

Pre - Consultation Draft

Northern Ireland (NI) Invasive Non-Native Species (INNS): Recreational Boating Pathway Action Plan (PAP)

Background

Reducing the risk posed by pathways of introduction and spread is a key way of tackling INNS. The Northern Ireland Alien Invasive Species Strategy calls for the development of Pathway Action Plans (PAP) and they are also a requirement of the EU IAS Regulation. They can also form an element of the programme of measures under the Marine Strategy Framework Directive. This Pathway Action Plan is one of a series of plans intended to address pathways of introduction or spread of non-native species in Northern Ireland. The plan outlines the general policy and approaches as well as deliverables by government and other actors in relation to this issue.

Scope

This PAP is for recreational boating, broadly defined as the use of boats designed or adapted for sport or leisure, whether by sail, paddle and/or power. This includes, but is not limited to, dinghies, yachts, canal boats, personal water craft (commonly known as “jet skis”) and craft used for paddle sports, as well as the trailers and equipment used by such.

This PAP does not cover commercial vessels and their ballast. Reference to ‘boats’ or ‘boating’ herein is therefore intended to refer to a wide range of craft, in line with this definition.

The geographical scope of the PAP is Northern Ireland in cooperation with corresponding organisations in Ireland.

This plan was prepared by the Northern Ireland Environment Agency (NIEA) in conjunction with relevant stakeholders. (see Annex 1 for list of Working Group Members – to be confirmed).

The Northern Ireland Environment Agency (an agency of the Department of Agriculture Environment and Rural Affairs), will coordinate development of the Recreational Boating PAP and, along with other divisions of DAERA, monitor the implementation of the listed actions.

The Working Group membership will be confirmed within 6 months of the final publication of this PAP. The group will be responsible for assessing progress and implementation of the PAP.

This PAP necessarily takes a risk based approach to prioritising actions and focuses on key activities / sectors within recreational boating for which biosecurity is particularly important.

Rationale

We currently have about 100 invasive non-native freshwater and marine species established in NI. In recent decades the rate of arrival has accelerated. In NI most recent freshwater arrivals have been Asian clam (*Corbicula fluminea*) and Bloody Red Shrimp (*Hemimysis anomala*). There are many more aquatic invasive species with the potential to arrive and establish in NI, including plants that can clog freshwater lakes and navigations, marine species that can foul boats and propellers and aquatic invertebrates which can completely alter natural ecosystems.

The route by which INNS potentially arrive on recreational boats is also not known with certainty. In terms of freshwater species a small study at GB ports suggested that in the region of 14,000 recreational boats (including canoes / kayaks) are brought overland into GB and NI from abroad each year. Many (most) of these will be freshwater vessels which could potentially carry organisms if not carefully checked, cleaned and dried.

In recent years an extensive navigation network from Ireland to Northern Ireland for cruisers and other pleasure craft has been created, mainly via the Shannon Erne Waterway and the continued development of the Ulster Canal. Facilities for operators of small craft, including angling boats, powerboats, jet skis, sailing craft, kayaks, rowing boats and canoes, are also readily available in a wide range of aquatic habitat settings throughout NI.

Vessels may also sail directly from freshwater locations in continental Europe to freshwaters in GB, NI and Ireland; however, it is thought that this is a small risk given relatively few vessels make this journey and the period in salt-water will reduce the risk of organisms remaining attached. In terms of marine species, the main risk is thought to be vessels sailed directly to NI/Ireland from continental Europe or GB with fouling attached. However, marine vessels imported overland and put into the water could also be a risk. Although there are uncertainties about introduction pathways, the proven potential for negative impacts from invasive non-native species means that a precautionary approach is required.

Good biosecurity is critical to reduce the risk of introduction and spread of aquatic invasive non-native species. In 2011 the GB government introduced the Check Clean Dry (CCD) public awareness campaign aimed at improving biosecurity amongst water users. NI have fully adopted CCD and have adapted the resources from this campaign and promote CCD via the [Invasive Species Ireland](#) website and multiple leafletting campaigns.

There is a [European Code of Conduct on Recreational Boating](#) that has been developed under the Bern Convention. This area is also covered by domestic legislation – most importantly the Wildlife (Northern Ireland) Order (1985) (as amended) which provides a general prohibition on the release or allowing the escape of any non-native species of animal or plant in Northern Ireland.

Relevant NI Acts/Orders/Policy Instruments.

The Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019

EU Invasive Alien Species Regulation (1143/2014)

The Wildlife (Northern Ireland) Order (1985) (as amended)

Wildlife and Natural Environment (WANE) Act 2011

Water Framework Directive

Marine Strategy Framework Directive

However, legislation alone is not sufficient to manage and lower the risk associated with introducing or spreading INNS. It requires cooperation and collaboration from all concerned, each sector is part of the solution and plays an important role in INNS management and implementing best biosecurity practice. This plan sets out additional actions to help minimise the risk of introduction and movement of INNS caused by recreational boaters.

NIEA has adapted the GBNNSS adaptation of the Bern Convention code of conduct and tailored it to the needs of NI (Annex 2). It has also developed and agreed with agencies in GB, biosecurity guidance for boat users (Annex 3). Its primary output, however, has been to agree a series of measures to raise awareness among key actors in this sector and to strengthen existing biosecurity mechanisms. These actions are outlined below and they form the main body of the action plan.

Aims and objectives

The overall aim of the PAP is to reduce the risk of introduction and spread of invasive non-native species by recreational boat users based on international good practice.

