

MARINE BIOSECURITY PLAN

Dean and Reddyhoff : Haslar Marina

INTRODUCTION – ABOUT INVASIVE SPECIES

What are Non Native and Invasive Non Native Species?

Non Native Species are those species outside their normal or native range. Some of these have been moved around the world accidentally for example on boat hulls or in ballast water or via the transport of goods and materials. Some species have been intentionally released for food or sport, for example rabbits or for horticulture e.g. garden plants such rhododendron. Some species may have been introduced many times before they have become established in the UK.

When a species is established and then thrives aggressively becoming a problem to the local ecology and economy, it is termed 'Invasive'.

Why should we worry about them?

Invasive Non Native Species can often grow at tremendous rates, out competing native species for food, space and light. They can smother native species and lead to a mono culture which can destroy entire ecosystems. They can also clog or damage important infrastructure such as roads and buildings on land or water intakes, fish cages, propellers and lock gates in the marine environment. INNS are thought to be one of the greatest threats to biodiversity and Defra have estimated that they cost the UK economy at least £2 billion per year.

What is Biosecurity?

Biosecurity is a way of managing and lowering the risk associated with non-native species. There are almost always sensible steps we can take to reduce the risk of moving species from one place to another and also to reduce the likelihood of the species becoming established and therefore invasive. The GB Invasive Non-Native Species Framework Strategy has a three tier approach:

- Prevention – most effective and least environmentally damaging
- Rapid Response – early detection and surveillance, potential eradication
- Control & Containment – where the INNS is widespread and eradication is not feasible, control of the population and mitigation against negative impacts

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.

POLICY AND LEGISLATION

A detailed description of the various international, EU and UK policies and legislation relevant to

NNS is given in the Marine Biosecurity Guidelines for England and Wales¹ and in the legislation section of the GB NNSS website². The most significant of these are:

- The 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediment (enters into force in September 2017),
- The European Strategy for Invasive Alien Species,
- The European Water Framework Directive (WFD),
- The European Marine Strategy Framework Directive (MSFD),
- The EU Invasive Alien Species regulation (2015) and,
- The Wildlife and Countryside Act 1981.

BIOSECURITY PLANNING AND MARINE LEISURE SECTOR

Although biosecurity planning is a voluntary measure at the moment it is recommended as best practice by Natural England, Natural Resources Wales, DAERA in N Ireland and Scottish Natural Heritage. Major port groups as well as harbour authorities and others marine users are developing biosecurity plans relevant to their operations and it is appropriate for the marine leisure sector to do the same. A biosecurity plan should not be cumbersome or onerous; it should focus on awareness raising, monitoring and practical actions which will protect the organisation and site from the threats associated with INNS.

REPORTING AND FURTHER INFORMATION

- Record known species - www.brc.ac.uk/irecord/enter-non-native-records
- Report high alert species – alertnonnative@ceh.ac.uk
- Check Clean Dry campaign: www.nonnativespecies.org/checkcleandry/index.cfm
- The Green Blue : www.thegreenblue.org.uk
- Impact of marine INNS :
<http://publications.naturalengland.org.uk/publication/5091100843311104>

¹ Cook, E.J., Macleod, A. Payne, R.D., and Brown, S. (2014) edited by NE and NRW (2015). *Marine Biosecurity Planning – Guidance for producing site and operation-based plans for preventing the introduction and spread of non-native species in England and Wales* - www.nonnativespecies.org/downloadDocument.cfm?id=1401
² www.nonnativespecies.org/home/index.cfm

1. Introduction

Site Name: Haslar Marina

Brief Description of Site:

- Haslar is an all tide 650 berth marina.
 - Started a comprehensive dredging programme.
 - Many visitor berths are available, largely on L and M pontoons.
 - Sealift is available on site for boat wash down up to 19m length.
 - Yacht Brokerage and on site marine services.
 - Haslar Yacht Club meet regularly at the lightship and many berth holders are members.
 - Haslar is home to international racer Alex Thomson and has areas suitable for berthing superyachts up to 55m in length.
- **Site Location:** Haslar Marina, Haslar Road, Gosport, Hampshire, PO12 1NU
 - **Plan period:** March 2017 – March 2020
 - **Biosecurity Manager/Officer:** Ben Lippiett

