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| **From:** | Chris Wilson |
| **To:** | Tasmanian Salmon Study Secretariat |
| **Subject:** | Another submission to Tasmanian Salmon Industry Study |
| **Date:** | Sunday, 5 July 2026 7:42:16 PM |
| **Attachments:** | Submission to the Independent Study of the Tasmanian Salmon Industry 5 July 2026 Chris Wilson.docx |

Greetings,

Please find attached my submission to this important study, and I both welcome it and wish you all success.

I live on the Huon River and have sailed up and down the coasts of Tasmania for decades. I have watched this industry grow from a quaint boutique locally owned community driven industry to the giant industrial ever-expanding industry it is today.

While I initially did not think I had the right to challenge what was obviously a major employer , I have come to the view that this is a toxic industry that is no longer benefitting Tasmanians as a whole and that we need to look at what is happening overseas, as well as take a very close look at what is actually happening right here.

Many thanks and best wishes,

Chris Wilson
[redacted]

**Submission to the Independent Study of the Tasmanian Salmon Industry**

**Chris Wilson, resident of Abels Bay, lower Huon estuary**

**5 July 2026**

**Introduction**

I welcome the opportunity to make a submission to the Independent Study of the Tasmanian Salmon Industry.

Tasmania's salmon industry has become an important regional employer and contributor to the state economy. However, ongoing community concern regarding environmental impacts, transparency, ecological resilience, actual monetary benefits to the community and the social licence of the industry demonstrates the need for an independent evidence-based assessment of its future direction.

This submission focuses on:

- Environmental sustainability.
- Regulatory transparency and accountability.
- Climate resilience.
- Circular economy opportunities.
- Community confidence and participation.

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**1. Environmental Sustainability Must Remain the Primary Constraint**

The study should recognise that the long-term viability of salmon farming ultimately depends on the health of the ecosystems upon which it relies.

Particular attention should be given to:

- Cumulative nutrient loading in enclosed and semi-enclosed waterways.
- Impacts on seabed ecosystems and biodiversity.
- Interactions with wild fish, marine mammals and seabirds.
- Freshwater impacts associated with hatcheries and processing facilities.
- Climate-related changes in water temperature and dissolved oxygen.

Management frameworks should be designed around ecological carrying capacity and precautionary principles rather than production targets alone.

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**2. Community Trust Depends on Transparency**

The Terms of Reference correctly identify transparency, monitoring and enforcement as central issues.

Public confidence would be substantially improved through:

- publication of environmental monitoring data in accessible formats;
- rapid public disclosure of mortality events and disease outbreaks;
- independent auditing of environmental and production data;
- publication of compliance actions and enforcement outcomes;
- independent scientific review processes.

Community trust cannot be expected without access to clear, timely and credible information.

Where environmental resources are publicly owned, information concerning their management should also be publicly accessible except where genuine commercial confidentiality applies.

**Antibiotic Use Requires Independent Scrutiny**

The study should specifically investigate the use of antibiotics within the Tasmanian salmon industry, including florfenicol and any other antimicrobial agents used during disease outbreaks.

The use of antibiotics in open-water aquaculture raises important questions regarding:

- environmental exposure;
- impacts on marine microbial communities;
- development of antimicrobial resistance;
- potential transfer of resistance genes within aquatic ecosystems;
- cumulative impacts from repeated treatments.

Unlike treatment systems that contain and treat waste streams, open-net pen systems release uneaten medicated feed, fish waste and associated residues directly into the surrounding environment.

The study should:

- quantify antibiotic use over time;
- compare Tasmanian use with major international salmon-producing jurisdictions;

- assess environmental monitoring programs relating to antibiotic residues and resistance;
- examine whether alternative husbandry and production systems could reduce dependence on antibiotic treatments.

Given that antimicrobial resistance is recognised globally as a significant public health challenge, Tasmania should aim to be a leader in minimising antibiotic use wherever practicable.

While antibiotics can play an important role in maintaining fish welfare during disease outbreaks, their use should be regarded as a measure of last resort and subject to the highest levels of transparency and independent oversight.

Public reporting suggests that quantities of florfenicol used in Tasmania during recent disease events were significant by international standards. The Study should undertake a detailed comparison of antibiotic use rates in Tasmania, Norway, Chile, Scotland and Canada.

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**3. Lessons from the 2025 Mortality Event**

The study should carefully examine the causes and management responses associated with the 2025 mortality event and identify improvements in:

- Early warning systems.
- Disease surveillance.
- Biosecurity responses.
- Contingency planning.
- Community notification procedures.
- Pen stocking levels prior to, during and subsequent to the mortality event in 2025.

The objective should be continuous improvement and resilience rather than attribution of blame. Such events provide an important opportunity to strengthen future management arrangements.

