



dive into conservation



Seasearch Northern Ireland Annual Report 2012



Volunteer Seasearch divers at Portmuck Harbour, Co. Antrim.

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1. Introduction

The aim of Seasearch is to gather information on seabed habitats and associated marine wildlife in Britain and Ireland through the participation of trained volunteer divers and also to raise awareness of marine conservation to the diving community. The scheme is coordinated by the Marine Conservation Society (MCS) and organised regionally by a series of coordinators in the United Kingdom and Ireland.

The objectives of Seasearch are:

1. To encourage the participation of volunteer recreational divers in marine conservation through gathering data, particularly for areas where little data exists or where there is a conservation need.
2. To provide training in recording skills to enable volunteer recreational divers to participate in Seasearch.
3. To make quality assured Seasearch data freely available to partner organisations and the general public.
4. To raise public awareness of the diversity of marine life and habitats in Britain and Ireland through the dissemination of information gathered and the identification of issues arising from it.

Through training and organised dives Seasearch recreational scuba divers are able to survey large areas of the seabed which would otherwise be inaccessible for monitoring authorities. As well as recording marine life and habitats, volunteers record litter or any other man-made impacts that are apparent. All Seasearch Northern Ireland data is deposited at the regional recording centre, CEDAR, at the Ulster Museum (<http://www.nmni.com/cedar>). The data is validated and available freely through the NBN gateway <http://data.nbn.org.uk/>.

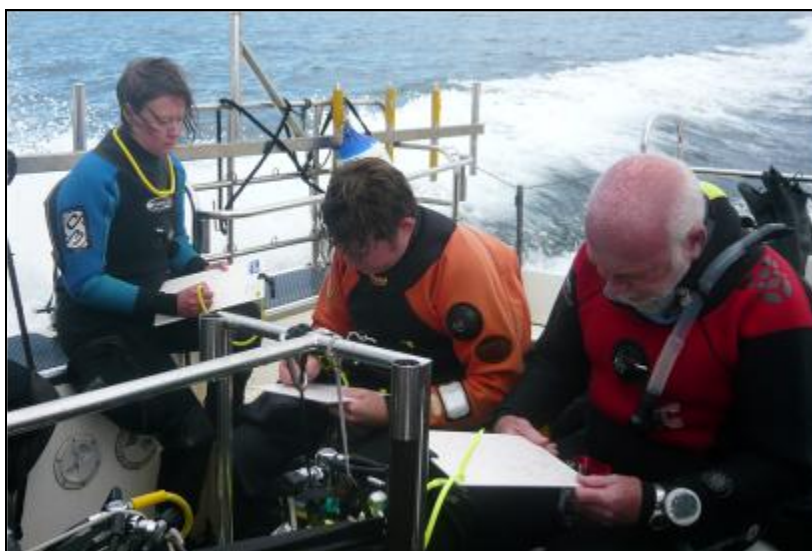


Figure 1. Volunteers recording on dive slates following a Seasearch dive.



2. Diving Activities and Recording

Recording forms have been received from a range of organised Seasearch dives in target areas (124 forms) and also from dives that volunteer divers have completed independently (34 forms), a total of 158 for 2012, which is more than double any of the previous five years and 10% of the records contributed for the UK and Ireland. The Seasearch dive programme always targets under-recorded and unknown sites for marine life recording and in 2012 we managed to survey a range of new areas. In addition known dive sites were recorded and these records provide important temporal records of sites and also give volunteer divers the opportunity to practice their recording skills in a safe, familiar setting.

Some of the 2012 Seasearch dives in the North Coast, Rathlin and Strangford Lough region were completed as part of the Hydroid and Bryzoan taxonomic workshop run by the Ulster Museum. Some sites were targeted specifically for surveying as they were known to have high diversity of hydroids and bryozoans. Consequently laboratory identification with assistance from expert tutors enabled a high level of marine life identification and recording to be achieved for those dives.