From the DRAFT MMO marine plan for the south area

Objective 11: Activities within and adjacent to the south marine plan areas must contribute to the achievement or maintenance of Good Environmental Status under the Marine Strategy Framework Directive (and Good Ecological Status under Water Framework Directive) with respect to descriptors on marine litter, non-indigenous species and underwater noise, particularly where current measures need to be reconsidered or enhanced and where new measures are under development.			
S-NIS-1	Proposals must put in place appropriate	As the south marine plan areas are so close to the continent and have	P 139
	measures to avoid or minimise significant adverse impacts on the marine area that would arise through the introduction and transport of non-indigenous species, particularly when: 1) moving equipment, boats or livestock (for example fish and shellfish) from one water body to another 2) introducing structures suitable for settlement of non-indigenous species, or the spread of invasive non-indigenous species known to exist in the area.	one of the busiest shipping channels in the world, there is a high risk of introducing or spreading invasive non-native species. S-NIS-1 aims to avoid or minimise damage to the marine area from the introduction or transport of invasive non-native species, focusing on two pathways of particular relevance for the south marine plan areas. This will enable support for viable populations of flora and fauna.	

2. Relevant environmental information about the site

Environmental Information

Licensed to maintenance dredge (ref L/2016/00274) runs until 2021

Several areas locally have been identified as being suitable sites to benefit from dredged material.

Various subsea cables run close to the site.

Just outside of Haslar is an area labelled as 'Ballast Disposal', (uncertain whether historical, i.e. aggregate, or modern, i.e. water, and thus a risk of invasive species).

The adjacent mudflats form Portsmouth Harbour Inshore Special Protection Area (UK9011051), SSSI and RAMSAR site (UK11055) forming part of The Solent and Dorset Coast pSPA. Wading wildfowl use the area and the saline lagoons to the North of the site are considered important habitat for these and other species. Adjacent to the Norris and Ryde and Bembridge pMCZs.

The Portsmouth area is a shellfish harvesting zone.

Adjacent ports include Gosport, Southsea, Portsmouth and Fareham. Several small naval vessels use the dockyard adjacent to Haslar Marina. BAE systems have an area of port adjacent to the site. Larger vessels use the Naval and commercial ports across the Harbour in Portsmouth.

There are public slipways at Alverstoke Creek, Hospital Lane, Wicor , Portchester, Lower Quay, Fareham, Port Solent, Portsmouth.

The site and approaches are designed as high density navigation routes under the draft marine plan (90th percentile).

Numerous passenger ferry services run past the site to both the Isle of Wight and the continent. It is seen as being a high use area for recreational vessels, this is supported by RYA AIS data.

Wave screen recently rebuilt with steel shutters.

Salinity

Fully saline site.

Tidal Influences

The flood tide flows in a generally Northerly direction at entrance.

The ebb tide flows in a generally Southerly direction at entrance.

Strong tidal flows can be experienced outside the marina (up to 6kts at springs).

Tidal flow mixed around marina where Haslar Creek and wave-screen add factors.

Underwater structures/features

The marina contains a mix of piles and chains for securing the pontoons and walkways.

The Lightship bar/restaurant "Trinities at Haslar" is a feature of the marina, and also acts as further protection from wave and tidal action.

Harbour walls are almost entirely manmade of stone block or concrete and steel, with the

breakwater being made of rock aggregate to the shore and steel shuttering at the wave-screen. A small amount of natural substrates are also found around the marina area, mostly the sea bed is mud.

