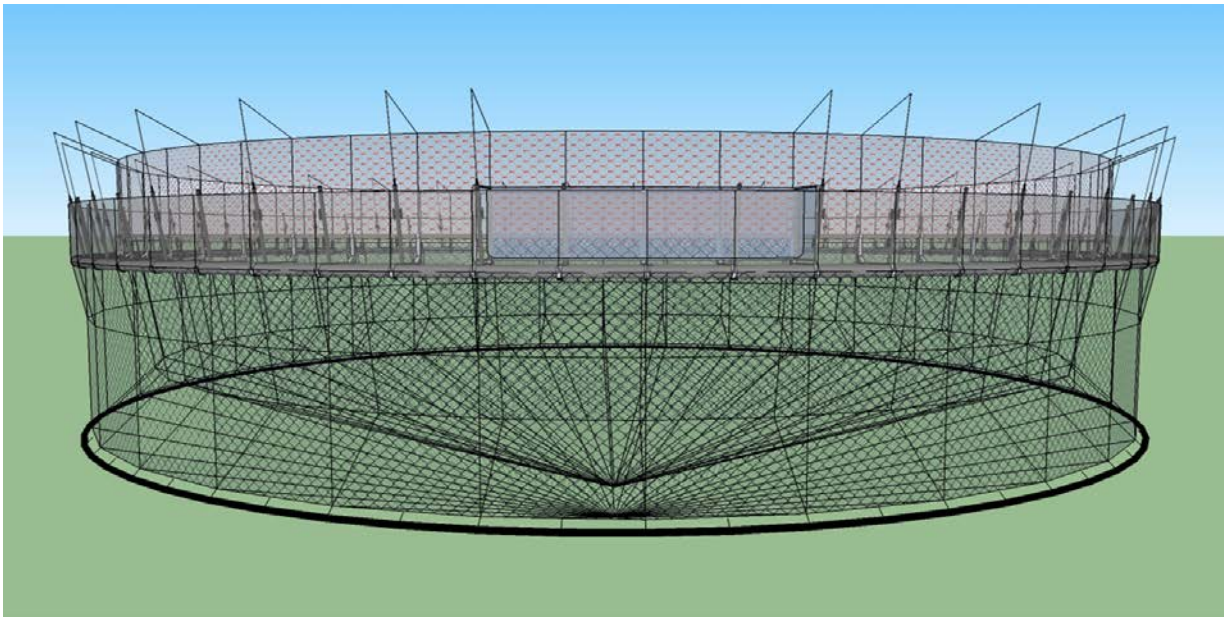

Figure 2: New 'Fortress pen' (Source: Huon, 2015).

Figure 3: 168m Fortress pen with centrally mounted feed hopper (Source: Huon, 2015).

Construction and Operations of the Project

The proposed MARL and Huon Lease will consist of sea pen infrastructure construction similar to that currently approved. Please refer to Section 3.6 (page 28) – *Construction and Operation of the Project* of the accompanying MARL EIS for further details on construction and operations of the infrastructure and associated activities.

An outline of the proposed construction timelines are provided in Section 2.3.11 (page 54) – *Proposed outline of research activities and development timelines* of the accompanying Submissions Report.

For details of the proposed modifications to construction and operation activities for the two leases please refer to Section 5 (page 12) – *Proposed Modifications* of the accompanying Modification Application.

Cultured Species

Only endemic species will be cultured on the proposed MARL and Huon Lease. The focus of research initially will be on Yellowtail Kingfish. Please refer to Section 3.3 (page 14) – *Cultured Species* of the accompanying MARL EIS for details of some of the most likely species to be cultured.

For details of the proposed modifications to the cultured species for the two leases please refer to Table 1 (page 14) – *Comparison of current approved matters and proposed modifications* and Section 5.1.6 (page 28) – *Fish Species* of the accompanying Modification Application.

Cultivation and Post-Cultivation Practices

The cultivation of the species will vary from research stocking levels through to commercial levels on both the MARL and Huon Lease. Further details are outlined in Section 3.7 (page 29) – *Cultivation and Post Cultivation Practices* of the accompanying MARL EIS.

For details of the proposed modifications to cultivation and post-cultivation practices for the two leases please refer to Table 1 (page 14) – *Comparison of current approved matters and proposed modifications*, Section 5.1.3 (page 19) – *Lease Infrastructure*, Section 5.1.4 (page 25) – *In situ Net Cleaning* and Section 5.1.7 (page 29) – *Maximum Standing Stock 998 to 1200 tonne* of the accompanying Modification Application.

Decommissioning

In accordance with the provisions of the *Fisheries Management Act 1994*, the operators of the proposed MARL and Huon Lease will be authorised for their activities under an aquaculture permit and lease. Under these provisions the permit holders will be required to enter into an Aquaculture Lease Security Arrangement (Bond).

It is a condition of the aquaculture permit that all infrastructure is removed from the lease area if operations cease. In the event that an operator is not in a position to undertake the decommissioning, the Bond will be utilised to undertake required infrastructure removal works. For further information please refer to Section 3.8 (page 30) – *Decommissioning* of the accompanying MARL EIS.

2.2 Alternatives to taking the proposed action

It is understood that the approved sites for the MARL and the Huon Lease were the best sites for the existing sea pen technology at the time they were selected. However, the offshore aquaculture industry has evolved quite rapidly and in a relatively short period of time there have been dramatic changes to pen size, depth, construction and materials.

It would be problematic to use leading edge technology and farming practices on the approved lease sites that have a maximum depth of 22 m. The deeper and higher energy (wave and wind) sites can accommodate the new technologically advanced Fortress pens and are located in areas with stronger currents and greater water movement. The Fortress pens have been deployed by Huon Aquaculture in Storm Bay Tasmania which has similar sea state characteristics to Providence Bay.

The proposed modification site characteristics will enhance fish health and further mitigate the potential environmental risks for the local and wider environment. In addition, by moving individual leases further away from one another it also minimises potential biosecurity risks. The alignment of the leases to the contour line and the predominant current and wind direction will optimise the flushing of the proposed lease sites with oxygenated water.

The latest research indicates that moving aquaculture into deeper waters and offshore sites will better support sustainable farming activities. This will significantly enhance the objectives of the MARL to provide commercially relevant research. Initially only two to three pens would be located on the MARL, serviced by in-pen feed hoppers. This will allow research and monitoring on the MARL to inform the stages of development on the MARL and the Huon Lease.

After taking all these factors into consideration, the “do nothing” option (i.e. leave the leases in the existing approved locations) was considered to not be an appropriate alternative.

2.3 Alternative locations, time frames or activities that form part of the referred action

No alternative locations, time frames or activities are proposed for the MARL or Huon Lease.

2.4 Context, planning framework and state/local government requirements

The Proponents

- NSW Department of Primary Industries is a key NSW government agency responsible for promoting the development of viable and sustainable aquaculture. The Port Stephens Fisheries Institute, located at Taylors Beach, has been at the forefront of aquaculture research in NSW since 1970.
- Huon Aquaculture is Australia’s largest majority family-owned aquaculture company.

Context

The operation of the MARL and Huon Lease provides the opportunity to extend successful marine hatchery research conducted at the Port Stephens Fisheries Institute to its next stage in an offshore trial and will provide evidence based information for the development of policy for sustainable aquaculture in the marine waters of NSW.

The aquaculture engineering technologies currently used in the Australian aquaculture industry have evolved significantly since the Pisces and NSW DPI approved aquaculture farms were lodged for assessment. The proposed modifications would allow for the use of current leading edge technology and farming practices, as well as improve the capacity of the MARL in conjunction with the Huon Lease to provide commercially relevant research results.

To promote aquaculture in NSW, the NSW Government developed the NSW Oyster Industry and Land Based Sustainable Aquaculture Strategies. These take effect under the *State Environmental Planning Policy 62 – Sustainable Aquaculture* and detail site, species, design and operational criteria, a streamlined approval process that promotes industry best practice. The co-ordinated operation of the MARL project with the Huon Lease will allow the NSW Government to better understand the requirements for sustainable marine based aquaculture in NSW to be promoted under a NSW Marine Waters Sustainable Aquaculture Strategy.

The project would also provide an opportunity for NSW DPI and other researchers (e.g. Newcastle University) to work cooperatively and provide a research platform for other potential projects (e.g. water quality monitoring and assessing the impact of climate change).

Relevant State Legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

The EP&A Act is administered by NSW Department of Planning and Environment (NSW DPE). Under the *State Environmental Planning Policy* (State and Regional Development 2011) the proposal is classified as State Significant Infrastructure (c.14 (1)(b) and Schedule 3 (1)(1)) and requires approval from the Minister for Planning under s.115W of the EP&A Act.

NSW DPI received Director-General's environmental assessment requirements (DGRs) for the preparation of the Environmental lmpact Statement (ElS) for the proposed State Significant Infrastructure proposal (See Appendix 1 – MARL EIS). The proposed MARL was approved by NSW DPE in 2013.

In 2001 the NSW Minister for Planning approved the application (DA No. 81-04-01) from Pisces Marine Aquaculture Pty Ltd for a commercial fish farm in Providence Bay with associated land based facilities at Oyster Cove in the Port Stephens Local Government area. Modifications were approved in 2009 and in 2014 Huon Aquaculture subsequently purchased the lease authorised in the Pisces consent.

NSW DPI and Huon Aquaculture are now seeking approval from the NSW Minister for Planning to modify the Pisces (DA No. 81-04-01 & Modification) and NSW DPI (SSI-5118) fish farming consents in Providence Bay, NSW.

Threatened Species Conservation Act 1995 (TSC Act)

The TSC Act is administered by NSW Office of Environment and Heritage (NSW OEH) and includes provisions to declare and protect threatened species, populations and ecological communities. An assessment of significance on all threatened species that may occur in the area of the proposed development is required.

Fisheries Management Act 1994 (FM Act)

Provisions for the protection of fish and marine vegetation are administered by NSW DPI under the FM Act. An aquaculture lease issued under Section 163 of the FM Act is required for the proposed MARL and Huon Lease. The activities will also be authorised under an aquaculture permit issued under Section 144(1) of the FM Act.

Marine Parks Act 1997 (MP Act)

Provisions for the protection of marine biological diversity, marine habitats and ecological processes in marine parks, as well as ecologically sustainable resource use are administered by NSW DPI under the MP Act.

It is proposed that the MARL and Huon Lease will be located in a Habitat Protection Zone within the Port Stephens-Great Lakes Marine Park.

