The Australia Institute
Research that matters.
Tasmania

Committee Secretary
Standing Committee on Agriculture and Water Resources
PO Box 6021
Parliament House
Canberra ACT 2600

Dear Committee Secretary,

The Australia Institute is pleased to make a submission to the Standing Committee on Agriculture and Water Resources *Inquiry into the Australian aquaculture sector*.

The Australia Institute is one of the country's most influential public policy think tanks. Based in Canberra, we conduct high impact research that combines rigorous fact-driven material with cutting-edge communication strategies. The Australia Institute provides intellectual and policy leadership and conducts research that drives the public debate and secures policy outcomes that make Australia better.

Aquaculture is one of the fastest growing primary industry sectors in Australia.[1] In 2017-18 aquaculture production was valued at $1.4 billion. This represents 44% of Australia's total seafood production. The most valuable aquaculture species in 2017-18, at $855 million, was salmonids.[2] Tasmania is Australia's primary salmonid producer, accounting for 98% of Australia's salmonid production[3] and 62% of Australia's total aquaculture production value in 2017-18.[4] Thus, of great relevance to this inquiry is the Tasmanian Government's intention to double salmon production by 2030.[5]

The Australia Institute submission relates to Terms of References b) opportunities and barriers to expansion of the sector, and c) increasing the effectiveness of the current regulatory framework. Key points include:

1. **Social license to operate:** alongside effective and responsible production, adequately addressing community concerns will be vital to the long-term sustainability of aquaculture.

2. **Transparency and accountability**: clear, specific and scientifically-sound criteria to guide decision-making should be legislated, governance arrangements should be made independent, and information and research must be independent and open to the public.

3. **Adverse environmental impacts**: Environmental degradation from the existing scale of the sector presents a barrier to industry expansion.

4. **Reform licensing and leasing arrangements**: Licensing and leasing arrangements should be revised to increase revenue and the effectiveness of the regulatory framework. Adoption of the Norwegian model could raise $2bn for community development.

5. **A State-wide Marine Plan for Tasmania:** Prior to any further salmon industry expansion, the Tasmanian Government should first establish integrated, ecosystem-based marine management. This would identify current and future uses of State waters for all uses, users and

[1] Fisheries Research and Development Corporation, 'Aquaculture' (2017-18) https://www.frdc.com.au/industry/aquaculture.
[2] ABARES, 'Australian fisheries and aquaculture production 2018 - Aquaculture's growing contribution' (reviewed 21 October 2020).
[3] D Mobsby, A Steven & R Curotti, 'Australian fisheries and aquaculture outlook 2020', *ABARES* (March 2020).
[4] Above n 2.
[5] Sustainable Industry Growth Plan for the Salmon Industry. www.dpipwe.tas.gov.au/salmonplan (2017).

values. A State-wide Marine Plan should be established through a science based, consultative, multi-sector marine spatial planning process.

b) opportunities and barriers to the expansion of the aquaculture sector

1. Social license to operate

Social licence to operate is informal community and stakeholder support for an industry, company or project. The Tasmanian and Australian public are increasingly questioning the salmon industry. This diminishing social license to operate presents a barrier to the expansion of the sector.

The salmon industry has long had a conflicted relationship with regulation and community sentiment. Academics have described how the eagerness of government to develop the industry in the 1980s led to some overreaches and a lack of independent regulation, which in turn caused a pushback against development. They concluded that "targeted science, instilled by appropriate science policy" could underpin social licence and environmental governance at the same time.

Despite Tassal becoming the first aquaculture company in the world to receive full 'gold standard' Aquaculture Stewardship Council accreditation for all its sights, the community continues to withhold social license.[6] A proposed salmon farm in Okehampton bay in 2016/17 'revealed a high level of distrust of both government officials and scientists',[7] and media exposure, such as ABC's *Big Fish* and Richard Flanagan's *Toxic*, has further contributed to a diminished social license to operate.