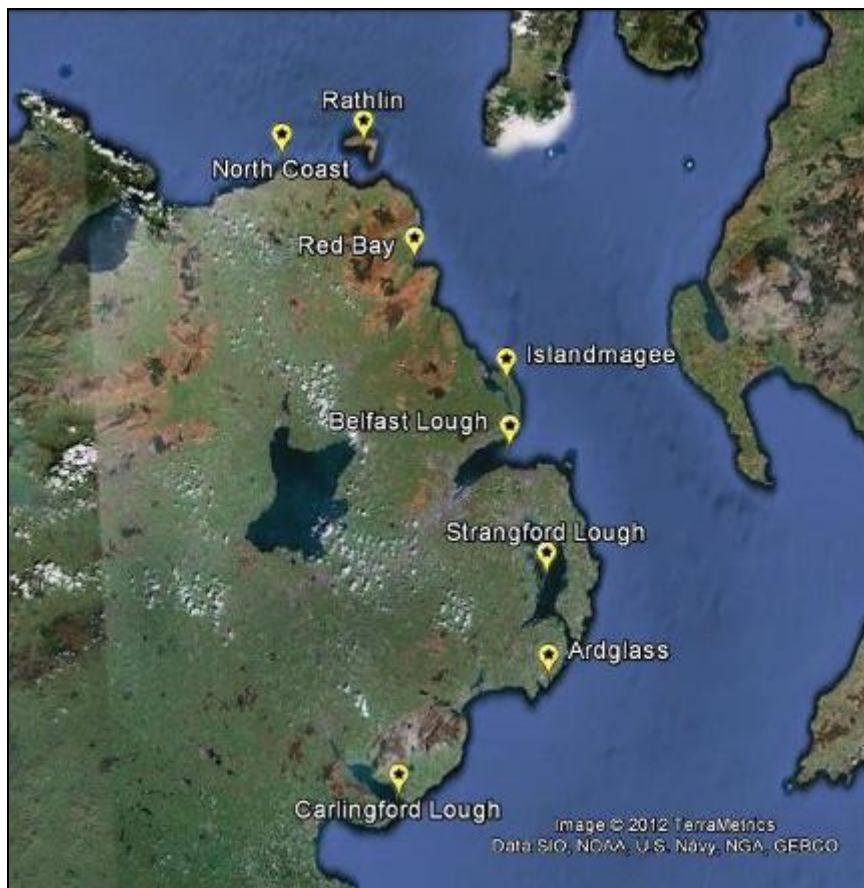


Figure 2. Main regions where Seasearch records were collected during 2012 (Google Earth).



2.1. North Coast

A total of 59 recording forms were received in 2012 for the North Coast area of Northern Ireland and a separate report details the survey results. New areas were targeted such as Boheeshane Bay near Ballintoy, Foul Grounds in Portstewart, Carrickmannon Rock and 1nm north of Pans Rock. The Skerries, which are a Special Area of Conservation (SAC), were also surveyed by divers. Exceptionally high records of hydroids and bryozoans were recorded at some sites due to the skill level of recorders.

2.2. Rathlin Island (SAC)

A total of 20 recording forms were received for 2012 for Rathlin Island. New areas were targeted such as Picton's Reef in addition to well known dive sites such as the Loch Garry Wreck and North Wall area. Exceptionally high records of hydroids and bryozoans were recorded at some sites due to the skill level of recorders present on survey dives.

2.3. Strangford Lough (SAC and Marine Nature Reserve, MNR)

A total of 21 recording forms for Strangford Lough were received in 2012. Strangford Lough is a popular location for recreational diving as it is rich in marine life, sheltered from winds and accessible to a large proportion of the Northern Irish population. The lough has regularly been surveyed by Seasearch divers and it is known that horse mussel beds (*Modiolus modiolus* biogenic reefs) in Strangford Lough have been damaged in the past by mobile fishing gear, which is now prohibited in the lough. The lough has a rich variety of habitats and whilst it is exposed to strong tides it provides some sheltered and well-known sites for dive training. The wreck sites of M.Y. Alastor in Ringhaddy and the Inner and Outer Lees wreck of the Empress Tana near Portaferry were all surveyed (Fig. 2.3a). Large populations of sea-quirks are commonly recorded along with litter and wreckage around wreck sites.

During March dense aggregations of mating sea hares (*Aplysia punctata*) were recorded by Barbara and Robert Irvine (figure 2.3b). A Yarrells Blenny (*Chirolophis ascanii*) was also recorded at the Alastor wreck by Barbara Irvine (Fig. 2.3c). This species is very similar to the charismatic Tompot Blenny (*Parablennius gattorugine*) which is often spotted and photographed by divers, and as a result is probably under recorded. The Yarrells Blenny has distinctive bushy tentacles above each eye rather than branched like the Tompot. The Northern Ireland priority species *Solaster endeca* was recorded at Limestone Reef by Deirdre Greer.