Aquaculture is a permissible use with the approval of the relevant Ministers in accordance with c 1.18 of the *Marine Parks (Zoning Plans) Regulation 1999*. A permit in accordance with Clause 12 of the *Marine Parks Regulation 2009* will be required to undertake the proposed activities.

National Parks and Wildlife Act 1974 (NPW Act) and the *National Parks and Wildlife Regulation 2009* (NPWR)

Under the NPW Act, the Director-General of the NPWS is responsible for the care, control and management of all national parks, historic sites, nature reserves, reserves, Aboriginal areas and State game reserves. State conservation areas, reserves and regional parks are also administered under the NPW Act. The Director-General is also responsible under this legislation for the protection and care of native fauna and flora, and Aboriginal places and objects throughout NSW. The NPW Act and the NPWR are administered by NSW OEH.

Crown Lands Act 1989

The proposed areas for the MARL and Huon Lease are located on submerged Crown land and therefore required landowner's consent through NSW DPI - Lands (Crown Lands Division) to lodge the Modification Application.

Coastal Protection Act 1979 (CP Act)

Under the CP Act, the proposed MARL and Huon Lease are in the coastal zone as defined by Section 4 of the Act. However, in accordance with Section 37B of the CP Act the area of the lease does not require the concurrence of the Minister administering the CP Act. The CP Act is administered by NSW OEH.

Heritage Act 1977

Under Section 51 of the *Heritage Act 1977*, a permit is required to move, damage, or destroy any historic shipwreck. The *Heritage Act 1977* does not apply to State waters that are waters to which the *Commonwealths Historic Shipwrecks Act 1976* applies. NSW OEH is responsible for administering this Act.

Maritime Services Act 1935 (MS Act)

The MS Act, administered by NSW Roads and Maritime Services, sets out a range of authorisations for a variety of works in and adjacent to navigable waters. Notification under Section 13Z of the MS Act to grant an aquaculture lease under Part 6 of the FM Act is also required.

NSW Coastal Policy 1997 and State Environmental Planning Policy No. 71 – Coastal Protection

The *NSW Coastal Policy 1997*, administered by NSW DPE, applies to the Port Stephens Council and the proposal lies in the coastal zone as defined by the policy. *State Environmental Planning Policy No. 71 – Coastal Protection* gives legal force to certain elements of the coastal policy and provides a development assessment framework for new development in the coastal zone.

The policy applies to the coastal waters of the State and includes the seabed, subsoil and airspace in that zone. Clause 8 matters for consideration of *State Environmental Planning Policy No 71 — Coastal Protection* applies to the proposed development.

Aboriginal Land Rights Act 1983 (ALR Act)

The ALR Act, administered by the Office of the Registrar, provides a mechanism for compensating Aboriginal people of NSW for loss of their land. The proposed MARL and Huon Lease do not grant exclusive use.

Protection of Environment Operations Act 1997 (POEO Act)

The POEO Act, administered by NSW Environment Protection Authority (EPA), ultimately aims to protect, enhance and restore the quality of the environment in NSW, to reduce risk to human health and promote mechanisms that minimise environmental degradation through a strong set of provisions and offences.

A licence is required from NSW EPA if any of the activities associated with the proposal are determined to be a Scheduled Activity under Schedule 1 of the Act. Sea pen aquaculture is not considered to be a Scheduled Activity and a licence will not be required for the leases.

Environmentally Hazardous Chemicals Act 1985 (EHC Act)

The EHC Act, administered by NSW EPA, governs the use and disposal of potentially hazardous chemicals and waste material. Any use and/or removal of hazardous chemicals and material defined under the EHC Act require licensing and must be appropriately declared. It is not expected that any hazardous chemicals will be used.

Food Act 2003

The *Food Act 2003* is administered by the NSW Food Authority with the object of ensuring food for sale is both safe and suitable for human consumption. A Food Authority Licence under the *Food Regulation 2010* will be required for lease stock destined for human consumption.

Relevant Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act is administered by the Department of Environment. The proposed development is required to be assessed according to the EPBC Act, the EPBC Act Policy Statement 1.1 (Significant Impacts Guideline: SIG 1.1) and the EPBC Act Policy Statement 2.2 (Offshore Aquaculture).

Historic Shipwrecks Act 1976 (HS Act)

The HS Act, administered by the Department of Environment, protects historic wrecks and relics in Commonwealth waters, extending from below the low water mark to the edge of the continental shelf.

Native Title Act 1993

The National Native Title Tribunal within the Attorney-General's Department administers this Act. The proposed MARL and Huon Lease do not grant exclusive use and do not extinguish native title.

Policy on Ecologically Sustainable Development (ESD)

Australia's National Strategy for Ecologically Sustainable Development 1992 (NSESD) defines ecologically sustainable development (ESD) as 'using, conserving and enhancing the community's resources so that ecological processes on which life depends are maintained and the total quality of life, now and in the future, can be increased'.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

State Assessment

Under the *State Environmental Planning Policy* (State and Regional Development 2011) the MARL proposal was classified as State Significant Infrastructure (c.14 (1)(b) and Schedule 3 (1)(1)) and required approval from the NSW Minister for Planning under s.115W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EP&A Act is administered by NSW Department of Planning and Environment (NSW DPE).

A Preliminary Project Outline was submitted to NSW DPE and Director-General's Requirements for the project were received in March 2012 (See Appendix 1 of the accompanying MARL EIS). An Environmental Impact Statement (EIS) was prepared which underwent a public exhibition period in late 2012.

The MARL EIS contained a risk assessment conducted on the potential impacts associated with the MARL using the *National ESD Reporting Framework: The 'How To' Guide for Aquaculture* (Fletcher *et al*., 2004) which is based on Standards Australia and Standards New Zealand (1999; 2000) risk management methods which are used by a variety of industries to conduct risk assessments. The focus of the risk assessment was on environmental impacts but consideration was also given to social and economic issues.

Each issue was examined in terms of current knowledge and the proposed mitigation, management and monitoring measures, and then assigned a risk ranking (ranging from 'negligible' to 'extreme'). Two factors were used to analyse the risks - the potential consequences arising from activities on the marine environment and the community, and the likelihood that this consequence would occur (See Sections 7 and 8 (pages 83 & 88) of the accompanying MARL EIS) (Fletcher *et al*., 2004). Any issues that were assigned with a negligible risk were eliminated from subsequent assessments and a short justification was provided to support this classification. Issues that are identified as having sufficient risk or priority

(i.e. 'moderate, 'high' or 'extreme' risk) will receive ongoing or additional management and/or research (Fletcher *et al*., 2004).

A draft Environmental Management Plan (See Appendix 2 of the accompanying MARL EIS) was also developed which consists of a series of the sub-management plans, monitoring programs and protocols that address the potential environmental impacts identified for the proposal. The Environmental Management Plan (EMP) will ensure that the commitments in the MARL EIS, subsequent assessment reports and any approval or licence conditions are fully implemented.

In addition, a lease is required under the Section 163 of *the Fisheries Management Act 1994* and a permit is required under the *Marine Parks Act 1997*. The proposed MARL and Huon Lease are still located in a Habitat Protection Zone of the Port Stephens-Great Lakes Marine Park and aquaculture is a permissible activity in this zone.

NSW DPE approved the MARL project in 2013 after reviewing the MARL EIS, EMP and the Submissions Report.

All of the site, construction, infrastructure and operational risks investigated in the MARL EIS were reviewed in the Modification Application in context of the proposed modifications to both leases. The analysis of potential impacts of the proposed modifications identified that the risk rating of the MARL EIS has remained neutral for 23 risk issues, decreased for three and potentially an increase for one risk issue. The proposed modifications may have resulted in an overall decrease in potential environmental impacts in some cases but as the risk issue already had a negligible rating, it remained unchanged (See Section 7 & 8 of the accompanying Modification Application).

After seeking legal advice, NSW DPE advised that the modification application could consider the MARL and Huon Lease proposed modifications jointly due to their integrated nature. NSW DPI and Huon Aquaculture submitted the Modification Application to NSW DPE seeking approval for the modifications to the MARL and the Huon Lease. Following a public exhibition and consultation process a response to submissions report (Submissions Report) was prepared for NSW DPE as part of the consent process.

Commonwealth Assessment

The Huon (Pisces) Lease was established prior to the requirements to assess such projects under the EPBC Act.

NSW DPI assessed the MARL proposal against the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) and EPBC Act Policy Statement 1.1 (Significant Impacts Guidelines 1.1) in conjunction with EPBC Act Policy Statement 2.2 (Offshore Aquaculture).

NSW DPI concluded that given the various mitigation measures that will be implemented there is no likelihood of the MARL having a significant impact on any matter of National Environmental Significance protected under the EPBC Act.

The referral for the MARL project that was submitted to the Australian Government Minister for the Environment, was assessed as 'not a controlled action' on 26th June 2013.

Although the project is very similar to the MARL and other marine based sea pen aquaculture facilities in Australia that have been deemed 'not a controlled action'', NSW DPI and its research partner Huon Aquaculture are now seeking assessment under the EPBC Act for the proposed modification application submitted to NSW DPE.

Assessment Contact Officer

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2.6 Public & Statutory Authorities consultation (including with Indigenous stakeholders)

The Modification Application was publicly displayed 10–24 March 2016 with exhibition at the following locations:

- The Department of Planning and Environment - Information Centre (23-33 Bridge Street, Sydney NSW);
- Port Stephens Council Library - Town Centre Circuit (Salamander Bay NSW);
- Great Lakes Council (245 Myall Street, Tea Gardens NSW); and
- NSW DPI - Port Stephens Fisheries Institute (Taylors Beach Road, Taylors Beach NSW).

Advertisements notifying the Modification Application and community 'drop-in' information days were placed in the following publications:

- Port Stephens Examiner; and
- Myall Coast news.

An electronic copy of the modification report was available on the NSW DPE website. In addition an electronic copy of the modification report was also available on the NSW DPI website.

Community 'drop-in' information sessions were held at the following locations during the modification exhibition period:

- Hawks Nest Community Centre (71 Booner Street, Hawks Nest NSW) on Wednesday 16 March 2016 from 2:30pm-6:30pm; and
- Nelson Bay Community Hall (6 Norburn Ave, Nelson Bay NSW) on Thursday 17 March 2016 from 2:30pm-6:30pm.

Media stories covering the project appeared in the Newcastle Herald 12 March 2016, the Myall Coast News 17 March 2016 and the Port Stephens Examiner 7 April 2016.

Additional stakeholder meetings to those listed in the Consultation Chapter of the Modification Application included: tour operators; dive shops; tackle shops; fishing and tackle associations; seafood retail outlets; and restaurants/cafes. Some 35 face to face meetings and 14 telelinks were held with stakeholders (including the Worimi Local Aboriginal Land Council) to outline the project, take on board feedback and address concerns.