Specific objectives are to:

- Raise awareness of Check Clean Dry protocols and facilitate their adoption by all among recreational boaters, particularly at priority sites and events, where adherence must be made a condition of participation by organisers.
- Officially request event organisers and clubs to adopt Check Clean Dry protocols and insert into club/organisation TORs.
- Officially request land owners and facilities managers (e.g. marina operators, club houses, etc.) to raise awareness of biosecurity among their users and put in place systems to facilitate good biosecurity.
- Consolidate biosecurity guidance for recreational boating and facilitate the production of clear, practical guidance where necessary.
- Identify gaps in evidence, assess risks, identify biosecurity measures and recommend ways to overcome these.

Prioritising Actions

Recreational boating includes a broad range of different vessels (from small kayaks to large yachts) and a diverse range of activities (from individuals paddling on their local water body to large and well organised international team / club events).

While all recreational boaters should be aware of and implement good biosecurity, some activities are more likely to pose a biosecurity risk than others. For example, boats used abroad and brought back to NI are more likely to pose a risk of new introductions than those used exclusively within NI, and boats moved regularly between NI/Ireland water bodies are more likely to spread INNS than those used on a single body of water.

The development of this PAP included work to identify the highest risks and boating activity areas that need the key focus initially or need more work to raise awareness and find biosecurity solutions. This PAP provides broad

biosecurity guidance and actions relevant to all recreational boaters, but also focuses (initially) on particular activities considered a priority.

These are:

- Any recreational boat entering NI waters directly from Ireland e.g. Shannon Erne Waterway, from GB (on trailers), abroad or via road trailer from Ireland
- Freshwater boats (particularly dinghies, windsurfers, personal water craft, canoes and kayaks) moving between water bodies, particularly those moving between otherwise unconnected catchments.
- Boats that use canals and other inland waterways, particularly those being taken out and moving long distances between otherwise unconnected parts of the canal network, or moving from high risk sites.
- Marine vessels, particularly those moving long distances or being taken out of / put into the water for example skiffies
- NIEA acknowledge that adopting biosecurity good practice may be more straight forward for some sectors, but difficult for others. In particular, check, clean, dry procedures can be difficult to apply to large vessels that are generally kept in the water (e.g. canal boats and large marine yachts).

For this reason, this PAP is focused on practical actions that can be taken to reduce the most significant risks.

Key Actors

- Northern Ireland Government DAERA Marine/Inland Fisheries/NIEA/Forest Service (manage access / water bodies)
- Waterways Ireland
- Loughs Agency
- Lough Neagh Partnership
- NI Local authorities (who manage recreational boating lakes / rivers)
- Port and Harbour Authorities/Commissions (e.g. Belfast Harbour)
- Belfast Maritime & Coastguard Agency
- Irish Coastguard
- Royal Yachting Association Northern Ireland
- Powerboat Association of Ireland
- Canoe Association of NI (CANI)
- CanoeNI

- OutdoorNI
 - Tourism NI
 - Sport NI
 - Northern Ireland Marine Task Force
 - Marine Conservation NI
 - Angling Federations (fishing from boats)
 - Rowing Ireland/Rowing Ulster
 - NI Water and other asset owners
 - Diving Clubs
 - River Trusts
 - Boating competition organisers
 - Boating holiday organisers
 - Marinas (Ireland, GB, etc.)
 - Sailing / canoeing / kayaking / rowing clubs
 - Boating equipment retailers
 - Water based activity/adventure outdoor pursuits companies
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Draft actions for discussion

Biosecurity at the border and international cooperation

Action 1 (freshwater)

Run a border biosecurity campaign concentrating on the high risk points of entry to Northern Ireland – mainly ferries from England, Wales and Scotland and those coming in directly to Ireland from the European continent & thereby seek cooperation with inspectors at Ireland ports to protect direct access to NI waters.

Action 2 (freshwater)

Liaise with Welsh and Scottish Governments who will run a CCD campaign at Welsh ports connecting to the Irish Republic and on ferries between Scotland and Ireland.

Action 3 (freshwater)

DAERA as members of BIC INNS Group will work with other member jurisdictions to establish and run a BIC Aquatic Biosecurity group to agree co-ordinated measures, including action at ports, Eurotunnel and on ferries.

Action 4 (freshwater and marine)

Defra/NNSS will lead on liaison with the European Commission and relevant EU Member States to agree a programme of action related to aquatic biosecurity (and the spread of Ponto-Caspian species). This will target:

- Continental boaters coming to GB and NI
- NI boaters returning from the continent
- Marine vessels sailing to GB, NI and Ireland

Action 5 (freshwater and marine)

The Royal Yachting Association NI, CANI, Canoeing, Irish/Ulster Rowing and British Marine (and others) will promote the EU Code of Conduct and encourage EU member states' boating organisations to adopt CCD.

Event biosecurity

Action 6 (freshwater and marine)

DAERA Marine/NIEA will work with organisations such as Royal Yachting Association NI, CANI, CanoeNI, Irish/Ulster Rowing and British Marine to

annually compile a prioritised list of events / competitions to be targeted for heightened awareness-raising such as biosecurity demonstrations etc. Separate lists will be developed for freshwater and marine activities and agreed by the working group.

Action 6A (freshwater and marine)

Relevant organisers/owners will implement heightened awareness-raising activities at the prioritised sites/events.

Club and boat user biosecurity

Action 7 (freshwater and marine)

The Royal Yachting Association NI, CANI, CanoeNI, Ireland/Ulster Rowing, British Marine, River Trusts (and others) to disseminate awareness raising materials, aiming to have posters in all club houses and training centres and frequent messages in magazines, mail outs, social media and other communications materials.

Action 8 (freshwater and marine)

All the aforementioned overarching bodies will request all clubs to add the biosecurity clause (Annex 4) to their constitutions, award systems and ideally any other contractual agreements (e.g. agreements to use / keep boats). This may be direct, or by including biosecurity in model constitutions provided to clubs.

