PLAN B: AN ALTERNATIVE VISION

FOR SALMON AQUACULTURE IN TASMANIA

GROWING PAINS

Salmon farming in Tasmania has grown up. Once a small, niche business owned by Tasmanians, production has more than doubled in the past decade and is now valued at well over one billion dollars/year. The three original companies have recently been acquired by multinational corporations that have seen record profits in the past 12 months.

The increased scale of production has entailed new technologies. Tasmania now boasts some of the largest salmon cages in the world, giant well boats to bathe and transfer fish, centralised automated feeding systems and robotic net cleaners. These efficiencies have not resulted in a proportional increase in jobs, particularly in regional areas.

This rapid growth has also been accompanied by increasing environmental and social impacts, including water pollution, algal blooms, marine debris, noise and light. Tasmanians are increasingly concerned about the scale and pace of expansion and many are demanding a reduction in nearshore farming operations. Further expansion without robust scientific and regulatory frameworks is clearly a risky proposition.

Finally, the longer-term viability of farming salmon in a region with rapidly warming coastal waters needs careful consideration. Tasmania has already experienced significant salmon mortalities associated with disease, low oxygen and jellyfish, all of which will be worsened by climate change. This is not unique to Tasmania, and huge investments are being made globally in land-based and offshore technologies to transition to a more sustainable model. Tasmania needs a clear plan and incentives to make a similar transition or we are likely to be left behind.

WHY PLAN B?

In April 2022, the Tasmanian Government commenced a process to develop a 10-year salmon plan. Key stakeholders, including the Tasmanian Independent Science Council (TISC), were invited to participate in a 'consultative and collaborative' process to provide input to this plan. The TISC has participated in all aspects of this consultation process, but our input—along with that of many other organisation and individuals—has been largely ignored.

Rather than criticising a flawed process and deeply unpopular outcome, we prefer to take a more positive approach, and we hope that this alternative Plan B can provide the basis for a more constructive and better-informed result.

WHY A TEMPORARY PAUSE IN FURTHER GROWTH IS NEEDED

The TISC strongly recommends a pause on further growth until existing operations have been fully reviewed and adjusted to ensure sustainable production that does not damage the environment and is supported by the community. This pause is also needed to ensure that the scientific understanding, regulatory controls, and incentives are in place to manage future growth, limit biosecurity risks and support long-term employment and revenues to the state.

ABOUT THE TASMANIAN INDEPENDENT SCIENCE COUNCIL

The Tasmanian Independent Science Council is dedicated to science-based policy reform to ensure the long-term health of Tasmania's environment. The Council includes scientists and professionals who provide independent, non-government advice, focusing on policy reforms of significant State interest. We seek to inform public debate and influence legislative reform to improve outcomes for terrestrial, freshwater and marine ecosystems.

VISION

A profitable salmon industry that coexists with healthy marine and freshwater environments, provides good economic value to the Tasmanian people, and does not detract from the use and enjoyment of our shared waterways.

We envisage a more vibrant, more innovative, more sustainable salmon industry that will deliver the following five wins for Tasmania. The transition out of shallow coastal waterways onto land and/or further offshore is already happening globally, and Tasmania is in a position to deliver a genuinely sustainable, high value product through clever policy, incentives and targeted investment.

WIN #1 SECURE JOBS IN REGIONAL AREAS AND A FAIR ECONOMIC RETURN

Further increases in the volume and scale of production are not guaranteed to preserve jobs in regional communities and may in fact result in a decline due to further automation, giant well boats, more centralised operations and seasonal worker schemes. A network of distributed, land-based RAS facilities may offer better opportunities for secure, regionally-based jobs. Genuinely offshore production could also support regional jobs, particularly if processing occurs in Tasmania – not, as is increasingly the case, interstate.

Regional communities - and Tasmania as a whole – would be far better off with a system similar to the Norwegian model, whereby substantial taxes and fees are levied, and funds are distributed between the state and the regions. Alternatively, additional lease and/or production-based charges could be introduced to support a wide variety of social, economic and environmental initiatives in regional areas.