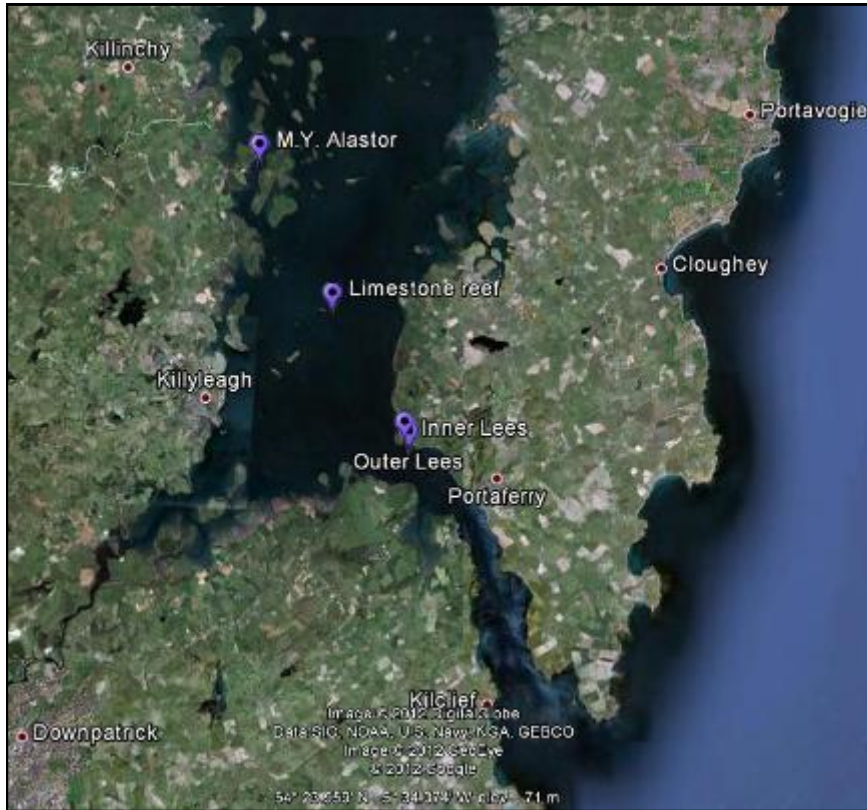


Figure 2.3a. Dive site locations in Strangford Lough (Google earth).



Figure 2.3b. Mating sea hares at Ringhaddy (C. Beer)



Figure 2.3c. Yarrell's Blenny (Photo from <http://www.habitas.org.uk/marinelifelife/>)



2.4. Maidens (SAC) and Muck

This area was targeted by Seasearch as it had not been surveyed since 2005-2006 and the Maiden Islands have subsequently been designated as a SAC. In addition some funding for the survey was provided by the Ulster Wildlife Trust who manage the Muck Island nature reserve and wanted a sublittoral investigation of the area, this subsidised four boat dives in the area. Recently a gas storage facility has been proposed for the area with a brine discharge into the sea near Muck Island so records of marine life are more important than ever before (<http://www.islandmageestorage.com/>). Full surveys of the Maiden Islands were not possible due to weather but three sites around Muck Island and the Albia wreck were all surveyed (Fig. 2.4a).