3. Non-native species known to be present

Non-native species (NNS) Rapid Assessment Survey Results			
Haslar Marina			
Scientific name	Common name	2005/09	2014
Sea squirts			
<i>Styela clava</i>	Leathery sea squirt	✓	✓
<i>Asterocarpa humilis</i>	Compass sea squirt		✓
<i>Ciona robusta</i>			x
<i>Corella eumyota</i>	Orange-tipped sea squirt	✓	✓
<i>Botrylloides violaceus</i>	Orange cloak sea squirt		
<i>Botrylloides diegensis</i>	San Diego sea squirt	✓	✓
<i>Botrylloides species 'X'</i>			
<i>Didemnum vexillum</i>	Carpet sea squirt	✓	✓
<i>Perophora japonica</i>	Creeping sea squirt	✓	✓
<i>Aplidium cf. glabrum</i>		✓	✓
Sea mats (Bryozoans)			
<i>Tricellaria inopinata</i>	Tufty-buff bryozoan	✓	✓
<i>Bugula neritina</i>	Ruby bryozoan	✓	✓
<i>Bugulina simplex</i>		✓	✓
<i>Bugulina stolonifera</i>			x
<i>Watersipora subatra</i>	Red ripple bryozoan	✓	✓
<i>Schizoporella japonica</i>	Orange ripple bryozoan		x
Barnacles			
<i>Austrominius modestus</i>	Darwin's barnacle		✓
<i>Amphibalanus amphitrite</i>	Striped barnacle		x
<i>Amphibalanus improvisus</i>	Bay barnacle		x
<i>Hesperibalanus fallax</i>			
Other animals			
<i>Caprella mutica</i>	Japanese skeleton shrimp	✓	x
<i>Ammothea hilgendorfi</i>	Japanese sea spider		✓
<i>Crepidula fornicata</i>	Slipper limpet	✓	✓
<i>Urosalpinx cinerea</i>	American oyster drill		x
<i>Crassostrea gigas</i>	Pacific oyster		x
<i>Ficopomatus enigmaticus</i>	Trumpet tube worm	x	x
<i>Hydroides ezoensis</i>			✓
<i>Hemigrapsus spp.</i>	Asian shore/brush-clawed crab		x
<i>Diadumene lineata</i>	Orange-striped anemone		x
Seaweeds			
<i>Undaria pinnatifida</i>	Wakame	✓	✓
<i>Sargassum muticum</i>	Wireweed	✓	✓
<i>Grateloupia turuturu</i>	Devil's tongue weed		✓
<i>Codium fragile fragile</i>	Green sea fingers		x
<i>Colpomenia peregrina</i>	Oyster thief		✓
<i>Chrysmenia wrightii</i>	Golden membrane weed		x
<i>Bonnemaisonia hamifera</i>	Hook weed		
<i>Caulacanthus okamuræ</i>	Pom-pom weed		

Report prepared by Christine A. Wood, Bishop Group, Marine Biological Association of the UK
 Data collected by J.D.D. Bishop, C.A. Wood & A. Yunnie
 For more information contact: cwo@mba.ac.uk Tel: 01752 426330

<p>High risk species known to be present and to keep an eye on for changes/spread.</p> <p>Styela clava, Leathery sea squirt Asterocarpa humilis, Compass sea squirt <u>Didemnum vexillum, Carpet sea squirt</u> Watersipora subatra, Red ripple bryozoan Grateloupia turuturu, Devil's tongue weed <u>Crepidula fornicata, Slipper limpet</u> <u>Undaria pinnatifida, Wakame</u> <u>Sargassum muticum, Wireweed</u></p> <p>Horizon scanning – high risk species to look out for.</p> <p>Amphibalanus Amphitrite, Striped barnacle Caprella mutica, Japanese skeleton shrimp Urosalpinx cinerea, American oyster drill Crassostrea gigas, Pacific oyster <u>Hemigrapsus spp., Asian shore/brush-clawed crab</u> Bonnemaisonia hamifera, Hook weed <u>Eriocheir sinensis, Chinese Mitten Crab</u> Schizoporella japonica, Orange ripple bryozoan Ficopomatus enigmaticus, Trumpet tube worm</p>	<p>Notes</p> <p><i>Both Wakame and Wireweed are believed present- if identified correctly are widespread.</i></p> <p><i>Numerous Sea Squirts observed, but unable to positively identify.</i></p> <p><i>Species in bold and underlined are high risk.</i></p>
--	--

4. High Risk vessels/types of vessel using the site

Include information about to any slow or stationary periods, events or other aspects that may increase biosecurity risk.