Action 9 (freshwater and marine)

DAERA Marine/NIEA will assist RYANI, marina operators, CANI, CanoeNI, River Trusts etc. to implement training programmes for basic boat usage and marina operators, linked in with their renewal applications. In addition, biosecurity will be included in relevant inductions (e.g. for marina staff) and at other key points (such as inductions for those hiring boats).

Action 10 (freshwater and marine)

The Boating PAP working group (working with the aforementioned overarching bodies) will identify companies that transport recreational boats and aim to raise their awareness that boats need to be clean before transportation

Site biosecurity

Action 11 (freshwater and marine)

Water Companies, Canal & River Trusts, NIEA, Crown Estates Northern Ireland, RSPB, Wildlife Trusts, Councils, etc. will put a reference to carrying out biosecurity (e.g. Biosecurity Annex) into all lease and management agreements related to boating (as they come up for renewal)

Action 12 (freshwater and marine)

DAERA will request all marinas to add a biosecurity clause to their berthing agreements. DAERA will also ask marinas not to allow heavily fouled boats (i.e. more than a slime layer) to be put in the water at their marinas. If already in the water and heavily fouled, marinas will ask boat owners to lift and clean their boats if they wish to continue keeping their boat at that marina.

Action 12A (freshwater and marine)

DAERA Marine and NIEA will explore the possibility of developing an accreditation scheme for marina operators that follow good biosecurity practice or will add INNS good practice to existing environmental recognition schemes.

Action 13 (freshwater and marine)

DAERA Marine/NIEA will encourage marinas and boat yards to provide suitable capture and filtration systems in hull cleaning areas and, where such facilities are not available, provide advice on simple methods for minimising the risk of INNS and other pollutants entering water bodies when cleaning is taking place.

Action 14 (freshwater and marine)

DAERA Marine/NIEA in discussion with stakeholders will compile and maintain a list of freshwater (in the first instance) sites/waterways which contain critical INNS (at UK, or Ireland levels) that are a priority to contain/slow the spread (see Annex 7 for NI critical species list) and where recreational boating occurs.

Action 14A (freshwater and marine)

Owners and managers of these sites will install facilities and signage to promote very high biosecurity, this may include:

- Single point of access and egress where possible
- Suitable hard standing (and boat storage) where relevant / possible
- Hot water (including steam) wash down facilities if possible (cold if not)

- Large prominent signage
- Enact biosecurity by-laws where possible

Action 14B (freshwater)

Waterways Ireland, River Trusts, NIEA/DAERA and other relevant stakeholders will identify 'pinch points' in the canal network (such as the Shannon/Erne Waterway) on which biosecurity effort could be focussed to reduce the risk of spread from Ireland to Northern Ireland catchment network and implement proactive biosecurity measures at these points.

Action 15 (freshwater and marine)

DAERA/NIEA with support from NNSS resources, will provide site-based biosecurity training for freshwater and marine marina / harbour operators in high priority areas (i.e. those identified in Action 14).

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Data requirements and evidence gaps

The actions in this PAP are based on available evidence relating to the risk posed by recreational boats and potential mitigation. However, there is relatively little evidence available and further research could help to better understand and target biosecurity action. The Recreational Boating PAP working group highlighted particular evidence gaps that should be considered a priority:

1. Research is required to better understand what proportion of freshwater boats could be contaminated with viable INNS and whether there are different levels of risk associated with different types of vessel, parts of vessels or activity.
2. Linked to (1), research is required into the effectiveness of check, clean, dry at removing viable INNS.
3. Do materials boats are made from make a difference to that ability – wooden – clinker/carvel, fibreglass, steel etc?
4. There are still large gaps in our understanding of the number of vessels (particularly freshwater) that enter NI/Ireland waters, from where and by which route.
5. The extent to which fouled marine vessels arrive in NI/Ireland is not quantified. It would be useful to understand the extent to which this occurs and, more importantly, where the majority of heavily fouled vessels originate from and where they arrive in NI/Ireland.
6. For marine vessels and canal boats a major barrier to good biosecurity is the practicality of cleaning them. Research and innovation in improved methods could help to improve biosecurity.
7. Establish public database of any current locations where cleaning is carried out.

Monitoring and updating

The working group, once confirmed, will be convened every 6 months to assess progress with achieving the actions. The group will consider all relevant information including the following:

- Number of organisations/clubs/authorities/sites signed up to adopt/promote CCD.
- Changes to baseline awareness and uptake of biosecurity among recreational boaters (following public attitudes survey)

Annex 1 Proposed Working Group Membership (TBC)

Waterways Ireland (Chair)
Royal Yachting Association NI
Department of Agriculture Environment & Rural Affairs
Belfast Harbours
All Ireland Rivers Trust
Loughs Agency
Lough Neagh Partnership
Marine Management Organisation
Ulster Angling Federation
Ulster Coarse Fishing Federation
Northern Ireland Federation of Sea Anglers
Northern Ireland Water
Northern Ireland Marine Task Force
Canoe Association of NI (CANI)
CanoeNI
Ulster Rowing
Tourism NI
Cross border agencies/Irish Government

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Annex 2: NI Code of Conduct on Recreational Boating and Invasive Non-Native Species

Ideas and texts for this code were drawn from the Council of Europe European Code of Conduct on Recreational Boating and Invasive Alien Species and tailored to fit the requirements of Northern Ireland. It is primarily aimed at clubs and boating organisations as well as the managers and landowners of sites where recreational boating occurs.

Background

Invasive non-native species (INNS) are plants, animals and diseases that are introduced by people and which have a negative impact. They are one of our most important environmental threats and can cause substantial economic damage and impacts on human health. The estimated annual cost of invasive species to the economies of Ireland and Northern Ireland is £161,027,307 (€202,894,406) and £46,526,218 (€58,623,034) respectively. The current estimate of the annual combined UK and Ireland cost is £2 billion (€2.5 billion). (Kelly, J., Tosh, D., Dale, K., and Jackson, A., 2013. The economic cost of invasive and non-native species in Ireland and Northern Ireland. A report prepared for the Northern Ireland Environment Agency and National Parks and Wildlife Service as part of Invasive Species Ireland). They can cause problems for recreational boat users damaging equipment, fouling submerged structures, blocking water intakes, increasing maintenance costs, affecting navigation and reducing access to waterbodies.

