What is Biosecurity Planning?

Biosecurity planning is a way of managing and lowering the risk associated with Invasive Non-Native Species (INNS). The key action in a biosecurity plan is for the water body site manager to identify the risks (e.g. activities which could introduce INNS) and come up with mitigating actions. There are almost always sensible steps that can be taken to reduce the risk of moving species from one place to another and to reduce the likelihood of the species becoming established. The GB Invasive Non-Native Species Framework Strategy has a three-tier approach:

- ***Prevention***: making sure new species do not enter the country. This is the most effective and least environmentally damaging, but also can be quite difficult.
- ***Rapid Response***: early detection and surveillance. If a species is not established yet, there is the potential for eradication if action is taken swiftly enough.
- ***Control & Containment***: where the INNS is widespread and eradication is not feasible, control of the population and mitigation against negative impacts such as spreading to other areas is critical.

Given the high costs for the mitigation, control and eradication of INNS once they are established prevention is the obvious first choice and biosecurity planning is an excellent way to achieve this.

Managers of commercial or recreational facilities such as canal boat moorings, marinas, water treatment plants, fishing lakes, reservoirs or river access points for canoeists and kayakers should consider having an official biosecurity plan.

Writing your plan

Sections in your biosecurity plan are likely to cover the following topic areas:

1) Introduction and Scene Setting

- Site name, area covered and a site map
- Name of Biosecurity Manager/Officer or responsible person or organisation/group
- Plan duration and review date
- Plan review process
- Location of biosecurity logbook

2) Environmental Information

- ***Site description*** – key features of the site that will affect biosecurity: what sort of area is it, volume of fresh water feeding in and out, types of sediment, points of access, structures on the site such as weirs, slipways or moorings
- ***Sensitive habitats and protected features/areas*** – list any protected areas within or near the location and include information about why the areas are designated and any concerns noted about the potential impact of INNS.
- ***Known environmental management measures*** – any protected areas will have some management measures in place and/or targets for maintenance of status; use these to inform the development of your plan.
- ***Condition assessment (if available)*** – many, but not all protected areas/sites will have a condition assessment done. These documents give useful biological background information and, where they exist, they are very useful.
- ***INNS known to be present*** – Search by area or by species on the National Biodiversity Network/Atlas site.
- ***INNS likely to be of concern to your site (horizon scanning)*** – compile your own list of species you think may be high impact; consider working with a professional biologist or ecologist for extra support.

3) Pathways and Risk Assessment

List the main ways INNS can arrive in the area (pathways) and be spread around – for example, the different types of boats or equipment brought in by users. Describe the activities in a way which helps to identify the risks associated with them. This could include the frequency of use by different groups, the length of stay at your facility, and what activities they will be undertaking before leaving. Take into account the likelihood of transfer from vessels or equipment being brought in from another waterway.

Example freshwater pathways

Transfer from other watercourses

Vessels such as boats on trailers or equipment such as fishing bags can be a very suitable habitat for transporting non-native species. One study found that larvae of zebra mussels were found in bilges, bait buckets and engines with live wells being the most infected water on transient boats. There was little transfer due to direct attachment on hulls, but significant transfer from aquatic plants entangled on trailers.

Another study from 2014 found that 12% of anglers and 50% of canoeists said that they moved between water bodies without cleaning or drying their kit between uses and 8% of anglers and 28% of canoeists had used their equipment overseas without cleaning or drying it. This could easily facilitate either the introduction or secondary spread of INNS in the UK.

4) Biosecurity action plan

In this section, write a plan for mitigating each of the identified risks. The document on the RAPID LIFE website, *Freshwater Good Practice Guidance for Users and Site Managers,* gives practical advice on measures that can be taken to lower the risk of introducing or spreading non-native species.

The most effective means of preventing spread from one water body to another is to advise all users, including hikers and casual users such as dog walkers, to follow the Clean, Check, Dry protocol. Posters and signs with advice for different users are available for download at the link provided.

Other actions might include having staff inspect incoming trailers and vessels for visible plant material or standing water. If present, remove or pressure wash at a washing station ensuring that nothing enters the waterway. Ideally, access and egress for boat users and anglers should be limited, preferably to a single point, and users should log in and out, confirming that they have cleaned and inspected their equipment. If possible, items such as launching trolleys and drogues should be provided at the site and used in preference to personal equipment.

The actions chosen should be the ones that are key for your site and achievable for you and your staff.