Australia Institute research has found that most Tasmanians (63%) want a pause on the expansion of salmon farms until industry standards are developed and current government inquiries and reviews into the industry have been completed. More than six in ten (63.5%) Tasmanians agreed they were concerned that the health of Tasmania's coastal waters is declining.

A lack of social license to operate is a barrier to industry expansion. Alongside effective and responsible production, adequately addressing community concerns will be vital to the long-term sustainability of aquaculture and any opportunities for expansion.

2. Transparency and Accountability

The lack of transparency and accountability within the Tasmanian salmon industry represents a significant barrier to the expansion of the sector. Transparency and accountability concerns include discretionary decision-making, the lack of an independent and powerful review panel, and information secrecy.

The current legislative regime lacks clear and specific criteria to guide decisions regarding salmon farm expansion. The *Marine Farming Planning Act 1995,* for example, contains no criteria for assessing Environmental Impact Statements. There is no objective guidance for determining whether impacts are acceptable, what level of scientific certainty is required, and the extent to which

[6] J Vince, 'Third Party Certification: implementation challenges in private-social partnerships', *Policy Design and Practice*, 1(4), 2018.
[7] Above n 6, 30.

economic or social issues are to be considered.[8] The result is that decision-making is discretionary and lacking transparency and accountability.

Accountability and transparency concerns are further enhanced by the Marine Farming Planning Review Panel's (the Panel) inability to make binding determinations about marine farm development plans. Since 2011, the Panel can only make *recommendations* to the Minister. Thus, the Minister can approve amendments to marine farm development plans even if the Panel has recommended the amendments be rejected. Transparency and accountability are also compromised by the Panel's composition. There is no legislated requirement for the Panel to include someone with expertise in marine ecology, hydrology, marine sediments, or biodiversity conservation, nor is there a requirement for a community representative or legal expert. As such, 'the current composition means the quorum has the potential to be weighted towards industry members.[9] Salmon production should not be expanded while the Panel lacks transparency and the ability to hold industry to account.

Transparency concerns also arise in relation to industry-funded research. One scientist reported experiencing pressure to "come up with a positive report" about the threat posed to the industry by climate change, "because the last thing they needed was to have the share market take notice that they were actually vulnerable".[10]

In a similar vein, data collection around water quality and benthic sediment, while substantial, has not been made public on "commercial in confidence" grounds. "[S]ecrecy itself becomes justification for activism".[11]

Lack of transparency and accountability is a barrier to the expansion of the salmonid industry. Before any further expansion takes place, clear, specific and scientifically-sound criteria to guide decision-making should be legislated, governance arrangements be made independent, and information and research must be independent and open to the public.

3. Adverse environmental impacts

A 2020 Tasmanian Legislative Council inquiry into Fin Fish Farming in Tasmania, which received 225 written submissions, highlighted a wide range of concerns regarding ecosystem impacts associated with the scale and pace of development. These included impacts arising from jellyfish and algal blooms, high nutrient loads, seal relocations, biosecurity risks, impacts on rare, threatened, and endangered species, and the issue of marine debris.[12]

The environmental disaster in Macquarie Harbour in 2017-18, not only effected the immediate marine environment but also impacted a section of the Tasmanian Wilderness World Heritage Area.

[8] Environmental Defenders Office, submission to the Legislative Council Inquiry into Finfish Farming in Tasmania, 2 December 2019, 7-9.
[9] Ibid.
[10] Leith et al (2014) Science and social licence: Defining environmental sustainability of Atlantic salmon aquaculture in south-eastern Tasmania, Australia, cited in Leanne Minshull & Bill Browne, 'Salmon Stakes', *The Australia Institute* (October 2017), 3.
[11] Ibid.
[12] See Eloise Carr, 'Towards a sustainable marine management regime', *Australia Institute* (October 2020).

Overstocking and a reverse precautionary approach resulted in significantly reduced dissolved oxygen levels, an abundance of Dorvilleid worms (reliable indicators of anoxia in the benthos), outbreaks of fish diseases, and mass mortality events.[13] It was not only the farmed salmon which were affected (in May 2015 Petuna lost 85,000 fish because of low levels of dissolved oxygen), the health of the harbour, and its threatened and endangered species, were also severely impacted.[14]

Environmental degradation from existing salmon farms is a barrier to industry expansion.