Adopting preventative measures to avoid unintentional introduction and spread of INNS is widely accepted as the most effective approach to tackle their threat. The EU Invasive Alien Species Regulation and Invasive Alien Species Strategy (Northern Ireland) both aim to target pathways of INNS introductions, prioritizing them and putting measures in place to minimize their introduction and establishment.

Recreational boating broadly defined as the use of boats designed or adapted for sport or leisure, is a potential pathway for both the introduction and spread of aquatic INNS in NI. Recreational boating is the leisurely activity of travelling by boat, or the recreational use of a boat. Approximately 3.9 million UK adults participated in a boating activity in 2018, constituting 7.3 percent of the population, meaning there is a significant risk that INNS could be introduced to or spread within NI or Ireland on boats, trailers or boating equipment. It is anticipated that through education, awareness raising and behaviour change

we will reduce the risk of introduction of INNS by recreational boating and ensure that boating forms part of the solution, acting as the 'eyes and ears', spotting and reporting the spread of INNS as well as participating in their control and eradication (volunteers and Citizen Science).

This code of conduct aims to encourage effective practices to prevent future movement of INNS by recreational boating activity. Boating organisations and institutions hosting boating activity on their waters also have an important role to educate boaters on the impacts of INNS and the importance of biosecurity. The recommendations outlined here aim to increase the engagement of boating organisations in their role in raising awareness of INNS.

Measures

This code consists of different measures for (1) clubs and boating organisations, and (2) managers and landowners of sites where recreational boating occurs, which are set out below. In each case the code is separated into suggested minimum measures and more advanced recommendations to follow where possible.

(1) Clubs and boating organisations

Suggested minimum:

- Assess the risks associated with activities undertaken by the club / organisation including equipment used and sites visited.
- Inform staff and members of the risks posed by INNS and the need for good biosecurity.
- Provide biosecurity training opportunities for staff, members and others.
- Provide adequate biosecurity equipment, including cleaning facilities and drying rooms.
- Support awareness raising activities to inform all boaters about INNS and encourage good biosecurity (e.g. Check Clean Dry campaign, Invasive Species Week), including providing signage and guidance.
- Be aware of and comply with relevant policies, laws and byelaws, e.g. those that relate to boating and / or biosecurity.

Where possible:

- Appoint a biosecurity manager / champion within the organisation who will have responsibility for ensuring biosecurity measures are implemented.
- Recruit volunteers or staff members to supervise biosecurity procedures at meetings, events etc.

(2) Managers and landowners of sites where recreational boating occurs

Suggested minimum:

- Assess the risks associated with activities undertaken on the site, including pathways of introduction into and away from the site, points of access and equipment used.
- Develop a biosecurity plan to minimise risk, including limiting access points, providing biosecurity facilities, raising awareness and implementing relevant regulation.
- Inform staff and site users of the risks posed by INNS, the need for good biosecurity and know what to do / who to report to if an INNS is found at the site.
- Provide biosecurity training opportunities for staff, members and others.
- Provide adequate biosecurity equipment, including cleaning facilities and drying rooms.
- Support awareness raising activities to inform all boaters about INNS and encourage good biosecurity (e.g. Check Clean Dry campaign, Invasive Species Week), including providing signage and guidance.

Where possible:

- Limit access and egress to the water, preferably to a single spot. This is particularly important where a new INNS has been identified and it is recommended that boaters should log in and out of site confirming they have checked and cleaned their clothing and equipment to allow containment.
- Provide boats and equipment at the site and use these in preference to personal equipment brought in from off site.
- Provide biosecurity stations / cleaning facilities. These should not be connected to the drainage system and should be inspected regularly.

- Appoint a biosecurity manager / champion within the organisation who will have responsibility for ensuring biosecurity measures are implemented.
- Recruit volunteers or staff members to supervise biosecurity procedures on the site.

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Annex 3. Biosecurity guidance for boat users

1. Background

This guidance refers to recreational boating, which is broadly defined as the use of boats designed or adapted for sport or leisure, whether by sail, oar, paddle and/or power. This includes, but is not limited to, dinghies, yachts, canal boats, personal water craft (commonly known as “jet skis”) and craft used for paddling and rowing activities. The trailers and associated equipment for these types of boats is included. It does not cover commercial vessels and their ballast. Reference to ‘boats’ or ‘boating’ herein is therefore intended to refer to a wide range of craft, in line with this definition.

Good biosecurity practice should be followed by all those involved in recreational boating to avoid the introduction and spread of invasive non-native species (INNS). However, some activities are more likely to introduce or spread INNS than others. In cases of heightened risk, more comprehensive biosecurity measures are required. Different biosecurity measures may also be required depending on the vessels and activities involved. The aim of this document is to provide a single text that brings together broad biosecurity advice for different activities, vessels and levels of risk associated with recreational boating.

This guidance is aimed at those that advise boat users, but can also be followed by boat users themselves. It can be modified / elaborated if necessary to suit a particular need or activity as long as this is in support of the basic principles of biosecurity.

This guidance was compiled by the GB Recreational Boating PAP Working Group - NISA have adapted some of the content to be specific to Northern Ireland.

