Before the Hearing Panel

Under:	Resource Management Act 1991
In the matter of:	Proposed Plan Change 1 – Regional Coastal Plan Kermadec and Subantarctic Islands

Statement of advice

Dr Daniel Kluza

Principal Adviser, Biosecurity Risk Advice, Biosecurity Import & Export Standards Directorate

Biosecurity New Zealand - Ministry for Primary Industries

13 May 2026

Executive Summary

My advice addresses:

i. Whether submitter positions appropriately reflect biofouling risk and its effective management in New Zealand waters.

ii. Whether the proposed amendments are proportionate and aligned with established risk management principles.

Introduction

1. My full name is Daniel Adam Kluza.

Instruction

2. I have been asked to provide expert advice on behalf of the Department of Conservation (DOC) on the Proposed Plan Change 1 – Regional Coastal Plan Kermadec and Subantarctic Islands.

Qualification and Experience

3. I hold a Bachelor of Arts in Zoology from Connecticut College, USA (1991), a Master of Science in Wildlife Biology from the University of Massachusetts at Amherst, USA (1996), and a PhD in Biology from the University of Kansas, USA (2002).
4. I have been employed by the Ministry for Primary Industries (and predecessor agencies) since 2005 as a Senior Adviser (2005–2016) and a Principal Adviser (2016–present). From 2002–2005, I was employed as an ecologist by the United States Environmental Protection Agency (National Center for Environmental Assessment, Washington, DC).
5. I have over 20 years' experience in ecological risk assessment, with a focus on marine biosecurity issues. My role with the Ministry for Primary Industries (MPI) includes providing technical advice on marine biosecurity risks posed by vessel biofouling.
6. My relevant experience includes co-authoring peer-reviewed scientific publications on vessel biofouling and associated biosecurity risks, as well as contributing to MPI technical reports and risk assessments in this area. I have previous experience giving biosecurity evidence for court cases and council consent hearings. For further details, please see the attached Summary of Relevant Experience.
7. I have extensive knowledge and experience in relation to the proposal. I was the technical lead for the MPI Vessel Biofouling Research Programme (2005–2010), and contributed to the development of the Craft Risk Management Standard (CRMS) for Biofouling on Vessels Arriving to New Zealand (2018) and the CRMS – Vessels (2023). For further details, please see the attached Summary of Relevant Experience.
8. I provided technical advice to the Department of Conservation (DOC) on vessel biofouling thresholds and associated risk mitigation approaches for the original proposed Regional Coastal Plan (RCP) for the Kermadec and Subantarctic islands (2012). I subsequently participated as a technical advisor in MPI-facilitated discussions

between DOC and representatives of the New Zealand fishing industry to support resolution of biofouling issues that were appealed to the Environment Court.

Code of conduct

9. Whilst it is acknowledged this is not an Environment Court proceeding, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in the preparation of this advice. Unless I state otherwise, this assessment is within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Material considered

10. In preparing this advice I have reviewed:
    i. The submissions received by DOC related to the proposed changes on the vessel hull biofouling inspections.
    ii. The Section 32 Report, specifically the drivers for change related to the management of vessel hull biofouling.
    iii. The Proposed Plan change showing the proposed changes to the vessel hull biofouling inspections.
11. I have also read the advice prepared by my colleague Greer Whiting.

Scope of advice and expert opinion

12. My expert advice will address matters raised through submissions in relation to proposed changes to vessel hull biofouling inspection requirements, as relevant to my area of expertise.

Submissions on the proposed changes to vessel hull biofouling inspection requirements

Heritage Expeditions (2018) Limited (submission 3, paragraphs 13 -16) – opposed to all proposed changes to the vessel biofouling inspection requirements and requests they should be replaced with a requirement that vessels comply with MPI's requirements for long-stay vessels in the Craft Risk Management Standard for Vessels 2023.

13. The vessel biofouling requirements in the RCP do not duplicate MPI's role in managing marine biosecurity. Vessels that operate solely within NZs territorial sea are not captured by the CRMS – Vessels, and these domestic craft have the potential to spread introduced marine species within New Zealand waters.
14. Within New Zealand's end-to-end biosecurity system, DOC plays a critical post-border role by managing biosecurity risks to native species and ecosystems. A key part of this responsibility is reducing the spread of introduced marine species within New Zealand waters. In my opinion, DOC's proposed changes close a gap in the RCP's biofouling risk management by strengthening evidence requirements for managing vessel hull niche areas, and improving assurance that biofouling risks are effectively managed.

These changes are consistent with, and reinforce, the core biofouling risk management principles set out in the IMO Guidelines and the CRMS–Vessels.