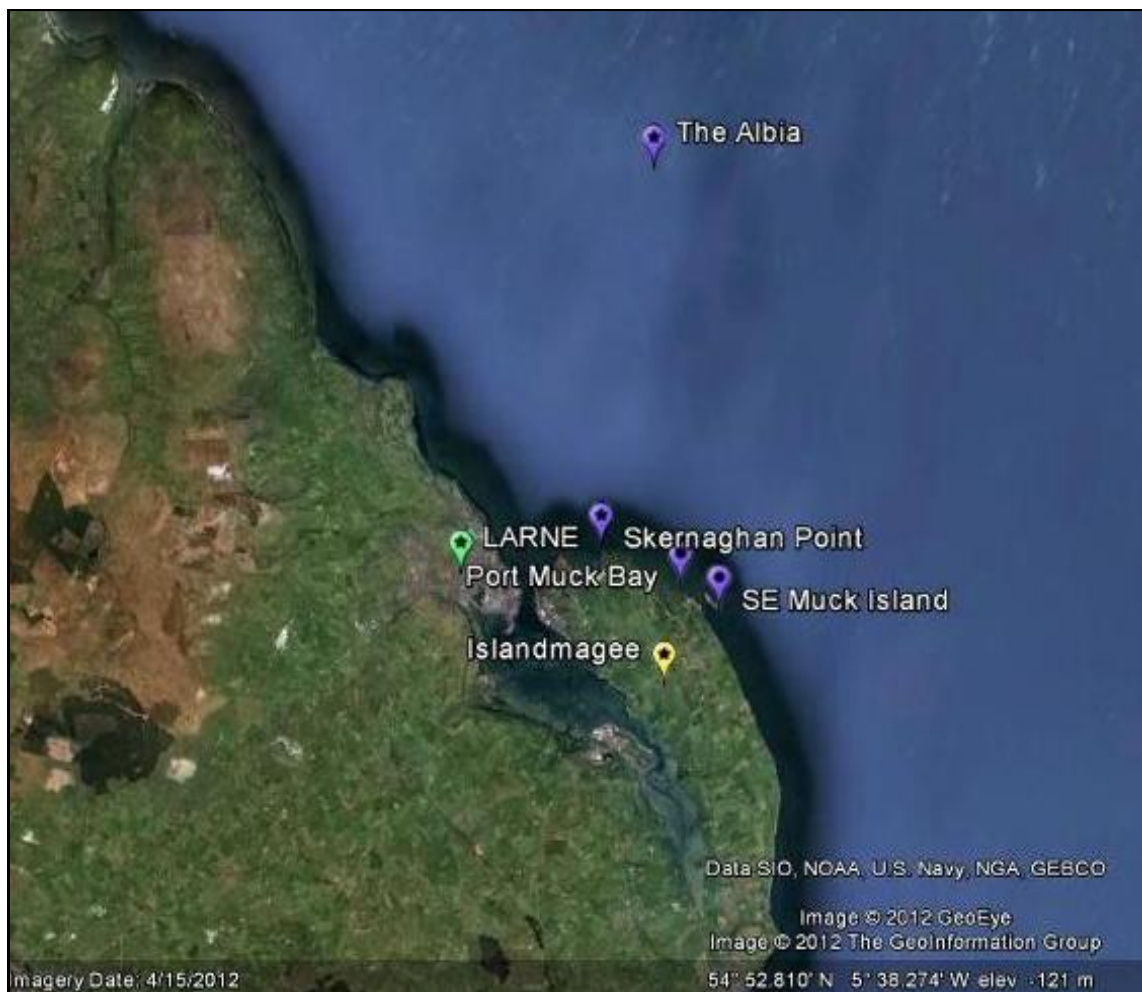


Figure 2.4a. Survey sites in the Muck Island and Maidens area (Google Earth).

The south-east of Muck Island proved to be rich in marine species. Divers recorded the habitats as well as a variety of life such as 3-beared rockling, leopard-spotted gobies and sponges. As in most of our inshore areas commercial species are recorded such as crabs, lobsters and different species of fish were present. The priority species Ling (*Molva molva*) was recorded at Muck Island. A large number of sea-slugs were recorded often with spiral ribbons of eggs. They are much more attractive, colourful and varied than their terrestrial counterparts and are a favourite with divers. One of the most eye catching in our waters is the crystal seaslug, *Janolus cristatus*, which was seen by most divers in the survey (Fig. 2.4b). and the sea slugs *Lomanotus genei* and *Tritonia lineata* (Fig. 2.4c) were also recorded.



Fig. 2.4b. Crystal sea slug , *Janolus cristatus*, Donata Dubber.



Fig. 2.4c. *Tritonia lineata*, Donata Dubber.

At Porkmuck several divers saw the curled octopus, *Eledone cirrhosa*, resting on the seabed (Fig.2.4d). There were also lots of brittle stars, masked crabs (*Corystes cassivelaunus*) and a clams known as the Ocean Quaghogs, *Artica islandica*, (Fig. 2.4e) *A. islandica* is a very long living species with shells regularly being aged to over 100 years by their growth rings and are documented as being up to 400 years old.



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Fig. 2.4d. Curled octopus, *Eledone cirrhosa*, Donata Dubber.



Fig. 2.4e. Ocean quahog, *Arctica islandica*, Robert Irvine.



