

SECTION 28 REPORT

DRAFT STORM BAY NORTH MARINE FARMING DEVELOPMENT PLAN NOVEMBER 2017



[REDACTED]

Section 28 Report in relation to the Draft Storm Bay Marine Farming Development Plan November 2017

Contents

1	Introduction	3
2	Analysis of issues.....	5
2.1	Draft plan description.....	5
2.1.1	Infrastructure and servicing.....	5
2.1.2	Stock husbandry aspects	7
2.1.3	Decommissioning and rehabilitation	8
2.2	Impacts on the Natural Environment.....	9
2.2.1	Water quality.....	9
2.2.2	Substrates and fauna.....	11
2.2.3	Marine vegetation	14
2.2.4	Birds	15
2.2.5	Marine mammals	16
2.2.6	Threatened species.....	17
2.2.7	Chemicals.....	18
2.2.8	Disease and biosecurity.....	19
2.2.9	Introduced marine pests	21
2.2.10	Climate change.....	21
2.2.11	Greenhouse gases and ozone depleting substances	22
2.2.12	Environmental management.....	22
2.3	Impacts on the Human Environment	24
2.3.1	Visual.....	24
2.3.2	Navigation.....	25
2.3.3	Reservations.....	27
2.3.4	Noise.....	27
2.3.5	Commercial fishing.....	29
2.3.6	Recreational fishing.....	31
2.3.7	Recreational activities	32
2.3.8	Tourism.....	32
2.3.9	Land use and development.....	33
2.3.10	Socio-economic aspects	34

2.4	Other matters	35
2.4.1	Marine farming planning process.....	35
2.4.2	Holistic Impact Assessment.....	35
2.4.3	Moratorium.....	38
2.4.4	Stakeholder Consultation	39
2.4.1	Zone/Lease Size and Location	39
2.4.2	Tasmanian Brand.....	40
3	Conclusion.....	41
3.1	Recommendations arising from representations	41
3.2	Any appropriate recommendation in relation to the draft plan.....	42
	Appendix A - Representations	43
	Appendix B – Table of representations	43
	Appendix C – Applicant response to issues raised by representors	43
	Appendix D – Modified management controls.....	43

I Introduction

The draft Storm Bay North Marine Farming Development Plan November 2017 (the Plan) was exhibited in accordance with section 26 of the *Marine Farming Planning Act 1995* (the Act) between 9 December 2017 and 9 February 2018. Twenty seven submissions were received during the exhibition period, including 25 which met the requirements of a 'representation' under section 27 of the Act.

This report is submitted by the Planning Authority (PA) to the Marine Farming Planning Review Panel (the Panel) in fulfilment of section 28 of the Act.

Section 28 requires that the PA forward to the Panel a report comprising:

- a copy of each representation received in relation to the draft plan or, if no representation has been received, a statement to that effect ; and
- a copy of each request received under section 27(2)(c) or, if no request has been received, a statement to that effect; and
- a statement of the planning authority's opinion as to the merit of each representation
- a statement regarding –
 - (i) the need for any modification of the draft plan in the light of any representation; and
 - (ii) the impact of any representation on the draft plan as a whole; and
- any appropriate recommendation in relation to the draft plan.

Appendix A contains a copy of each representation and each request received under section 27(2)(c).

Appendix B contains, in tabular form for each representation: list of issues raised; whether the representation was accompanied by a request for a hearing in relation to the representation; and a statement of the PA's opinion as to the merit of each representation and the need for any modification of the draft plan in the light of any representation.

The numerical list of issues raised relates to the numbering in the main body of this report. The main body of the report presents an analysis of the issues raised by representors. It is from this analysis that the PA's opinion as to merit and the need for any modifications is formed.

The PA's recommendation in relation to the draft plan is contained in the conclusion section at the end of the main body of this report, including a statement regarding the impact of any representation on the draft plan as a whole.

The PA has considered each representation in full. Issues have been grouped according to theme to provide for consistent and coherent consideration of the issues in the context of the planning process. In identifying the issues raised in each representation, every effort was made to ensure that the intent of the representation was captured. Identifying issues is unavoidably subjective, in that in some instances it requires an act of judgment to determine what elements of a representation raise material issues. In making that determination the material relevance of the comment or issue to the draft plan in terms of the statutory process was considered.

In the vast majority of cases, representations do not warrant modification to the draft plan or have a material effect on the draft plan as a whole. Regardless of the PA's opinion of merit as it relates to the planning process and the draft plan itself, all views expressed by representors are respected by the PA and representors are commended for their participatory involvement in the resource management and planning process.

In some instances opinions are expressed in representations without supporting evidence, use of examples or references to specific elements of the draft plan. While such opinions are respected and considered, it is not always possible to provide detailed analysis of unsupported opinion. All comments have been noted. The PA does not, either by inclusion or omission of any statement or issue, warrant or accept that statements made in representations are

2 Analysis of issues

This section includes an analysis of issues raised in representations. Issues are grouped according to the section of the Environmental Impact Statement (EIS) to which they relate. Issues relating more broadly to policy and matters beyond the planning process set out in the Act are included at the end of this section.

For each topic area, the relevant representations are listed.

2.1 Draft plan description

2.1.1 Infrastructure and servicing

Issues raised

Representation/s **8, 13, 18, 21, 23 and 26** raise an issue relating to the following perceived potential impacts with infrastructure and servicing.

- Potential for species escapes arising from infrastructure malfunction.
- Marine debris originating from proposed operations (see also 2.2.4 birds, 2.2.5 marine mammals, 2.3.2 navigation, 2.3.7 recreational activities, 2.3.8 tourism).

Discussion

The concerns described above are valid concerns relating to issues from infrastructure that is described in section 2.4 (infrastructure) and section 5.1.9 (species escapes) of the applicant's EIS. Potential effects and management of marine debris are further detailed in sections 5.1.11.6, 5.1.12.2, 5.2.10.2, 5.2.10.3, 5.2.11.2, 5.2.11.3 of the EIS. Potential effects and management of species escapes are further detailed in section 5.1.9.1 – 5.1.9.3 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The draft plan contains existing proposed management controls to manage and mitigate species escapes. The relevant management controls are 3.12.1 – 3.12.3. These management controls provide for regulatory controls to limit species escape and recover escaped fish as directed by the Secretary. There is a significant body of research (detailed in the applicant's response in Appendix C) demonstrating minimal interactions between escaped Atlantic salmon and native Tasmanian fauna.

The draft plan also contains proposed management controls to manage and mitigate potential marine debris originating from proposed operations. The relevant controls are 3.13.3, 3.13.5 and 3.13.6. These controls provide regulatory powers to require the operator to maintain all equipment within the lease area and take action as soon as reasonably possible to recover any structures or equipment that break away from lease area. Additionally, under draft control 3.01 contained in the draft plan, lessees must comply with any written direction given by the Secretary.

In December 2017 the Tasmanian Government published its 'Sustainable industry growth plan for the salmon industry' (Salmon Plan) which contains initiatives aimed at managing environmental and community impacts associated with salmon farming. This includes an action to adopt a zero tolerance approach to marine debris and related boating safety issues through the planned introduction of best practice tracking technologies and simple ways to identify the source of debris. These actions will complement the existing measures to manage debris arising from salmon farming activities that are also detailed in the Salmon Plan.

Recommendations and suggestions from representors relating to management of infrastructure and servicing issues, particularly in relation to marine debris, included:

- Expansion of the 1300 hotline for marine debris in the Huon River and Port Esperance Marine Farming Development Plan (MFDP) and D'Entrecasteaux Channel MFDP areas to all growing regions in Tasmania.
- That operators should employ full-time clean-up crews.

- That operators use rope that can be clearly identified as originating their activities, name or brand equipment used within the zones and install GPS trackers on substantial pieces of equipment that have the potential to break free from the lease.

The applicant has indicated in their EIS that they intend to install GPS trackers on key equipment.

The PA notes that, whilst the proposed management controls in the draft plan are significant and give broad powers in relation to management of infrastructure that may contribute to marine debris, additional, more specific powers could be considered. If the Panel forms the view that it is necessary or desirable for the Plan to provide additional, specific management controls relating to marking and monitoring of marine farming equipment to assist in the management of marine debris, the Panel may determine to modify the draft plan to include the following controls in 3.13 Other controls:

- 3.13.x1 The Secretary may, from time to time, determine requirements for the marking and monitoring of marine farming equipment.
- 3.13.x2 Upon making a determination under 3.13.x1, the Secretary is to notify any lease holders or, if a lease is sub-leased, any sub-lessees of the determination.
- 3.13.x3 A lease holder or, if a lease is sub-leased, any sub-lessees notified in accordance with 3.13.x2 must comply with that notice.

Additionally, management control 3.13.6 could be modified to apply to all State waters, giving a visible management control under which a lessee can be required to remove marine farming equipment from State waters altogether, regardless of whether or not it is in a lease area at the relevant time. The PA proposes that the words 'the lease area' in management control 3.13.6 are replaced with 'State waters'.

The PA has undertaken further investigation of risk management arrangements in relation to the proposed scale of development, the level of exposure of the site and potential for serious environmental harm in the event of catastrophic failure of systems or equipment. Following consultation with Marine and Safety Tasmania (MAST), the Australian Maritime Safety Authority (AMSA) and the EPA, the PA has formed the view that it is desirable that the draft plan is modified to include requirements for verification that the lessee has appropriate systems, capabilities and equipment to both minimise the risk of infrastructure failures and ensure appropriate response capability in the event of a failure. Whilst the recommended approach does not directly mirror 'classification' survey or requirements for operation of marine ports, the PA believes that the proposed management controls would complement AMSA requirements for operation of vessels used connection with the proposed development and would add a level of assurance for government and the community in relation to risk mitigation. The PA recommends that the Panel considers modifying the draft plan to:

a) delete management control 3.9.1.4 and replace it with the following in 3.13 Other controls:

- 3.13.x4 Vessels, other than vessels that enter the lease area on a transient or itinerant basis, must not be located within a marine farming lease area unless authorised under the relevant marine farming licence.

b) add the following management controls to 3.13 Other controls:

- 3.13.x5 In making any application for the grant or renewal of a marine farming licence, a lessee is to provide evidence to the satisfaction of the Secretary that the systems, capabilities and equipment applied or to be applied by the lessee, or sub-lessee are appropriate to the risks associated with occupation or activity under the lease, including (and not limited to), vessels, moorings, preparedness for unexpected events, training and practice, recovery and salvage and any matters, and/or to any standards specified by the Secretary.

3.13.x6 In making any application for the variation of a marine farming licence to authorise a vessel under 3.13.x4, a lessee is to provide evidence to the satisfaction of the Secretary that the systems, capabilities and equipment applied or to be applied by the lessee, or sub-lessee are appropriate to the risks associated with location of the relevant vessel within the lease area, including (and not limited to) preparedness for unexpected events, training and practice, recovery and salvage and any matters, and/or to any standards specified by the Secretary.

3.13.x7 It is a condition of a marine farming licence issued following the provision of evidence under 3.13.x5 and/or varied following the provision of evidence under 3.13.x6, that the licence holder at all times maintains the systems, capabilities and equipment to the standard on which the evidence was based.

3.13.x8 For the purpose of assessing compliance with 3.13.x7, the Secretary may require from time to time, by notice in writing, a licence holder, at the licence holder's expense, to engage a specified person or other entity acceptable to the Secretary, to review the systems, capabilities and equipment applied at that time or any earlier time and provide an opinion as to whether they meet or met the standard on which the evidence was based.

Planning Authority Recommendation

The PA considers that the issues raised have merit and recommends that the Panel:

- considers whether further management controls are necessary or desirable in relation to marking and monitoring of marine farming equipment;
- modifies management control 3.13.6; and
- modifies the draft plan to include management controls relating to engineering and infrastructure management systems, capabilities and equipment.

2.1.2 Stock husbandry aspects

Representations **14, 19, 23 and 26** raised issues relating to stock husbandry.

2.1.2.1 Fish feeding

Issues raised

- Human health implications from fish feed components.
- The potential for uneaten feed from marine farming activities to be consumed by wild fish (having effects on behaviour, health, reproduction and ecology) (see also 2.2.2 of this report - substrates and fauna).

Discussion

Information relating to fish feeding is presented in section 2.5.2 of the applicant's EIS and the applicant's response to issues raised by representors is provided in Appendix C.