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**4. Climate Change Requires a Long-Term Industry Transition Strategy**

Climate change presents risks not only to the salmon industry but also to the marine ecosystems that support it. The study specifically recognises climate threats and adaptation opportunities.

Future planning should consider:

- Increasing marine heatwaves.
- Oxygen depletion risks.
- Shifts in disease prevalence.
- Changes to ecosystem function.
- Increased frequency of extreme weather events.
- What responsibility the private owners of the industry here in Tasmania owe to the rehabilitation of our waterways and also to the future benefits of the employees who work for the industry.

The industry should be encouraged to progressively adopt production systems, perhaps including non-carnivorous species that can be better managed on land, where biosecurity can be better managed, feed resources are less likely to impact wild fish stocks which are already under threat worldwide and nutrient waste can be more easily recovered and recycled, all factors that reduce environmental risk and improve climate resilience.

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**5. Explore Circular Economy Opportunities**

The future discussion about salmon farming should move beyond a simple debate between expansion and restriction.

Tasmania should seek to maximise value from resources already being extracted while minimising waste and environmental impact.

Opportunities include:

- nutrient recovery;
- fertiliser production;
- soil amendment products;
- biochar development;
- renewable energy generation from organic waste streams;
- high-value bioproducts derived from processing residues.

Such initiatives could support regional employment while reducing environmental pressures and improving resource efficiency

By-products should increasingly be viewed as resources rather than wastes. This can support regional employment while reducing environmental impacts.

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**6. Assess Alternative Production Models**

The Terms of Reference specifically identify land-based recirculating aquaculture systems (RAS) and hybrid production models for consideration.

The study should undertake a transparent comparison of:

- Environmental impacts.
- Energy requirements.
- Capital costs.
- Operating costs.
- Biosecurity risks.
- Employment outcomes.
- Community acceptance.

Tasmania should position itself to adopt emerging best practices where they provide measurable social, environmental and economic benefits.

A strategic transition pathway may be appropriate if alternative production methods can significantly reduce environmental and social impacts.

Tasmania derives substantial economic value from its reputation for environmental quality, wilderness and natural beauty. The Study should consider whether there are circumstances where protection of environmental values may generate greater long-term economic returns through tourism, recreation and place-based regional development than continued expansion of intensive aquaculture operations.

The Study should independently assess the net economic contribution of the industry, including taxation arrangements, royalty payments, lease fees, public infrastructure costs and regulatory costs.

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**7. Strengthen Independent Oversight**

Long-term public confidence requires regulation that is visibly independent and adequately resourced.

The study should consider:

- Adequacy of penalties for breaches.
- Funding arrangements for compliance activities.
- Independence of environmental monitoring.
- Public reporting requirements.
- Regular external review of regulatory performance.

The polluter-pays principle should be reflected in regulatory cost recovery arrangements wherever appropriate.

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**8. Investigating Social licence**

The industry talks about its social licence frequently and I believe the study should consider this aspect in detail and should examine complaints against the industry in this light.

Social licence is not granted by regulators but by communities. A meaningful assessment of social licence should consider:

- community complaints;
- public submissions;
- local government concerns;
- ongoing conflicts regarding amenity impacts;
- navigation restrictions;
- noise and lighting impacts;
- perceived fairness of access to public waterways.

A decline in social licence should be regarded as an important indicator requiring management attention.

The aquaculture companies could, if committed to developing social licence, could:

- Build boats and infrastructure that minimised light and noise pollution, such as investing in battery electric boats which would go a long way towards this committment with much quieter operations (one of the greatest complaints about the industry), and would demonstrate a willingness to listen to and to become good neighbours to the communities who have to live alongside this industry.
- Demonstrate a commitment to align with Tasmania's aims to reduce carbon production by beginning to introduce groundbreaking battery/electric technology

in boat design and commit to reducing the enormous nitrogen load this industry is delivering into our waterways.

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**9. Nutritional considerations**

The salmon industry frequently refers to its product as being nutritious and also having the capacity to help feed the globe, and it should be noted that the largest two of the companies involved in this industry are global protein producers.

The enquiry should address these claims in detail:

- What is the net effect of growing Atlantic salmon in Tasmanian waters in terms of net protein balance? Given that wild fish are caught to feed these penned fish, and now krill is increasingly caught to supplement their feed, what are the outcomes of these strategies? Opponents are concerned that we are depleting our oceans of essential species for these companies to profit. What are the overall effects of this strategy and do Tasmanians bear a responsibility to source food stocks that are less harmful to the delicate balance of our planet's ecology?
- The salmon industry frequently talks up the nutritional benefits of eating Atlantic salmon, but increasing use of GM technology, adding all sort of additives to the fish feed, including colouring agents, feed additives, pharmaceutical treatments and emerging feed technologies.
- . The study needs to examine this aspect in some detail.