Figure 2.4f. Goosefoot starfish, Claire Goodwin.

Skernaghan Point was another new site for Seasearch recording, towards the tip of Islandmagee. Large scallops were seen close to shore as well as a clingfish. The unusual goosefoot starfish was spotted, *Anseropoda placenta*, which is a priority species for Northern Ireland (Fig. 2.4f).

Other priority species of the grey seal and the pin head seasquirt *Pycnoclavella stolonialis* were also recorded at the Albia wreck. The non-native invasive seaweed *Heterosiphonia japonica* was also recorded in the area.



In addition to the four organised survey dives volunteers also recorded at Porkmuck Harbour shore dive (Fig. 2.4g) and the State of the Louisiana wreck at Hunter Rock near Larne.

Figure 2.4g. Porkmuck Harbour.



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2.5. Red Bay (SAC), Co. Antrim.

This area was targeted as it is a Special Area of Conservation (SAC) which contains priority habitats of seagrass beds and maerl beds. One dive in each of these habitats was completed in the area in 2012. Maerl looks like a coral habitat but it is in fact composed of pieces of hard calcified seaweed (Figure 2.5a) and it is a rare and protected habitat in European waters. In suitable conditions it can build up in layers over hundreds of years to create 3-dimensional mega-ripples which provide a rich environment for many species and also nursery areas for commercial species (Fig. 2.5b). Maerl beds thrive in areas of high current flow and it needs a sediment free environment to photosynthesise. Tidal streams in the Red Bay area and Strangford Lough provide suitable conditions in Northern Ireland. Trawling damage and the sediment plumes that often accompany trawling can cause long term damage and have been documented in Scotland and other European sites. The maerl beds in the North East Antrim area are extensive and have previously been mapped for the Department of the Environment.

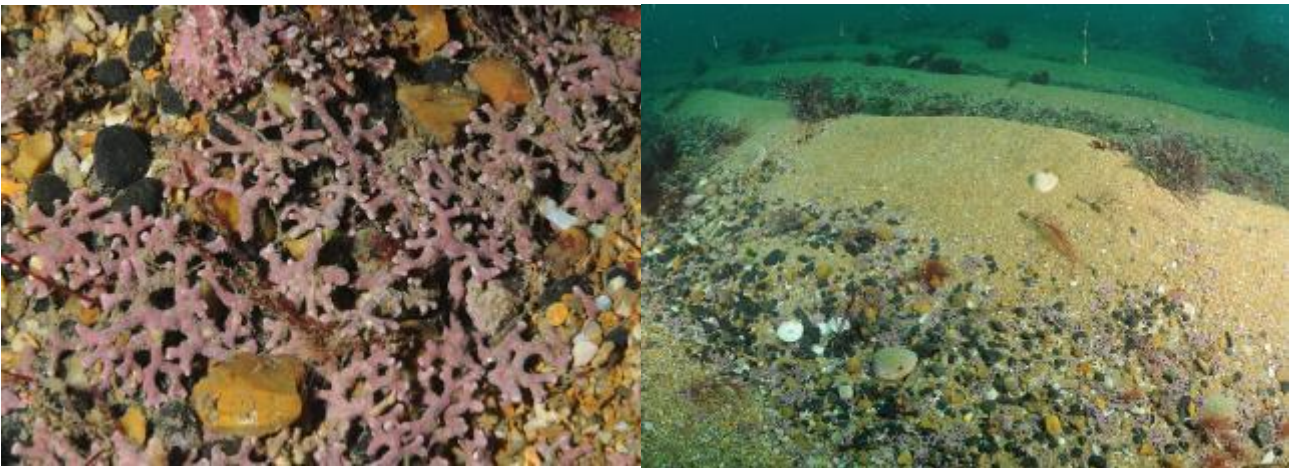


Figure 2.5a. Maerl pieces approximately 3 cm each. Images by Dr Claire Goodwin.

Figure 2.5.b. Maerl mega ripples in East Antrim.

For the 2012 survey the Garron Point area was targeted as it had not been recently surveyed. Volunteers noted the approximate proportions of live and dead maerl in the area and estimated 50% live to 50% dead and 60% live 40% dead. Diverse species were recorded in addition to species of note. The Reticulated Dragonet, *Callionymus reticulatus*, was confirmed from photography. The echinoderms *Solaster endeca* (Fig. 2.5c.) and *Luidia sarsi* (Fig. 2.5d.) were also confirmed from photography by Dr Claire Goodwin. The purple sunstar *Solaster endeca* is a priority species for Northern Ireland and not commonly recorded.