2. Principles of biosecurity, relevant to all recreational boat users

Recreational boats moved between water bodies, or sailed to new stretches of water, should be free of viable material (e.g. seeds, plant / algal fragments, eggs, larvae, animals) that might introduce a non-native species. In practice, these can be very small (sometimes not visible to the naked eye), so boat users and commercial providers should make sure no visible organic matter or

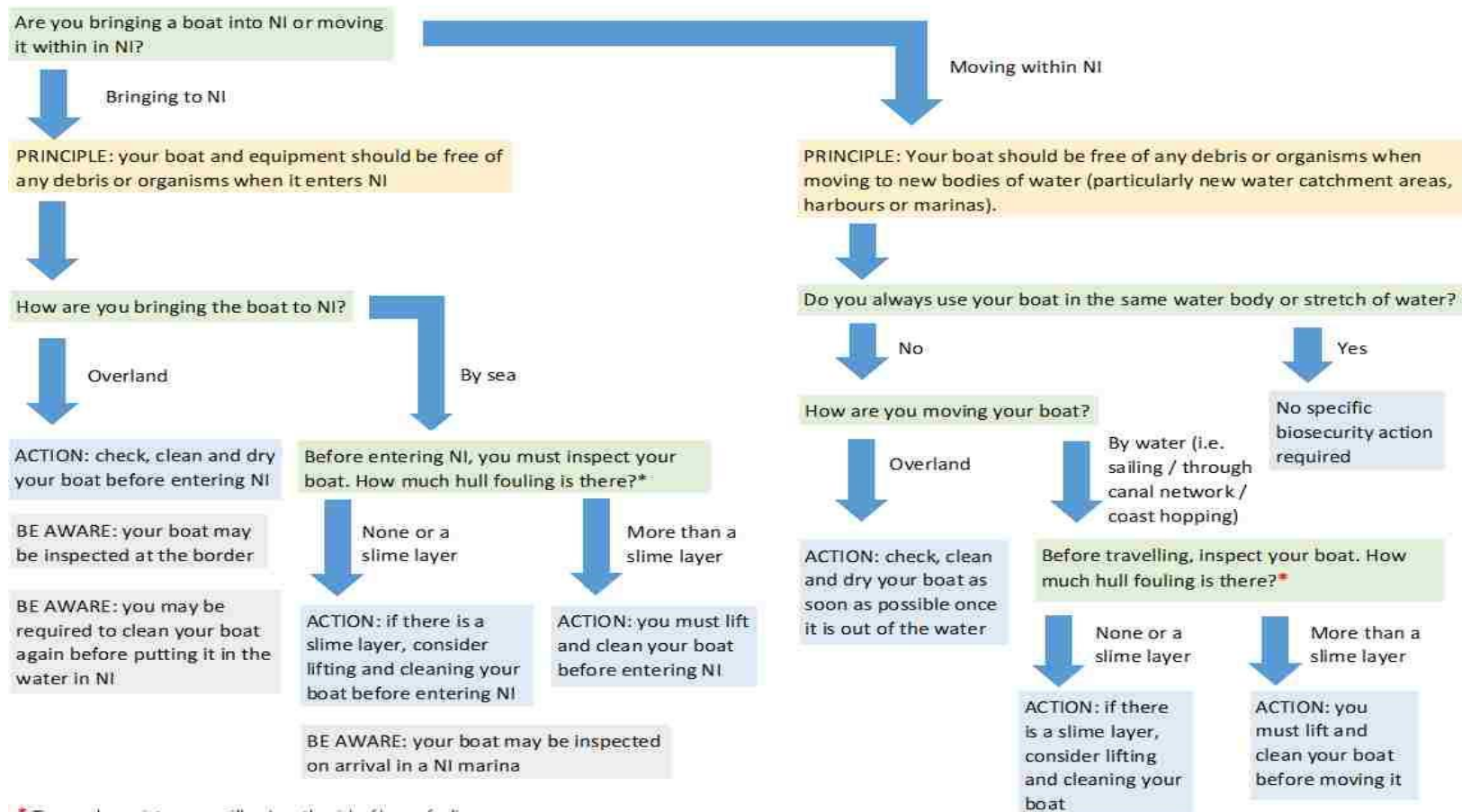
water is moved with the boat and that the boat is checked, cleaned and dried (where practical) between movements. While biosecurity is important for all movements of recreational boats it is particularly important when bringing a boat into Northern Ireland from abroad or moving a boat between unconnected water bodies and coastal regions.

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3. Decision tree to help identify biosecurity actions

This diagram provides a quick reference guide to what biosecurity action must be taken in different scenarios, recognising some activities may be associated with higher biosecurity risk and the ability to implement biosecurity actions may differ between activities. This diagram identifies actions that must be taken, guidance for which is provided in following pages

Decision tree to identify biosecurity actions



* Tip: regular maintenance will reduce the risk of heavy fouling

4. Basic check, clean, dry for all recreational boaters

When moving between water bodies or to new stretches of water recreational boat users should check, clean and dry:

- **Check**
 - ✓ Check boats, equipment and clothing after leaving the water for mud, aquatic animals or plant material. Remove anything you find and leave it at the site. Reapply anti fouling annually
- **Clean**
 - ✓ Clean everything thoroughly as soon as you can, paying attention to ropes, bilges, trailers, and areas that are damp and hard to access. Use hot water if you can
- **Dry**
 - ✓ Drain water from every part of your boat and trailer before leaving the site. Dry everything for as long as possible before using elsewhere as some invasive plants and animals can survive for two weeks in damp conditions

Find useful [CCD resources](#) including posters, signage and instructional videos on the [Invasive Species Ireland website](#)

All recreational boat owners should also:

- Be aware of the increased risk of bringing boats and equipment into NI from abroad.
- Be aware of the increased risk when placing a boat into a water body with particularly sensitive ecology, such as a NNR, AONB, ASSI, MPZ, or SAC.
- Apply biosecurity to all equipment that comes in contact with the water, including trailers, anchors, clothing and other equipment (e.g. angling gear).
- Avoid sailing or paddling through patches of weed (which could contain invasive species).
- If engines are used, raise propellers out of the water to minimise the risk of invasive alien species entering the engine and ensure all water is drained / filters are cleaned after use.
- Be familiar with local by-laws pertaining to biosecurity.