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**10. Nutrient Pollution and Lost Resource Recovery Opportunities**

The Independent Study should give particular attention to the cumulative nutrient loading associated with salmon aquaculture in enclosed and semi-enclosed waterways such as the D'Entrecasteaux Channel, Huon Estuary, Macquarie Harbour and others no doubt to be announced.

A significant proportion of feed nutrients supplied to farmed salmon ultimately enter the surrounding environment through fish waste, uneaten feed and dissolved nutrient releases. In open-net pen systems, these nutrients become pollutants rather than resources available for recovery and reuse.

70.000 tonnes of salmon, the annual production in Tasmania, excrete the equivalent of almost twice the amount of faecal waste of the current population of Tasmania, and practically of it in poorly flushed sheltered waterways with unique and previously pristine and unique habitats.

The Study should quantify the nutrient and organic waste output associated with this production and compare it with other major waste streams, including municipal wastewater generated by Tasmania's human population.

This represents not only a very significant environmental challenge but also a substantial lost economic opportunity. Nitrogen and phosphorus are valuable agricultural nutrients. Under current open-water production systems, much of this nutrient resource is dispersed into public waterways where it contributes to environmental pressures rather than being captured for productive use.

The Study should investigate the total nutrient footprint of the Tasmanian salmon industry and compare this with equivalent nutrient loads from other sources, including municipal wastewater. It should also examine technologies and production systems that enable nutrient capture and recovery for beneficial use as fertilisers, soil amendments, renewable energy feedstocks and other circular economy applications.

A truly sustainable industry should be measured not only by production volumes and economic output, but by its ability to minimise waste and retain valuable resources within the productive economy.

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**11. Climate Change and the Future Viability of Salmon Farming**

Atlantic salmon are fundamentally a cold-water species. Tasmania's marine environment is already experiencing warming trends, and scientific projections suggest further increases in ocean temperatures and marine heatwave frequency over coming decades.

The 2025 mortality event demonstrates the vulnerability of intensive salmon production systems to environmental stress and changing climatic conditions. The Study should explicitly assess whether long-term expansion of open-water salmon farming is compatible with projected environmental conditions in Tasmania.

Particular attention should be given to:

- rising sea temperatures;
- marine heatwaves;
- declining dissolved oxygen levels;
- increased disease and parasite pressures;
- increased reliance on chemical and pharmaceutical interventions;
- financial risks associated with climate-driven mortality events.

- Further investigation of appropriate pen stocking levels, compliance with those limits.
- Increasing biosecurity measures to prevent infection within these pens.

The question is not simply whether the industry can adapt to climate change, but whether current production models remain appropriate under foreseeable future conditions.

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**12. Antibiotic Use and Antimicrobial Resistance**

The Study should undertake a detailed and transparent review of antibiotic use within the Tasmanian salmon industry.

The administration of antibiotics in open-water systems differs fundamentally from treatment in contained facilities because a proportion of medicated feed, fish waste and antibiotic residues inevitably enters the surrounding marine environment.

This raises legitimate concerns regarding:

- antimicrobial resistance development;
- impacts on environmental microbiomes;
- persistence of antibiotic residues;
- potential transfer of resistance genes through marine ecosystems.
- Whether overstocking of pens increases the susceptibility of fish to increased stress and therefore to infections.
- Whether increasing sea temperatures increases the susceptibility of fish to infectious agents.

Antimicrobial resistance is recognised globally as one of the greatest emerging public health threats. Tasmania should therefore adopt a precautionary approach and seek to minimise reliance on antibiotics wherever possible.

The Study should compare Tasmania's antibiotic use with international best practice and identify pathways toward substantial reduction or elimination of routine antibiotic dependence.

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**13. Alternative Aquaculture Models**

The Independent Study should consider whether Tasmania's long-term aquaculture future may lie less with intensive farming of carnivorous cold-water fish in public

waterways and more with production systems that minimise environmental externalities.

Carnivorous species such as salmon require significant feed inputs and generate substantial nutrient outputs. By contrast, alternative aquaculture systems based on lower trophic level or vegetarian species can often operate with reduced environmental impacts and lower resource requirements.

The Study should investigate:

- land-based recirculating aquaculture systems (RAS);
- closed containment systems;
- integrated multi-trophic aquaculture;
- farming of herbivorous and omnivorous fish species;
- opportunities for nutrient recovery and water recycling.

Particular consideration should be given to systems that enable:

- capture of nutrients before discharge;
- treatment and reuse of wastewater;
- biosecurity control;
- elimination of interactions with wildlife;
- improved climate resilience.
- Reduced need to harvest wild fish or other valuable species elsewhere to feed this industry.