In 2013 we plan to target the mega-ripple area of the Antrim maerl bed.



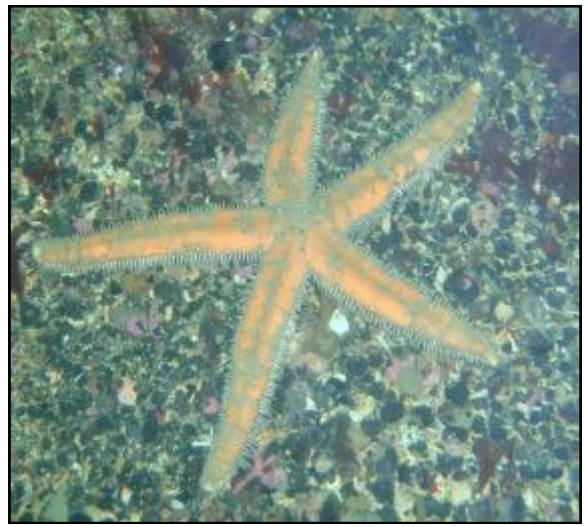


Figure 2.5c. *Solaster endeca* (by Gavin Maguire). Figure 2.5d. *Luidia sarsi* (by Gavin Maguire).

The following dive in was on the large seagrass (eelgrass) bed at Waterfoot Bay close to Cushendall. In Northern Ireland there is only one subtidal species of seagrass, *Zostera marina*, and we do not have good records of the extent of present subtidal beds or historical records. Seagrass beds are important and protected habitats with high numbers of species, including juvenile commercial fish species, they also have a major role in nutrient cycling and sediment dynamics. Seasearch had previously surveyed this seagrass bed and mapped the outer edges using a GPS logger attached to an SMB whilst swimming around the out edge. The south-eastern edge of the bed had not been previously determined despite extensive swimming transects. Again during the 2012 survey this edge of the bed was not located by divers swimming along directional transects and is likely that it extends to the shoreline. The seagrass bed is sparse in cover (Fig. 2.5e) but extensive, the largest subtidal bed recorded in Northern Ireland to date.



Figure 2.5e. Seagrass in Waterfoot Bay (Dr Claire Goodwin).



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Volunteer divers recorded density cover of seagrass shoots using quadrats and the maximum length of seagrass fronds (Fig. 2.5f). They also recorded marine life throughout the bed and identified commercial fish species in addition to a high diversity of epiphytes (seaweeds growing on seagrass fronds).

Figure 2.5f. Volunteers preparing to survey the seagrass bed.

2.6. Additional records

Additional records were submitted by volunteers from Sea Court - Bangor Bay; Vidal Rock, the Blockhouse and Greencastle in Carlingford Lough; SS. ARANTAZU, Mendi and Ardglass, Co. Down. All data is freely available through the NBN Gateway <http://data.nbn.org.uk/>

3. Species of conservation interest

The Northern Ireland priority species; *Phymatolithon calcareum* - common maerl, *Haliclystus auricula* - a stalked jellyfish, *Anseropoda placenta* - a goosefoot starfish, *Solaster endeca* - purple sunstar, *Molva molva*-ling, and *Ascophyllum nodosum* - knotted wrack, have all been recorded in the 2012 survey season by Seasearch volunteers. *Arctica islandica* is currently a Nationally Important Marine Feature and Feature of Conservation Importance. In addition a seahorse was recorded at Greencastle Co. Down, which is the second recent report to Seasearch in recent years. It was not identified to species level, but both the species *Hippocampus hippocampus* and *Hippocampus guttulatus* are on the Wildlife and Natural Environment Order as amendments to the Wildlife Order - Schedule 5 species (animals which are protected at all times) and Schedule 6 species (animals which may not be taken or killed by certain methods) - as well as being UK Biodiversity Action Plan species, Nationally Important Marine Feature species and OSPAR species. Historical records of seahorses in Northern Ireland have been collated by Dr Claire Goodwin and Angel Ross at the Ulster Museum (Appendix 1). The last documented record of a seahorse in Northern Ireland was 1961.