5. Additional detailed guidance for those advising boat users

It can be difficult and expensive to lift marine vessels out of the water and check, clean and dry them. You can limit this cost by maintaining your boat in good condition and following this guidance:

Before use:

- An appropriate anti-fouling coating system and good maintenance can help prevent biofouling accumulation (see section 9 for details).
- Boats should be used regularly to reduce the risk of biofouling of the hull and engine. If you haven't used your boat in a while, lift and clean it before you move to a new stretch of water. If you know you won't be using your boat for a while, consider having it hauled out and dry-stored.
- If your vessel is lightly fouled (i.e. a slime layer or less) you can help prevent the build-up of fouling by cleaning it in-water. However, if there is more than a slime layer you should lift your boat out of the water and clean it on shore - it is illegal to clean your boat in-water if it has more than a slime layer.

On the water:

- If the boat is not in use and stationary for a period of time, if possible, raise propellers (outboard motors) out of the water to minimise the risk of INNS entering the engine.
- If an anchor has been used, wash off both the anchor and chain before stowing.
- Any structures or equipment such as pontoons, piles and buoys which have been submerged in water for a time also pose a higher risk of spreading INNS and so care should be taken when working with them to avoid the spread of INNS. This would include taking them out of the water for cleaning before being moved to a new site.

After use:

- Once the boat is on shore, remove all visible plant and animal material and put in the bin.
- Use clean water to wash down all parts of the boat that have been in contact with the water (including outboard, trailer and trolley/vehicle tyres). Pay attention to any crevices. Flush outboard engines with clean water before leaving the site using appropriate equipment, flush mufflers in accordance with manufacturer's recommendations.
- Drain all water from the boat, including bilges. Allow the water to drain completely from engines by placing them in a vertical down position.

- Wash and dry all equipment, clothing and footwear. Drying for as long as possible is important because some INNS can survive for over two weeks in damp conditions.
- If clean water washing facilities are not available on site, ensure that the boat is washed down, drained and dried prior to arrival at another waterbody.
- Ensure that any wash water run-off or water emptied from boats after use does not drain into another waterbody.

Boat storage on land:

- Store boats and outboard engines in a location where any run-off does not drain into a waterbody (e.g. drains, gullies or rivers).
- Return any engines to their vertical down position to drain.
- Use the general waste bin to dispose of any plant or animal material found in prop bags or other equipment.

6. Paddle sports and rowers

The basic biosecurity advice above, as well as some of the additional detailed guidance, is relevant to those partaking in paddle sports.

In addition, when cleaning boats paddlers and rowers should pay particular attention to the bow and stern of the boat, under the seats and rims and behind buoyancy bags and foot rests.

A towel or sponge can be used to dry kit, but will need to be washed after use (unless you can dry them out properly between uses). You might need to think of innovative ways of reaching inside the end of your boat but it's important to do so.

When cleaning equipment, pay particular attention to folds of cagoules, dry suits, buoyancy aids, spray-decks, throw-lines, and the clothes you wear under your cagoules.

Encourage all fellow paddlers to follow good biosecurity practice.

7. Narrow boats and other boats that use canals

Many types of vessels use canals, all of which should endeavour to apply as many of the basic and detailed biosecurity measures as possible.

In addition, for boats being removed from water:

- Apply the basic check, clean, dry measures above, paying particularly attention to fenders, props and the lip around boat.
Make sure the boat is free of any organic material before being placed back in the water.

Boats staying in the inland waterway network for long periods:

- Avoid taking your boat through patches of weed, which could spread them further through the canal network.
If your boat has more than a slime layer of biofoul ideally it should be lifted out of the water and cleaned before being moved elsewhere.
Apply regular short bursts of reverse thrust when underway to throw off and unwrap any weed caught around prop.
Periodically carry out a visual inspection to see if any weed can be observed caught up on fenders or transoms for example.
If your vessel has an inboard engine check any weed filters or strainers and clear them regularly.
If the vessel is a narrowboat, lift and check for weed via the weed hatch where fitted and when safe to do so.

8. Hot Water Treatment

Where possible the use of hot water can provide a simple, rapid and effective method to clean equipment.

Submerging equipment for about 15 minutes at around 45°C can effectively kill a number of significant aquatic INNS.

This technique is useful for participants who may be cleaning equipment such as wetsuits when they return home, however it is not practical for cleaning large equipment such as boats.

If hot water is available on site, hot pressure washers can also be effective for cleaning boat hulls.

Use of chemicals is not recommended as not all species are susceptible to each product.

9. Antifouling

An appropriate antifouling coating system and good maintenance are the best way of preventing biofouling accumulation for boats kept on the water.

Lifting out, cleaning and antifouling annually keeps boat hulls clean, and has

environmental benefits including both preventing the spread of INNS and also improving fuel efficiency.

Different antifouling coating systems suit different operating profiles. An appropriate antifouling coating should be chosen by seeking expert advice and considering the time period between coatings, the use, location and type of the vessel and any legal requirements in the country of use.

It is important to note that antifoul may not be effective against all species in all areas, for example, some types of antifoul are thought to be ineffective against biofouling by zebra mussels.

Therefore, appropriate antifouling should be combined with good maintenance, cleaning and the Check, Clean, Dry approach where possible. The more a boat is used the less likely species will accumulate and the more effective any antifouling will be. By using the boat regularly over summer/growing season, the level of fouling can be reduced.

Antifouling is, by its nature, toxic to aquatic life. Since the banning of Tributyltin (TBT), most antifouls are now copper or zinc based. Available biocides are regulated by European and national regulations; however, during evaluation of these products, their toxicity should be balanced with their efficacy against biofouling, particularly by aquatic invasive non-native species.