Sanford Limited – submission 5, Point 5.11 – opposed in part or opposed to the proposed changes to the vessel biofouling inspection requirements and requests the scampi fleet remain subject to the plan's existing provisions and the proposed changes apply only to international vessels.

15. I do not agree that the biosecurity risk from domestic vessels is lower than international vessels.
    i. Domestic vessels are capable of translocating biofouling organisms from mainland New Zealand to the Subantarctic Islands. This is a pathway for the potential spread of non-indigenous species, as well as for native mainland species that do not occur in the waters of the Subantarctic Islands.
    ii. On this basis, I do not consider the Subantarctic Islands to be "same waters" as mainland New Zealand. The IMO's definition of "same waters" is context and scale-dependent, with the underlying principle that vessel operations within "same waters" are unlikely to introduce biofouling organisms to a new location.
    iii. A vessel's operational profile influences its biosecurity risk. Key risk factors include the duration and frequency of visits, stationary periods, and antifouling maintenance intervals. For example, the longer a vessel remains stationary, the more likely biofouling will accumulate because antifouling coatings rely on hydrodynamic shear from vessel movement to maintain effectiveness. Similarly, the more frequently and longer a vessel visits a location, the greater the potential for the introduction of biofouling organisms[1,2].
16. Within New Zealand's end-to-end biosecurity system, DOC's management of vessel biofouling is a key element for managing domestic biosecurity pathways.
17. The proposed changed to the RCP biofouling requirements better account for the management of key hull locations that are prone to biofouling[1] (niche areas). Given that eradication of pests in the marine environment once established is rarely successful[3,4], I do not consider these changes disproportionate.
18. My comments in response to Sanford's submission point 5.11 apply to the following submitters who make the same points as Sanford:
    i. Seaeagle Fishing Limited (submission 8, point 8.16)
    ii. Barine Development (submission 10, point 10.17)
    iii. Seafood New Zealand / Deepwater Council (submission 11, point 11.7)

[1] Inglis et al. (2010). The Biosecurity Risks Associated with Biofouling on International Vessels Arriving in New Zealand: Summary of the patterns and predictors of fouling. Biosecurity New Zealand Technical Paper.
[2] Inglis et al. (2012). Scenarios of Vessel Biofouling Risk and their Management. MAF Technical Paper No: 2012/07. https://www.mpi.govt.nz/dmsdocument/4029
[3] Williams & Grosholz (2008). The Invasive Species Challenge in Estuarine and Coastal Environments: Marrying Management and Science. *Estuaries and Coasts* 31: 3–20.
[4] Simberloff (2021). Maintenance management and eradication of established aquatic invaders. *Hydrobiologia* 848: 2399–2420.

Summary of Relevant Experience

Daniel Kluza

Professional Overview

I am a Principal Adviser with the Ministry for Primary Industries (MPI), specialising in aquatic biosecurity and ecological risk assessment. I have over 20 years' experience in assessing risks associated with non-indigenous species, and providing evidence-based science advice to support regulatory, policy, and operational decision-making.

Current Role

Principal Adviser – Biosecurity Risk Advice
Ministry for Primary Industries
2016 – Present

- Provide technical and strategic advice to support biosecurity risk management and regulatory decision-making.
- Analyse scientific evidence to assess risks relating to the entry, establishment, and impacts of non-indigenous aquatic species.
- Provide technical leadership, peer review, and mentoring within MPI.
- Contribute to cross-agency work on biosecurity risks.

Previous Roles

Senior Adviser – Biosecurity Science and Risk Assessment
Ministry for Primary Industries (and predecessor agencies)
2005 – 2016

- Technical oversight of MPI's Vessel Biofouling Programme, a multi-year survey of biofouling on vessels arriving to New Zealand. Research objectives were to determine:
    - Identity (species), origin (native, non-indigenous, cryptogenic) and extent of biofouling on vessels;
    - Relationship between non-indigenous species (NIS) presence and biofouling extent;
    - Influences of vessel maintenance regimes and operational profile on NIS presence and biofouling extent.
- Contributed to the development of the Vessel Biofouling Craft Risk Management Standard–Vessel biofouling and supporting technical documentation.
    - Collaborative development of biofouling thresholds and the underpinning scientific basis.

    - Implementation support–developed risk indicators for vessel targeting.
- Technical advice on marine pests and biofouling risks.
- Organism-, pathway-, and commodity-based risk assessments of aquatic invasive species.

Ecologist – National Center for Environmental Assessment
U.S. Environmental Protection Agency, Washington, D.C.
2002 – 2005

- Ecological risk assessments of invasive species, including predictive modelling of species' distributions.
- Contributed to inter-agency initiatives addressing invasive species risks.