NSW DPE received 18 submissions including submissions from government agencies (3) and community stakeholders (15). Each submission was reviewed and the issues that were raised were extracted with the relevant responses provided in Section 2 (page 10) of the accompanying *Submissions Report - Application to modify the consents approving finfish aquaculture for Pisces Aquaculture Holding Pty Ltd and NSW Department of Primary Industries, Providence Bay, Port Stephens, NSW.*

Several stakeholders raised the option of a community contact group that could be kept up to date on the project. Huon Aquaculture and NSW DPI supported the suggestion and it also falls into the MARL consent condition E5 to develop a Community Stakeholder Communication Plan.

2.7 A staged development or component of a larger project

N/A

3 Description of environment & likely impacts

3.1 Matters of National Environmental Significance

3.1 (a) World Heritage Properties

N/A

3.1 (b) National Heritage Places

N/A

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

The Myall Lakes is listed under the Ramsar Convention as a Wetland of International Importance and is located within 7.3 km of the proposed location for the MARL and the Huon Lease. See Figure 51 (page 226) of the accompanying MARL EIS and Section 8.2.2.10 (page 75) – *Threatened / Protected Species and Matters of NES* of the accompanying Modification Application.

Nature and extent of likely impact

With reference to the Significant Impacts Guideline 1.1, it is considered that the proposed modifications to MARL and Huon Lease will not impact on any region of the Myall Lakes National Park, including the Myall Lakes - a Wetland of International Significance which is within 7.3 km (18.5 km by water) of the leases. No area of national park or wetland will be modified or destroyed and the leases will not change the hydrological regime, impact on water quality, native species or introduce invasive species to the wetland.

3.1 (d) Listed threatened species and ecological communities and

3.1 (e) Listed migratory species

Description

The *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool was consulted and generated a summary of matters of National Environmental Significance (NES) which may relate to or occur in the area of the current approved location for the MARL. The search tool was consulted on the 30th March 2012 with full details contained within Section 6.10 (page 71) – *Matters of National Environmental Significance* of the accompanying MARL EIS and Appendixes 6 and 10.

The Protected Matters Search Tool was consulted again on the 11th May 2016 using the coordinates for the locations proposed in the Modification Application for the MARL and the Huon Lease. All listings were the same but a few additional species were detected, including two listed threatened species, four listed migratory species, five listed marine species and one whale or other cetacean species. The Commonwealth Assessment of Significance was reviewed in context of the proposed modifications to the MARL and the inclusion of the Huon Lease, and updated to include these additional species. Please refer to the accompanying Commonwealth Assessment of Significance for further details (Attachment 5).

Nature and extent of likely impact

The proposed modifications to the MARL and Huon Lease was assessed with reference to the EPBC Act and according to the *EPBC Act Policy Statement 1.1 (Significant Impacts Guideline 1.1)* in conjunction with *EPBC Act Policy Statement 2.2 (Offshore Aquaculture)*.

The assessment of threatened species and migratory species listed under the EPBC Act considered potential impacts associated with the proposed modifications during both the construction stage and the operation stage. Please refer to Section 8 (page 88) – *Assessment of Impacts* of the accompanying MARL EIS for further details and Section 8 (page 43) – *Review of the Potential Proposed Modification Risks* of the accompanying Modification Application.

Conclusion

There are minimal differences between the currently approved leases and the proposed MARL and Huon Lease. Both locations consist of a substratum of soft sediments dominated by sand, are positioned within a Habitat Protection Zone and a high energy environment, and water quality, current, tidal, wave climate, sea surface temperature characteristics and marine fauna species are very similar.

The modifications proposed for the leases offer many environmental benefits including:

- Greater distances from Cabbage Tree Island;
- Greater flushing capacity due to greater depths;
- Latest technologically advanced sea pens can be used which are more equipped to exclude potential predators and minimise interactions with marine life;
- Upgraded infrastructure components to mitigate potential for marine fauna entanglement (e.g. rope size increase from 45 mm to 110 or greater with);
- Improved feeding technology which will reduce excess feed and therefore nutrient input into the marine environment, as well as reduce vessel transport frequency which will reduce risks associated with vessel strikes and acoustic pollution;
- *In situ* net cleaning removes the need for anti-foulant use and decreases the risk of escapements;
- Greater consistency with mitigation measures employed to minimise potential environmental impacts across the two consents undertaking similar aquaculture activities;
- Greater consistency with the monitoring of potential environmental impacts on both sites which will provide valuable information on the cumulative performance of the two leases;
- Provide key stakeholders with a better understanding and ability to compare the environmental performance of the leases; and
- Enhance the research objectives of the MARL.

NSW DPI concluded that given the similarities between the currently approved leases and the proposed leases, as well as the benefits that would be gained from the modifications, there is no likelihood of the proposed modifications to the MARL and Huon Lease having a significant impact on any matter of National Environmental Significance protected under the EPBC Act.

The risk of the MARL and Huon Lease having a significant impact on listed threatened species or listed migratory species listed under the EPBC Act is thought to be 'low' when considered in context with the characteristics of the proposed sites, including the absence of environmentally sensitive or unique areas, the small scale and the various mitigation measures that will be implemented to minimise risks associated with: entanglement; ingestion of marine debris; vessel strike; acoustic pollution; navigation lights; disease and pests; genetic integrity; water quality; predatory interactions; behavioural changes; and alterations to migratory pathways and important habitat areas. Industry best practices, management plans, protocols and monitoring programs will be developed and detailed in the NSW DPE consent conditions, Environmental Management Plan and aquaculture lease and permit conditions.

3.1 (f) Commonwealth marine area

N/A No Commonwealth marine areas were identified as occurring in close proximity to the proposed MARL or Huon Lease.

3.1 (g) Commonwealth Land

N/A. No Commonwealth land areas were identified as occurring in close proximity to the proposed MARL or Huon Lease.

3.1 (h) The Great Barrier Reef Marine Park

N/A

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

3.2 (a)	**Is the proposed action a nuclear action?**		**No**
3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**		**No**
3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**		**No**

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**		**No**
3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**		**No**

3.3 Other important features of the environment

3.3 (a) Flora and fauna

NSW BioNet Atlas (administered by NSW Office of Environment and Heritage) was searched for species records in the Providence Bay region. A total of 531 fauna species and 1690 flora species were listed for this area. A detailed break down of these species is provided in Sections 6.8, 6.9 and 6.11 (Page 64, 66 & 72) of the accompanying MARL EIS.

3.3 (b) Hydrology, including water flows

The proposed MARL and Huon Lease are located in a marine environment with a water depth of about 38 to 43 metres. Please refer to Section 6 (page 55) – *The Existing Coastal Environment* of the accompanying MARL EIS, Section 8.1.5 (page 48) – *Structural Integrity and Stability – Sea Pen Infrastructure* of the accompanying Modification Application and *Appendix 1* of the accompanying Submissions Report.

3.3 (c) Soil and Vegetation characteristics (Benthic environment)

The proposed MARL and Huon Lease are located in a marine environment over an area of soft sediment that is dominated by fine to coarse grained sand with a water depth of about 38 to 43 metres. Please refer to Section 6 (page 55) – *The Existing Coastal Environment* of the accompanying MARL EIS and Section 8.1.1 (page 43) – *Habitat Loss and Shading* of the accompanying Modification Application.

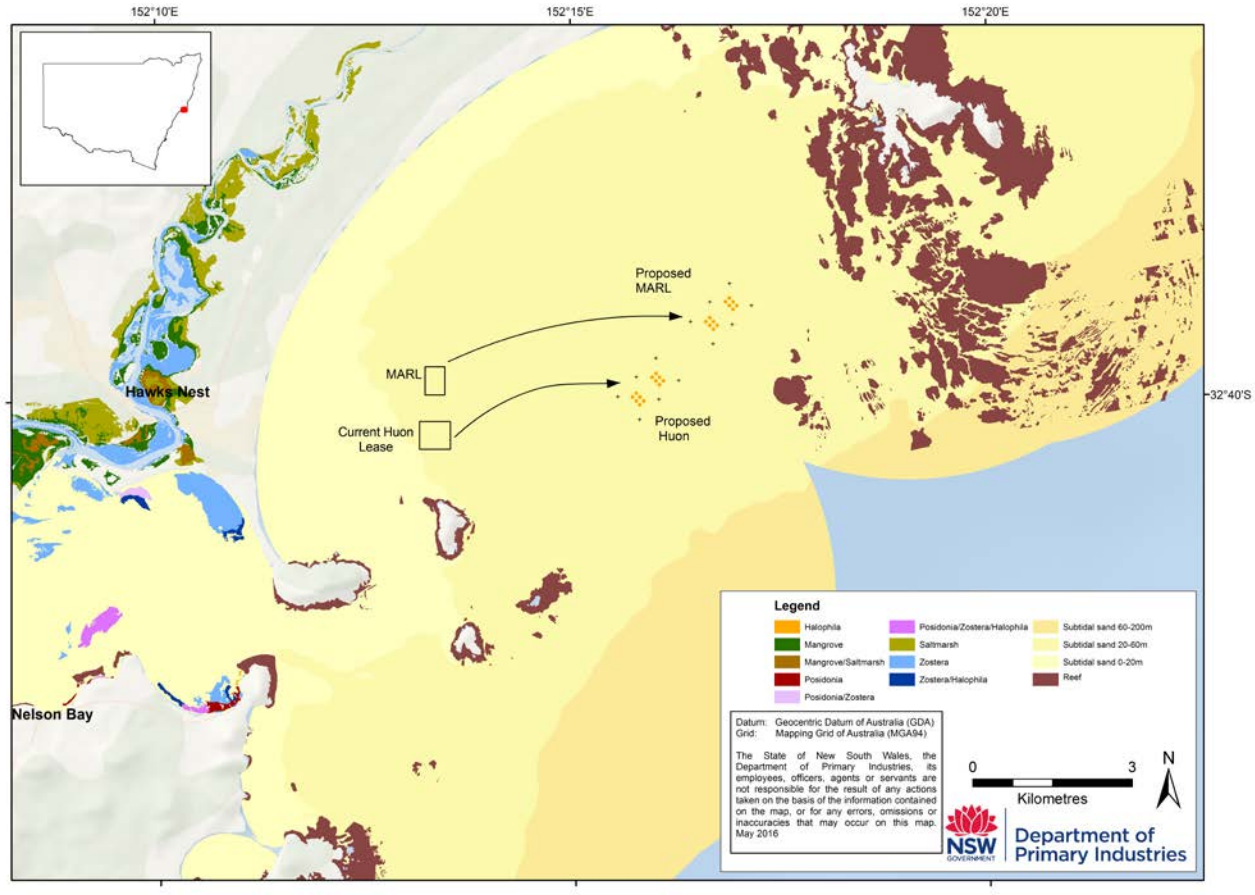

Figure 4: Habitat types present in Providence Bay (Source: NSW DPI, 2016)

3.3 (d) Outstanding natural features

For the purpose of this referral of proposed action, areas of conservation significance include Marine Protected Areas, Ramsar wetlands, national parks, nature reserves and areas of critical habitat declared under the TSC Act and FM Act.