Human health issues associated with farmed seafood are beyond the scope of marine farming planning processes.

The draft plan contains proposed management controls relevant to potential impacts of feed input in the marine environment. Relevant management controls are 3.2.1-3.2.8. These management controls provide for regulatory limits

to be imposed by the regulator on feed/nutrient inputs, restricting the total amount of feed available for scavenging wild species. They also create a strong economic incentive for operators to minimise feed wastage.

The management controls also provide for regulatory action where significant biological impacts are identified. Further, draft management control 3.01 requires an operator to comply with any direction given by the Secretary. This gives the Secretary a broad power to apply regulatory any approaches considered necessary.

Planning Authority Recommendation

The PA considers that the issues raised do not warrant modification to the draft plan.

2.1.2.2 Fish health

Issues raised

Potential issues relating to overcrowding impacting on fish health and welfare, leading to a greater likelihood of disease and use of antibiotics

Discussion

Information relating to fish health is presented in sections 1.5, 2.4.5.2, 2.5.3, 2.6.3, 5.1.8, 5.1.10.3, 5.1.10.4, 5.1.14.3 and 5.1.16.1 of the applicant's EIS and the applicant's response to issues raised by representor is provided in Appendix C.

The draft plan contains proposed environmental controls relevant to carrying capacity and stocking density. Management controls 3.3.1-3.3.3 relate to management of stocking densities and potential environmental effects from proposed activities. These include the setting of maximum stocking densities (15kg/m³) and a requirement to maintain records demonstrating that maximum stocking densities have not been exceeded (daily basis). The PA is of the view that the proposed stocking density limit is appropriate for this plan area. Furthermore, section 42Z of the *Environmental Management and Pollution Control Act 1994* (EMPCA) provides the EPA with powers to direct a lessee in regard to the amount of finfish that may be produced and biomass held under an environmental licence.

Further information on disease and biosecurity, see sections 2.2.7 and 2.2.8 of this document.

Planning Authority Recommendation

The PA considers that the issues raised do not warrant modification to the draft plan.

2.1.3 Decommissioning and rehabilitation

Issues raised

Representation **26** raised the following perceived potential concern about decommissioning of marine farming equipment and rehabilitation of the proposed location:

- Inadequate regulation means that lessees are not held liable for decommissioning and rehabilitation, leading to increased cost borne by the public and/or insufficient remediation.

Discussion

This concern relates to information described in section 2.7 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The draft plan contains proposed management controls (3.13.1 and 3.13.5) that require lessees or sub-lessees to comply with the *Marine Farming Planning Act 1995* and remove redundant, dilapidated or loose marine farming structures and equipment from lease area as directed by the Secretary, respectively.

The removal of marine farming equipment and fish from an area is required under section 71 of the *Marine Farming Planning Act 1995*. Under s.71, the person who is a holder of a lease (or permit under the *Living Marine Resources and*

Management Act 1995) is required to remove, within a specified period, any equipment, debris and fish stock resulting from the occupation of that area by the holder or a sublessee. Furthermore, under s.72, if a person fails to comply with s.71, the Minister, without notice may seize any marine farming equipment, debris or fish stock within the area referred to and any reasonable costs incurred by the Minister in exercising power under s.72 are recoverable from the person who held the lease or permit.

Planning Authority Recommendation

The Planning Authority does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to decommissioning and rehabilitation.

2.2 Impacts on the Natural Environment

2.2.1 Water quality

Issues raised

Representations **9, 18, 19, 20, 21, 23 and 26** raise issues relating to the following perceived potential impacts on water quality:

- Concern that increased nutrient loads could lead to biofouling or other physico-chemical changes that reduce habitat for wild fish and shellfish, including, in particular, reef habitat.
- Concern that potential increased nutrient levels lead to increased prevalence of harmful algal blooms (such as paralytic shellfish toxin), reducing access to wild fisheries via increased fisheries management closures. Harmful algal blooms are discussed further in section 2.2.2 substrates and fauna.
- Concern about water quality in the Derwent Estuary, for example: potential increased nutrient loads in bottom waters in Storm Bay lead to increased nutrient levels in the Derwent Estuary; increased nutrient levels in Derwent Estuary leads to mobilisation of heavy metal contaminated sediments; resuspension of nutrient enriched sediment / bottom water during storm events causes reduced water quality in Derwent Estuary leading to ecological impacts.
- Concern about water quality in poorly flushed embayments connected to Storm Bay such as Fredrick Henry Bay, Norfolk Bay and other small embayments fringing Storm Bay, for example: potential nutrient enrichment impact on these shallow, clear and biodiverse systems valued by the recreational fishing community and which may provide critical habitat to key species. Recreational fishing is discussed in section 2.3.6.
- Concern that waste may not be adequately diluted and may not be assimilated by water movement in the bay causing reduced water quality and marine life in the region to be negatively affected.
- Concern that increased nutrient loads lead to algal overgrowth and shading which leads to loss of giant kelp, sea grass and other macrophytes.
- Potential for cumulative impacts between existing and proposed developments across the Storm Bay region. Holistic impacts are discussed further in section 2.4.2 holistic impacts.

Discussion

The concerns described above relate to issues that have been investigated in section 5.1.1 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

Recommendations and suggestions from representors relating to management of water quality issues included:

- Support for production levels to be regulated through a Total Permissible Dissolved Nitrogen Output (TPDNO) cap.

- Support for the establishment of an environmental monitoring program and biogeochemical model.
- Recommendation that the Plan include a TPDNO cap that corresponds with the proposed total biomass production (40,000 tonnes) rather than including the TPDNO cap as a licence condition. The commenter recommended that in the absence of this, the separate assessment process that would be required for any expansion beyond 40,000 tonnes of production should be described. (This is discussed further under 2.2.11 Environmental management).
- Tie proposed development stages to achievement of milestones and deliverables.
- Recommendation that environmental triggers are established with clear management responses, should the monitoring program demonstrate that these triggers have been exceeded.
- Observation that food conversion ratio's and associated nutrient yields used to convert feed volumes to TPDNO's may be outdated and should be reviewed.
- Recommended consideration of modelling the impacts to nutrient sensitive systems and receptors, specifically highlighting poorly flushed embayments adjacent to and fringing Storm Bay, and the Derwent Estuary. This representor also recommended investigating potential impacts across a range of conditions including storm events.
- Recommendation that results of baseline monitoring and early stage modelling should be interpreted with caution.
- Recommendation that monitoring information should be made publically available and that management controls should, if necessary, be amended to facilitate this.
- The Derwent Estuary Program Ltd made a request to be consulted during the development of the baseline and ongoing environmental monitoring systems.

The plan sets out management controls to manage and mitigate the potential impacts of marine farming on water quality. The relevant management controls are 3.1, 3.2.1-3.2.8, 3.3.1-3.3.8, 3.4.1, 3.4.5-3.4.10, 3.7.1 and 3.7.5. These management controls provide for regulatory controls to:

- limit nutrient inputs;
- adjust permissible stocking density;
- require environmental monitoring, assessment, audit and review; and
- regulate waste streams to the environment such as black and grey water.

The proposed management controls are part of the adaptive management framework that has been adopted for both enabling and regulating the salmonid industry in Tasmania. Changes made to the regulatory framework in December 2017 include the provision of powers for the Director EPA to directly regulate finfish farming impacts to the environment, including the issuing of environmental licences under the EMPCA.

Information presented in the EIS and by the PA makes reference to biomass production as a unit of reference in the context of limiting dissolved nitrogen output from marine farming activities. These values are indicative only and are used to illustrate relative levels of dissolved nitrogen output. This approach has been taken, in recognition that dissolved nitrogen is relatively abstract, to help readers by providing a more tangible unit of reference. The PA understands that this has led some representors to focus on the 'food conversion ratio' (FCR) used to equate dissolved nitrogen output with biomass production. However, aside from the purpose of illustration, this ratio is immaterial to the quantities of nitrogen that have been modelled. The existing (and proposed) management framework is that nitrogen output is limited based on feed inputs.

This proposal is one of three current proposed marine farming developments in Storm Bay. Nutrient dispersion modelling and analysis of a combined level of production of 40,000 tonnes per annum has been undertaken by the Institute for Marine and Antarctic Studies (IMAS) using the CONNIE3 model to investigate the likely dispersion of nutrients across Storm Bay. The results of this modelling are included as an attachment to the applicant's EIS. The modelling showed the highly dispersive nature of Storm Bay and also suggested that there are temporal differences in dispersion likely resulting from seasonal variations in hydrodynamics and temporal differences in farm inputs relating

to feed input requirements across the production cycle. The modelling also suggested that dispersion is reduced with depth.

In relation to the assertion that there will be increased deep water nutrient loads to the lower reaches of the Derwent Estuary as a result of this and other proposals in Storm Bay, the PA notes that the dispersion modelling presented in the EIS specifically considered bottom water nitrogen emissions across a depth range of 15-28m that were equivalent to 10% of the total emissions. The modelled outputs did not predict a significant exchange of ammonia into the Derwent at this depth.

IMAS states that the modelling is only indicative of the system conditions and as such, caution is required when interpreting the results. IMAS reports that the estimates of connectivity are likely to be fairly reliable as the hydrodynamic patterns in Storm Bay are reasonably well understood and well represented in the model, however a greater level of model validation is required, in particular, where predictions relate to biological outcomes or interactions.

The limitations of the currently available science relating to biogeochemical processes in Storm Bay have been acknowledged by the PA and the EPA. The parameters used for the preliminary dispersion modelling contained in the EIS were developed following advice from marine ecologists and modelling experts.

The Government considers that development of a biogeochemical model for the region is necessary to inform ongoing management of marine farming in Storm Bay and a project with IMAS and CSIRO to undertake development of the model will commence in the near future, in time for winter 2018 sampling to be conducted.

In the context of Storm Bay, the framework acknowledges the gaps in knowledge about how the environment will respond to increased levels of production. The proposed adaptive management approach would be underpinned by:

- Licence conditions imposed by the EPA through an environmental licence under EMPCA;
- Establishment by the EPA of environmental standards / guideline limit levels and performance indicators for water quality;
- A staged development approach overseen by the EPA;
- A comprehensive environmental monitoring program (including near-scale, intermediate and broad-scale monitoring) overseen by the EPA; and
- The development of a biogeochemical model, to help to understand the information provided by the environmental monitoring and the effects of any changes to farming operations in the region.

In relation to TPDNO limits, the EPA sets this limit in accordance with responsibilities under EMPCA. The EPA has indicated that initial TPDNO limits will be conservative, recognising that scientific information is not currently available to predict the environmental effects of high levels of production.

Planning Authority Recommendation

The Planning Authority does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to water quality.

2.2.2 Substrates and fauna

Issues raised

Representations **5, 9, 14, 18, 19, 20 21, 23, 24, 25 and 26** raise issues relating to the following perceived potential impacts on substrates and fauna:

- Concern that increased nutrient loads may lead to biofouling or other physico-chemical changes that reduce habitat for wild fish and shellfish, including, in particular, reef habitat.

- Fish feed consumption by marine fauna; bacterial mats on sediment surface; and/or spontaneous gas bubbling resulting from discharge of fish feed and faeces to the environment; results in impacts on wild fish recruitment, health, growth rates and likelihood to remain in and around farm lease areas. (Species explicitly listed were crayfish, abalone, flathead, flounder, whiting. Concerns about both habitat availability as well as health and lifecycle stage impacts were raised).
- Nutrient loads may be greater than the nutrient assimilation capacity of Storm Bay and the benthic system may not be adapted to these higher levels of nutrient and organic loading, leading to degradation of the benthic system and that this degradation could include increased numbers of introduced marine pests.
- Increased nutrient loads lead to impacts on handfish via impacts on benthic habitat.
- Farm layout/ location causes direct deposition of solid waste on benthic habitat that is important for marine fauna and flora survival.
- Concerns that there is insufficient information about rocky reefs and benthic habitats to determine baseline conditions for ongoing monitoring.
- Concern about the effects of sustained nutrient loads from fish farms on the balance of algae species in the environment, and in turn changing reef community and biodiversity. Concerned that these changes may not support an ecosystem with healthy populations of wild abalone, lobster and other species of marine fauna. Concern that localised anoxic conditions due to physico-chemical changes in the sediment and/or nutrient overload in the water column may have a deleterious effect on abalone larval growth, settlement and early grow-out stages of their lifecycle. Concerned that sedimentation could affect all life-stages of abalone.
- Concern about potential effects in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impact assessment.