As water quality standards tighten and climate pressures increase, contained production systems may offer a more sustainable pathway for future aquaculture development in Tasmania.

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**14. Actual monetary benefits to Tasmania and its communities.**

Much debate centres around the actual number of jobs directly and indirectly created by this industry and the Study needs to attempt to clarify what the real numbers are.

Much debate centres around the actual number of jobs directly and indirectly created by this industry and the Study needs to clarify the most accurate figures available.

The Study should independently examine:

- the number of direct jobs supported by the industry;

- the number of indirect jobs dependent upon the industry;
- the regional distribution of those jobs;
- the quality, security and long-term sustainability of employment opportunities;
- the economic multiplier effects associated with industry activity.

There is also significant public debate regarding the extent to which the financial benefits generated by the industry are retained within Tasmania.

The Study should therefore examine:

- taxation contributions associated with the industry;
- lease fees and other payments made for the use of public waterways;
- royalty and licensing arrangements;
- regulatory and compliance costs borne by taxpayers;
- public infrastructure costs associated with industry operations;
- the proportion of profits retained within Tasmania relative to profits distributed interstate or overseas.

Where commercial confidentiality is claimed, the Study should carefully weigh such claims against the public interest in understanding the costs and benefits associated with the use of publicly owned marine resources.

Tasmanians are entitled to a clear and transparent assessment of the net economic benefits generated by the industry, particularly where private companies derive value from access to publicly owned waterways and environmental resources.

Commercial confidentiality should not be used unnecessarily where it prevents public understanding of the costs and benefits associated with the use of publicly owned resources.

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**Key Recommendations**

**I respectfully recommend that the Independent Study:**

- **Determine the ecological carrying capacity of Tasmania's sheltered waterways and ensure future production levels remain within scientifically established limits.**
- **Quantify the total nutrient footprint of the salmon industry and compare it with other major waste streams, including municipal wastewater.**

- **Assess opportunities to recover nitrogen and phosphorus currently deposited itto the marine environment and convert them into valuable agricultural and industrial resources.**
- **Undertake a comprehensive review of antibiotic use, including florfenicol, and benchmark Tasmania's performance against Norway, Chile, Scotland and Canada.**
- **Evaluate the risks of antimicrobial resistance arising from antibiotic use in open-net pen aquaculture.**
- **Examine the relationship between stocking densities, fish welfare, disease outbreaks and antibiotic dependence.**
- **Consider the long-term viability of Atlantic salmon farming in Tasmania in light of rising sea temperatures, marine heatwaves and climate change.**
- **Assess alternative production systems including land-based recirculating aquaculture systems, closed containment systems and integrated multi-trophic aquaculture.**
- **Investigate the feasibility of transitioning towards species that can be farmed with lower feed inputs, lower environmental impacts and greater opportunities for nutrient recovery.**
- **Strengthen transparency through public access to environmental monitoring data, disease reporting and compliance outcomes.**
- **Review the adequacy of regulatory oversight, enforcement mechanisms and penalties.**
- **Evaluate social licence as a measurable indicator of industry performance, including community concerns regarding noise, lighting, navigation, amenity, acheiving our net zero aims and access to public waterways.**
- **Assess the true net economic benefit of the industry to Tasmania, including employment, taxation, lease payments, profits retained within Tasmania, infrastructure costs and regulatory costs.**
- **Examine whether commercial confidentiality is being applied appropriately where public resources and public waterways are involved.**
- **Consider whether Tasmania's internationally recognised clean and green reputation may deliver greater long-term economic value through tourism and environmental protection than further expansion of intensive aquaculture.**

- **Apply the polluter-pays principle to ensure that environmental management and regulatory costs are borne by industry rather than taxpayers.**

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**Conclusion**

The central question before this Study is not whether aquaculture should exist in Tasmania, but whether publicly owned waterways should continue to be used as waste treatment systems for intensive fish production. In addition ,the navigation of our waterways should not be compromised to the extent it is at present in order to accommodate this ever-expanding industry.

Future generations will judge today's decisions not by how much fish was produced, but by whether Tasmania protected its unique marine ecosystems while building a genuinely sustainable and resilient food production system.

The waterways occupied by private overseas owned salmon aquaculture companies are public assets held in trust for all Tasmanians. Any private use of those assets must clearly demonstrate a net public benefit and must not compromise environmental values, community wellbeing or the ability of future generations to enjoy and benefit from those same resources.

Tasmania has an opportunity to become a global leader in climate-resilient, low-pollution aquaculture that recovers nutrients, minimises antibiotic use and operates within ecological limits. The Study should provide a roadmap for achieving that transition.