The proposed MARL and Huon Lease are located within the Port Stephens – Great Lakes Marine Park. The Port Stephens – Great Lakes Marine Park Operational Plan states that aquaculture is permitted on the subject site. The minimum distance between areas of conservation significance and the proposed locations for the MARL and Huon Lease are listed in Table 1.

Table 1: Distance of the approved MARL and the minimum distance of the proposed relocation of the MARL and Huon Lease to areas of conservation significance.

Area of Conservation Significance	Designation	Minimum distance for proposed sites (km)
Port Stephens-Great Lakes	Marine Park	0
Sanctuary Zone (Cabbage Tree Island)	Marine Park	2.8
Sanctuary Zone (Broughton Island)	Marine Park	3.4
Cabbage Tree Island	Gould's petrel Critical Habitat / John Gould Nature Reserve	3.7
Little Broughton	GNS Critical Habitat	5.6
Big and Little Seals Rocks	GNS Critical Habitat	31
The Pinnacle	GNS Critical Habitat	56
Myall Lakes	Ramsar Wetland	7.3 (18.5 km by water)
Myall Lakes (inc. Broughton Island, Yacaaba Headland)	National Park	6
Boondelbah Island	Nature Reserve	5.1

Please refer to Section 6.11 (page 72) – *Areas of Conservation Significance* within the accompanying MARL EIS and Sections 8.2.2.10, 8.2.2.11 and 8.2.2.12 of the accompanying Modification Application for further details.

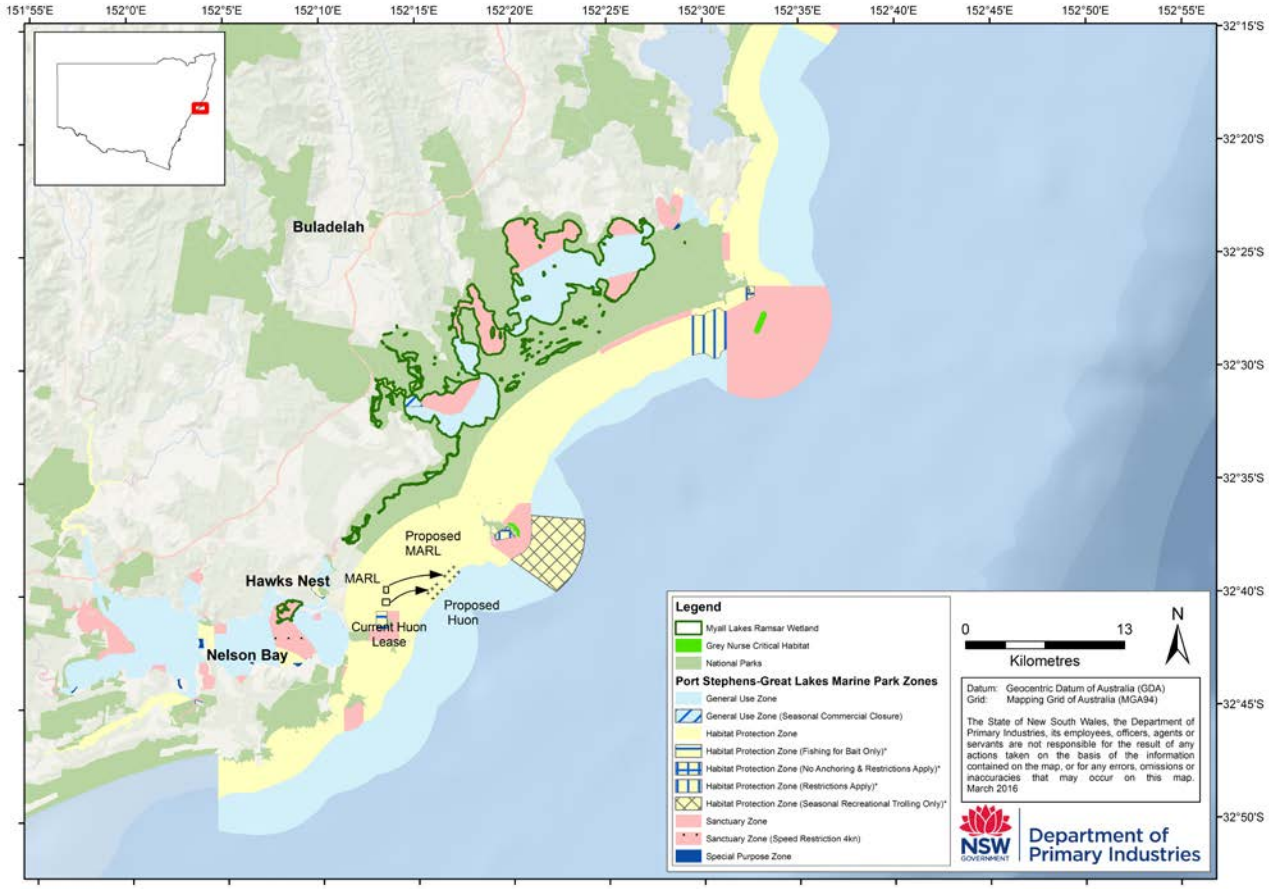

Figure 5: Areas of conservation significance near and/or within Providence Bay (Source: NSW DPI, 2016).

3.3 (e) Remnant native vegetation

N/A

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

Bathymetry

Providence Bay is typically less than 40 m deep but depths of up to 80 m are found on the outer edge. The sites proposed for the MARL and Huon Lease are situated in an area with a depth ranging from 38 to 43 m. Please refer to Section 8.1.1 (page 43) – *Habitat Loss and Shading* of the accompanying Modification Application and Section 2.3.10 (page 49) – *Site Selection and lease tenure* of the accompanying Submissions Report for further details.

3.3 (g) Current state of the environment

The Port Stephens estuary is adjacent to Providence Bay, which discharges flows from a number of creeks and two rivers out into the ocean between Yacaaba and Tomaree Head after circulating within the estuary. The bay is routinely impacted by discharge from the Karuah and Myall Rivers with associated agricultural and residential inputs. There are no large industrial or commercial operations in the immediate region impacting on water quality within Providence Bay, however there is a Sewage Treat Plant at Boulder Bay licensed to discharge up to nine megalitres/day of treated effluent into the Port Stephens-Great Lakes Marine Park. The Marine Park is also an area used for recreational fishing and boating, tourism operations and commercial fishing.

A range of soft sediment habitat types exist in and around the area proposed for the aquaculture leases but the benthic environment is composed primarily of fine to coarse sand.

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

N/A No Commonwealth Heritage Places were identified as occurring in close proximity to the proposed location for the MARL and Huon Lease.

3.3 (i) Indigenous heritage values

The proposed sites are located in the marine environment of Providence Bay between 7.5 and 9.1 km offshore from Hawks Nest, NSW. As outlined in Section 6.15 (page 78) – *Heritage* of the accompanying MARL EIS, no indigenous heritage issues were identified in the vicinity of Providence Bay.

3.3 (j) Other important or unique values of the environment

European Heritage

Two historic shipwrecks and a historic plane wreck were identified within the waters of the region of the proposed MARL and Huon Lease. However, they are located more than 2.9 km from the subject sites and therefore any impact would be negligible. Please refer to Section 8.2.1.3 (page 54-56) – *Aboriginal and European Heritage* of the accompanying Modification Application.

3.3 (k) Tenure of the action area (e.g. freehold, leasehold)

The proposed sites are submerged Crown Land (NSW) and aquaculture leases will be issued in accordance with Section 163 of the *NSW Fisheries Management Act 1994* to authorise the proposed activities on the subject sites.

3.3 (l) Existing land/marine uses of area

Commercial and Recreational Activities

Commercial and recreational vessels potentially utilise the areas proposed for the MARL and Huon Lease within Providence Bay. Waterway users include recreational boaters, recreational fishers, commercial dolphin and whale watching operators, SCUBA diving operators, sailing vessels and commercial fishers. The proposed leases however, represent a small fraction (approximately 1.5%) of Providence Bay (i.e. the area between Broughton Island and Yacaaba Headland) where the sea pens alone would occupy 0.07% of the bay. Vessels which access Providence Bay may originate from the many marinas or mooring fields or launched from one of a number of boat ramps within Port Stephens. Please refer to Section 6.12 (page 74) – *Commercial and Recreational Activities* of the accompanying MARL EIS, Section 8.1.1 - *Habitat Loss and Shading* of the accompanying Modification Application and Section 2.3.7 – *Navigation* of the accompanying Submissions Report for further details.

3.3 (m) Any proposed land/marine uses of area

NSW DPI has not identified any other development proposals in the vicinity of the proposed MARL or Huon Lease sites.

