Solent Biosecurity Planning: Portsmouth Workshop 1 Report

Findings from the marine invasives and biosecurity workshop held on 15 March 2023 focussing on Portsmouth, Langstone and Chichester Harbours. Please see Appendix 2 for the Agenda.

The audience covered four sectors: commerce, recreation, nature conservation and fisheries/FCERM. See Appendix 1.

Key Findings:

1. The first step in addressing marine invasives is for people to be able to identify and report them. Delegates told us the Identification Guide booklets are useful for harbour offices, visitor centres, events, etc. what is missing from this booklet is an easy way to report any species found.
2. iRecord is too complicated for the casual user, a reporting mechanism needs to be really simple, not need an account and just require a photo and to answer a few simple questions and ideally a scanning feature to confirm species. This is the first step in delivering biosecurity planning by coastal users.
3. We need a simple weatherproof 'report' card to give to people working or visiting the coast. This could have the five main species of concern for the Solent on it and one to two simple actions, e.g. 'report it' and 'action it'. QR codes can be used to link to further information. The artwork for could be used on other material like signs or publications if required.
4. Currently biosecurity material tends to be species led, this needs to change for stakeholders to pathway/activity led. Delegates pointed out that lots of the measures are the same irrespective of the species. Pathway information also needs to include if measures are enforceable and by whom. It also needs to include information on how to dispose of marine invasives.
5. Biosecurity plans are useful for relevant authorities when they want to put in applications for development to satisfy licences and consents and to provide a framework for collating measures, but they are of limited use for day to day operations.
6. There is a lack of information (or access to information) for pathways like habitat restoration, beneficial use of dredgings, commercial hull cleaning, the translocation of live species and the maintenance of infrastructure/vessels.
7. Delegates would like short, simple online learning videos on marine invasives and biosecurity that they can show to staff, this would be especially useful for temporary summer staff and harbour visitors.
8. Large vessel operators asked that, where best biosecurity practice has been put in place, could this be certified, and could this certification be recognised internationally for vessels that move long distances.

Are there any species of concern for your area/sector?

Recreational participants noted that pacific oysters are an issue due to the sharpness of their shells causing access problems in intertidal areas and to the water. In Langstone Harbour a seaweed was found that couldn't be identified.

Commercial participants wanted a clear simple guide to the most prevalent invasive species in their area. The IFCAs raised concerns about pacific oysters outcompeting native oysters, they share hand gathering data on this species with the MMO. American lobster has been found by fishers; this is the marine invasive that they are most familiar with. The issue of eco enhancement of infrastructure was raised and how to ensure this benefits native rather than non-native species, guidance on this was requested. Algae causes issues for commercial fisherman by clogging up nets. There is a lack of knowledge on identifying marine invasives and a question was raised as to whether the presence of one invasive allows subsequent invasives to colonise more readily. Fishermen are concerned that native oyster drill are impacting fisheries and so what are the implications for Japanese/American drill in the Solent. Surveillance and ease of reporting needs to be easier and better facilitated.

Conservation participants are concerned that Algae such as Sargassum muticum competes, and often outcompetes, with seagrass where substrate allows. The Pacific oyster was flagged as an issue for current seagrass and native oyster restoration efforts. INNS in general (intertidal) may be occupying mudflats altering their functionality. For example, the pacific oyster covers expanses of mud flats reducing the available extent of supporting habitat to foraging bird features a possible driver for decline in feature condition. Ecology of areas is changing, and we must be mindful that they aren't just replacing ecological function but could also create alternatives i.e. beds of slipper limpet shells. Colonial ascidians pose a smothering risk to seagrass and native oysters. Regarding Plankton do we understand the implications of planktonic forms?

What pathways are relevant to your area/sector/where you operate? What activities in your area/sector do you think are high-risk for spreading marine invasive species?

Recreational participants reported pathways as recreational boating, commercial dredging, slow moving barges, international vessels that come in to undertake regular construction projects, (licenses contain management measures but not clear enforcement), dry sailors launching from slipways who may travel long distances and bait digging (boot contamination). The increased use of paddlesports could be causing an issue, currently there is no regulation/club guidance.

FCERM participants raised the unintentional consequences of construction leading to habitat that could support INNS. For example, rock armour placement at Southsea may provide habitat for the settlement of INNS. There is a concern that structures may also act as vessel for the wider dispersal of INNS across our coastline. Similar idea to the problem seen with existing disused structures e.g., outfalls.

