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Conference Abstract

From Pathways to People: Stakeholder Engagement as a Foundation for Marine Biosecurity Uptake

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Abstract

The introduction and spread of Non-Native Species (NNS) are driven by human activities. In the marine environment, pathways such as recreational boating, commercial shipping, water sport and aquaculture facilitate the movement of organisms across biogeographical boundaries. Biosecurity constitutes the initial and most effective stage of NNS management, targeting human-mediated pathways to reduce the risk of NNS introduction and spread. Recognising and addressing the human dimension of NNS introduction and spread is critical to achieving sustainable biosecurity outcomes.

Effective biosecurity depends on uptake by key stakeholders, alongside the development or enhancement of appropriate regulatory, strategic, and technical frameworks. However, punitive or onerous plans, measures and policies, especially if introduced without stakeholder consultation, are likely to have limited support, hindering effective and sustainable implementation. Early and meaningful stakeholder engagement is therefore essential, and requires careful consideration of human awareness, risk perception, and behaviours that influence compliance and practice. Despite its recognised importance, approaches to stakeholder engagement within biosecurity planning are often inconsistent and poorly standardised, varying widely between sectors, locations, and projects. This lack of a structured or systematic engagement process can limit

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representativeness, reduce trust, and undermine the long-term uptake and effectiveness of biosecurity measures.

Through the delivery of multiple marine biosecurity plans at differing spatial scales and in varied social contexts, an approach to stakeholder engagement that supports biosecurity uptake has been developed, comprising five steps. The first step is systematic stakeholder mapping, which includes input from the entity(s) commissioning the biosecurity plan and local contacts, and takes account of the pathways present within the spatial scope of the plan. Next, keystone liaisons are identified. These are individuals or groups with wide-reaching local contacts who can facilitate communications between local groups, businesses, recreational clubs, regulators and the wider public. Contact is then made with the identified stakeholders, carefully considering the source, method, frequency, content, and aims to engage recipients while avoiding messaging fatigue. The next key step is the delivery of online and in-person workshops and events, making use of engaging presentations, demonstrations (e.g., specimens) and interactive feedback sessions. The workshops invite representatives from all sectors to participate together and learn about NNS and biosecurity (accounting for the range of pre-existing knowledge that stakeholders may have) as well as providing a platform through which their feedback and valuable local knowledge can be heard. There are multiple benefits of mixing stakeholder groups, including providing reassurances that “blame” is not being directed at them or their sector; rather, all sectors and marine users have a responsibility to undertake biosecurity. Finally, stakeholders are invited and encouraged to feedback into the developing plan to ensure that they feel the actions within it are relevant, appropriate and achievable. This is incorporated into the finalised marine biosecurity plan, which is accompanied by an implementation plan outlining a recommended approach to continuing engagement by key identified parties.

In summary, targeted engagement, including mixed-sector workshops, can foster a shared understanding of cumulative risk, reduce perceptions of blame, and reinforce that while activities differ in risk and regulatory oversight, core biosecurity principles apply across sectors. By promoting community-based, multi-sector collaboration, risk awareness can be enhanced, behaviour change supported, and voluntary uptake of biosecurity measures increased.

Keywords

Stakeholder engagement, Marine biosecurity planning, Biosecurity perceptions

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Conflicts of interest

The authors have declared that no competing interests exist.