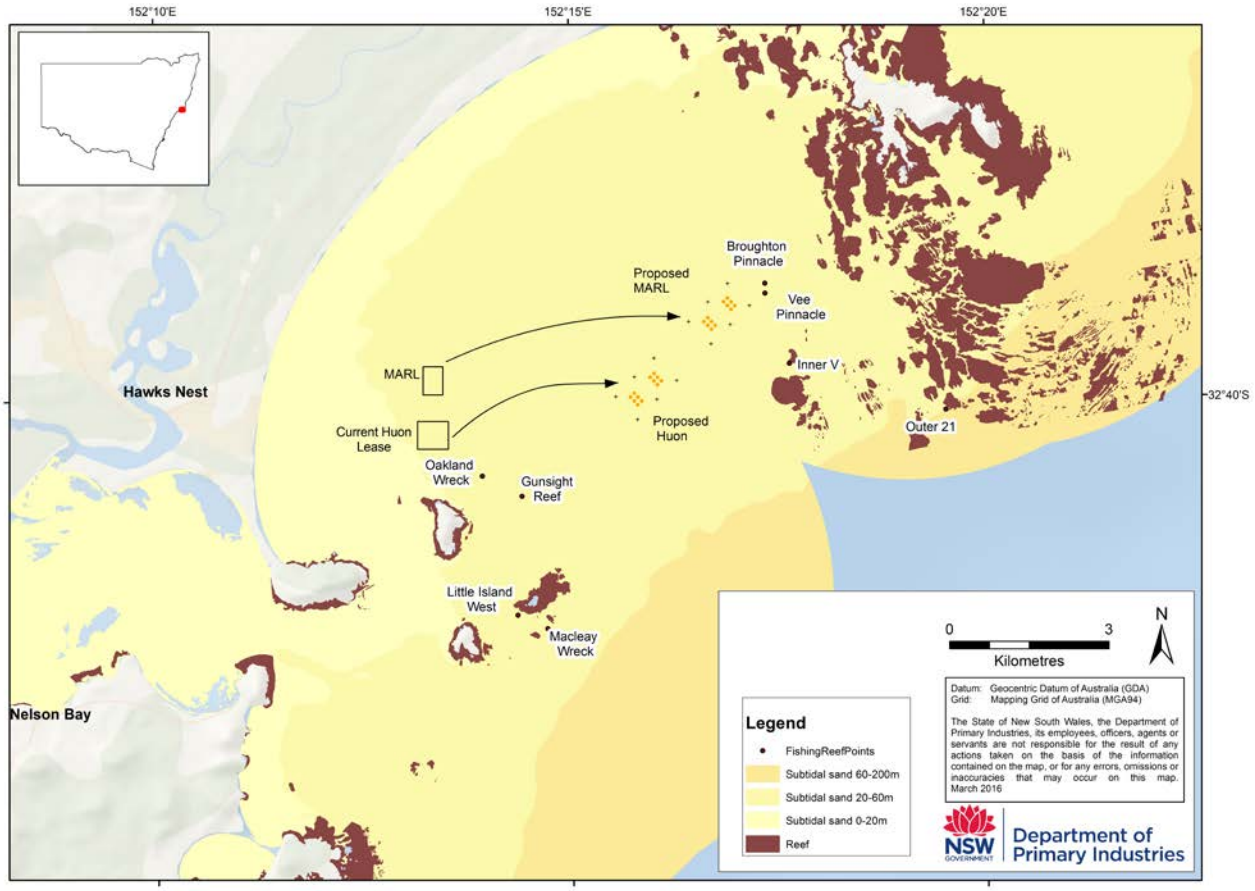

Figure 6: Recreational fishing and dive sites within Providence Bay (Source: NSW DPI, 2016)

4 Measures to avoid or reduce impacts

Risk Assessment and Mitigation

A risk assessment process based on the *National ESD Reporting Framework: The 'How To' Guide for Aquaculture* has been used to identify and mitigate potential risks associated with the proposal (See Section 7 (page 83) of the accompanying MARL EIS). A total of 27 risk issues were identified and categorised that had potential to have an impact as a result of the proposal. These risks were identified in either the construction stage or the operational stage of the MARL. Eleven issues were identified as representing a 'negligible' risk while 12 issues were assigned a 'low' risk ranking. No issues were identified as representing a 'high' or 'extreme' risk but four were classified as 'moderate'.

Detailed consideration of the potential impacts has been assessed in Section 8 (page 88) – *Assessment of Impacts* in the accompanying MARL EIS prepared in accordance with the approval process under the *Environmental Protection and Assessment Act 1979.*

All of the site, construction, infrastructure and operational risks investigated in the MARL EIS were reviewed in the Modification Application in context of the proposed modifications to both leases. The analysis of potential impacts of the proposed modifications identified that the risk rating of the MARL EIS has remained neutral for 23 risk issues, decreased for three and potentially an increase for one risk issue. See Section 8.1.7 (page 49) – *Navigation and Interactions with Other Waterway Users* of the accompanying Modification Application for further details on the risk issue that increased by one risk ranking.

The proposed modifications may have resulted in an overall decrease in potential environmental impacts in some cases but as the risk issue already had a negligible rating, it remained unchanged (See Section 7 & 8 of the accompanying Modification Application) as outlined in Table 2.

Table 2: Summary of environmental, social and economic issues including ranking and proposed mitigation measures.

Issue & MARL EIS chapter reference (No.)	MARL Risk Rating	Expected Change	Mitigation	Risk Rating after Modification
Site / Construction / Infrastructure (8.1)				
Significance of habitat loss and shading due to the installation of sea cage infrastructure **(8.1.1)**	Negligible	Neutral	▪ *Sites proposed have similar sandy substrate with no environmentally sensitive or unique areas.* ▪ *Infrastructure still consists of an open and streamlined sea pen design.*	*Negligible*
Decommissioning **(8.1.2)**	Low	Neutral	▪ *Proposed sites are on similar mobile sand, reasonable depth, high energy environment.* ▪ *MARL remains as a short-term research operation.*	Low
Impact on noise levels – construction and deployment stage **(8.1.3)**	Low	Decrease	▪ *Relocation of the leases further offshore (3.5 km to 7.5 & 9.1 km) will result in reduced levels of noise reaching land based receptors.* ▪ *Use of Newcastle Harbour for some operational activities (pen construction/feed transfer) will reduce vessel and motor vehicle movements within the Port Stephens and their potential noise impacts on the local community.* ▪ *The approximate doubling to tripling of the distance from shore and the potential use of some Newcastle Harbour based operation sites is considered to reduce the risk rating from 'Low' to 'Negligible'.* ▪ *The potential impact on marine fauna would remain unchanged.*	Negligible

Impacts on existing land based infrastructure **(8.1.4)**	Negligible	Neutral	▪ *Still propose to use existing approved land based facilities at PSFI and Newcastle Harbour foreshore industrial ground.*	Negligible
Structural integrity and stability of sea cage infrastructure **(8.1.5)**	Low	Neutral	▪ *Use of latest innovative offshore sea pen and feed barge technology that has been designed for Australian conditions.* ▪ *An objective in the MARL EIS was to evaluate latest engineering knowledge in the NSW marine environment. All programs and protocols in the EIS's and approvals would still be applied.*	Low
Climate change and impact of sea cages on coastal processes and water flow **(8.1.6)**	Negligible	Neutral	▪ *No significant change in site and infrastructure characteristics and species remain unchanged. The open, streamlined and flexible design of the infrastructure is retained*	Negligible
Impact of sea cage infrastructure on navigation and other waterway users **(8.1.7)**	Negligible	Potential Increase	▪ *Proposed modified lease sites are in proximity to vessel movement routes used by experienced offshore recreational fishers traversing between Port Stephens, Broughton Island and nearby reefs.* ▪ *Navigation marks, notice to mariners, information in local publications and media would still be used to mitigate this impact.* ▪ *Feed barge could act as an additional navigation reference mark and barge and lease extremities would be marked to RMS specifications.* ▪ *Construction of sea pens is proposed to be undertaken in Newcastle Harbour which would mitigate the impact of deployment activities on Port Stephens waterway users. Newcastle Harbour is already recognised as a commercial port.* ▪ *Although there are no formal records of routes taken by fishers, anecdotal information would appear to indicate that more (percentage unknown) would take an offshore route to*	Low

			Broughton Island and offshore reefs than the previous inshore route adjacent to the current approved lease sites. In light of this the risk rating has been increased from 'Negligible' to 'Low'.	
Operation (8.2)				
Impacts on Communities **(8.2.1)**				
Impacts on visual amenity and odours **(8.2.1.1)**	Low	Decrease	▪ *Relocation further offshore will greatly reduce the impact on visual amenity and any potential odours generated by the operation.* ▪ *The approximate doubling to trebling of the distance from shore and the potential use of some Newcastle Harbour based operation sites is considered to reduce the risk rating from 'Low' to 'Negligible'.*	Negligible
Impacts of marine vessel and vehicular transport **(8.2.1.2)**	Negligible	Decrease	▪ *It is proposed to service the modified lease sites from predominantly Newcastle Harbour. This will reduce the vessel movements and large truck movements in and out of the commercial wharf precinct of Nelson Bay.* ▪ *The use of the feed barge would reduce the requirement for daily feed vessel trips to the proposed leases to undertake feeding activities. Although the assessment identifies a decrease in risks. This matter already had the lowest risk rating of 'Negligible'.*	Negligible
Impacts on Aboriginal and European heritage **(8.2.1.3)**	Negligible	Neutral	▪ *A significant buffer zone to prevent impact on heritage items in wider region is retained.*	Negligible
Impacts on noise levels – operational stage **(8.2.1.4)**	Negligible	Neutral	▪ *Relocation of the leases to further offshore (3.5 km to 7.5 & 9.1 km) will result in reduced levels of noise reaching land based receptors.*	Negligible
Impacts on adjacent aquaculture lease **(8.2.1.5)**	Negligible	Neutral	▪ *Buffer zone, navigation aids, Water Quality and Benthic Environment Monitoring Program, Disease, Parasite and Pest Management Plan will remain in place.*	Negligible

Work health and safety issues **(8.2.1.6)**	Low	Neutral	▪ *All management plans and protocols outlined in the MARL EIS and approval will continue.* ▪ *Although the proposed new sea cage design has added human safety features, operating in a marine environment is still considered to have a 'Low' risk rating.*	Low
Impacts on the local economy **(8.2.1.7)**	Negligible	Neutral	▪ *No management required – potential positive benefits.*	Negligible
Impacts on the Environment **(8.2.2)**				
Impacts on marine habitats – water quality, nutrients and sedimentation **(8.2.2.1)**	Moderate	Neutral	▪ *Similar high energy environment, reasonable depth, mobile sands and daily operations and management practices remain the same.* ▪ *A 'Moderate' risk rating still applies to this category*	Moderate
Fish feed - source, composition and sustainability issues **(8.2.2.2)**	Low	Neutral	▪ *Feed will still be sourced from sustainable suppliers and research component will continue to look at fish meal/oil replacements, improvements in FCR and diet development.* ▪ *Minimal feed wastage – demand feeding using latest delivery technologies.* ▪ *The risk rating of 'Low' is still considered appropriate as the activity type remains unchanged and diet development research is ongoing into fish meal/oil replacement.*	Low
Impacts of chemical use **(8.2.2.3)**	Moderate	Neutral	▪ Chemicals will continue to be administered in accordance with APVMA. Research on other species has shown a decrease in disease, parasite and pest issues when sea pens are moved to deeper waters and also require less chemical use.	Moderate
Genetic composition of cultured stock and impacts of escaped cultured stock on wild	Low	Neutral	▪ No proposed changes to broodstock, hatchery and biosecurity protocols. ▪ Use of latest innovative offshore sea cage technology that	Low