Projects that provide environmental enhancements are welcome, for example with textured sea walls/vertipools; current data suggests that this isn't always encouraging INNS as rockpools created are often in different environmental niches (away from lower shore where most INNS are found), but the possibility must be carefully considered. It is unclear how the assessment of this risk should be considered in projects.

The Eastern Solent is particularly heavy for vessel-based traffic. Conventions, such as that for ballast water, should be known and adhered to however there are occasions where pathways may exist that are outside of the control of regulations such as in emergency situations.

It is favourable to transport sediment/aggregates from local sources for beneficial use projects, however it is unclear whether considerations for INNS are made. For example, for BUDs, best practice is considered however only CEFAS action levels for disposal are used as standards. Although the same broad function is likely to be delivered with recharge projects, we should be careful to understand impact on species composition. We need good monitoring of projects to better understand this in the future.

For translocation of seed/live specimen pathway we do not have enough information for us to be confident that there won't be an impact, particularly at the microscopic level. Although seed is often taken from neighbouring beds, it is sometimes introduced from further afield i.e. further south as genetic variation in more southern seagrass populations may be more resistant to future sea temperature changes.

Translocation/ culture/ nursey of live specimens could be a pathway. Oyster projects go through a strict biosecurity process but there is a limit to what they can do as they have to be introduced live. There is a strong emphasis on desk based study to understand differences in wider biodiversity between the source and deposit area.

In oyster reef restoration there is concern that they may provide the physical structure for INNS to colonise and hence be a stepping stone for colonisation elsewhere.

Live specimens can be bought online with little or no regulation, they could come from far and wide. For example, the non-native lug worm has recently been recorded.

The IFCAS noted that its larger vessels that travel from region to region (no vessels over 14m allowed in managed areas) so the focus should be on them. There should also be a focus on movement outside of normal range, for example when vessels are moved elsewhere for maintenance.

What is currently being done to manage marine invasive species where you operate?

Currently there is limited management being done in the recreational sector, some yacht clubs have check, clean, dry signs. Marine licensing provides a check on NNS. MDL mercury marina have installed a filter bund, and a seven stage treatment process where the water is treated. Anti-foul measures on boats and a few vessels have a non-stick film that stops NNS sticking (foul release).

Monitoring is often heavily reliant on volunteers and the appropriate scale of funding isn't always available. ShoreSearch is a great example however there isn't a mechanism for rapid response/ alert when species are spotted. Similarly, resources and guides aren't updated fast enough for widespread surveillance of new arrivals.

Regarding current biosecurity plans these are in place for many areas however the focus is often wrong. They should be less about the individual species and more about the general actions required to protect against INNS issues i.e. simple actions that anybody can deploy.

Coastal Partners (FCERM) noted they use 'Check clean dry', monitoring for construction as part of the planning and licences process. They have a construction environmental management plan for works (manual) and contractors must follow procedures. Procedures vary depending on the size of the scheme and whether it is in a protected area. Operational maintenance work has an environmental management plan and risk assessments.

The IFCAs noted that there is information on the American lobster, how to ID, containment, where it was caught, when and by who. Fishers know about this marine invasive and what to do about it through its education campaign.

At the moment the Royal Navy follows the international rule of ballast water being 100% treated or discharged 200 metres away from land. Some vessels are exempt from 100% treatment if they are too small or unable to carry the correct equipment. Other regulations are in place to keep the water clear. Vessels also use high speed wash for species fouling.

What practical actions do you think could be done to reduce the spread of marine invasive species where you operate?

Recreation

- Clean piles and pontoons before reuse, especially before leaving.
- Dry-stacks a cheaper mooring option, can reduce potential for transmission.
- With any practical actions demonstrating how it might benefit the user i.e., how it helps you to get through the marine licensing.
- Giving a simple toolkit to workers on the ground that will be at the forefront of NNS cases for identification.
- Annual lift out and anti-foul could be an option, although all identify it isn't suitable for their ports and harbours.
- Small boat yards need focus, need personal touch and are low on funding to actively invest in NNS training/prevention.
- Where do we dispose of the NNS, that's the issue. Whether pontoons should be scraped off, what's the best way of dealing with it, what are the options for waste disposal? All harbours would like this opportunity.
- Train volunteers (recreational participants) to monitor invasives.
- Key idea would be simplicity – take advantage of workers local knowledge and if you see something different, take a picture, and crucially have a site where this can be uploaded and advice can be sought.
- Staff training for NNS prevention. Free online learning the best option. Keep short and simple.
- Raise awareness to users through social media, email, harbour guides. Sharing other links from external affiliates rather than your own would be preferable, as coming directly from recreational providers often feels like policing for users.