WIN #2 A CLEAN AND HEALTHY ENVIRONMENT

Tasmania's global brand depends on a clean and healthy environment, and our population expects the same. This is not negotiable. The continued pollution of shallow, nearshore waterways by open pen salmon farming cannot continue, nor should further expansion into nearshore waters be permitted. Clear policy, strong regulations, comprehensive monitoring and transparent reporting are needed to reverse and prevent environmental harm. Additional funding will be required for this and should be distributed through an independent mechanism to prevent real or perceived bias.

WIN #3 LONG-TERM SUSTAINABLE GROWTH FOR AQUACULTURE

A global shift is currently underway towards land-based and offshore salmon aquaculture, driven by climate change, evolving technologies and consumer demand for high quality, ethical products. Tasmania cannot hope to compete with industrial-scale nearshore production without serious damage to our brand and environment. By combining our natural advantages (cool climate, freshwater, green energy), skilled workforce and end-to-end production systems Tasmania has the potential to become a world leader in higher value, more sustainable aquaculture. An open-minded and creative strategy is needed to achieve this goal.

WIN #4 WORLD CLASS SCIENCE AND INNOVATION

Tasmania is already a global hub for marine science, including aquaculture research and development, and is well placed to develop and export related innovative technologies. The CSIRO, IMAS and Blue Economy CRC play important roles in this space and should be encouraged to contribute to the transition described above. For example, scalable Integrated Multi-trophic Aquaculture systems associated with land-based salmon production could produce a range of seafood and seaweed products as part of the wastewater treatment process. Additional resources are needed to support these initiatives, along with a funding model that will ensure independence.

WIN #5 A SOCIAL LICENSE TO OPERATE

A commitment to the above four wins will go a long way towards achieving social license, which can only be built on trust. Trust is in currently in short supply and will require genuine transparency, respect and a meaningful response to address community concerns as they are raised.

KEY STRATEGIES & ACTIONS FOR INCLUSION IN PLAN B

1. **Implement a pause on further growth of tonnage/biomass** (not leased area) until existing operations have been fully reviewed and adjusted to ensure sustainable production that does not damage the Tasmanian marine and/or freshwater environments, limits biosecurity risks and supports long-term employment and revenues to the state. We suggest that a period of 2 to 3 years may be needed for this review.

2. **Reduce biomass levels in nearshore operations and retire unsuitable leases**, particularly those in areas with limited flushing, high ecological values and/or significant public amenity (e.g. Long Bay, Macquarie Harbour, areas of the Channel/Huon and Okehampton Bay).
   - Review/audit all current leases – both operational and unused – for current or potential impacts to environment and amenity.
   - Evaluate local, intermediate and broad-scale impacts; risk assessment and identify/prioritise high-risk leases.
   - Establish carrying capacity and set-lease specific limits on pollution
   - Revise Environmental Licenses and/or retire marine farming leases/licenses in unsuitable areas

3. **Investigate and plan for future land-based / off-shore production and develop incentives to transition away from nearshore operations**
   - Undertake a detailed and fully independent review of both land-based and off-shore production options
   - Identify suitable locations for land-based and off-shore operations, in consultation with the community
   - Investigate and offer incentives to transition to cleaner production methods, e.g. low lease rates on land for RAS facilities, subsidised renewable energy
   - Set clear, publicised timelines for implementation

4. **Support genuinely independent, world-leading science** as a basis for planning and management. This will require an **independent funding mechanism** to avoid real or perceived bias and should be fully funded by the aquaculture industry. Unredacted scientific reports should be made readily available to the public in a timely manner. Additional research is needed to address key gaps including:
   - Multi-sector marine spatial planning, comprehensive baseline and follow-up surveys as a pre-requisite for new leases and for all lease renewals, to be repeated every 5 years; carrying capacity modelling; improved Broadscale Environmental Monitoring Program (BEMP) designs; impacts on protected species; and risks to freshwater systems, including potential health risks associated with toxic algal blooms
   - Impacts of climate change, and new/emerging health and safety impacts on humans or native species