TOR (c) increasing the effectiveness of the current regulatory framework.

4. Reform licensing and leasing arrangements

The Tasmanian Government should increase the effectiveness of the current regulatory framework and harness the opportunity to recoup revenue by reforming licensing and leasing structures. Changing current lease arrangements to the Norwegian model could raise $2bn for community development.

In Tasmania, lessees of finfish farms (including salmonids) must pay annual lease fees. Tasmania's 44 leases results in an annual lease fee of $801,348 for the entire industry. If all 44 leases had current licenses, the licence fees would amount to $121,660 per year for the industry. The estimated total lease and licence fees of $923,008 represents about 0.1% (one-thousandth) of the total farmgate production of the salmon industry in Tasmania, and 0.02% of total state revenue.

Other jurisdictions with large salmon farming operations use different licensing and leasing structures. For example, Norway's licensing system consists of perpetual licences that are limited by biomass. Each salmon farming licence allows the holder to farm up to 780 tonnes of salmon at one time (the "maximum allowed biomass" or MAB). New licences are made available infrequently. Since 2017, production capacity will rise or fall on a biennial basis depending on sea lice levels in the area.[15] An auction of licences last year raised NOK 2.9 billion ($468 million) for licences covering 14,945 tonnes of MAB.[16] Since 2016 in Norway, 80% of the revenue from the growth in the salmon industry is allocated to municipalities with aquaculture operations.[17]

In Tasmania, salmon stocking densities of between 10 and 28 tonnes per hectare have been reported.[18] If the 2,257 hectares of salmon leases in Tasmania were valued the same way as the

[13] Kirkpatrick et al, 'The reverse precautionary principle: science, the environment and the salmon aquaculture industry in Macquarie Harbour, Tasmania, Australia', *Pacific Conservation Biology* 25(1).
[14] Ibid.
[15] Marine Harvest (2017) Salmon Farming Industry Handbook 2017, p. 70, https://web.archive.org/web/20180219002701/http://marineharvest.com/globalassets/investors/handbook/salmon-industry-handbook-2017.pdf.
[16] FishFarmingExpert.com (2018) Norwegian salmon licence auctions raise NOK2.9bn, https://www.fishfarmingexpert.com/article/norwegian-salmon-licence-auctions-raise-nok29bn/
[17] Olsen (2018) The salmon license auction completed, https://salmonbusiness.com/the-salmon-licenseauction-completed/.
[18] Meldrum-Hanna & Balendra (2017) Salmon farmer accuses government of failing to protect World Heritage area, https://www.abc.net.au/news/2017-02-06/huon-aquaculture-lawsuit-tasmaniagovernment-macquarie-harbour/8244330; Ryan & Creswell (2017) Tassal Group Limited: FY2017 Roadshow, p. 7, http://www.tassal.com.au/wp-content/uploads/2017/09/1711197-FY2017-investorrelations-roadshow.pdf.

Norwegian biomass licences, they would be worth between $707 million and $2 billion at government auction. Another advantage of the Norwegian system is its transparency, with public disclosure of areas, winning bidders, volume purchased and price per tonne. Transparent and readily available details about payments by industry should be available for Tasmanian salmon.

It is also worth noting that Norway has other taxes and fees on its salmon industry and is considering introducing more; the public benefit to Norwegians from the salmon industry is not limited to the perpetual biomass licences.

Licensing and leasing arrangements should be revised to increase revenue and the effectiveness of the regulatory framework. Adoption of the Norwegian model could raise $2bn for community development.