Discussion

The concerns described above relate to issues that have been investigated in sections 5.1.2, 5.1.3, 5.1.6, 5.2.8 and 5.2.9 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

Established industry practices manage feed and faeces waste impacts to substrates through the following means as outlined in the applicant's EIS:

- site selection to avoid sensitive receptors being located below or immediately adjacent to the lease area, and to maximise waste dispersion;
- production and fallowing cycles tailored to the dispersive and assimilative characteristics of the lease area;
- feed system optimisation to minimise feed waste;
- stocking density management;
- optimised bio-fouling management to reduce waste discharge resulting from net cleaning activities, including avoidance of the use of anti-foulant paint on fish pens; and
- monitoring of visual, physico-chemical and biological indicators underneath and adjacent to the lease area in order to detect impacts and take appropriate actions if impacts are detected.

Recommendations and suggestions from representors relating to management of substrates and fauna issues included:

- The Tasmanian Abalone Council Ltd (TACL) recommended:
 - that a comprehensive baseline environmental assessment is conducted on rocky reef systems that lie adjacent or proximate to the proposed Petuna "Storm Bay North" finfish lease prior to any lease being granted and that in the event that a lease is granted, comprehensive ongoing environmental monitoring should occur with the results being publically available via an independently managed web portal; and
 - additional rocky reef monitoring sites at the two closest rocky reef locations that currently support the commercial harvest of abalone.

- The TACL also seeks direct input into the design and implementation of the environmental monitoring system developed by the Tasmanian Environment Protection Authority (EPA) for the Petuna Storm Bay lease;
- Recommendation that Management Control 3.3.1 is changed from an allowable stocking density of 25kg/m³ to the stocking density quoted in the EIS, 12 kg/m³;
- Recommendation that fish feed and faeces waste should be collected rather than allowed to discharge to the environment; and
- System-wide mapping of the location of sensitive or threatened communities/species should be provided and if there are potential risks to species or communities listed under the *Environment Protection and Biodiversity Conservation Act 1999*, these should be assessed accordingly.

Finfish farming interacts with the ecosystem through water quality, the benthos and physical presence of equipment, nets, fish and feed, and that draft management controls contain measures to limit the extent of each of these interactions, as well as to monitor impacts and apply management responses. The draft plan sets out management controls to manage and mitigate the potential impacts of marine farming on substrates and fauna. The relevant management controls are 3.1, 3.3.1-3.3.8, 3.4.1-3.4.10, 3.7.1-3.7.5, 3.13.4. These management controls provide for regulatory controls to:

- limit significant visual, physico-chemical or biological impacts at or extending 35m from the boundary of the lease area;
- monitoring of environmental parameters within the lease area, 35m outside the lease area and at control sites;
- maximum permissible stocking density and the ability of the regulator to alter it at any time should he/she consider it appropriate; require fallowing of farmed areas;
- set a minimum distance of 1m between the finfish cage net and the seabed; baseline environmental survey requirements for lease areas prior to the commencement of marine farming operations in order to determine any licence conditions that may be required to manage environmental values;
- require the keeping of production records for each lease area, including stocking density, feed, chemical and therapeutant inputs and mandatory reporting when required by the regulator;
- require environmental monitoring, assessment, audit and review; and
- establish controls for managing waste from operations and harvesting; as well as removal of fouling organisms from marine farming infrastructure.

These management controls are part of the adaptive management framework which includes a broadscale environmental monitoring program and development of a biogeochemical model to inform management decisions about appropriate levels of farming in Storm Bay. The importance of protecting inshore and deep-water reefs is highlighted through inclusion in the proposed monitoring program. A suite of research, existing and ongoing, considers the potential effects of finfish farming on receiving ecosystems and /or target wild species and the outcomes of this work will be used to inform ongoing adaptive management. This includes research as part of the Fisheries Research and Development Corporation (FRDC) project 2015-024 “Managing ecosystem interactions across differing environments: building flexibility and risk assurance into environmental strategies”, to specifically consider the potential for interactions between salmon farming and local fringing reefs, risk appropriate monitoring strategies and to identify potential indicators of adverse impacts. This project is due for completion at the end of 2018. Publications associated with the research as well as the final reports will be made publicly available. The findings of this project will assist the design and implementation of reef monitoring for Storm Bay.

The EPA is empowered through these management controls (currently under delegation) and through powers under EMPCA (including environmental licences) to manage effects of finfish farming on substrates and fauna. TPDNO is used as the primary input control to limit environmental effects of finfish farming. As such stocking density is a secondary tool that may be used to control finer scale parameters within the lease area if determined necessary by the regulator. In this context, the PA considers that a maximum stocking density of 25kg/m³ is not inappropriate and notes that it is consistent with most other plan areas.

Comprehensive habitat mapping to 40m depth has been completed. There is a body of knowledge for habitats in Storm Bay at depths greater than 40m and this will be added to through future research.

Overall management and regulation of effects in deep water habitats, including monitoring requirements, will be determined by the EPA. Recommendations from TACL about monitoring sites have been provided to the EPA.

Harmful Algal Blooms

IMAS have reported that the incidence of harmful algal blooms (HABs) in waters off the east coast of Tasmania have increased markedly as a result of rising sea temperatures in this region, driven by a southerly extension of the east Australian current. IMAS report that the increased prevalence of HABs poses a significant risk to salmonid aquaculture on the east coast of Tasmania¹. There is no evidence of nutrients generated from marine farming increasing the prevalence of HABs on the east coast of Tasmania.

A study undertaken in Scotland which reviewed the interaction between fish farming and algal communities of the Scottish waters concluded that it is very unlikely that fish farming should have a large-scale impact on the occurrence of harmful algal blooms, particularly on toxic algae².

In its EIS, the applicant states that HABs, jellyfish and zooplankton will be monitored at the lease sites. Additionally, the broadscale environmental monitoring program that will be used to inform the development and management of the expansion in Storm Bay will include phytoplankton (community composition and abundance) sampling, and as such, will have capacity to detect HABs and associated environmental conditions (both natural and anthropogenic).

Effects of farms on wild fish stocks

See Section 2.3.6 recreational fishing for discussion of trends in recreational fisheries in the D'Entrecasteaux Channel and Frederick-Henry – Norfolk Bay areas. The PA is also mindful of continuing research into ecosystem interactions that occur within the greater Storm Bay area. If this research recommends an alternative/new management approach in relation to the management of effects of marine farming on wild fish, proposed management control (3.01) would be suitable to initiate a management change. Additionally, powers under EMPCA or other relevant legislation may be exercised by the appropriate authority.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to substrates and fauna.

2.2.3 Marine vegetation

Issues raised

Representations **18, 20 and 26** raise issues relating to the following potential impacts on marine vegetation:

- Increased nutrient loads may lead to algal overgrowth/biofouling and shading which leads to loss of seagrasses and macrophyte communities.
- Increased nutrient loads may lead to biofouling or other physico-chemical changes that reduce habitat for wild fish and shellfish, including, in particular, reef habitat.
- Concern about potential effects in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impact assessment.

¹ Macleod et al (2016) Institute for Marine and Antarctic Studies University of Tasmania Submission to the Marine Farming Planning Review Panel Independent Assessment of salmon farming at Okehampton Bay.

² Rydberg et al (2003) The Interaction between Fish Farming and Algal Communities of the Scottish Waters - a Review. Report to Scottish Executive. Environment Group Research Report 2003/04.

Discussion

Information relating to the effects of the proposed development on marine vegetation is presented in section 5.1.3 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C. The EIS acknowledges that marine farming operations have the potential to impact on marine vegetation pending the siting of those operations. An increase in soluble nutrients (from fish excretions, net washing and fish feed waste streams) may result in increased production of micro and macroalgae under certain circumstances.

The applicant's EIS references several studies that investigated long-term impacts of salmon farm operations on macroalgal assemblages in Tasmania. The studies presented focused on diver surveys coupled with long-term monitoring data and found no consistent patterns of change in macroalgal community structure beyond a 'few hundred meters' of lease boundaries (section 5.1.3.1 of the applicant's EIS).

Zone assessment of the proposed area did not detect any marine vegetation in the proposed zone (Section 5.1.3.3), additionally no rocky reef habitat (and associated reef community and biodiversity) was detected during substrate sampling (section 4.1.2).

The draft plan sets out management controls to manage and mitigate the potential impacts of marine farming on marine plants. These include; 3.1.1, 3.1.2, 3.2.1, 3.4.1, 3.4.5, 3.4.9, 3.7.1, 3.13.1, 3.13.4, 3.13.8. These management controls provide for regulatory controls to enable management over physico-chemical and biological impacts, recording and monitoring of any impacts, controls on waste (including fouling organisms), to minimising impacts on marine plants.

The function of these controls, in the context of ongoing research and monitoring and the adaptive management framework, is discussed in 2.2.1 water quality and 2.2.2 substrates and fauna.

Planning Authority Recommendation

The Planning Authority does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to marine vegetation.

2.2.4 Birds

Issues raised

Representations **18, 19, 21 and 26** raise issues relating to the following potential impacts on birds:

- Entanglement in marine debris originating from marine farms and vessels may cause harm to birdlife (see also 2.2. infrastructure and servicing).
- The location of the proposal may increase the risk of sea bird entanglements and potentially negatively impact on feeding and congregation grounds and potentially alter behaviour.
- Confusion of migratory birds caused by light pollution.
- Concern about potential effects in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impacts.

Discussion

The concerns raised in relation to entanglement relate to issues that have been addressed in sections 5.1.11 and 5.1.4 of the applicant's EIS. Section 5.1.11 addresses marine debris and mitigation measures to reduce debris that could attract and/or entangle bird life. Section 5.1.4 of the applicant's EIS considers potential impacts to bird life and proposes avoidance and mitigation measures to minimize these impacts.

A representation raised concerns about the potential impact of (night time) lighting on flora and fauna surrounding fish pens, including migratory birds. Section 5.1.4.4.5 of the EIS addresses this issue as it relates to bird life. Section 5.1.4.5 states that the applicant intends to employ mitigation measures suited to the off-shore environment, such as the minimising illumination during the dusk and dawn periods within the potential shearwater season.

Management control 3.9.1.5, whilst designed to mitigate light pollution on the human environment, will also assist in reducing impact to migratory birds. Further, lighting, to the extent that it constitutes a pollutant under EMPCA, may be managed through conditions on an environmental licence. Lighting in relation to navigational aids are required to conform to certain legislative standards and are further discussed in 2.3.2 navigation.

The draft plan sets out management controls to manage and mitigate the potential impacts of marine farming on birds. These include; 3.1.1, 3.1.2, 3.4.1, 3.4.9, 3.7.1, 3.9.1.5, 3.13.1, 3.13.5, 3.13.8, 3.13.10, 3.13.11, 3.13.12 and 3.13.15. These management controls provide for regulatory controls to enable management over physico-chemical and biological impacts, recording and monitoring of any impacts, controls on waste and controls on minimising physical impacts on birds.

Planning Authority Recommendation

The PA's recommendation in relation to marine debris issues is contained in section 2.1.1.

The PA does not consider that any further modifications to the draft plan are required as a result of the information received from representors in relation to birds.

2.2.5 Marine mammals

Issues raised

Representations **18, 19, 21, 23 and 26** raised issues relating to the following potential impacts on marine mammals:

- The proposed location of marine farming operations may result in more interactions with marine mammals and other fauna with increased potential for entanglements in marine farming equipment (see also 2.4.5 zone/lease size and location).
- Entanglement in marine debris originating from marine farms and vessels may cause harm to marine mammals (see also 2.1.1 infrastructure and servicing for marine debris management).
- Threatened whales may be impacted by industrial marine noise if their migratory routes overlap with the effects of marine farming operations (see also 2.2.6 threatened species).
- Potential for the proposed activity to lead to localised concentrations of seals.
- Concern about potential effects in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impacts.

Discussion

Information relating to the issues raised is presented in section 4.2.5 (Marine mammals) and section 4.2.6 (Threatened communities and species) in the applicant's EIS. The applicant's response to issues raised by representors is provided in Appendix C.

The relevant sections of the EIS include a tabulated guide to marine mammals known to occur (or known to have occurred) in the greater Storm Bay area. Tables provide information on listing status under the relevant legislation frequency within the area of the proposal and context in relation to occurrence and potential habitats.