5. **Ensure independent and rigorous regulation, management and enforcement**
   - Modify legislation and practices such that the EPA is clearly independent from political and industry influence
   - Complete and implement legislative/regulatory reviews, including a review of the Marine Farming Act 1995
   - Restructure the Marine Farm Review Development Panel (MFRDP) to its previous role as a decision-making body, not an advisory role to the Minister. Broaden the membership to include conservation and Indigenous representation as well as members from affected communities
   - Complete regulatory tools, including environmental, operational and biosecurity standards. Standards should include lease-specific limits on production and more comprehensive monitoring and compliance criteria
   - Fully regulate and monitor associated operations, including well boats and their discharges, desalination plants, net cleaning facilities, and fish waste composting and reuse facilities

6. **Implement full transparency and regular reporting**
   - Prepare and publish annual reports on salmon production and impacts at state, regional and lease-specific levels

- Expand salmon portal to include up-to-date information on biomass, pollution loads, water quality, salmon escapes, disease & mortalities, use of antibiotics and other therapeutants, seal and bird mortalities, etc. 'Compliant' is not a meaningful indicator, nor is 'Y/N' for seal deaths and other criteria

7. Undertake genuine community engagement, including regular workshops to discuss and resolve concerns

- The annual environmental reports above should be presented to the public at workshops, along with monitoring results, operational context and future plans. Questions and concerns raised require clear answers and meaningful solutions. In some regions, biannual or quarterly meetings may be warranted.
- Representatives from the community and NGOs should be included on planning, review and decision-making committees, such as the MFRDP and EPA Board

8. Ensure a fair economic return to Tasmania

Growth in the industry must be accompanied by growth in real jobs (FTE), and growth in revenues to Tasmania

- Initiate an independent expert review of costs and benefits of the Tasmanian salmon industry and how this can be optimised for the benefit of the state and affected local communities. This should include improved financial transparency, an analysis of direct and indirect jobs, implications of continued automation, adequate fees to ensure full cost recovery of management, science and training, possible auction of production quota/leases, payment of royalties or Gross Product Value fees, payment of Council rates, rehabilitation bonds, etc.
- Investigate what is considered a fair return overseas, and how this is implemented
- Consult with affected communities on their views, and be responsive to these views
- Increase fees and rents to cover full costs of salmon-related regulation and management, including monitoring and scientific studies, reporting, training and the use of public infrastructure.

9. Increase job security for Tasmanians

- Undertake an independent accounting of direct and indirect jobs and where these are located
- Assess job loss implications of continued automation, interstate processing and seasonal worker schemes, and develop ways to increase and protect Tasmanian jobs, particularly in rural and remote areas, such that job losses will be offset with new jobs for resident populations at good pay

10. Improve monitoring and management of freshwater operations

- Document current and future freshwater requirements for the production of smolt and bathing of caged fish, and determine if/how these can be provided without adverse impacts on community supplies or the environment
- All freshwater hatcheries and smolt production facilities should be Recirculating Aquaculture Systems (RAS), and clear design criteria must be established to define this. Large-scale flow-through hatcheries should no longer be permitted in Tasmania. A policy and sunset clause are needed to convert existing flow-through operations to RAS within no more than 3 years. Flow-through hatcheries that discharge contaminated water should no longer benefit from trivial non-consumptive water allocations fees (approximately $400/year, regardless of the volume used).
- Review/audit current hatchery operations, including impacts to environment and amenity. Prioritise worst performing operations and set specific limits on pollution
- Develop clear RAS standards for existing and future inland fish farms
- Link water license fees to discharge quality, with higher fees applied to poorer quality discharges
- Convert large flow-through systems to RAS within 3-years or retire them from service
- Improve monitoring of hatchery effluent, including potential health risks associated with cyanobacterial toxins on drinking water supplies and recreational activities.