Vessel/vessel type e.g. Barge, Jack-up rig, yachts etc.	Vessel name (for regular use/high risk vessels)	Photo reference Y/N (images to be inserted in appendix)	Risk factors e.g. Pathway (route), speed, biofouling control, inspection history, internal treatment history, See IMO Biofouling Guidance	Risk Assessment High/Med/Low
Lightship	Mary Mouse 2		Permanently moored at harbour and marina entrance. Low attrition allows heavy fouling.	High
Static Yachts	Numerous- Impulse, Helix, Gentle Persuasion,		Yachts that rarely, if ever, move. Low attrition allows heavy	High

	Solaris, Mini 425, Alcyone.		fouling.	
Visiting yachts	Numerous		Yachts visiting from either foreign ports or other harbours with traffic allowing transference of species.	Medium
Racing Yachts	Hugo Boss		Passing through remote locations, gaining some fouling and utilising water ballast. High performance hull is kept very clean at all times which mitigates risk.	Low

5. Site Activities which have a significant risk of introducing or spreading non-native species

Activity	Timing and Site Lead	Scale of Works	Risk Factors and Actions
Use of hull cleaning products and devices.	Often	Predominantly prior to racing, but most yachts use brushes, etc. at some point.	Encourage owners to use facilities such as Sealift, where there are assessments and measures in place.
Yacht brokerage and on site marine services	Ongoing/year-round	Constant boat movements	Make tenants aware of biosecurity plan. Ensure they confirm that boats arrive clean and are kept clean and appropriately antifouled whilst in the marina.
Sealift	Ongoing/year-round	On the water wash-down facility in constant use	Water is treated before being discharged back to the sea. Check with Sealift about how their water treatment effects biological contamination. If necessary, have the

			discharge water tested independently.
Dredging operations	Begun in Sept 2016 and continues into 2017. Planned to continue onwards into future.	The central G-H and F-G channels and all associated berths will be dredged to 2.5-3m below chart datum	Discuss NNS with contractors and encourage awareness and reporting of any sightings of key species.

6. Biosecurity Control Measures – Instructions for staff/contractors/site users

Who	What	Where	When
Marina staff/berthing manager	Be aware of long distance or slow moving craft and take steps to assess risk. Make a note in the Biosecurity Log Book of any vessels of concern.	In the marina	Ongoing
Marina staff/berthing manager	Write into any event plans that biosecurity needs to be taken into account prior to boats arriving. This is to/could include: <ul style="list-style-type: none"> ensuring that participants in an event receive 'Check/Clean/Dry' message when they register. See http://www.nonnativespecies.org/checkcleandry/ That boats with considerable fouling will be removed and cleaned at the owners expense/will be refused launch. Enquire as to origin and previous stops on passage. 		
Marina staff/berthing manager	Check all relevant contractors are aware of the need for clean hulls on workboats.		
Marina staff/berthing manager	Check all relevant tenants are aware of the need for clean hulls on vessels including those in the brokerage.		

<i>Marina staff/berthing manager</i>	Include biosecurity information in communications with berth holders e.g. in the annual handbook.		
<i>Marina staff/berthing manager</i>	Seek opportunities to work with The Green Blue to develop useful messages for berth holders.		
<i>Marina staff/berthing manager</i>	Encourage staff to be aware of and report any heavily fouled vessels.		
<i>Marina staff/berthing manager</i>	Encourage ethos of Check/Clean/Dry where possible – check pontoons, clean boats, dry kit.		
<i>Marina staff/berthing manager</i>	Talk to NE contacts about biosecurity and seek a knowledgeable local volunteer to help with identification and reporting.		
<i>Marina staff/berthing manager</i>	Talk to Jenkins Marine about looking out for NNS while they are dredging, make them aware of the reporting procedures. Prior to using the material for any replenishment work discuss biosecurity with the contractors or managers of the project – share the list of known NNS with them as appropriate to facilitate discussions.		
<i>Marina staff/berthing manager</i>	Seek opportunity to discuss NNS with the manager of the Portsmouth Harbour Inshore Special Protection Area		
<i>Marina staff/berthing manager</i>	The oyster reseeded programme for the Solent has the potential to introduce new NNS. Be aware of the timing of this programme and increase monitoring around this time. Take advice from Natural England about possibility of transfer of species and changes to the local ecosystem.		