Invasive non-native (alien) species have also been recorded by Seasearch. This year the seaweed *Heterosiphonia japonica* was recorded for the first time subtidally from Greencastle in Co. Down to Portrush. *Sargassum muticum* was also commonly recorded.



4. Training Activities

Seasearch training comprise of 2 main levels, Observation and Survey level with supplementary specialised courses.

4.1. Observer Training

Two Observer course were held during 2012 at Ballyholme Yacht Club and Portrush Sub-Aqua Club. 9 participants have successfully qualified for their Observer qualification after completing successful recording forms on dives subsequent to the course. Congratulations to Darren Johnston, Donata Dubber, Joern Hulsmeier, Gavin Maguire, Sinead Coll, Michael Chambers, Sally Stewart-Moore, Melvyn Heath and Liz Russell.

4.2. Surveyor Training

A Surveyor course was hosted in August by the Ulster Wildlife Trust for qualified Observers wishing to progress their training or suitably experienced marine recorders. Congratulations to Allison Cartwright who has already qualified as a Surveyor after completing the course, subsequent dives and identification quiz.

4.3. Underwater Photography

In September Nigel Motyer, Brian Stone and Ivan Donoghue tutored a 2 day underwater photography course at Barholm Hostel, Portaferry. Underwater photography is becoming increasingly popular with recreational divers and it is a great tool for species identification and confirmation. The increase in quality images of marine life promotes our marine environment to the wider public.



5. Seasearch Northern Ireland Programme for 2013

Continued funding from Northern Ireland Environment Agency (NIEA) is secured until spring 2015 which will enable the survey programme to continue and an outline programme for 2012-15 has been agreed with NIEA. Further collaboration with the Ulster Wildlife Trust is planned for 2013 which will enable further surveying of the Maidens and Muck Island area. In addition to the agreed programme for 2013 Seasearch will contribute to a Strangford Lough Bioblitz event in August 2013 organised by the Ulster Museum and Porcupine Natural History Society. In 2013 Seasearch Northern Ireland will celebrate its 10th birthday.

6. Acknowledgments

Sincere thanks to all volunteers and the dive community who have contributed to the Seasearch scheme for Northern Ireland in 2012 and provided the largest number of recording forms to date. Seasearch Northern Ireland would like to thank Nigel Motyer, Brian Wilson and Ivan Donoghue for generously sharing their time and expertise at the Underwater Photography Workshop. Por-trush Sub-Aqua Club kindly provided their clubhouse for a Seasearch Observer Course in September 2012. Aquaholics, DV Diving and North Irish Divers have supplied boat charters and local knowledge which has assisted us in surveying new dive sites. We thank the Ulster Wildlife for financial support towards boat costs for the Muck Island and Maidens survey 2012 and also for providing their centre for a Surveyor training course in September 2012. Many thanks to Dr Claire Goodwin who has continued to tutor, marshal dives and provide taxonomic expertise to support the programme and the volunteers. We thank NIEA grant aid for its continued financial support for Seasearch which also subsidises some boat costs to volunteers in exchange for their recording forms.



Ulster Wildlife Trust



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Appendix 1. Historical seahorse records in Northern Ireland, compiled by Dr Claire Goodwin.



Images of specimens in the Ulster Museum collections. Supplied by Angela Ross, Curator of Vertebrates. Specimen LD113.

Identified by Neil Garrick-Maidment of the Seahorse Trust as a female *Hippocampus guttulatus* – the long snouted or spiny seahorse. *H. brevirostris*, the original identification, is a synonym of the short snouted seahorse *H. hippocampus*. He estimates the age to be 1-1.5 years.

Specimen collected 200 yards offshore opposite the 'Giant's thumbstones' Whitehead, Belfast Lough swimming at the surface (see Irish Naturalist's Journal vol II (9) 1929).

There is also a record in the Irish Naturalist's Journal of a seahorse at Greenisland, Belfast Lough on the shore mid-way between high and low water in a pool. An inch long (INJ 1(4) 1926) but there is no specimen.



Images of specimens in the Ulster Museum collections. Supplied by Angela Ross, Curator of Vertebrates. Specimen LD112, collected from Whitehead, June 1961.

Identified by Neil Garrick-Maidment of the Seahorse Trust as a male *Hippocampus guttulatus* – the long snouted seahorse (pouch deflated and pressed against body). He estimates the age to be 1-1.5 years.