Conservation

- Notification. There is a need to better communicate sightings of concern i.e. rapid alert to allow greater surveillance in the short term.
- Increased education. This should be highly targeted at groups that are most likely to provide pathways for spread. Locations could be targeted such as marinas/ areas where those most

likely to be of concern are found. Behavioural changes are required. There is a need for social scientists to look at this and advise where effort is best placed. Updates to training materials must be made on a regular basis and be accessible. We all have a copy of the Collins guide to the rocky shore however a 20 year old copy won't be representative of our changing shoreline, particularly with regards to INNS.

- Sharing of wider data sets. The group notes that there is a new process for data from ShoreSearch coming through NBN however it has not always been straightforward to access these records to make use of their full potential.
- Induction/ accreditation. The consideration of INNS should be standard practice for all marine users who could provide mechanisms for spread through business as usual. This could include mandatory learning i.e. annual webinar/ perhaps accreditation for marinas who train their staff and uphold higher standards.
- Agreed lists of principles. It would be brilliant for this information to be on the Solent Forum website however we need to be careful not to re-invent the wheel. Information should be congruous with advice issued elsewhere (even in the freshwater sphere). There is a need for guidance produced in the wider landscape/ seascape to help inform the actions taken at a local level i.e. policy/ standards.
- Improvements in legislation to enforce in a meaningful way.
- Improved surveillance. Note that HIWWT have six sites they try to survey annually. Continual data which includes INNS and natives. Long term data set that will continue. Volunteer based citizen science has seen real outcomes in the field for example picking things up such as Asian date mussel. This work could be supported.
- Requirements for existing projects is often vague. It is often seen as a box ticking exercise where it isn't always clear what the developer/ applicant is required to do. For example, the scope of pre-commencement surveys to investigate the capacity for a project to host INNS.
- Existing monitoring of restoration projects. The Oyster restoration projects are subject to annual sampling through grabs which must be reported on. This is analysed by experts so confidence is high. There is however a disconnect between the data that is connected and the use of this data by wider conservation bodies i.e. the project owner retains IP of this data. There is an acknowledgement that this data should go to a common place to be available to secure environmental outcomes for the wider seas. This must be simple and easily disseminated. Acknowledgement that data can be commercially sensitive and that the burden would likely sit with CEFAS. Inclusion of eDNA primer assays.

Fisheries/FCERM

- Tailored, specific toolbox talks to workers, with more specific information – user groups and representative bodies have the mechanism for dissemination but not the information.
- Small leaflet-based approach for fishers, easier to digest and concise, pictures, procedure for dealing with invasive species, simple messaging for what to do.
- Booklets are useful on construction sites and placed in areas where they can be read (tea/coffee facilities).
- Location-specific species to look out for (leaflets for each area/region).
- Information on what people should do if they find something? What steps to take? Easily understandable Rapid Response Plan.
- Where and how should marine invasives be disposed of?
- Could IFCAs manage to incorporate any monitoring measures into their current projects – lack of resources for much additional work. They need clear instructions for what to do.
- Shore-search and sea-search have been useful/successful – would this be applicable to the problem?

- Raise awareness of existing resources e.g., GBNNSS information and content.
- Information on INNS deterrence and management measures for restored or created habitats.
- Need collaboration between organisations to produce consistent datasets for monitoring long-term over wide area. Use of MMO Intel database?

Commerce

- Example of biosecurity in the world: New Zealand and Australia have stringent rules. Any living species on a vessel's haul needs to be removed before coming to shore, otherwise the vessel is turned away. Documentation is also required to prove it's at the standards it needs to be (when/where it was last cleaned etc…)
- It is acknowledged it would be difficult to do that in the UK. Australia and New Zealand are far from other land, but in Europe everything is closer (for example: how would it apply to ferries?)
- Hull cleaning should be more stringently managed. There could be an in-water hull cleaning risk assessment, such as checking where a vessel has been, and what are the risk if cleaning in that port. However, there is a need for more scientific data (how often a species reproduces, depending on season, etc.) For example: if a vessel comes in just for a day does it need to be cleaned? We can only use best available evidence for now.
- A concern about chemicals in coating washing off during high speed or in water cleaning was expressed, in-water cleaning should be contained.
- A possibility of introducing certifications was expressed for the Royal Navy, which should be managed by the Royal Navy. How would it work internationally? Different certifications from other countries might have different stringent requirements/standards (Ex: Libya)

If you think there is potential to implement biosecurity measures where you operate, in what format would you like biosecurity material in order to facilitate implementation?