Some of the compounds found in these antifouls can enter the environment through leaching or during removal of the paint, accumulating in organisms, forming concentrated deposits in the sediments and finding their way into wildlife further up the food chain. Boat owners can play a vital role in preventing concentrated scrapings from entering the water by following this best practice advice:

When removing antifoul:

- Select a marina, club or boatyard which has a wash-down facility which collects residues and captures run off from wash down, or prevent antifoul scrapings from entering the water by collecting in a tarpaulin.
- Use a dustless vacuum sander or wet abrasion to reduce toxic dust and to protect the user's health.
- If using scrubbing piles, only scrub off the fouling and not the underlying paint – be careful not to let old or new paint enter the water.

When applying antifoul:

- Select the right type of antifouling for the area and boat usage, choosing the lowest levels of biocides and copper suitable for your needs – take advice from the local chandlery. Use water-based paints where possible, or paints low in Volatile Organic Compounds or look into using less damaging bottom paints, such as vinyl, silicone or Teflon, which are suitable for in-water hull cleaning systems.
- Apply the right amount of antifouling required and do not spill it – when applying use a sheet to collect drips.
- Dispose of used brushes, rollers and trays and empty cans of antifoul as hazardous waste.

10. In-water cleaning of marine vessels

It is always preferable to clean boats out of the water where waste can be effectively captured for proper disposal.

The Marine Licensing (Exempted Activities) Order (NI) 2011:

In Northern Ireland waters, in – water cleaning is not an exempted activity under this order and is therefore not currently permitted.

DAERA plan to consult on this issue in the near future.

The amendment is to Article 27A (Deposit of a substance arising from the cleaning of vessels) new to the Marine Licensing (Exempted Activities) Order (NI) 2011 is proposed to enable in-water cleaning of light fouling whilst achieving good biosecurity practice which requires that any more significant fouling is not released to the water.

DAERA wishes to emphasise that only the equipment specified in the amending Article is to be used, which includes;

- a soft cloth,
- a sponge,
- the bristles of a soft brush, and
- sandpaper, the grit size of which is at least P2000

Rinsing or cleaning with any type of powered/pressure or additional equipment would need a marine licence. The usage of equipment of that nature without

obtaining a marine licence could result in enforcement action. This proposed amendment mirrors that in the [English Order](#).

The objective of the new exemption is to balance the risk of in-water cleaning of lightly fouled vessels while reducing the risk of marine invasive non-native species (INNS) being introduced or spread on the hulls of vessels.

An example of this is the invasive non-native carpet sea-squirt (*Didemnum vexillum*), which is a significant threat to reef biodiversity and an aquaculture nuisance. It spreads as a fouling agent and its distribution in the UK suggests boating has played a significant role. This and other invasive non-native species are now established in NI waters with the potential to be spread by vessels and threaten native species.

NI stakeholders have expressed concerns that it is unreasonable to be expected to haul out and clean lightly fouled vessels with the costs associated with this activity being prohibitive.

This has led to some vessel owners continuing the practice of in-water cleaning without obtaining a marine licence despite it being an offence which could lead to prosecution.

The risk to the marine environment of undertaking gentle cleaning of lightly fouled hulls in-water is considered low, provided that the anti-foul coating is not damaged.

Whereas the risk associated with heavier fouling can be high. If more significant fouling is allowed to develop, the affected vessel must be removed from the water and scrapings from the hull deposited in landfill to minimise the risk of introducing or spreading invasive non-native species. No notification requirement is proposed.

Annex 4. Biosecurity clause for club constitutions

Biosecurity

Members of the Club are asked to undertake good biosecurity practice when using their equipment.

This includes:

- Making sure that your equipment, including boats, trailers and clothing, is clean and free of any mud, plant material or pooled water prior to arriving on site.
- After every use, cleaning your boats, trailers, clothing and other equipment in accordance with Check, Clean, Dry guidance. Particular care should be given to areas where water may pool or be trapped, including within the hollow elements of trailers and outboard engines (if used).
- Any visitors to the Club are asked to follow the same Check, Clean, Dry guidance.

Pre - Consultation Draft

Annex 5. Example of biosecurity included in by-law / agreement with boaters

Excerpt from:

Anglian Water Services Limited Water Industry Act 1991 -

Water Parks Byelaws 2014

Boats and Boating

17. Use and Sailing of Boats etc.

17.1 No person shall, without the consent of Anglian Water launch, use or sail any boat on any water in a water park.

17.2 No person shall use or sail any boat on any water in a water park without complying with current biosecurity requirements agreed between Anglian Water and Defra having regard to any guidelines published by the GB Non-native Species Secretariat and by notice exhibited in a conspicuous position or published by any other means.

17.3 No person shall use or sail on any water in a water park any boat otherwise than in accordance with such terms and conditions as may be specified in any such consent.

View the [original source \(external link\)](#).

Pre-Consultation Draft

Annex 6. Biosecurity clause for inclusion in berthing agreement terms and conditions

Biosecurity

For the purposes of this agreement Hull fouling is defined as the accumulation of aquatic organisms (plants and animals) on the surface of the Vessel, beyond that of a slime layer.

You must ensure the Vessel is free of Hull fouling before it is placed into the Berth [or mooring] and while it is kept there.

If Hull fouling is present, you must lift and clean the Vessel, preventing any removed material from re-entering the water. You must inform the Company and agree a timescale over which to clear the Vessel.

If the Vessel is not cleaned within this time, the Company reserves the right to lift and clean the Vessel at your expense.

Pre - Consultation Draft

Annex 7. Draft list of freshwater & marine species of concern to Northern Ireland – for discussion.