7. Site surveillance and reporting procedures

Who	What	When	Outcome
Yard Manager	Wash down area	Quarterly at Mean Low Water Springs	<p>Photograph any unusual species and record in biosecurity log book.</p> <p>Monitor over time and collect samples for analysis or send on photos for identification if concerned.</p>
Berth Masters	Pontoons, particularly visitors pontoons L and M.	Quarterly	<p>Photograph any unusual species and record in biosecurity log book.</p> <p>Monitor over time and collect samples for analysis or send on photos for identification if concerned.</p>
Berth Masters	Breakwater/wave screen	Annually at Mean Low Water Springs	<p>Photograph any unusual species and record in biosecurity log book.</p> <p>Monitor over time and collect samples for analysis or send on photos for identification if concerned.</p>
Berth Masters	Lightship/Hygiene Facilities	Quarterly	<p>Photograph any unusual species and record in biosecurity log book.</p> <p>Monitor over time and collect samples for analysis or send on photos for identification if concerned.</p>
Berth Masters	Area around Sealift	Quarterly	<p>Photograph any unusual species and record in biosecurity log book.</p> <p>Monitor over time and collect samples for analysis or send on photos for identification if concerned.</p>

8. Contingency Plan

Scenario	Lead Person	Location of Equipment	Action
Heavily fouled boat departs after refusing wash down	Marina Manager	Biosecurity email group (see list of interested parties)	<p>Alert local harbours of vessel name and planned route (if known).</p> <p>Make a note in the Biosecurity Logbook.</p>
Heavily fouled vessel	Marina Manager	Contact list	Contact Natural England

arrives to berth or undertake work on site			and ask advice about hull cleaning before proceeding.
A known INNS is suddenly found to have significantly grown and covered a large area in a short space of time.	Marina Manager	Contact list	Take photographs and discuss with/alert Natural England.

8. Interested parties and sources of further information

- Hampshire and Isle of Wight Wildlife Trust
- Natural England
- Ports of Gosport, Southsea, Portsmouth (QHM) and Fareham.
- Ministry of Defence / HMS Alliance
- BAE systems
- Gosport Borough Council - managers of public slipways at Alverstoke Creek, Hospital Lane, Wicor Marine, Portchester, Lower Quay, Fareham, Port Solent, Portsmouth.
- Haslar Yacht Club
- Phoenix Yacht Club
- Royal Naval Sailing Association
- Ocean Sports Tuition Ltd
- Hornet Services Sailing Club
- Joint Services Adventurous Sail Training Centre
- Royal Signals Yacht Club (ASA 06)
- Sea Cadets Offshore
- Hornet Marina
- The Gosport Model Yacht & Boat Club
- Portsmouth Sailing Club
- Gosport Marina (Premier Marinas)
- Endeavour Quay (Premier Marinas)
- Gunwharf Quays Marina
- Portsmouth QHM
- Royal Clarence Marina (Castle Marinas)
- Gosport Boatyard
- Quay Lane Boatyard Ltd
- Wicor Marine Yacht Haven
- Port Solent Marina
- Fareham Marina
- Hardway Sailing Club
- Portchester Sailing Club

9. Location of biosecurity logbook

Marina office

10. Signed

Water Temperature Data for the area

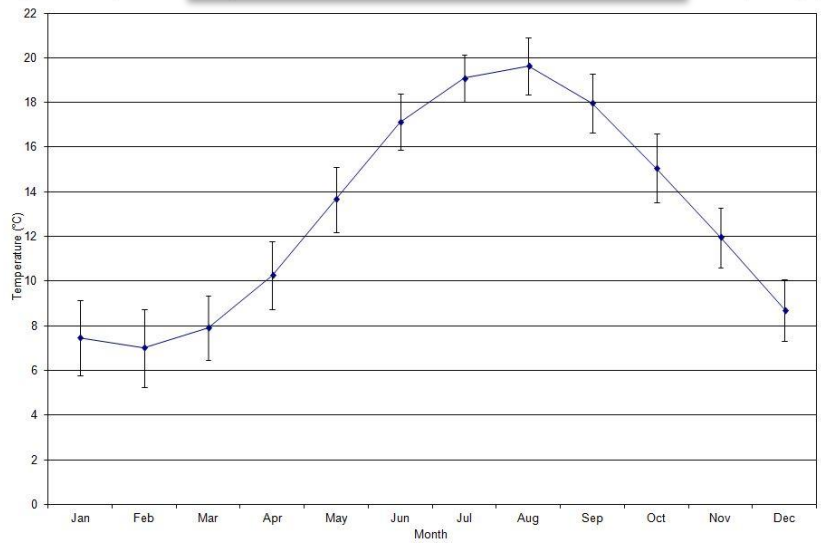


Figure 'b': Monthly climatic average with the first standard deviation. The standard deviation has been derived from the difference in the monthly average from the long-term mean (1971 - 2000).