5. A State-wide Marine Plan for Tasmania

Tasmania's current regulatory framework is failing to maintain healthy marine ecosystems.[19]

Ecosystem-based management (EBM) generally means taking an integrated approach towards managing the uses of our natural environments by including human activities, impacts and the needs of the environment to remain healthy. EBM is now widely accepted as the best means of managing the complex interactions in marine systems.[20]

UNESCO defines integrated oceans management as a similar concept which 'combines value creation and the safeguarding of ecosystem health.'[21] Integrated marine management requires clearly identified needs and objectives, stakeholder ownership, well-defined governance frameworks, and scientific tools to deal with conflicts and negotiation.[22]

These concepts are not new: international forums have been calling for urgent action on ocean management for decades. At the same time, experts continue to call for increased protection of marine habitats as part of such considerations. The International Union for the Conservation of Nature (IUCN), scientists, conservationists, and some governments, including Australia, have agreed to protect at least 30% of the ocean in MPAs, to build resilience and recovery for ecosystems, habitats and species.[23]

University of Tasmania work on marine spatial planning and a Tasmanian Marine Atlas should be led by a Tasmanian Marine and Coastal Strategy and an associated marine spatial planning framework. This could be modelled on Victorian legislation, framework, and marine spatial planning framework.[24]

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[19] See Eloise Carr, 'Towards a sustainable marine management regime', *Australia Institute* (October 2020).
[20] Smith, D. C. *et al.* Implementing marine ecosystem-based management: Lessons from Australia. *ICES Journal of Marine Science* **74**, 1990–2003 (2017).
[21] Winther, J.-G. *et al.* Integrated Ocean Management. (2020).
[22] Smith, D. C. *et al.* Implementing marine ecosystem-based management: Lessons from Australia. *ICES Journal of Marine Science* **74**, 1990–2003 (2017).
[23] *Australia joins Global Oceans Alliance* https://minister.awe.gov.au/ley/media-releases/australia-joins-global-oceans-alliance (17 February 2021).
[24] State of Victoria. *Marine and Coastal Policy*. https://www.marineandcoasts.vic.gov.au/coastal-management/marine-and-coastal-policy (2020).

Another approach that seeks to link planning, decision making and management arrangements across sectors to increase the effectiveness of the current regulatory framework has been led by Tasmanian researchers from across IMAS, CSIRO and UTAS.[25] They argue for linking and modifying existing sector-based plans into an overarching scheme with nine key features:

1. Recognition of need
2. Shared vision
3. Appropriate legal and institutional frameworks
4. Processes for stakeholder participation
5. Operational objectives
6. Consideration of trade-offs and cumulative impacts
7. Flexibility to adapt to changing conditions
8. Review processes and
9. Effective resourcing, capacity, leadership, and tools.

They combine these features with five phases of development to create a framework for implementation and evaluation. This body of work describes key phases for developing the framework, studies cases in Australia and Canada, and discusses factors that can impede or enable progress towards integrated marine management.

The process used to identify Australia's National Representative System of MPAs was built on ecosystem-based management and spatial planning. It built in socio-economic values that sought to ensure areas for conservation avoided areas of highest value to commercial fishers, aquaculture, recreational fishing or with proximity to ports or marinas.[26]

Despite the economic, environmental, and cultural importance of the State's environment, marine regulation lacks integration in Tasmania – between Federal and State governments and across sectors, government departments and the catchment-coast-marine continuum. Tasmania's sectoral approach to managing the multiple uses of the marine environment continues to be dominated by economic imperatives and is allowing the health of marine ecosystems to decline. Legislation to protect the marine environment is heavy on process but light on performance measurement, with inadequate tools to ensure statutory goals are achieved.

Prior to any further salmon industry expansion, the Tasmanian Government should first establish integrated, ecosystem-based marine management. This would identify current and future uses of State waters for all uses, users and values. A State-wide Marine Plan should be established through a science based, consultative, multi-sector marine spatial planning process.

[25] Stephenson, R. L. *et al.* A practical framework for implementing and evaluating integrated management of marine activities. *Ocean and Coastal Management* **177**, 127–138 (2019).
[26] Wescott, G. & Fitzsimons, J. *Big, Bold and Blue: Lessons from Australia's Marine Protected Areas*. (CSIRO Publishing, 2016).