stock genetics and competition **(8.2.2.4)**			has been designed for Australian conditions should mitigate any potential stock escapements.	
Disease transmission, cultured stock diseases and introduced pests **(8.2.2.5)**	Moderate	Neutral	▪ Recent research on Southern Bluefin Tuna has shown a reduced incidence of disease, parasite and pest issues when leases are relocated into deeper waters. However, this research has not been undertaken on Yellowtail Kingfish in Australian waters. ▪ The disease risk rating of 'Low' is still considered appropriate as the hatchery protocols and Disease, Parasite and Pest Management Plan will still be applied. However, due to the limited information on the risk of pathogens and pest associated with sea pen farms in Australian waters the risk rating of 'Moderate' still applies to this matter.	Moderate
Impacts of artificial lights on fauna species **(8.2.2.6)**	Low	Neutral	▪ The proposed leases will be approximate double to triple the distance from Cabbage Tree Island to that of the current lease locations. ▪ Hours of operation – predominately daylight. ▪ Vessel lights – shielded and concentrated downwards, barge lights (other than navigation mast head light) turned off or shuttered at night. ▪ Low intensity mast head light required under RMS navigational requirements. These lights are generally of less intensity than navigation marks on leases.	Low
Entanglement and ingestion of marine debris **(8.2.2.7)**	Low	Neutral	▪ No proposed changes to the objective of using latest infrastructure design and utilising the Marine Fauna Interaction Management Plan, entanglement protocol, maintenance and operational procedures to further mitigate entanglement risks ▪ The use of a feed barge has the potential to reduce the risk of marine debris as feed would be delivered in bulk rather than manual handling of numerous 20 kg feed bags on the lease	Low

			sites.	
Animal welfare issues **(8.2.2.8)**	Negligible	Neutral	▪ All staff will still be made aware of their obligations under the *Animal Research Act 1985*. ▪ All staff will still be required to comply with Aquaculture Code of Conduct and all plans and protocols as outlined in the EIS's and approvals.	Negligible
Risk of vessel strike and acoustic pollution **(8.2.2.9)**	Low	Neutral	▪ Use of a feed barge would reduce the vessel traffic movements required to deliver feed to the sea pens. Vessels supplying feed barges would operate out of Newcastle Harbour and less vessel movements would be required to meet feeding requirements. ▪ No proposed changes to mitigation actions within the EIS's and approvals.	Low
Impacts on threatened / protected species and matters of NES **(8.2.2.10)**	Low	Neutral	▪ Proposed relocation of leases does not result in any additional threatened/protected species or matters of NES identified in the EIS's being impacted. ▪ Infrastructure and management of leases remains similar. ▪ Improved pen design may potentially reduce interaction with marine mammals and predators.	Low
Impacts on migratory pathways, behavioural changes and predatory interactions (notably whales and sharks) **(8.2.2.11)**	Moderate	Neutral	▪ New 'Fortress Pen' has been designed to reduce predator interactions and the risk of predator entanglement. ▪ Management programs and protocols as outlined in the EIS's and approvals to be maintained. ▪ These matters were of particular concern to the community. Therefore, to ensure adequate management attention is provided to these matters it is considered appropriate to maintain the risk rating.	Moderate

Impacts on Areas of Conservation Significance - World Heritage, Ramsar Wetlands, MPA, national parks, critical habitat and natural reefs **(8.2.2.12)**	Low	Neutral	▪ Proposed relocation of the leases does not change its relationship to Areas of Conservation Significance in the region. ▪ Management programs and protocols as outlined in the EIS's and approvals to be maintained.	Low
Waste disposal - bio/general/equipment waste **(8.2.2.13)**	Negligible	Neutral	▪ No proposed changes to Waste Management or Water Quality and Benthic Environment Monitoring programs or plans in the EIS's and approvals.	Negligible

Environmental Management

An Environmental Management Plan (EMP) will be prepared for both the MARL and Huon Lease to ensure that the commitments in the MARL EIS, Modification Application, subsequent assessment reports and any approval or licence conditions are fully implemented. A draft EMP has been developed as part of the MARL EIS process (See Appendix 2 of accompanying MARL EIS). It consists of a series of sub-management plans, monitoring programs and protocols that address the potential environmental impacts. The timeframes will vary for the range of mitigation measures.

The key objective of the EMP is to ensure that the MARL and Huon Lease are sustainably managed and its operation does not have a significant impact on the marine environment, surrounding communities or the operators. The EMP for both the MARL and Huon Lease will aim to ensure the following:

- Aquaculture best practices are employed during all stages of the leases i.e. construction, operation and decommissioning;
- Marine fauna interactions are minimised e.g. Marine Fauna Entanglement Avoidance Protocol;
- Water quality is maintained and kept within safe levels for humans and marine communities;
- The structural integrity and stability of the sea pen infrastructure is maintained e.g. Structural Integrity and Stability Monitoring Program;
- The occurrence of disease, parasites and pests is minimised and if these events do occur, prompt management and/or remedial action will be implemented e.g. Disease, Parasite and Pest Management Plan;
- The safety of staff and surrounding communities is maintained e.g. Work Health and Safety Management Plan;
- Waste is appropriately managed e.g. Waste Management Plan;
- Navigational safety in Providence Bay is maintained e.g. Notice to Mariners, amendment of navigation maps/charts and lease marker buoys; and
- The performance of the MARL and Huon Lease are regularly evaluated by reviewing environmental management reports and monitoring records e.g. Benthic Monitoring Program and Annual Environmental Management Report.

The proponent is NSW DPI and Huon Aquaculture in conjunction with potential collaborating researchers and tertiary institutions such as Newcastle University.

The EMPs for both the MARL and Huon Lease will be used as a reference for the operation of the MARL and Huon Lease including staff and any contractors involved in the various stages of the construction and operation of the research and commercial operation. The specifications in the EMPs and the aquaculture permit/lease conditions can be enforced under the provisions of the *Environmental Planning and Assessment Act 1979* or the *Fisheries Management Act 1994*.

It should be noted that the Modification Application does not seek to modify any of the environmental monitoring or risk mitigation measures as outlined in the MARL EIS and EMP or NSW DPI (SSI-5118) consent conditions. However, it does seek to update the Pisces (DA No. 81-0401 & Modification) consent conditions to be consistent with those of the NSW DPI (SSI-5118) consent.

5 Conclusion on the likelihood of significant impacts

5.1 Do you THINK your proposed action is a controlled action?

No

5.2 Proposed action IS NOT a controlled action

Nature of Operation

- The combined lease area of the proposed MARL and Huon Lease represents a small proportion of Providence Bay - approximately 1.5% (i.e. the area between Broughton Island and Yacaaba Headland) which is estimated to be about 8,470 hectares. The sea pens infrastructure from both leases are estimated to consist of about 0.07% of this area.
- Consistent with the approved conditions, the proposed MARL is for a short duration of only five years to undertake research into marine based aquaculture including potential environmental impacts.
- The activities and conditions associated with the proposed modifications are exactly the same as the activities and conditions currently approved for the two leases except for the following amendments:
    - Relocation of the current lease sites further offshore;
    - Use of twelve 120 to 168 metre diameter sea pens;
    - Use of the latest feed management systems (in-pen hopper and/or feed barge);
    - *Use of in situ* net cleaning;
    - The option to increase standing stock to 1200 tonne if monitoring results indicate no significant impact;
    - An increase in the lease area to accommodate the anchoring system required in the greater depth of water on the proposed sites; and
    - Updating of the Pisces (DA No. 81-0401 & Modification) consent conditions to be consistent with those of the NSW DPI (SSI-5118) consent.

Environmental Assessments and Approvals

- The state planning approval process was undertaken in accordance with *Environmental Protection and Assessment Act 1979*.
- An Environmental Impact Statement (EIS) for both the MARL and Huon Lease had previously been prepared to provide a thorough and transparent assessment of the potential risks associated with the proposed activities which proposed a number of measures to address the potential impacts of the research trial. All of these measures will be implemented as specified in the current consent conditions.
- Through the employment of industry best practice, management plans, protocols and monitoring programs that have been identified in the MARL EIS, draft Environmental Management Plan (draft EMP) and Modification Application, it is concluded that the proposed activities will not have a significant environmental, social or economic impact.
- The aquaculture lease and permits issued in accordance with the *Fisheries Management Act 1994 and Marine Parks Act 1997*; will include provisions to ensure the sustainability of the aquaculture activities.
- The updating of the Pisces (DA No. 81-0401 & Modification) consent conditions to be consistent with those of the NSW DPI (SSI-5118) consent will ensure a consistent approach across both leases in respect of environmental assessment.

Using the Commonwealth's guidelines, NSW DPI concluded that there is no likelihood of the modifications to the MARL and Huon Lease having a significant impact on any matter of National Environmental Significance protected under the EPBC Act given the multitude of mitigation measures that will be implemented.

Public Exhibition and Submissions – Modification Application

- NSW Department of Planning and Environment received 18 submissions about the Modification Application including three submissions from government agencies and 15 from community stakeholders. Of the submissions received nine have indicated their support or provided positive comments towards the proposed modification (See the Submissions Report May 2016 for further details).

Seafloor Survey

- NSW OEH was commissioned by NSW DPI to survey and map seafloor features using high resolution swath acoustics in the area proposed for the MARL and Huon Lease in Providence Bay. Visual interpretation of acoustic backscatter and hillshaded bathymetry data indicated that the seafloor in the survey area consists of soft sediments only which is dominated by sand and coarse sand with a depth ranging from 38 to 43 m. See Section 8.1.1 (page 43) – *Habitat Loss and Shading* of the accompanying Modification Application for further details.

Marine Habitats

- The proposed sites are located in a high energy environment. There are no environmentally sensitive (e.g. critical habitat, reefs or seagrass beds) or unique areas in close proximity to the proposed sites. There are extensive areas of similar habitat in the direct and wider area and the installation of the sea pens will not isolate any habitat area. The small area of habitat disturbed from the installation of the anchors is expected to return to pre-existing conditions relatively quickly.
- There are no known seagrass beds, geomorphological formations (i.e. rocky reefs or bomboras) or any other substantial flora or fauna associations in the area of the proposed sites except for phytoplankton in the water column. The closest marine communities are on the reefs south of Broughton Island, which are 1.5 km south east of the proposed MARL.