The draft plan includes management controls that prescribe operational requirements relating to a range of wildlife, including marine mammals (3.13.9-3.13.15). These are intended to implement measures to avoid, manage and mitigate interactions with wildlife, pursuant to relevant legislation such as the *Threatened Species Protection Act 1995* and *Nature Conservation Act 2002*. These draft management controls are in-common with other MFDPs. The PA observes that the wording of these management controls is out-of-date. The PA has made a recommendation in relation to these management controls in the conclusion.

There is sufficient anecdotal evidence to indicate that the existence of fish farms does lead to a concentration of seals and consequent interactions. It is possible that increased marine farming activity could result in local increases in seal

numbers into the future. Section 5.1.5 (Marine mammals) of the applicants EIS addresses potential impacts and mitigation measures as they relate to seals. Sub-section 5.1.5.3.3 references the DPIPWE Seal Management Framework 2014. The framework is currently under review. The relocation of seals as a tool for managing interactions with marine finfish farms was ended in December 2017. The Department continues to work with the aquaculture industry to identify appropriate mechanisms to assist in managing seal interactions.

Planning Authority Recommendation

The PA's recommendation in relation to marine debris issues is contained in section 2.1.1. The PA does not consider that any further modifications to the draft plan are required as a result of the information received from representors in relation to marine mammals.

2.2.6 Threatened species

Issues raised

Representations **18, 20, 21 and 23** raised issues relating to the following potential impacts on threatened species:

- Potential for increased nutrient loads lead to impact on handfish via impacts on benthic habitat (see also 2.2.1 water quality and 2.2.2 substrates and fauna).
- Threatened whales may be impacted by industrial marine noise if their migratory routes overlap with the effects of marine farming operations (see also 2.2.5 marine mammals).
- Farm layout / location / existence may result in more interactions with marine mammals and other fauna with increased potential for entanglements (see also 2.2.5 marine mammals).
- Concern about potential effects in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impacts.

Discussion

A number of the concerns raised relate to issues that have been addressed in sections 4.2.3 (fish and sharks), 4.2.4 (birds) and 4.2.5 (marine mammals) of the applicant's EIS. Threatened communities and species are further addressed in section 4.2.6 of the EIS which includes a tabulated list of the identified threatened species known to occur or that have occurred in the greater Storm Bay area. Tables also include listing status under the relevant legislation and information about each species' occurrence within the greater Storm Bay area.

The applicant's response to issues raised is provided in Appendix C.

Potential impact on spotted handfish was raised within a number of representations. Impacts from pollution, dredging and introduced species (North Pacific Seastar) and coastal development have been identified as being the key impacts on this species. Notwithstanding these potential impact sources, the PA notes that spotted handfish co-existing with established finfish marine farming operations has been observed. Environmental monitoring surveys within an operational finfish marine farming lease area in the lower reaches of the Huon River have shown spotted handfish to be inhabiting the site.

Representations raised concerns about the potential for industrial marine noise to impact on threatened marine mammals. Management control 3.13.2 requires lessees to comply with noise emissions guidelines made pursuant to the EMPCA for marine farming operations. See section 2.3.4 noise for further discussion of management controls to regulate potential noise impacts.

In the context of threatened communities (giant kelp), the applicant's EIS acknowledges that giant kelp communities have the potential to be impacted by the proposed development and that the greatest potential for impact is from changes in dissolved nutrient levels and that potential impacts to communities will be diminished through dispersion of nutrients (section 4.2.6 of the EIS).

The draft plan sets out management controls to manage and mitigate the potential impacts of marine farming on threatened species. These include; 3.1.1, 3.1.2, 3.4.1, 3.4.5, 3.4.9, 3.7, 3.9.1.5, 3.13.1, 3.13.2, 3.13.8, 3.13.10, 3.13.11, 3.13.15. These management controls provide for regulatory controls to enable management of physico-chemical and biological impacts, recording and monitoring of any impacts, controls on waste and controls on minimising physical impacts on threatened species.

Management controls 3.13.9 through 3.13.15 are in-common with other MFDPs. The PA observes that the wording of these management controls is out-of-date. The PA has made a recommendation in relation to these management controls in the conclusion of this report.

There are additionally a number of pieces of State and Commonwealth legislation that are designed to protect and enhance threatened species and communities, including; the Tasmanian *Threatened Species Protection Act 1995* and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.

Databases including the Tasmanian Natural Values Atlas, the Atlas of Living Australia and the Birdlife Tasmanian database, provide additional resources that may be used to monitor any changes to distribution and abundance of threatened species. These databases contain references to individual sightings of the various listed species, however in some instances e.g. spotted handfish and wedge tail eagle nests, specific locations are not generally provided as a measure to further protect these species and their habitats from inadvertent human behaviour. For example, the location of the newly reported population of handfish has not been disclosed. However, IMAS has advised that the newly identified population is unlikely to be any more susceptible to impacts associated with proposed Storm Bay development than the existing population.

The PA is also mindful of continual research into threatened species that occur within the greater Storm Bay area, and if in the future, this research recommends an alternative/new management approach to the protection and/or enhancement of one of these threatened species, draft management control (3.01) would be suitable to initiate a management change. Additionally, powers under EMPCA or other relevant legislation may be exercised by the appropriate authority.

Planning Authority Recommendation

The PA's recommendation in relation to marine debris issues is contained in section 2.1.1.

The PA does not consider that any further modifications to the draft plan are required as a result of the information received from representors in relation to threatened species.

2.2.7 Chemicals

Issues raised

Representation **26** raises perceived issues relating to the use of therapeutants (such as antibiotics) and the potential link to 'superbugs'.

Discussion

The concerns described above relate to information described in section 2.5.3, 5.1.8 and 5.1.10.3 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The draft plan contains proposed management controls relating to the use of antibiotics and other chemicals. Specifically, management control 3.4.2.3 requires operators of a marine farming licence to maintain records of all chemicals used (including but not limited to antibiotics) for a period of 5 years. Furthermore, control 3.4.3 provides for the Secretary to request that the lease holder provide this information. Management controls under 3.4.4 provide for reporting the details of any antibiotics used to the Manager, Marine Farming Branch within 48 hours. The use of chemicals is further regulated by chemical control 3.5 which requires the use of all chemicals to comply with the requirements of the *Agriculture and Veterinary Chemicals (Control of Use) Act 1995*. Disease controls are also provided in section 3.7 of the management controls.

Reported antibiotic use in salmon farming in Tasmania has decreased substantially over the past decade. No antibiotics use was reported in 2017.

Planning Authority Recommendation

The PA considers that the issues raised do not warrant modification to the draft plan.

2.2.8 Disease and biosecurity

Issues raised

Representations **18, 23, 26 and 27** raise the following perceived issues relating to disease and biosecurity:

- *in situ* waste accumulation contributing to disease proliferation.
- The adequacy of the biosecurity regulatory framework for the Tasmanian salmonid industry.
- Freshwater bathing for AGD is not sufficiently detailed in the EIS.
- The proximity of the proposed site to existing and proposed salmonid farming operations in Storm Bay.
- Disease impacts on other marine farming areas within and outside the plan area.
- Potential for transfer of disease between year classes at the proposed site.
- Concern about potential fish health, disease management and biosecurity issues in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impact assessment.

Discussion

The concerns described above are valid concerns relating to information contained in sections 1.5, 2.3.2, 2.4.5.2, 2.5.3, 5.1.8.1, 5.1.10.2, 5.1.10.3, 5.1.10.4, 5.1.10.2, 5.1.12.4 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

Recommendations from representors included (representation 27);

- The proposed Storm Bay North MFDP is too close to existing and proposed operations in Storm bay. Distances between leases in Storm Bay should be two tidal excursions (i.e. 10km).
- Only one year class of fish should be allowed to be stocked on the proposed Storm Bay North MFDP at any given time and there should be at least 2 months fallow period between vacating the zone and restocking.
- Different year classes within Storm Bay should be separated by 5km and the dimensions of the current proposal does not facilitate this recommendation.

The draft plan contains proposed management controls to manage and mitigate the potential introduction and impacts of disease. Relevant management controls include 3.01, 3.7.1-3.7.5 and 3.8.1-3.8.3. These management controls provide for regulatory controls to notify relevant authorities of disease and minimize the spread of disease in accordance with the *Animal Health Act 1995* and to limit production waste entering the marine environment which may harbor disease. Further, management control 3.3 ensures that minimum benthic standards are maintained, helping to ensure healthy ecosystem function and limit disease proliferation issues.

The controls are part of a much broader framework for the management of fish health and biosecurity matters. Powers relating to biosecurity and fish health also exist under several other statutes, including the *Living Marine Resources Management Act 1995*, which provides for the Minister to make orders to deal with marine pests and diseases and relating to diseased areas.

In relation to frequency of freshwater bathing and infrastructure required to support an appropriate bathing regime at the proposed site, this is primarily an operational matter for a lessee to consider.

The Salmon Plan includes a focus on biosecurity reform from both regulatory and operational perspectives. The Salmon Plan recognises that as new offshore farming sites are established, there is an opportunity for industry and government to work together to analyse existing inshore finfish leases, to improve management of biosecurity and possibly operational efficiency. Discussions have included a focus on international practices relating to salmon farming biosecurity, with single 'year class' regions being highlighted as a best practice approach to managing biosecurity and disease risk. International examples of both single-operator and multi-operator regions exist.

The PA recognises that Storm Bay (at least) is a single region in terms of water movement and disease management. In light of international practice and the proposed expansions into a relatively new farming area and following consultation with the Chief Veterinary Officer and EPA, the PA considers that it would be appropriate to more explicitly state how the Secretary may exercise powers to require single-year class management of an area by modifying the draft plan to include the following management controls under management control 3.8 Disease controls:

- 3.8.4 The Secretary may, from time to time, determine an area to be a single year class area for one or more species of fish.
- 3.8.5 Upon making a determination under 3.8.4, the Secretary is to notify any leaseholders within the area that is the subject of the determination or, if a relevant lease is sub-leased, any sub-lessees, of the determination.
- 3.8.6 A leaseholder or, if a lease is sub-leased, any sub-lessees notified in accordance with 3.8.5 must not possess more than one year class of a relevant fish species within that single year class area.
- 3.8.7 A leaseholder, or if a lease is sub-leased, any sub-lessees notified in accordance with 3.8.5 must only introduce relevant fish to the lease area during any period specified by the Secretary.
- 3.8.9 A leaseholder, or if a lease is sub-leased, any sub-lessees notified in accordance with 3.8.5 must remove all relevant fish from the lease area before any date specified by the Secretary.
- 3.8.10 The Secretary is to ensure that any determinations under this management control have regard to and are coordinated with any adjacent marine farming development plan areas.
- 3.8.11 For the purposes of this management control:

'relevant fish' means any species of fish that is the subject of a determination by the Secretary under 3.8.4

'single year class area' means an area determined by the Secretary to be a single year class area under 3.8.4

'year class' means the calendar year during which fish are moved into a single year class area or as otherwise determined by the Secretary.

In the PA's view, these proposed controls align with existing powers the Secretary has under management control 3.01 and the Secretary may take action consistent with the above recommended controls regardless of their explicit existence in the management controls.

Planning Authority Recommendation

The PA considers that the issues raised have merit and recommends that the Panel modifies the draft amendment to provide explicit description of an action the Secretary may choose to take in relation to single year-class stock management.

2.2.9 Introduced marine pests

Issues raised

Representation **20** raised concern about the potential for the introduction or spread of marine pests through the proposed marine farming operations.

Discussion

The concerns described above are valid concerns relating to issues that have been investigated in section 5.1.6.1 and section 5.1.12 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The draft plan contains proposed management controls to manage and mitigate the potential introduction of marine pests. Risks of transmission of marine pests through marine farming activities generally relate to biofouling and translocation of equipment. Management control 3.13.4 provides for the removal of fouling organisms from marine farming equipment. These controls operate to ensure that marine farming equipment is appropriately maintained, reducing the risks associated with excessive biofouling and dilapidated equipment. Furthermore, internal management systems exist to minimise the introduction of marine pests through management of disease and biosecurity and are detailed in the applicant's EIS and management controls detailed in section 2.2.8 of this document (disease and biosecurity).