List of freshwater and marine priority invasive non-native species that we want to keep out of Northern Ireland and for which there may be a risk of introduction via recreational boating. (some present currently at low levels, but several more widespread and present nearby in GB waters and on mainland Europe). As per the 'Horizon scan of invasive alien species for the island of Ireland' Lucy, F. E., Davis, E., Reid, N., Dick, J. T. A., & Trodd, W. (Accepted/In press). Horizon scan of invasive alien species for the island of Ireland - Some of the species in the table below were scored according to their likelihood of arrival (**A**), their likelihood of establishing in the wild (**B**), and their impact on biodiversity (**C**). Others have been selected via GB, EU and Ireland risk assessment processes.

Priority	Scientific name	Common name	Present in NI	Habitat Marine/Freshwater	A – likely to arrive	B – establish in wild	C - biodiversity impact	Total
V high	<i>Caulacanthus okamurae</i>	Pom – pom weed	Yes	Marine	5	5	3	13
	<i>Cercopagis pengoi</i>	Fishhook Waterflea	No	Marine				
	<i>Didemnum vexillum</i>	Carpet sea squirt	Yes	Marine				
	<i>Dikerogammarus haemobaphes</i>	Demon shrimp	No	Freshwater	5	4	3	12
	<i>Dikerogammarus villosus</i>	Killer shrimp	No	Freshwater	4	4	5	13
	<i>Dreissena bugensis</i>	Quagga mussel	No	Freshwater				
	<i>Eriocheir sinensis</i>	Chinese mitten crab	No	Freshwater/Marine	5	3	5	13
	<i>Gyrodactylus salaris</i>	Salmon fluke	No	Freshwater	4	5	5	14
	<i>Hesperibalanus fallax</i>	Warm water barnacle	No	Marine	5	5	3	13
	<i>Neogobius melanostomus</i>	Round goby	No	Marine				

Priority	Scientific name	Common name	Present in NI	Habitat Marine/Freshwater	A – likely to arrive	B – establish in wild	C - biodiversity impact	Total
	<i>Orconectes limosus</i>	Spiny-cheek crayfish	No	Freshwater	4	3	5	12
	<i>Pacifastacus leniusculus</i>	American signal crayfish	No	Freshwater	5	5	5	15
	<i>Proterorhinus semiluaris</i>	Freshwater tubenose goby	No	Freshwater				
	<i>Proterorhinus marmoratus</i>	Tubenose goby	No	Marine				
	<i>Pseudorasbora parva</i>	Topmouth gudgeon	No	Freshwater	3	5	5	13
	<i>Styela clava</i>	Leathery sea-squirt	Yes	Marine				
	<i>Undaria pinnatifida</i>	Wakame	Yes	Marine				
High	<i>Asparagopsis armata</i>	Harpoon weed	No	Marine				
	<i>Astacus astacus</i>	Noble crayfish	No	Freshwater	4	3	4	11
	<i>Asterocarpa humilis</i>	An ascidian tunicate	Yes	Marine				
	<i>Bonnemaisonia hamifera</i>	A red macroalga (seaweed)	Yes	Marine				
	<i>Cabomba caroliniana</i>	Fanwort	No	Freshwater				
	<i>Ensis dorectus</i>	American razor clam	Yes	Marine	5	5	2	12
	<i>Gracilaria vermiculophylla</i>	A red macroalga (seaweed)	Yes	Marine				
	<i>Grateloupia turuturu</i>	Devil's Tongue Weed	Yes	Marine				

Priority	Scientific name	Common name	Present in NI	Habitat Marine/Freshwater	A – likely to arrive	B – establish in wild	C - biodiversity impact	Total
High	<i>Hemigrapsus sanguineus</i>	Asian shore-crab	No	Marine	4	4	3	11
	<i>Hemigrapsus takanoi</i>	Brush-clawed shore crab	No	Marine	4	4	3	11
	<i>Ludwigia grandiflora</i> spp.	Water primrose	No	Freshwater	4	3	4	11
	<i>Mnemiopsis loidyi</i>	Warty comb jelly	No	Marine	3	4	4	11
	<i>Myriophyllum heterophyllum</i>	Various leaved water milfoil	No	Freshwater	3	4	4	11
	<i>Neogobius gymnotrachelus</i>	Racer goby	No	Marine	3	4	4	11
	<i>Rapana venosa</i>	Veined rapa Whelk	No	Marine				
	<i>Sander lucioperca</i>	Zander	No	Freshwater	4	3	4	11
Med	<i>Alternanthera philoxeroides</i>	Alligator weed	No	Marine	3	4	4	11
	<i>Caprella mutica</i>	Japanese skeleton shrimp	Yes	Marine				
	<i>Chelicorophium robustum</i>	Corophiid Amphipod	No	Marine/Freshwater	3	4	4	11
	<i>Crepidula fornicata</i>	American slipper limpet	Yes	Marine				
	<i>Dikerogammarus bispinosus</i>	Ponto-Caspian amphipod	No	Freshwater/Marine	3	4	4	11
	<i>Echinogammarus ischnus</i>	Ponto-Caspian crustacean	No	Freshwater/Marine				
	<i>Echinogammarus trichiatus</i>	Ponto-Caspian amphipod	No	Freshwater/Marine				
	<i>Hypania invalida</i>	Ponto-Caspian polychaete	No	Freshwater/Marine	3	4	4	11

Priority	Scientific name	Common name	Present in NI	Habitat Marine/Freshwater	A – likely to arrive	B – establish in wild	C - biodiversity impact	Total
	<i>Limnomysis benedeni</i>	Ponto-Caspian mysid	No	Freshwater/Marine				
	<i>Ocenebra inornata</i>	Asian oyster drill	No	Marine				
	<i>Obesogammarus crassus</i>	Ponto-Caspian gammarid	No	Marine				
	<i>Sargassum muticum</i>	Japanese wireweed	Yes	Marine				

Pre - Consultation Document