Vessel Strikes and Acoustic Pollution

- The risk of marine fauna being significantly impacted by noise generated during the transportation and deployment of the sea pen infrastructure is thought to be 'low' when considered in context with the existing noise levels and the management measures that will be implemented i.e. Marine Fauna Interaction Management Plan and Observer Protocol. In addition, the use of the feed barges would greatly reduce vessel transport frequency compared to the frequency associated with the approved lease conditions, which would therefore decrease the risk of vessel strikes and acoustic pollution.
- Overall, the operation of the leases will result in minor increases in vessel movements so the risk of the MARL and Huon Lease having a significant impact on the occurrence of vessel strikes and acoustic pollution levels is considered unlikely. Mitigation measures, such as the Observer Protocol, adhering to speed restrictions, slowing down in sensitive areas, maintaining appropriate distances from marine fauna, restricting lease activities to predominately daylight hours and maintaining vessel motors will also be implemented. Noise generated will predominately be characteristic of the area and service vessels will be similar to existing vessels that use Providence Bay.

Other Waterway Users

- The proposed location for the modification leases is not in any recognised navigation channels, shipping port approaches, recognised SCUBA diving sites or significant commercial or recreational fishing grounds. Similarly, the proposed location should not adversely impact yachting regattas held in the region.
- The proposed locations may be utilised by recreational and commercial vessels travelling to Broughton Island or dolphin/whale watching operators that venture north of Cabbage Tree Island. However, the proposed leases do not pose an impediment to vessels travelling through this area and have been aligned to mitigate any impact to boating traffic traversing from Port Stephens to Broughton Island.
- The two proposed lease areas would occupy approximately 1.5% of Providence Bay while the sea pens would equate to about 0.07% of the bay.
- The extremities of aquaculture leases and the moored feed barges would be marked with appropriate navigational marks in accordance with NSW Roads and Maritime Services (NSW RMS) requirements and IALA recommendations.

Aboriginal and European Heritage

- The risk of the MARL and Huon Lease having a significant impact on Aboriginal and European heritage items and/or areas near or in Providence Bay is thought to be 'negligible' when considered in context with the findings from the AHIMS database search (i.e. no declared Aboriginal sites or places), the responses of the Worimi Knowledgeholders Aboriginal Corporation, Worimi Local Aboriginal Land Council and Karuah Local Aboriginal Land Council, as well as the results of the seafloor survey and the desktop/database searches (i.e. no heritage items detected in area proposed for the leases). For the identified items and places of heritage significance, the lease is considered to be a sufficient distance away to ensure no direct or indirect impacts.

Water Quality and Marine Habitats

- The risk of the MARL and Huon Lease having a significant impact on marine habitats in Providence Bay and the wider region is thought to be 'low' when considered in context the high energy environment of Providence Bay, the Water Quality and Benthic Environment Monitoring Program and the implementation of a range of daily operational and maintenance procedures that minimise dissolved and particulate waste inputs (including the use of technologies associated with the feed barge). Overall however, the risk of the modification leases having a significant impact on marine habitats is considered to be 'moderate' to ensure adequate attention is given the management and monitoring of these potential issues.
- The estimated nutrient inputs from the MARL and Huon Lease are well below the recommended values in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* and reviews of impacts from existing Australian sea pens farms indicate that impacts are likely to be highly localised. Estimations for nutrient inputs associated with the operation of the leases are considerably lower than average seawater concentrations and those released from natural sources such as upwelling.

Chemical Use

- The risk of chemicals used during the operation of the proposed MARL and Huon Lease having a significant impact on the marine environment and/or the surrounding communities is thought to be 'low' when considered in context with the Australian Pesticides and Veterinary Medicines Authority and licensed veterinarians regulating chemical use, the infrequent treatments, the low doses used, the regular investigations into safe treatment concentrations and methods and the use of liners.
- The proponents are also committed to comply with the *Guide to Acceptable Procedures and Practices for Aquaculture and Fisheries Research*.
- The overall risk for chemical use associated with the proposed MARL and Huon Lease is considered to be 'moderate' to ensure adequate attention is given the management and monitoring of these potential issues.

Genetic Integrity and Escapees

- The risk of escapees having a significant impact on the genetic integrity of wild populations, competition and predation levels and/or food chains is thought to be 'low' when considered in context with the use of the new Fortress pens, *in situ* net cleaning technology and broodstock that will be sourced locally or from the same genetic population, as well as the use of breeding techniques that will ensure genetic integrity and the poor survival skills of cultured stock.
- A Structural Integrity and Stability Monitoring Program, the Escapee Recapture Protocol, and operational and maintenance procedures that will minimise predatory interactions and escapee events will also be implemented.

Pathogens and Introduced Pests

- The risk of the proposed MARL and Huon Lease having a significant impact on the occurrence of pathogens in wild populations is thought to be 'low' when considered in context with the implementation of the Disease, Parasite and Pest Management Plan, which includes guidelines and protocols for surveillance regimes and monitoring, how to reduce stress to stock, the implementation of strict husbandry practices, the reporting of notifiable aquatic diseases and the removal of biofouling. The proposed leases will also comply with the NSW Hatchery Quality Assurance Scheme.
- The introduction of exotic pathogens and pests into the surrounding region will also be minimised by culturing species that are native to NSW waters, implementing biosecurity procedures and ensuring the sea pens are stocked with disease-free fish.

- The increased buffer distance and the recent research undertaken by Kirchhoff (2011) regarding moving sea pens further offshore has the potential to reduce the incidence of diseases, parasites and pests.
- Overall, a 'moderate' risk ranking is considered the most appropriate to ensure adequate attention is given the management and monitoring of these potential issues.

Threatened and Protected Species (State Assessment of Significance)

- The NSW DEC Threatened Species Database and the NSW DPI Threatened and Protected Species Listing were searched for threatened and protected species, populations and communities listed under the *Threatened Species Conservation Act 1995* (TSC Act) and *Fisheries Management Act 1994* (FM Act) that are likely or predicted to occur in the Hunter/Central Rivers Catchment Management Authority marine zone subregion.
- Only threatened species that were known or considered likely to occur in the study area (based on general species distribution databases) and/or known to utilise habitat in the study area were considered further in an Assessment of Significance (See Appendix 9 – MARL EIS). These species were assessed according to the *Threatened Species Assessment Guidelines*.
- 7 species of fish, 3 species of marine turtle, 4 cetacean species, 2 pinnipeds, 1 sirenian (the dugong) and 15 species of seabirds were assessed according to the assessment guidelines issued and in force under Section 94A of the TSC Act and Section 220ZA of the FM Act.

Threatened and Migratory Species (Commonwealth Assessment of Significance)

- NSW DPI assessed the potential impacts of the proposed modifications to the MARL and Huon Lease with reference to the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) and according to the EPBC Act Policy Statement 1.1 (Significant Impacts Guideline 1.1) in conjunction with EPBC Act Policy Statement 2.2 (Offshore Aquaculture).
- To determine which matters required assessment, NSW DPI undertook a search using the EPBC Act Protected Matters Search Tool on 11th May 2016. The search tool generated a summary of matters protected by the EPBC Act which may relate to or occur in the area of the proposed location for the MARL and Huon Lease (See Attachment 6).
- The risk of the proposed modifications to the MARL and Huon Lease having a significant impact on threatened species, protected species, matters of NES or any other matters protected under the EPBC Act is thought not to be significant when considered in context with the various mitigation measures that will be implemented to minimise risks associated with: entanglement; ingestion of marine debris; vessel strike; acoustic pollution; navigation lights; disease and pests; escapees and genetic integrity; chemical use; water quality; predatory interactions; behavioural changes; and alterations to migratory pathways and important habitat areas.

Other NES Matters

- No World Heritage properties, National Heritage Places, Commonwealth Marine Areas, Commonwealth Land or Threatened Ecological Communities were found in close proximity to the modification lease sites.

Artificial Lights

- The risk of artificial lights (i.e. navigation buoys and vessel lights) used during the operation of the leases having a significant impact on light sensitive species, notably the Gould's petrel and the little penguin, is thought to be 'low' when considered in context with the increased distance from the offshore islands (i.e. closest lease is 3.7 km from Cabbage Tree Island and 5.1 km from Boondelbah Island).
- Low intensity flashing white strobe lights with a low profile will also be used, the hours of operation will predominately be during the daytime and measures will be implemented to shield vessel lights if night work is required.

Entanglement

- According to Kemper et al. (2003), it is possible to virtually eliminate entanglement risks for marine predators by adopting appropriate design features, being vigilant with gear maintenance and using appropriate feeding regimes and removal of any fish mortalities. Hence, the risk of entanglement and ingestion of marine debris associated with the modification leases is thought to be 'low' when considered in context with the sea pen design features (e.g. new technologically advanced Fortress pens and the increase of the size of mooring lines from 45mm to 110mm or greater), daily operational and maintenance procedures (e.g. *in situ* net cleaning), the Structural Integrity and

Stability Monitoring Program, the Marine Fauna Interaction Management Plan, the Marine Fauna Entanglement Avoidance Protocol and the Waste Management Plan that will be implemented. The Marine Fauna Interaction Management Plan and the Marine Fauna Entanglement Avoidance Protocol were developed in consultation with the NSW Office of Environment and Heritage to mitigate entanglement risks.

- No negative interactions were recorded between with the sea pens and marine fauna (including whales, dolphins, seals, sharks or turtles) during the trial operation of a Snapper farm in Providence Bay over a two year statutory monitoring period (1999-2000) (Worth & Joyce, 2001) or during the ongoing operation of the farm up until 2004 (D. Liszka 2011, pers. comm.).
- No negative interactions have occurred between the Fortress pens in Storm Bay, Tasmania and marine fauna.
- Entanglement has not been a significant issue with the latest sea pen aquaculture technologies being adopted in Australian marine waters.