Imposition of conditions on a marine farming licence under the *Living Marine Resources Management Act 1995* is, in the PA's opinion, the appropriate way to manage more specific risks associated with introduced marine pests. An example of conditions specified in such licences is:

- The licence holder must notify the Director in writing of the presence of any unusual or uncharacteristic marine flora or fauna found within the lease area (including any introduced marine pests).
- The licence holder must give prior written notice to the Director and Chief Veterinary Officer of any proposal to move or re-deploy marine farming equipment from a Marine Farming Development Plan (MFDP) area located in one geographic region to a MFDP located in another geographic region.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to introduced marine pests.

2.2.10 Climate change

Issues raised

Representations **19, 20, 21, 23 and 26** raised issues relating to impacts from climate change:

- Effects of climate change make farming operations in this area increasingly challenging, leading to decline in production and / or failure to achieve sustained production increases.
- Concerns that Atlantic salmon become stressed at temperatures over 17 degrees which is becoming more frequent through the summer period (see also fish health 2.1.2.2).
- Climate change modelling is not sufficiently detailed in the EIS to consider the effects of rising sea temperatures and increased storm events (see also 2.1.1 infrastructure and servicing).

Discussion

The concerns described above are valid concerns relating to information contained in sections 5.1.14 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

In relation to climate change impacts on the viability of marine farming in the proposed zone, the plan includes a declaration that the Crown in right of the State of Tasmania gives no warranty, either express or implied, that marine farming zones identified are suitable for marine farming activities.

The effects of climate change raised by representors may impact on environmental responses to farming activity. Specific measures to monitor, mitigate and manage environmental effects (whether or not more pronounced as a result of climate change) are described in 2.2.1 Water quality, 2.2.2 Substrates and fauna and 2.2.3 Marine vegetation.

In relation to engineering challenges arising from climate change, such as potential increased frequency or severity of storm events, see section 2.1.1 for discussion and recommendations in relation to infrastructure and servicing.

Planning Authority Recommendation

The PA considers that issues in relation to climate change implications for infrastructure and servicing have merit. See section 2.1.1 for the PA's recommendations in relation to infrastructure and servicing.

2.2.11 Greenhouse gases and ozone depleting substances

Issues raised

Representation **23** raised concern that the operation of a reverse osmosis plant would cause greenhouse gas emissions that have not been accounted for.

Discussion

The concerns described above relate to information contained in sections 2.4.4 and 5.1.15 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C. In its response, the applicant states that the calculations in the EIS did include emissions from an operating RO plant.

EMPCA applies generally to regulation of greenhouse gas emissions. It is an offence under EMPCA to cause environmental harm, for example, through emission of greenhouse gases.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to greenhouse gases and ozone depleting substances.

2.2.12 Environmental management

Issues raised

Representations **1, 5, 7, 14, 18, 19, 20, 21, 23, 24 and 25** raise issues relating to environmental management:

- Transparency of environmental performance standards.
- Enforceability of regulatory controls, namely nitrogen limits.
- Request for more information on the process required for permissible nitrogen inputs to be increased.
- Baseline survey requirements in relation to:
 - nearby rocky reefs; and
 - timing and time series of data
- The ability of the environmental monitoring program to detect early stage ecosystem changes.
- Publication of environmental monitoring and production information.

Discussion

The issues relate to information contained in sections 1.5 (environmental monitoring), 3 (stakeholder consultation), 4 (existing environment), 5.1.1.4, 5.1.2.4, 5.1.3.4, (mitigation measures) and 5.1.16.4 (EPA environmental monitoring program) of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The draft plan contains proposed controls to monitor and manage environmental effects of proposed salmon farming. The relevant management controls are 3.1.1, 3.1.2, 3.3, 3.4.1, 3.4.2.1, 3.4.2.2, 3.4.2.4, 3.4.2.5, 3.4.3, 3.4.5, 3.4.6, 3.4.7, 3.4.12, 3.7.4, 3.13.1, 3.13.8. These management controls provide for regulatory controls to:

- require lessees to provide a baseline environmental survey to the satisfaction of the Director EPA prior to the commencement of marine farming operations; and
- fallow or comply with limits upon the use of a lease are if unacceptable benthic impacts are identified through routine monitoring; and
- require an independent auditor to examine record keeping; and
- require lessees comply with any environmental monitoring requirement.

Environmental compliance standards have historically been set through conditions on a marine farming licence. As a consequence of the recent regulatory changes, in future, compliance standards will be set through environmental licences under EMPCA. Licence conditions are used to describe the impacts that may be considered significant for the purposes of the relevant management controls.

Representors questioned whether the 35m lease boundary compliance distance is fit for purpose in the more exposed Storm Bay environment. Rather than being fit for purpose, it is the standard distance that has been used for finfish farming environmental management across Tasmania for approximately twenty years. It represents a starting point for new sites and provides a consistent means of managing existing sites. The EPA, through environmental licences issued under EMPCA, will set environmental compliance standards that are fit for purpose.

The PA expects that an environmental standard for environmental management of finfish farming in Tasmania will be developed by Government, for implementation in 2019.

Management controls relating to nitrogen outputs from finfish farming are provided by draft management controls 3.2.1 and 3.2.3 – 3.2.7. These controls and the planned development of a biogeochemical model and the broadscale monitoring program are discussed in sections 2.2.1 water quality; 2.2.3 marine vegetation and 2.4.2 holistic impact assessment. Section 91 of the Act creates offences for obstruction of execution of plans, and these provisions would apply to a failure to comply with a TPDNO determination made under the plan. Section 91 includes special penalty provisions that apply to exceeding a TPDNO determination, as prescribed by the *Marine Farming Planning Regulations 2016*.

The process for an operator to pursue an increase in nitrogen input limits beyond those modelled for this proposal may take one of two paths:

- a process under the Act, seeking an amendment to the plan to enable their operations to expand. The potential effects of such expansion, including any additional nitrogen inputs, would be duly considered through this process; or
- if no change to the plan was required, a process under EMPCA, seeking a variation to the relevant environmental licence under Part 3 of EMPCA.

Discussion of environmental management issues relating to rocky reefs is presented in 2.2.2 substrates and fauna and 2.2.3 marine vegetation.

In relation to comments about the public availability of relevant environmental data, improving the transparency of information on the industry's environmental performance through the establishment of an independent web portal hosted by IMAS is identified as a priority action within the Salmon plan.

In addition to the powers under EMPCA relating to environmental licences, the provisions of EMPCA apply generally in relation to avoiding environmental harm. It is an offence under EMPCA to cause environmental harm, for example, through noise, water quality, odour or light pollution.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to environmental management.

2.3 Impacts on the Human Environment

2.3.1 Visual

Issues raised

Representations **5, 15, 18, 21 and 26** raise issues relating to the following perceived potential visual impacts:

- Concern that the proposed location of sea-based farm infrastructure may reduce visual amenity for local residents and visitors, particularly those who value the 'wild' vistas of Storm Bay.
- Concern that farm lights may cause visual impacts to residences.
- Concern that small and large marine debris originating from marine farms and vessels wash up on beaches or pollute coastal waters leading to reduced residential / lifestyle amenity
- Concern that the visual impact of fish pens and infrastructure in Storm Bay may impact on tourism values, including the Tasmanian Brand, particularly for visitors arriving by sea to Hobart.
- Concern about potential visual impacts in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impacts.

Discussion

Potential visual impacts and mitigation measures are described in section 5.2.1 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

Tourism

Tourism related impacts are discussed in section 2.3.8 tourism of this report.

Marine Debris

The draft plan contains the following draft management controls relating to marine debris: 3.13.3; 3.13.5; and 3.13.6. These management controls require that:

- lessees must maintain marine farming structures and equipment in a serviceable condition;
- redundant, dilapidated or loose marine farming structures and equipment must be removed from the lease area; and
- a lessee must take action to recover any part of marine farming structures or equipment that break away from the lease area, and dispose of them in an appropriate manner.

See section 2.1.1 Infrastructure and servicing for further discussion of marine debris issues.

Visual impacts of infrastructure and operations

The plan also includes the following visual controls relating to infrastructure and operations: 3.9.1.1-3.9.1.7. These controls provide for the Secretary to:

- direct the colour, profile, size and shape of marine farming equipment;
- regulate the equipment that may be located within the lease area; and
- requires that light generated from marine farming operations does not create a nuisance.

The PA considers that these controls provide for best practice management of visual impacts associated with the proposed development, but notes that the proposed development may have a residual visual impact for some individuals.

Planning Authority Recommendation

The PA considers that the mitigation measures presented in the EIS are appropriate and recommends that modification of the draft plan in relation to visual impacts of marine farming infrastructure and operations is not required.

2.3.2 Navigation

Issues raised

Representations **8, 9, 11, 13, 18, 21 and 26** raised issues relating to the following perceived potential impacts on navigation:

- Marine debris originating from marine farms and vessels poses safety hazards to vessels
- Navigation safety is reduced due to farms being located such that access to safer waters (i.e. a lee shore) is reduced
- Navigation safety may be reduced because of poor visibility of farms (considering day and night conditions as well as in large swells) leading to increased risk of collisions
- Navigation enjoyment is reduced because farms limit the waters that may be freely sailed in. Concerns that the proposed location will cause navigation difficulties for Tasmanian yacht races and potential impact on Storm Bay as a 'last hurdle' in the Sydney to Hobart.
- Concern about potential navigation impacts in combination with other existing and proposed marine farms in the region. Holistic impacts are discussed further in section 2.4.2 holistic impact assessment.

Discussion

Potential impacts to navigation and mitigation measures are described in 5.2.2 of the applicant's EIS, including an overview of stakeholder consultation undertaken and changes made to the (initial) proposal to accommodate navigation concerns. The applicant's response to the issues raised by representors is provided in Appendix C.

Recommendations and suggestions from representors relating to navigation issues included:

- Nautical charts should show details of the boundary marks of marine farms.
- Lights around an individual lease should be synchronised and lights on adjacent leases to use unique sequences or timeslots. The use of virtual AIS marks is also supported, in addition to physical marks.
- Prompt advice of potential navigation hazards caused by marks being off-station or out of service and by debris or damaged infrastructure floating away from farms is essential to prevent potential accidents and injuries.
- Recommendation to add the following management controls after 3.9.1:
 - On establishment of a lease and any subsequent variation to the lease area, the Lessee shall submit details of the lease area, location and characteristics of the boundary marks and lights to the Australian Hydrographic Service for inclusion on official nautical charts.
 - Whenever the Lessee becomes aware that any lease boundary mark or light has moved from its charted position or failed, they shall immediately notify Marine and Safety Tasmania and Tas Maritime Radio so that Notices to Mariners can be issued.
 - When a faulty or missing mark or light has been returned to service, the Lessee shall immediately notify Marine and Safety Tasmania and Tas Maritime Radio so that relevant Notices to Mariners can be cancelled.

- Recommendation to add the following management controls after 3.13.6:
 - Whenever the Lessee becomes aware that any equipment or part of the structure has moved from the lease area, they shall immediately notify Marine and Safety Tasmania and Tas Maritime Radio so that Notices to Mariners can be issued.
 - When equipment outside the lease has been recovered, the Lessee shall immediately notify Marine and Safety Tasmania and Tas Maritime Radio so that relevant Notices to Mariners can be cancelled.
- One commenter recommended that leases should be well outside the last 3 year's tracks for the Sydney to Hobart, Melbourne to Hobart, around Maria and Melbourne to Hobart yacht races.

Marine debris

The PA understands that as a matter of common practice, marine farm operators notify MAST of navigational hazards (such as lost or off-station equipment), such that a notice to mariners may be issued. However, there may not be any direct regulation requiring marine farm operators to take this action and it is not presently required within the plan, lease or licence conditions.

Having regard to the recommendations contained within representations relating to navigational hazards posed by marine farming equipment outside the lease area, the PA considers that it is appropriate to modify the draft plan by adding the following management control:

3.13.x9 A lessee who becomes aware of a potential hazard to navigation must, as soon as practicable after becoming aware of the hazard, notify the Marine and Safety Authority and take any other action directed by the Marine and Safety Authority and / or considered necessary by the lessee.

Whilst intended primarily to apply to hazards posed by the lessees own operations, the PA is of the view that this would also create an obligation to report any other hazards identified by the lessee.

See also section 2.1.1 infrastructure and servicing.