Hearing and Expert Evidence Experience

- **2023 – Waikato Regional Council:** MPI biosecurity evidence, coastal permit consent hearing (Pare Hauraki Kaimoana).
- **2022 – Environment Court:** Expert biosecurity evidence, marine aquaculture consent appeal (Ōhinau Aquaculture Ltd).
- **2021 – Marlborough District Council:** MPI biosecurity evidence, coastal permit consent hearing (NZ King Salmon).
- **2018 – Environment Court:** Joint Statement of Experts in Ecology/Monitoring, marine dumping consent appeal (Coastal Resources Limited).
- **2009 – Marlborough District Council:** MPI biosecurity evidence, coastal permit consent hearing (offshore oil rig *Kan-Tan IV*).

Key Areas of Expertise

- Aquatic biosecurity and invasive species risk assessment
- Ecological risk assessment
- Vessel biofouling and marine pathway risk assessment

Relevant Publications

Peer-reviewed (selected)

- Lovett, B., Cahill, P., Atalah, J., Vignier, J., Fletcher, L., Butler, J., ... **Kluza, D.**, Growcott, A., Gamarra, A., & Davidson, I. (2025). Are recommended dosages of copper-based Marine Growth Prevention Systems (MGPS) effective for vessel biosecurity? Marine Pollution Bulletin, 214, 117771.
- Davidson, I., Cahill, P., Hinz, A., Major, R., **Kluza, D.**, Scianni, C., & Georgiades, E. (2023). Biofouling occlusion of ships' internal seawater systems: operational, economic, and biosecurity consequences. Biofouling, 39(4), 410–426.
- Davidson, I., Cahill, P., Hinz, A., **Kluza, D.**, Scianni, C., & Georgiades, E. (2021). A review of biofouling of ships' internal seawater systems. Frontiers in Marine Science, 8, 761531.
- Georgiades, E., Scianni, C., Davidson, I., Tamburri, M. N., First, M. R., Ruiz, G., ... & **Kluza, D.** (2021). The role of vessel biofouling in the translocation of marine pathogens: management considerations and challenges. Frontiers in Marine Science, 8, 660125.

- Georgiades, E., **Kluza, D.**, Bates, T., Lubarsky, K., Brunton, J., Growcott, A., ... & Bell, A. (2020). Regulating vessel biofouling to support New Zealand's marine biosecurity system – a blueprint for evidence-based decision making. Frontiers in Marine Science, 7, 390.
- Growcott, A., **Kluza, D.**, & Georgiades, E. (2017). In-water systems to reactively manage biofouling in sea chests and internal pipework. Marine Technology Society Journal, 51(2), 89–104.
- Georgiades, E., & **Kluza, D.** (2017). Evidence-based decision making to underpin the thresholds in New Zealand's craft risk management standard: biofouling on vessels arriving to New Zealand. Marine Technology Society Journal, 51(2), 76–88.

Technical reports (selected)

- Georgiades, E., & **Kluza, D.** (2020). Conduct of in-water biofouling surveys for domestic vessels. Ministry for Primary Industries.
- Georgiades, E., Growcott, A., & **Kluza, D.** (2018). Technical guidance on biofouling management for vessels arriving to New Zealand. Ministry for Primary Industries.
- Growcott, A., **Kluza, D.**, & Georgiades, E. (2018). Technical advice: procedures for evaluating in-water systems to reactively treat or remove fouling with vessel internal niche areas. Ministry for Primary Industries.
- Growcott, A., **Kluza, D.**, & Georgiades, E. (2016). Literature review: In-water systems to remove or treat biofouling in vessel sea chests and internal pipework. Ministry for Primary Industries.
- Georgiades, E., & **Kluza, D.** (2014). Science underpinning the thresholds proposed in the CRMS: Biofouling on vessels arriving to New Zealand. Ministry for Primary Industries.
- Bell, A., Phillips, S., Georgiades, E., **Kluza, D.**, & Denny, C. (2011). Risk analysis: vessel biofouling. Ministry of Agriculture and Forestry, Biosecurity New Zealand.
- Inglis, G.J., Floerl, O., Ahyong, S., Cox, S., Unwin, M., Ponder-Sutton, A., … & **Kluza, D.** (2010). The Biosecurity Risks Associated with Biofouling on International Vessels Arriving in New Zealand: Summary of the patterns and predictors of fouling. Biosecurity New Zealand Technical Paper.

Qualifications

- PhD, Biology — University of Kansas (2002)
- MSc, Wildlife Biology — University of Massachusetts at Amherst (1996)
- BA, Zoology — Connecticut College (1991)