Events

Events also have the potential to bring in new INNS. In your plan list possible types of events and identify opportunities to reduce their biosecurity risk. For example, there may be an international kayaking competition using the river, plans to construct a new marina, or triathalons. Establishing contact with the relevant people, such as the contractors or event organisers, at an early stage and creating an appropriate biosecurity plan will be more effective than any retrofitting of actions.

A useful guide to biosecurity for events is available from the Cumbria Freshwater Non-Native Species Initiative (CFINNS).

5) New sightings of INNS and rapid response

Even with good biosecurity procedures in place there is potential for new INNS to arrive in the area. It is important that the response to such an event is rapid and proportionate to the threat posed.

A list of “alert species” that should immediately be reported is available at: http://www.nonnativespecies.org/alerts/index.cfm

Signposting in the area should be clear that any staff or members of the public who notice any new plants or animals should notify the named contact at the earliest possible opportunity.

In this section you should lay out guidance for stakeholders about what to do if a new INNS is found in the area. Typical actions which could be included in such plans are laid out below.

Event	Action

Unusual/unknown species found	• Photograph specimen. Record location and approximate size of area affected.
	• Submit the report to iRecord where an expert will review the record https://www.brc.ac.uk/irecord/
	• Once identified:
	  ○ If INNS known from area then simply record sighting in Biosecurity Log book and report via www.brc.ac.uk/irecord/enter-non-native-records
	  ○ If low/medium risk UK INNS not previously known from area record sighting, inform others through email alert group and record as above.
	  ○ If high risk INNS not found locally or not known from UK see box below.

High risk INNS found; not previously found locally but present elsewhere in UK, e.g. Quagga Mussel **OR** **High risk INNS found; not currently present in UK**	• Photograph specimen, record location and approximate size of area affected. • Submit the report to iRecord immediately https://www.brc.ac.uk/irecord/ • If practicable, carefully remove specimen(s) from water. If feasible, keep specimen in a pot/bucket of water for expert to examine. Make sure this is kept securely and disposed of appropriately and cannot contaminate other waterbodies.

For some new high-risk species, particularly those that are not yet present or established in the UK, a rapid response by Government could be triggered by new records. This response would be coordinated nationally by the responsible authority. Generally a visual survey of the site containing INNS, including vessels and infrastructure would be conducted to:

- Determine the size and distribution of the INNS population at the site.
- Assess the risk posed by the INNS.
- Assess possibility of treatment and removal of INNS.

Additionally other users, e.g. fishermen, local recreational boaters would be informed of the detection and advised that extra caution should be taken to avoid further spread.

6. Biosecurity Log

Your biosecurity plan should include a 'Biosecurity Log' section where the following information can be regularly updated:

- Monitoring dates and record of compliance
- INNS sightings and record of actions taken
- Treatments and results
- Useful contacts, kept up to date. This could include the following groups:
    - National or local organisations, e.g. Environmental Forums, River Trusts
    - Agency contacts e.g. Natural England, Non-Native Species Secretariat
    - Company contacts, e.g. water companies, fisheries
    - Local clubs e.g. boating, canoeing, kayaking, rambling and angling clubs
    - Local land owners and managers
    - Nearby water bodies and harbours
    - Expert taxonomist
    - Education contacts e.g. those interested in studying INNS and those who could provide training and support

7. Monitoring

This section should set out a plan to track what INNS are in your area and the effects of your biosecurity plan actions. There may be monitoring activities already happening in the area such as volunteer or statutory body biological surveys – find out what is already recorded by organisations such as The Rivers Trust or the Environment Agency.

If there are gaps, plan actions to begin to address them. This could include working with a local volunteer biological recording group to do a bio-blitz survey or you may want to work out a monthly or quarterly walk around a designated area recording any unusual growth or animals or any reduction of problem species in the area.

Opportunities to work with universities and other academic institutes should also be considered. Research undertaken by universities, including PhD and MSc students, as well as people on short courses could all be useful to help with site monitoring.

8. Revisiting the biosecurity plan

You should revisit your plan each year and see if anything needs to be added or updated. This could include recording new facilities such as a washing station or clubhouse that have been planned, new INNS that have been recorded in the region, or new staff who have taken on responsibilities for implementing your actions.

Useful documents

A number of documents including biosecurity information for anglers and boaters and guides to minimise risk of moving non-native organisms are available here.

Advice on practical measures: *Freshwater Good Practice Guidance for Users and Site Managers*

Examples of Freshwater Biosecurity Plans

Cumbria Freshwater Non-Native Species Initiative Biosecurity Plan

Firth of Clyde Biosecurity Plan (includes some marine biosecurity planning)

The River and Fisheries Trust for Scotland (RAFTS) have a comprehensive set of riverine biosecurity plans for their 20 members.