Marine farming infrastructure

The physical presence of marine farming infrastructure necessitates the exclusion of other activities from these areas. As such, the proposed development would impact on navigation in Storm Bay.

The plan contains the following existing management controls relating to navigation, 3.9.1-3.9.3, 3.13.3, 3.13.6. These management controls:

- require that lessees must mark the external boundary of the lease area in whatever manner is required by the Secretary and MAST
- require anchors and mooring lines that extend outside the lease area to be at least 5m below the surface at the boundary of the lease area and not extend outside a marine farming zone
- require lessees to maintain marine farming structures and equipment in a serviceable condition
- empower the Secretary to require redundant, dilapidated or loose marine farming structures and equipment to be removed from the lease area
- require a lessee to take action to recover any part of marine farming structures or equipment that break away from the lease area, and dispose of them in an appropriate manner.

Navigation markers and charts

The PA understands that Australian Hydrological Survey charts commonly show zone boundaries. The PA and MAST consider that marking the zone boundaries is the most appropriate means of marking charts. Use of technology (such as lighting and AIS) to assist skippers in keeping a fit and proper lookout will provide a practical solution to on-water navigational safety. This may be particularly important in the deeper and more exposed Storm Bay environment, as lease corner marks may move substantially within their moored radius. The PA takes advice from MAST in relation to navigational marks and lighting requirements.

Planning Authority Recommendation

The PA considers that issues in relation to potential effects on navigation have merit. PA recommends that the draft plan is modified by adding a management control to require lessees to report navigation hazards to MAST.

Also see section 2.1.1 for the PA's recommendations in relation to marine debris issues relating to infrastructure and servicing.

2.3.3 Reservations

Issues raised

One representation, **23** submitted that any expansion of marine farming to oceanic areas should be balanced by the appropriate protection of important marine areas. The representor referred to the Resource Planning and Development Commission (2008) Inquiry into the establishment of marine protected areas within the Bruny Bioregion which the representor states undertook a comprehensive review of the proposed Bruny Bioregion and made a series of recommendations about marine protected areas (MPA)³. The representor also stated that the Government is yet to implement all of the Commission's MPA recommendations and urged the Panel to consider these outstanding recommendations in relation to the proposed Storm Bay expansion.

Discussion

Potential impacts to reservations are described in section 5.2.5 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The PA considers that any future changes to marine protected areas that are not currently proposed by Government is a matter outside of the Marine Farming Development Planning process.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to reservations.

2.3.4 Noise

Issues raised

Representations **5, 18, 21, 22, 23 and 26** raise issues relating to the following perceived potential impacts from noise:

- Concern that increased service vessel traffic past Dennes Point impacts on residential amenity and ultimately social morale in and around North West Bay, Tinderbox and Dennes Point. Comments were concerned with the potential for cumulative noise impacts of increased traffic movements from both the Storm Bay North and the Trumpeter Bay proposals. Combined effects of noise from vessel movements are also discussed under 2.4.2 holistic impact assessment.
- Concern that stationed marine farming equipment creates a noise nuisance, impacting on residential amenity and ultimately social morale.
- Concerns that residents are already impacted by noise from vessels transiting past Dennes Point and that the proposed developments could increase these impacts.

³Resource Planning and Development Commission (2008) *Inquiry into the establishment of marine protected areas within the Bruny Bioregion: Final Recommendations Report*

- Concern that increased vehicle (truck) movements and land-based infrastructure requirements increase road traffic and noise impacts in residential, tourism and holiday areas may impact on lifestyle/ tourism and residential amenity.
- Some representors raised concerns about noise impacts to marine mammals. These concerns have been discussed in 2.2.5 marine mammals.

Discussion

Potential noise impacts and mitigation measures are described in section 5.2.6 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The PA acknowledges that noise arising from marine farming operations can impact on some people.

Recommendations and suggestions from representors relating to noise issues included:

- Most comments on noise impacts were concerned about cumulative noise impacts of vessel movements. There was a recommendation for an overall assessment of the environmental impact of vessels servicing fish farms in Storm Bay from North West Bay and further south in the Channel.
- Consideration should be given to controls on hours of operation of vessels travelling to the proposed leases and ongoing monitoring of vessel noise.
- That the Panel should confirm that the EPA intends to impose noise limits on the environmental licence for the MFDP area and that those limits will extend to vessels travelling to and from the MFDP area. If no noise limits are to be imposed on the environmental licence, the Panel should amend the MFDP noise management controls to reflect the limits that were modelled by Petuna in the EIS.
- The Panel should consider strict controls to minimise the impact of the proposed expansions.

The draft plan contains draft management control 3.13.2 which requires lessees to comply with guidelines on noise emissions made pursuant to the EMPCA for marine farming operations.

Draft management control 3.9.1.4 requires that floating storage huts and other facilities located in the lease area must be authorised in the relevant marine farming licence. As a matter of policy, the Minister requires a noise assessment for such vessels to accompany any application for such an authorisation and this forms part of the information on which a determination is made. Together, these controls provide effective means to avoid marine farming operations within the plan area from having excessive noise impact.

Notwithstanding that these controls are effectively applied for existing marine farming operations, the PA has reviewed the structure and wording of these controls. In relation to 3.13.2, the PA has formed the view that its application may be improved by minor re-wording. The PA suggests that the words 'made pursuant to the *Environmental Management and Pollution Control Act 1994*' are deleted and replaced with 'issued by the EPA'. In the PA's view, this change would mean that guidelines issued by the EPA could be applied, regardless of their status as a statutory instrument made under EMPCA.

In relation to 3.9.1.4, the management control is part of management control 3.9, 'Visual controls'. The PA recognises that this management control has effect beyond managing visual impacts alone and therefore would prefer that it is deleted from management control 3.9 and inserted into management control 3.13 'Other controls' (see recommendation in relation to management control 3.9.1.6 in section 2.1.1, infrastructure and servicing).

Changes were made to the regulatory framework for finfish farming in December 2017. These changes gave direct powers to the EPA to regulate the environmental management of finfish farming activities, including the issuing of environmental licences. The EMPCA defines a pollutant to include noise, and under Section 42Z of that Act, an environmental licence can include any condition or restriction requiring the holder of the environmental licence to undertake such measures as are specified in the licence to limit the environmental effects of traffic movements, or vessel movements, to and from the area of land, or area of State waters, to which the licence applies. As such, regulatory powers in relation to environmental effects of noise associated with finfish farming now sit primarily with the EPA.

Planning Authority Recommendation

The PA considers that some of these issues have merit. The PA recommends that the Panel considers making minor wording and structural changes to management controls relevant to noise management.

2.3.5 Commercial fishing

Issues raised

Representations **15, 18, 19, 21 and 24** raise issues relating to the following perceived potential impacts on commercial fishing:

- Concern that increased nutrient loads may lead to biofouling or other physico-chemical changes that reduce habitat for wild fish and shellfish, including, in particular, reef habitat (see discussion of these issues under 2.2.1 water quality, 2.2.2 substrates and fauna and 2.2.3 marine vegetation)..
- Concern that fish feed consumption by marine fauna, bacterial mats on sediment surface and/or spontaneous gas bubbling resulting from discharge of fish feed and faeces to the environment may result in impacts on wild fish recruitment, health, growth rates and likelihood to remain in and around farm lease areas (see discussion under 2.1.2 stock husbandry aspects and 2.2.2 substrates and fauna).
- Concern that increased nutrient levels may lead to increased prevalence of Harmful Algal Blooms (i.e. paralytic shellfish toxin), reducing access to the fishery via increased fisheries management closures (see section 2.2.2 substrates and fauna for discussion about harmful algal blooms).
- Species explicitly listed by representors as being of interest by to commercial and recreational fishers were rock lobster, abalone, flathead, whiting.
- Concern that farm location and or layout may prevent access to existing fishing grounds, leading to impacts on fishers and their businesses

Note: Issues raised in relation to habitat and fish stocks in the 2.2.1 water quality and 2.2.2 substrates and fauna sections are repeated here where they also relate to commercial fishing.

Discussion

Potential impacts to commercial fishing and mitigation measures are described in 5.2.8 of the applicant's EIS including an overview of stakeholder consultation undertaken. The applicant's response to the issues raised by representors is provided in Appendix C.

- The Tasmanian Abalone Council Ltd (TACL) recommended that a comprehensive baseline environmental assessment is conducted on rocky reef systems that lie adjacent or proximate to the proposed Petuna "Storm Bay North" finfish lease prior to any lease being granted and that in the event that a lease is granted, comprehensive ongoing environmental monitoring should occur.
- The TACL is also seeking additional rocky reef monitoring sites at the two closest rocky reef locations that currently support the commercial harvest of abalone.
- The TACL also seeks direct input into the design and implementation of the environmental monitoring system developed by the Tasmanian Environment Protection Authority (EPA) for the Petuna Storm Bay lease.
- Results should be publically available via an independently managed web portal.

Comments and recommendations were concerned with two potential impact pathways:

- Loss of access through exclusion of fishing activities from marine farming zones; and
- Reduced fish and shellfish stocks resulting from lifecycle impacts.

Fishery Access

The development proposed to be enabled through the draft plan would reduce the area available for some commercial fishing activity in Storm Bay and this may have an impact on some commercial fishing operators, in particular, Danish Seine operators.

Ecosystems and wild fish stocks

Finfish farming interacts with the ecosystem through water quality, the benthos and physical presence of equipment, nets, fish and feed. The existing and draft management controls contain measures to limit the extent of each of these interactions, as well as to monitor impacts and apply management responses. Management controls 3.1, 3.2, 3.3.1-3.3.8, 3.4.1-3.4.10, 3.7.1-3.7.5 and 3.13.4 provide for regulatory controls to:

- limit significant visual, physio-chemical or biological impacts to 35m beyond the boundary of the lease area;
- monitoring of environmental parameters within the lease area, 35m outside the lease area and at control sites;
- limit nutrient inputs through a TPDNO cap;
- set a maximum permissible stocking density and the ability for the regulator to alter it at any time should he/she consider it appropriate;
- require fallowing of farmed areas;
- set a minimum distance of 1m between the finfish cage net and the seabed;
- baseline environmental survey requirements for lease areas prior to the commencement of marine farming operations in order to determine any licence conditions that may be required to manage environmental values;
- require the keeping of production records for each lease area, including stocking density, feed, chemical and therapeutic inputs and mandatory reporting when required by the regulator;
- require environmental monitoring, assessment, audit and review; and
- establish controls for managing waste from operations and harvesting; as well as removal of fouling organisms from marine farming infrastructure.

These issues are further discussed in 2.2.1 water quality and 2.2.2 substrates and fauna.

The Tasmanian Government is working with IMAS and CSIRO to establish a program of work to develop the biogeochemical model and broadscale environmental monitoring program, in time for winter 2018 sampling to be conducted. This work, together with results from FRDC project 2015-024 “*Managing ecosystem interactions across differing environments: building flexibility and risk assurance into environmental strategies*” and previous habitat mapping will provide a body of data relating to the Storm Bay environment that will help to inform regulatory management. The proposed broadscale environmental monitoring will help to inform regulators about ecosystem responses to increased marine farming in Storm Bay. Together with the biogeochemical model, staged development and targeted future research, adverse impacts on wild fish species may be avoided, mitigated or managed through existing and proposed management controls and other elements of the regulatory framework, such as environmental licences under EMPCA. (See section 2.2.2 Substrates and fauna for further discussion of FRDC project 2015-024).

In addition, catch and effort data collected for Tasmanian commercial fish and shellfish fisheries is reported annually by IMAS, to provide information about the status of fish stocks and trends. Reporting includes scalefish (e.g. Tiger

Flathead and School Whiting), rock lobster and abalone. Data for the Storm Bay region is available and should trends in commercial fisheries stocks become evident, appropriate management responses would be investigated.

Planning Authority Recommendation

The PA considers that some of these issues have merit, however, the information received from representors in relation to commercial fishing does not result in the need for modification of the draft plan.