Attendees wanted electronic information with lots of links to resources, standardised accessible e-learning and templates/ checklists for considerations that need to be made prior to the submission of projects. We need to have copy that is fun and engaging for people to use in newsletters, harbour guides, social media etc to reach users.

Considerations also need to be made for people in the field. Physical resources are often better for this and its good if these are weather proof like diving slates. Information that can be accessed and read easily via phone is useful.

A regional biosecurity document as a guide would be useful, with easy steps to follow for harbour and other regulatory authorities. It would be better if general regulation were enforced within existing legal remits.

What do you believe the next steps are in agreeing a biosecurity plan for this area?

Agree common pathways, prioritise solutions depending on ease, cost and how quickly they can be implemented. Make it simple is the key.

Producing the plans, collating existing available evidence and disseminating information in an accessible and timely manner. Facilitate knowledge sharing between relevant regulatory organisations (MMO, IFCAs, EA, NE), use of the Intel database suggested. Agreement across a sector is essential. Must be deliverable.

There is a need for local councils to consider how to take specific environmental measures, for example a clear statement in the lease (and specifying action will be taken if the rules are not followed). But who takes responsibility, owner, landlord, tenant? This should be made clear.

Working on a common baseline; feasibly it will have to be generic, and not go into specific species depending on sites. However, it will not necessarily work for all (ex: Sailing club: difficult to regulate, as they visit various other clubs, etc). Overall, it was agreed that if a protocol is put into place, compliance is taken seriously. The appropriate staff to deal with NNSs (staff, capacity, knowledge) is also required.

Appendix 1:

Delegates

Louise MacCallum	Blue Marine Foundation, Solent Project Manager
Sarah Chatfield	CHaPRoN Manager, Chichester Harbour Conservancy
Zoe Palmer	Coastal Partners, Coastal Environmental Engineer
Lucy Sheffield	Coastal Partners, Coastal Environmental Project Engineer
Helen Jex	Hampshire County Council (Estates Surveyor)
Ellie Parker	HIWWT Marine Officer, Solent Seagrass Restoration Project
Emily Stroud	HIWWT Senior engagement officer
Tim Ferrero	HIWWT Senior Specialist - Marine Conservation
Kirstyn May	HIWWT/UoP
Jake Wilson	Inshore Fisheries and Conservation Research Officer - Sussex IFCA
Meg Roberts	Langstone Harbour Board - Environment Officer
Adam Sennitt	Marina Projects, Project Manager
Alison Fowler	River Hamble Harbour Authority, Environment & Development Manager
Rachel Abbey	Royal Navy, Navy FGen Ships Eng ME SO2 Prop
Rod Jones	Royal Navy, Senior Environmental Protection Adviser
Fay Pisani	RSPB Project Development Manager Three Harbours
Liberty Cast	Southern IFCA
Kate Dey	University of Portsmouth (studying INNS)/forthcoming Marine Planner with MMO
Angel Gomez	University of Portsmouth (Student)

Staff:

Katie O'Shaughnessy – APEM Ltd

Lucy Lintott – APEM Ltd

Chris Wood – Marine Biological Association

Karen McHugh – Solent Forum

Kate Ansell – Solent Forum
Jess Taylor – Natural England
Marina Rees – Natural England
Connor Reid – Natural England
Jack Bush – Natural England

Appendix 2. Agenda

- Welcome and aims of workshop – Karen McHugh (Solent Forum)
- Why we are doing this work – Jess Taylor (Natural England)
- Introduction to marine invasive species – Katie O'Shaughnessy (APEM, Ltd)
- Invasive species display – Chris Wood (Marine Biological Association)
- Introduction to biosecurity – Katie O'Shaughnessy (APEM, Ltd)
- Discussion breakout sessions – all
- Summary of major discussion points – Katie O'Shaughnessy (APEM, Ltd)
- Closing statements – Karen McHugh (Solent Forum)