Migratory Pathways, Behavioural Changes and Predatory Interactions

- The risk of the proposed modification leases having a significant impact on migratory pathways, the behaviour of marine fauna and predatory interactions is thought to be 'low' when considered in context with: the extensive area of unobstructed waters in Providence Bay and the range of mitigation measures that will minimise the attraction of marine fauna and associated interactions.
- There is approximately 5 km of unobstructed waters to the west of the leases in which marine fauna can safety navigate through. The obstruction caused by the sea pens is considered unlikely to have a significant impact on the migratory pathways of marine fauna in Providence Bay given that extensive areas of similar habitat are available in the direct and wider study area.
- Sea pen aquaculture in Australia located on migratory pathways of marine fauna have not had a significant impact on the migratory marine fauna.
- It is likely that White Sharks will initially be inquisitive about the captive fish in the sea pens but if no rewards are provided (i.e. injured fish or mortalities), and sufficient barriers are installed, sharks are expected to lose interest as observed on other sea pen farms (PIRSA, 2003; R. Johnson, *pers. comm.* cited in McCord *et al*., 2008).
- Bruce (1998) further supports that the primary cause of shark damage to cages and nets is related to attempts to gain access to dying fish and mortalities, while captive fish and slicks generated during feeding events are also considered to be key shark attractants. These signals will be mitigated by a number of operational and maintenance procedures, such as using pelletised feed opposed to whole fish, regularly removing moribund and dead stock and electronic underwater monitoring of fish feeding.
- Mitigation measures include sea pen design features, daily operational and maintenance procedures, regular human activity and the Structural Integrity and Stability Monitoring Program, as well as the Marine Fauna Interaction Management Plan which will monitor any interactions.
- CSIRO, NSW MPA and NSW DPI have current deployments of acoustic receivers in the Providence Bay region (e.g. near proposed site and *SS Oakland* dive site), which provide some data on movements and residency of tagged juvenile White Sharks and other fish species. This research provides some background data on White Shark movements in Providence Bay. NSW DPI proposes to implement a monitoring program in partnership with CSIRO, prior to, and during the operation of the modification leases which may require additional deployment of acoustic receivers and additional tagging of target species. The occurrence, timing, behaviour and/or duration of shark occupation can then be monitored before the deployment stage.
- The NSW Office of Environment and Heritage has also outlined the potential opportunities the modification lease sites offer for monitoring marine species it manages such as whales, dolphins, seals and sea birds.
- Overall, the risk ranking is considered to be 'moderate' to ensure adequate management and monitoring attention is given to these potential issues.

Areas of Conservation Significance

- The risk of the modification leases having a significant impact on areas of conservation significance is thought to be 'low' when considered in context with the distance between these areas, the high energy environment of Providence Bay and the substrate type present.

- A range of mitigation and management measures will also be implemented to restrict detectable changes to within the boundaries of the leases and minimise negative interactions with marine fauna that may forage in the vicinity of the sea pen infrastructure.
- The modification leases are considered unlikely to have a significant impact on any region of the Myall Lakes National Park, including the Myall Lakes - a Wetland of International Significance which is located within 7.3 km (18.5 km by water) of the proposed sites. No area of national park or wetland will be modified or destroyed and the lease will not change the hydrological regime, impact on water quality, native species or introduce invasive species to the wetland.

Waste Disposal

- The risk of waste generated from the operation of the modification leases having a significant impact on the environment or humans is thought to be 'negligible' when considered in context with the Waste Management Plan that will be implemented to ensure that wastes are appropriately handled, transported and disposed.

Seafood Sustainability

- The operation of the modification leases will provide an opportunity to prove species suitability, validate equipment and technology, and monitor the marine environment. The research results will provide valuable information to support evidence based policy development for future sustainable seafood production in NSW and Australia.
- The research trial is likely to benefit trash fish and bait fish stocks in the long-term by undertaking research to reduce reliance on these species for fish meal and oil.
- The information obtained from research undertaken by NSW DPI and its research partner Huon Aquaculture will inform the development of a NSW Marine Waters Sustainable Aquaculture Strategy. The strategy will ensure a strategic and sustainable development of marine waters aquaculture in NSW rather than an ad-hoc approach.

Economic Benefits

- The MARL and Huon Lease may act as catalysts for economic development as it will provide increased employment opportunities and use local goods and services, as well as provide the tourism industry with an opportunity to diversify experiences available to visitors.

5.3 Proposed action IS a controlled action

	Matters likely to be impacted
No	World Heritage values (sections 12 and 15A)
No	National Heritage places (sections 15B and 15C)
No	Wetlands of international importance (sections 16 and 17B)
No	Listed threatened species and communities (sections 18 and 18A)
No	Listed migratory species (sections 20 and 20A)
No	Protection of the environment from nuclear actions (sections 21 and 22A)
No	Commonwealth marine environment (sections 23 and 24A)
No	Great Barrier Reef Marine Park (sections 24B and 24C)
No	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
No	Protection of the environment from Commonwealth actions (section 28)
No	Commonwealth Heritage places overseas (sections 27B and 27C)

6 Environmental record of the responsible party

		Yes	No
6.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** NSW Department of Primary Industries (NSW DPI) brings together research, compliance and management staff, and responsibilities for fisheries, aquatic conservation and marine parks within a single agency. NSW DPI is focused on the task of delivering effective, science-based management to meet the NSW Government's goals and to deliver on community expectations relating to both economic growth and careful stewardship of our aquatic resources. Huon Aquaculture is an ethical business, a respected brand, part of a sustainable industry and a company that is focused on the safety of our employees, the welfare of our fish and the wildlife around our farms. The importance of maintaining the integrity of the marine environment and surrounding areas in which we farm is a major factor in decision making at Huon Aquaculture, whether that is improving farming practices, purchase of equipment or locating and/or expanding lease sites.	✓	
6.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details** N/A (NSW DPI & Huon Aquaculture)		✓
6.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** N/A – State Government Agency **If yes, provide details of environmental policy and planning framework** See Huon Aquaculture Group Annual Report, page 11 and page 41 and 42 (Risk management) http://investors.huonaqua.com.au/investors/?page=Annual- - and published Environmental Impact Statements for Lease development applications		✓
6.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**	✓	

Provide name of proposal and EPBC reference number (if known) NSW Department of Primary Industries/Natural Resources Management/Offshore Newcastle, Sydney and Wollongong/NSW/Pilot Offshore Artificial Reefs Date Received: 23 Apr 2008 Reference Number: 2008/4176 NSW Department of Primary Industries Development of Marine Aquaculture Research Lease, Providence Bay, Port Stephens, NSW Date of Decision: 26 June 2013 Reference Number: EPBC 2013/6790 NSW Department of Primary Industries Development of Commercial Shellfish Aquaculture Leases, Jervis Bay, NSW Date of Decision: 3 May 2013 Reference Number: EPBC 2013/6768 DEPARTMENT OF PRIMARY INDUSTRIES PARKS WATER AND ENVIRONMENT - TASMANIA Marine Farming Expansion, Macquarie Harbour, TAS Date Received: 03/10/2012 Reference Number: EPBC 2012/6406 (Huon Aquaculture Group Limited were not the proponent but were named in the referral)		

7 Information sources and attachments

7.1 References

Please refer to Section 11 of the accompanying MARL EIS (page 236), Section 11 of the accompanying Modification Application (page 82) and Section 4 of the accompanying Submissions Report (page 58).

7.2 Reliability and date of information

In text citations have been provided to indicate the source of information in Section 3. The reference list provides the year in which the information source was created. Peer reviewed scientific papers and State and Federal government reports and websites were used to ensure the reliability of information. Significant uncertainties in the information provided in Section 3 are not apparent.

7.3 Attachments

Attachment 1 – Marine Aquaculture Research Lease, Providence Bay, Port Stephens, NSW – Environmental Impact Statement 2012

- Assessment of Significance (Commonwealth) – Revised version 2016

Attachment 2 – Submissions Report January 2013

Attachment 3 – Modification Application - Application to modify the consents approving finfish aquaculture for Pisces Aquaculture Holding Pty Ltd (Huon Aquaculture) and NSW Department of Primary Industries 2016

Attachment 4 – Submissions Report May 2016

Attachment 5 – Protected Matters Search Tool Results 2016

Attachment 6 – MARL (SSI-5118) consent conditions.

Attachment 7 – DA No. 81-04-01 & Modification consent conditions

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	See attached MARL EIS, Modification Application & Submissions Report
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	See attached MARL EIS, Modification Application & Submissions Report
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	✓	See attached Pisces (DA No. 81-04-01 & Modification) and NSW DPI (SSI-5118) consents
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	✓	See attached MARL EIS, Modification Application, Submissions Report & Species Assessment (Commonwealth)
	copies of any flora and fauna investigations and surveys (section 3)	✓	NSW BioNet Atlas Search Results (Flora and Fauna Records –

		Port Stephens region) (See MARL EIS)
technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Species Assessments (Commonwealth) 2016
report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)	✓	See Modification Application & Submissions Report 2016

8 Contacts, signatures and declarations

Project title: **Modification of the Marine Aquaculture Research Lease and Huon Lease, Providence Bay, Port Stephens, NSW.**

8.1a Person proposing to take action

Name	Dr Geoff Allan
Title	Deputy Director General Fisheries
Organisation	DPI Fisheries (Department of Primary Industries)
ACN / ABN (if applicable)	**ABN 72 189 919 072** Department of Trade and Investment, Regional Infrastructure and Services (NSW Trade & Investment)
	DPI Fisheries is a division of the NSW Department of Primary Industries which is an agency of the Department of Trade and Investment, Regional Infrastructure and Services.
Postal address	Port Stephens Fisheries Institute, Locked Bag 1, Nelson Bay, NSW 2315
Telephone	(02) 4916 3909
Email	geoff.allan@dpi.nsw.gov.au
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence. I agree to be the proponent for this action. I acknowledge that I may be liable for fees related to my proposed action following the introduction of cost recovery under the EPBC Act.

Signature  Date 23 May 2016

8.1b Person proposing to take action

Name	David Whyte
Title	Group Technical Manager
Organisation	Huon Aquaculture Company Pty Ltd
ACN / ABN (if applicable)	**ABN 86067386109** Huon Aquaculture Company Pty Ltd
	Huon Aquaculture is an ethical business, a respected brand, part of a sustainable industry and a company that is focused on the safety of our employees, the welfare of our fish and the wildlife around our farms.
Postal address	Level 13, 188 Collins Street, Hobart, 7000, TAS
Telephone	(03) 6239 4200
Email	dwhyte@huonaqua.com.au
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence. I agree to be the proponent for this action. I acknowledge that I may be liable for fees related to my proposed action following the introduction of cost recovery under the EPBC Act.

Signature  Date 23 May 2016

8.2 Person preparing the referral information (if different from 8.1)

Name Mr Ian Lyall

Title	Manager Aquaculture
Organisation	DPI Fisheries (Department of Primary Industries)
ACN / ABN (if applicable)	**ABN 72 189 919 072** Department of Trade and Investment, Regional Infrastructure and Services (NSW Trade & Investment)
	DPI Fisheries is a division of the NSW Department of Primary Industries which is an agency of the Department of Trade and Investment, Regional Infrastructure and Services.
Postal address	Port Stephens Fisheries Institute, Locked Bag 1, Nelson Bay, NSW 2315
Telephone	(02) 4916 3856
Email	Ian.lyall@dpi.nsw.gov.au

Declaration

I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.

Signature  Date 23 May 2016