2.3.6 Recreational fishing

Issues raised

Representations **18 and 20** raised issues relating to the following perceived potential impacts on fishing/recreational fishing (issues raised in relation to habitat and fish stocks in the 2.2.1 Water Quality and 2.2.2 Substrates and Fauna, 2.3.4 Commercial Fishing sections are repeated here where they also relate to recreational fishing):

- Concern that increased nutrient loads may lead to biofouling or other physico-chemical changes that reduce habitat for wild fish and shellfish, including, in particular, reef habitat.
- Concern that fish feed consumption by marine fauna, bacterial mats on sediment surface, spontaneous gas bubbling resulting from discharge of fish feed and faeces to the environment may result in impacts on wild fish recruitment, health, growth rates and likelihood to remain in and around farm lease areas.
- Species explicitly listed by representors as being of interest to commercial and recreational fishers were rock lobster, abalone, flathead, whiting.
- Concern that farm location and or layout prevents access to existing fishing grounds. This impacts recreational fishing values.

Discussion

Potential impacts to recreational fishing and mitigation measures are described in 5.2.9 of the applicant's EIS including an overview of stakeholder consultation undertaken. The applicant's response to the issues raised by representors is provided in Appendix C.

Management controls relating to Water Quality, Substrates and Fauna have been described in the relevant sections of this document and should be referred to. No other management controls are relevant to the issues raised.

In relation to comments asserting that recreationally targeted species have declined in response to increased finfish farming, these assertions conflict with findings of recent research. For example, Moore et al 2018⁴, reported that 'a Sand Flathead fishery-independent survey commenced in 2012 to support classification of this species' and highlighted fishing pressure, population dynamics and management arrangements as influencing the availability of legal size fish in the D'Entrecasteaux Channel and Frederick Henry-Norfolk Bay. They found that standardised catch rates from the fishery-independent survey increased in 2017 at all locations relative to previous years and concluded that this finding suggests that the management measures introduced in late 2015 may be having a positive effect on the stock.

Lyle and Tracey (2017)⁵ estimated that 12% of recreational rock lobster and 38% of recreational abalone harvest came from the D'Entrecasteaux Channel. In relation to rock lobster (statewide), they found that amongst those respondents to the survey conducted for the assessment of the 2016-17 recreational fishing season who had fished for rock lobster, 'more than twice as many suggested that the quality of the fishery in 2016-17 was better (34%) rather than worse (15%) compared with the previous season' and that 'almost half of the active fishers...suggested that the overall quality was about the same as in the previous year'. Further, they found that 62% of respondents disagreed with the

⁴ Moore, B., Lyle, J., and Hartmann, K. (2018). Tasmanian scalefish fishery assessment 2016/17, Institute for Marine and Antarctic Studies.

⁵ Lyle, J.M., and Tracey, S.R. (2017). Tasmanian Recreational Rock Lobster and Abalone Fisheries: 2016-17 fishing season, Institute for Marine and Antarctic Studies.

proposition that legal size rock lobster were less abundant or more difficult to catch in 2016-17. They concluded that (statewide) 'recreational abalone catch rates have fluctuated without obvious trend through time, reflecting the fact that many divers regularly attain the bag limit' and that the average daily harvest rate was within the range of that reported in previous years.

The PA recognises that the development proposed to be enabled through the draft plan would reduce the area available for recreational fishing activity in Storm Bay and that this may have an impact on some recreational fishers.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to recreational fishing.

2.3.7 Recreational activities

Issues Raised

Representations **1, 8, 9, 11, 18, 21 and 26** raised the following concerns about perceived potential impacts on recreational activities:

- Concern that access to the waterway for recreation is limited, impacting on recreational enjoyment (see 2.3.2 navigation and 2.3.7 recreational fishing for discussion)
- Marine debris originating from marine farms and vessels wash up on beaches or pollute coastal waters leading to reduced recreational amenity (see 2.3.1 visual for discussion)
- Farms are located such that recreation amenity is reduced (e.g. by impacting on views, vistas and amenity) (see 2.3.1 visual for discussion)

Discussion

Potential impacts to recreational activities and mitigation measures are described in 5.2.10 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

See section 2.3.2 navigation, section 2.3.1 visual and section 2.3.8 tourism for discussion of issues raised by representors.

Whilst public access to the lease area would be lost, overall, the PA does not consider that recreational activities will be excluded as a result of the proposed development within the MFDP area.

Planning Authority Recommendation

The Planning Authority does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to recreational activities.

2.3.8 Tourism

Issues raised

Representations **9, 15, 18, 21 and 26** raised issues relating to the following perceived potential impacts on tourism:

- Marine debris originating from marine farms and vessels washes up on beaches or pollutes coastal waters leading to reduced tourism amenity, ultimately impacting on tourism dependent businesses.

- Farms are located such that tourism and recreation activities are limited to a significant degree, reducing tourism and recreation amenity (by impacting on views, vistas and amenity). Reduced tourism amenity impacts on tourism businesses.
- The existence of finfish farms in Storm Bay impacts on the Tasmanian or Bruny Island Brand which rely on the 'clean, green, natural image' e.g. through visual impacts of fish pens and infrastructure, or through industry reputation of poor environmental performance. This impacts on tourism businesses.
- The visual impact of fish pens and infrastructure in Storm Bay may impact on tourism values, including the Tasmanian Brand, particularly for visitors arriving by sea to Hobart.

See also section 2.3.1 visual, and 2.3.10 socio-economic.

The Planning Authority notes that no representations were received from tourism operators or tourism representatives, although one representor stated that tourism operators have raised concerns about impacts to their businesses. In section 5.2.11.1 of its EIS, the applicant stated that it had consulted with Pennicott Wilderness Journeys who operate a cruise that circumnavigates Betsey Island. The applicant states that there were no objections to the proposal, however they have had further discussions regarding waste management and seal interactions.

Discussion

Potential impacts to tourism and mitigation measures are described in 5.2.11 of the applicant's EIS including an overview of stakeholder consultation undertaken. The applicant's response to the issues raised by representors is provided in Appendix C.

All management controls in the MFDP are relevant to the concerns raised by representors. Controls relating specifically to visual impacts and marine debris are discussed in section 2.3.1 visual and 2.1.1 infrastructure and servicing.

Strong industry environmental performance and compliance is key to maintaining the Tasmanian Brand, underpinning a strong tourism economy.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to tourism.

2.3.9 Land use and development

Issues raised

Representations **18, 20, 21 and 23** raise issues relating to the following perceived potential impacts on land use and development:

- Concern that expansion will increase heavy truck movements, noise, light and visual pollution around Storm Bay
- That despite the perceived potential for major impacts on land-use and development, coastal communities are excluded from a real say.
- Concern that the Storm Bay North EIS proposes that freshwater will be sourced from reverse osmosis and that the EIS does not detail the likely impacts of disposal of reverse osmosis concentrate on the marine environment or the methods of mitigating these impacts. The commenter stated that the EIS does not detail what, if any, other permits or approvals would be required to operate the plant, and if it is to be based on shore, what opportunities there will be for members of the affected community to voice any concerns they may have as to potential noise or other impacts.

Discussion

Potential socio-economic impacts and mitigation measures are described in 5.2.12 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The draft plan does not seek to alter land-based planning schemes and does not propose any changes to land use or development. The Planning Authority notes that the applicant has not yet decided where its shore base will be located. Any land use and development changes would be assessed under separate legislation.

Management controls relating to noise, light and visual impacts have been discussed in the relevant sections of this report

In relation to freshwater supply, the siting and operation of a reverse osmosis plant as referred to by the applicant would be subject to its own approval process, for example, through an environmental licence under EMPCA. If the plant is located on land it would be subject to land-based planning processes.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to land use and development.

2.3.10 Socio-economic aspects

Issues Raised

Representations **1, 18, 21 and 26** raise issues relating to the following perceived potential socio-economic impacts:

- The existence of finfish farms in Storm Bay impacts on the Tasmanian or Bruny Island Brand which rely on the 'clean, green, natural image' e.g. through visual impacts of fish pens and infrastructure, or through industry reputation of poor environmental performance, leading to socio-economic impacts.
- Concerns that commercial fishing, tourism and local producers could be impacted by the expansion of marine farming in Storm Bay, leading to socio-economic impacts. Concerns relating to commercial fishing and tourism have been discussed in the relevant sections of this report (2.3.6 Commercial Fishing and 2.3.9 Tourism).
- One commenter (Bruny Island Environment Network) recommended the development of a single consolidated marine farming development plan for the Bruny Island Storm Bay Bioregion which considers all the potential environmental, social and economic costs and benefits which might result. The commenter outlines minimum requirements for matters that they consider should be addressed by the plan (see 2.4.1 Marine Farming Planning Process).

Discussion

Potential socio-economic impacts and mitigation measures are described in 5.2.13 of the applicant's EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

The PA notes that many of the issues raised by representors in relation to socio-economic impacts and the draft plan pertain to effects of all three current Storm Bay marine farming planning proposals. All management controls in the MFDP are relevant to the concerns raised by representors. Strong industry environmental performance and compliance is key to maintaining the Tasmanian Brand, underpinning a strong tourism economy, as well as minimising impacts to environmental and social values and existing businesses in the region.

Based on the relative economic value of commercial fisheries that may be impacted by the proposal, some individual fishers may be locally displaced from areas they have historically fished. Any effects of this are unlikely to have substantial socio-economic impact at the regional level.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to socio-economic aspects.



2.4 Other matters

2.4.1 *Marine farming planning process*

Issues raised

Representations **6, 18, 20, 21 and 23** raised the following issues associated relating to the marine farming planning process:

- Dissatisfaction with the planning framework.
- Concern that the planning process, including EIS preparation, lacked independence, scientific rigour or appropriate oversight.
- Concern that the exhibition period coincided with Christmas.
- Concern that the EIS did not address, or provide sufficient independent information on potential socioeconomic, recreational, tourism and public amenity effects.

See also 2.4.2 Holistic impact assessment.

Discussion

The Act sets out the statutory process for the preparation of marine farming development plans and for amendments to marine farming development plans. This is one component of the planning and approval framework that applies to sea-based marine farming developments. The framework is described on pp10-11 of the Salmon Plan.

The Act specifies timeframes for various steps in the planning process, including that the period of exhibition of a draft plan is two months. The PA exhibited the draft plan in accordance with this requirement.

The draft plan is accompanied by an EIS, which was substantially prepared by the applicant. The EIS is prepared in accordance with guidelines issued by the PA specific to the proposal and which have input from the Panel. The EIS contains information from a range of scientific and independent sources, as well as information from the applicant in relation to their proposal to develop and operate a marine farm in the proposed zone.

The Panel is a statutory body established by the Act with the functions described by section 9(1). It comprises nine persons who are appointed by the Governor based on their ability, expertise and experience in certain matters. Panel members have scientific and professional expertise, which they apply to these functions. As such, there is considerable independent review and consideration of matters through the planning process.

Planning Authority Recommendation

Comments on the planning process are noted by the PA, however, they are outside the scope of the draft plan.

2.4.2 *Holistic Impact Assessment*

Issues raised

Representations **5, 6, 16, 17, 18, 19, 20, 21, 22 and 23** made statements relating to the potential combined effects of all current marine farming planning proposals in Storm Bay. Issues raised by these representors included:

- Suggestions about bioregional and ecosystem approaches to marine resource management, including marine farming planning.
- Concerns that combined effect of the three separate planning proposals on the natural or human environment may be greater than identified and described through any one process.
- Suggestions that the proposals should be progressed through a single, holistic planning process.
- Potential impacts on amenity for residents in and around North West Bay, Tinderbox and Dennes Point arising from combined effects of vessels servicing fish farms in Storm Bay from North West Bay and further south in the Channel (see also discussion under 2.3.4 noise)

Discussion

The marine farming planning process is discussed under section 2.4.1 and is relevant to discussion of the approach taken in relation to the three current planning processes.

The Act sets out the process for development and amendment of marine farming development plans and these processes are currently being progressed in respect of three separate applications, each relating to Storm Bay. The processes are:

- Amendment of two existing MFDPs
- Development of one new MFDP.

Each process proceeds on its merits, as assessed under the relevant provisions of the Act.

Section 21 sets out the things that a draft MFDP (and by virtue of section 32(2)(a), things an amendment) must and may do:

21. Draft marine farming development plan

(1) A draft marine farming development plan for an area must –

- (a) further the objectives of resource management within the area covered by the draft plan; and*
- (b) designate any area as a marine farming zone within the area covered by the draft plan; and*
- (ba) specify the area to which the marine farming development plan relates; and*
- (c) be co-ordinated with any marine farming development plan applying to any adjacent area; and*
- (ca) if it relates to finfish farming, contain any matter relating to environmental management that is required by the Director, EPA, in a notice under section 17A(1) , to be contained in the marine farming development plan or any marine farming development plan; and*
- (d) have regard for the use and development of the region as an entity in environmental, economic, recreational and social terms; and*
- (e) seek a co-ordinated approach with respect to any matter affecting adjacent land under the jurisdiction of the Marine and Safety Authority or council; and*
- (f) have regard to the biological and physical requirements of fish species to be farmed in that area; and*
- (g) provide for any other matter which this Act requires to be included in a marine farming development plan; and*
- (ga) be consistent with State Policies made under section 11 of the State Policies and Projects Act 1993 ; and*
- (h) contain any matter the Panel requires.*

(2) A draft marine farming development plan for an area may –

- (a) make any provision which relates to the use, development, protection or conservation of any thing in the area; and*

- (b) provide for the maximum area that at any one time may be a lease area within a marine farming zone; and
- (c) set out policies and specific objectives; and
- (d) require specified things to be done to the satisfaction of the planning authority, Panel or relevant agency; and
- (e) apply, adopt or incorporate any document which relates to the use, development or protection of State waters; and
- (f) provide that any use or development of any State waters is conditional on an agreement being entered into with a relevant agency; and
- (g) require the use of an area to comply with any condition, restriction or code of practice; and
- (h) provide for an application to be made to bring an existing use of land into conformity, or greater conformity, with the marine farming development plan.

This provides for the objectives of resource management, coordination with adjacent MFDP areas, and use and development of the region as an entity in environmental, economic, recreational and social terms to be considered in the assessment of a draft plan or amendment. In the PA's view, each of these provisions is relevant to the issues raised in relation holistic impact assessment.

The PA recognises that both additive and synergistic cumulative effects may arise from the three proposed developments, as well as other existing and future anthropogenic activities. Synergistic cumulative effects may occur in relation to water quality, substrates and fauna and marine vegetation, as well as disease and biosecurity. Additive cumulative effects may occur also in relation to birds, marine mammals and threatened species and impacts on the human environment such as visual, navigation, noise, commercial and recreational fishing and other recreational activities.

Of the potential synergistic effects, the PA considers water quality changes to be the primary means through which synergistic ecosystem impacts might occur. As detailed in 2.1.1 water quality, 2.2.2 substrates and fauna and 2.2.3 marine vegetation, monitoring and research at the regional level will help to inform the regulator of any changes that occur. The plan relevant to this proposal, as well as the existing and draft plans relating to the other two proposals, provide for water quality impacts to be limited through limits on dissolved nitrogen emissions, as detailed in 2.2.1 water quality. In the context of the adaptive management framework that relates to the Storm Bay region and includes means to consider impacts in adjacent waterways, the PA considers that appropriate mechanisms exist to manage any negative impacts, whether relating to a single proposed development or regional issues.

Representors raised concerns about regional biosecurity and disease management, questioning whether the biosecurity framework was adequate to minimise disease risks and avoid biosecurity issues such as have been encountered overseas. For discussion of disease and biosecurity issues in the regional context, see section 2.2.8 disease and biosecurity.

Additive effects on other values in the natural environment, such as birds, marine mammals and threatened species are managed through application of best practice measures to minimise and mitigate interactions with and impacts on these species. These measures can be mandated directly through relevant legislation (such as the *State Nature Conservation Act 2002* and *Threatened Species Protection Act 1995* and/or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*, or through marine farming regulation, such as relevant management controls under the applicable MFDP or conditions on environmental licences.

In terms of additive effects on the human environment, these impacts are likely to be transient with the presence of marine farming infrastructure in the region; once activities are decommissioned and remediated, these effects would disappear. Additive visual effects are unlikely to be significant, given the visual controls that exist, the distances between sites and the elevation required to view more than one proposed development. The visual impact assessments included within each of the relevant EIS's demonstrates additive visual impacts are likely to be minimal.

Similarly, given the distance between sites and the exposed environment, noise generated within lease areas would be unlikely to have an additive impact on any human environments. Additive noise effects have been raised in relation to marine mammals (see 2.2.5 marine mammals and 2.3.4 noise), with a recommendation that baseline survey

requirements should include a marine noise assessment (representation 23). As the EPA is responsible for determining baseline survey requirements and may regulate noise through environmental licences, this recommendation has been provided to the EPA.

A representor recommended that there be an overall assessment of the noise impact of vessels servicing fish farms in Storm Bay from North West Bay and further south in the Channel. Noise generated outside lease areas, for example, by vessel movements, is a matter for the EPA and may also be regulated through an environmental licence.

Additive effects on navigation, commercial and recreational fishing and other recreational activities arise from the area that is occupied by marine farming infrastructure. Issues relevant to this proposal are considered in the relevant sections of this report, along with relevant recommendations in relation to management controls. The PA expects that the recommended management control modifications would also have benefits in the context of the combined effects of the three current marine farming proposals and the use and development of the region.

Planning Authority Recommendation

The PA does not consider that any other changes to the draft plan are required as a result of the information received from representors in relation to holistic impact assessment.

2.4.3 Moratorium

Issues raised

Representations **7, 18, 19, 21 and 26** made statements relating a request or desire for a moratorium on one more matters relating to marine farming development and planning.

Discussion

Representors cited various reasons for desiring a moratorium, including:

- To see evidence the industry can be sustainably managed.
- For independent assessment of the impact of marine farming on marine and human environments.
- To allow for consultation with key stakeholders.

These comments relate to regulation frameworks, the effectiveness of regulation, and planning process and impact assessment. Some of these issues are also discussed under 2.4.1 marine farming planning process.

In December 2017 the Government released the Salmon Plan, which sets out the Government's vision for Tasmania's salmon industry. The Plan outlines the regulatory framework, which has recently been changed to give direct regulatory responsibility for environmental management of finfish farming to the EPA and legislating a process to create finfish marine farming exclusion zones, as well as the outlining the marine farming planning process and opportunities for stakeholder engagement in planning processes.

In relation to the draft plan, the applicant undertook consultation with key stakeholders in developing its proposal. Information on consultation undertaken is contained in section 4 of the EIS. The EIS is prepared in accordance with Act and proposal specific guidelines issued by the PA, in consultation with the Panel.

Planning Authority Recommendation

The issues raised by representors in relation to a moratorium are outside the scope of the planning process.

2.4.4 Stakeholder Consultation

Issues raised

Representations **7, 10, 13, 18, 21 and 26** raised the following concerns in regard to stakeholder consultation:

- Concern that the consultation period coincided with Christmas.
- Concern that stakeholders had not been genuinely engaged and consulted with by either the applicant or Government.
- Comment that the development of the Salmon Plan 'Grow' zones were not developed through a public consultation process.

Discussion

The applicant provides a summary of their stakeholder consultation activities in Section 3 of their EIS. This includes a summary of discussions with each stakeholder. The applicant's response to the issues raised by representors is provided in Appendix C.

The marine farming planning process is discussed in section 2.4.1.

The development of the Salmon Plan included a seven week public consultation. A report on the consultation process, we well as all the feedback received, can be found at www.dpipwe.tas.gov.au/salmonplan.

The draft plan was exhibited in accordance with section 26 of the Act between 9 December 2017 and 9 February 2018.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to stakeholder consultation.

2.4.5 Zone/Lease Size and Location

Issues raised

Representations **3, 4, 6, 18, 21 and 26** raised the following concerns in regard to zone / lease size and location:

- New finfish farming development should be undertaken using inland systems.
- The proposed Storm Bay sites are not truly offshore, new developments should be located further out to sea near the continental shelf.
- Before new developments are approved, inshore leases need should be relinquished concurrently.
- Protection afforded to visual and recreational amenity from beaches on South Arm.

Discussion

The applicant provides a description of their reasons for proposing the 'Storm Bay North' zone in section 2.1.3 of their EIS. The applicant's response to the issues raised by representors is provided in Appendix C.

Representation 6 recommended that the 'no grow' zone identified in the Salmon Plan should be extended (from the Derwent River and Fredrick Henry Bay) to the southern tip of Betsy Island.

The establishment of 'no grow' zones is provided for within the Act. The draft plan area does not overlap with any existing 'no grow' zone, nor potential 'no grow' zone identified in the Salmon Plan. The area that is the subject of the draft plan is further to the south than the 'no grow' zone recommended by the representor.

It is appropriate that the draft plan is assessed on its merits in accordance with the Act.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors in relation to proposed zone / lease size and location.

2.4.6 Tasmanian Brand

Issues raised

Representations **18 and 21** raise issues relating to the following perceived potential impacts on the Tasmanian Brand:

- The existence of finfish farms in Storm Bay impacts on the Tasmanian or Bruny Island Brand which rely on the 'clean, green, natural image' e.g. through visual impacts of fish pens and infrastructure, or through industry reputation of poor environmental performance.

Discussion

Strong industry environmental performance and compliance is key to maintaining the Tasmanian Brand, underpinning a strong tourism economy, as well as minimising impacts to environmental and social values and existing businesses in the region.

Consideration of concerns raised by representors about potential impacts on natural and human values that may contribute to the Tasmanian Brand has been detailed throughout sections 2.2 and 2.3 of this report.

Planning Authority Recommendation

The PA does not consider that any changes to the draft plan are required as a result of the information received from representors specifically in relation to potential impacts on the Tasmanian Brand.

3 Conclusion

3.1 Recommendations arising from representations

The PA concludes that some representations have merit, as detailed in Appendix B. Some representations raise issues for which the PA recommends the Panel considers modifying the draft plan. The recommendations arising from the PA's consideration of representations are:

Infrastructure and servicing

The PA considers that the issues raised have merit and recommends that the Panel:

- considers whether further management controls are necessary or desirable in relation to marking and monitoring of marine farming equipment;
- modifies management control 3.13.6; and
- modifies the draft plan to include management controls relating to engineering and infrastructure management systems, capabilities and equipment.

Disease and biosecurity

The PA considers that the issues raised have merit and recommends that the Panel modifies the draft plan to provide explicit description of an action the Secretary may choose to take in relation to single year-class stock management.

Navigation

The PA considers that issues in relation to potential effects on navigation have merit. PA recommends that the draft plan is modified by adding a management control to require lessees to report navigation hazards to the Marine and Safety Authority.

Noise

The PA recommends that the Panel considers making minor wording and structural changes to management controls relevant to noise management.

The PA submits that, if the Panel determines, pursuant to section 29(2)(a), to modify the draft plan in response to these recommendations, the modifications would clarify and more directly state how draft management controls contained in the draft plan may be applied, and that the modifications would not, for the purposes of section 29(3), be of a substantial nature.

A number of representations made general statements amounting to objection to the proposed development. The purpose and objectives of the Act and planning processes conducted thereunder are set out in section 4:

(1) The purpose of this Act is to achieve well-planned sustainable development of marine farming activities having regard to the need to –

- (a) integrate marine farming activities with other marine uses; and*
- (b) minimise any adverse impact of marine farming activities; and*
- (c) set aside areas for activities other than for marine farming activities; and*
- (d) take account of land uses; and*
- (e) take account of the community's right to have an interest in those activities.*

(2) A person must perform any function or exercise any power under this Act in a manner which furthers the objectives of resource management.

This involves decisions about management and allocation of public resources to facilitate sustainable development and it is quite understandable that there are a range of views within the community about how allocations should be made.



The PA concludes that no representation has an impact on the draft plan as a whole.

3.2 Any appropriate recommendation in relation to the draft plan

Since the draft plan was approved for exhibition, the *Finfish Farming Environmental Regulation Act 2017* has commenced, giving the EPA formal functions and powers in relation to environmental management of finfish farming. In light of these legislative changes, the PA has identified a number of changes to management controls that better reflect the new regulatory environment and responsibilities.

Additionally, the PA has further reviewed the existing and proposed management controls and recommends a number of other minor changes to clarify and update the management controls that apply to this plan and the draft plan.

The PA therefore submits Appendix D for the Panel's consideration. The PA recommends that the Panel modifies the draft plan by replacing Section 3 with Appendix D.

The PA submits that, if the Panel determines, pursuant to section 29(2)(a), to modify the draft plan in response to this recommendation, that the modifications would not, for the purposes of section 29(3), be of a substantial nature.

Appendix A - Representations [REDACTED]

Appendix B – Table of representations

Appendix C – Applicant response to issues raised by representors

Appendix D – Modified management controls