LOUGH HYNE DIVE SURVEY
NOVEMBER/DECEMBER 2014

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Above: Pictured after a survey dive in Lough Hyne is Tim Butter with members of
Cork Sub Aqua Club, UCC Sub Aqua Club and Tony O'Callaghan, Seasearch Organiser, Ireland

www.seasearch.org.uk

www.diving.ie

Introduction

Lough Hyne is situated in West Cork, near the town of Skibbereen. It is a deep seawater lake connected to the open sea by a narrow channel (The Rapids). The lough has been extensively studied over the years and has long been recognised as a site of particular scientific interest. The lough contains a number of species with otherwise very restricted ranges in Irish waters. Furthermore, fishing in the lough has been prohibited for many years which has resulted in the site having a different biological community to that outside the lough. Many commercially important species, including lobster, edible crab and scallops, can be observed at much larger sizes those usually encountered in Irish waters. Lough Hyne and its environs are designated as a Special Area of Conservation (SAC), managed by the National Parks and Wildlife Service (NPWS).

Seasearch is a programme that provides a framework for qualified divers to record the habitats and species that they see on their dives. In Ireland the Seasearch programme is organised by Comhairle Fo-Thuinn (CFT – Irish Underwater Council). CFT is the national governing body for scuba diving, snorkeling and related activities in Ireland.

The data obtained from Seasearch dives are recorded on Seasearch forms, and includes time, date and GPS position of the dive site. The forms also require the diver to make a sketch diagram of the dive site showing vertical depths, horizontal distances, compass directions, and major seabed and habitat types.

Cork Sub Aqua Club (Cork SAC) often organises diving in Lough Hyne during the winter months. The very sheltered position of the lough allows diving activity to continue even in very adverse weather conditions. Diving was organised by Cork SAC in the lough in November and December 2014, during which a number of divers made records of the species and habitats present. Cork SAC is affiliated to CFT.

The current CFT Scientific Officer is Dr. Tim Butter. Tim is a member of Cork SAC. He is a professional ecologist and environmental scientist with a particular interest in marine and freshwater habitats.

Method

Seasearch provides training for all divers that enter the programme. This includes instruction on accurately recording dive location details and the habitats present. Different divers will naturally have varying abilities in terms of identifying marine life. Some species, such as lobsters and starfish, are relatively straightforward for all divers. Others, such as sponges, hydroids and many seaweeds, are more demanding. Seasearch divers are instructed to only record those species that they are confident of identifying. Each survey therefore also generates a species list for the dive. See seasearch.co.uk for more details.

All diving was done within the CFT recommendations and guidelines for safe diving. Furthermore, diving for this survey was undertaken with the appropriate permits, issued by the NPWS.

Diving was undertaken on 16 November and 7 December 2014 with detailed Seasearch surveys being undertaken primarily on the first date. The sites dived were the Whirlpool Cliffs and in the area adjacent to the UCC pontoon (Figure 1).

Data obtained from Seasearch dive surveys are validated before being made publicly available via the Biodiversity Maps section of the National Biodiversity Data Centre web site (http://maps.biodiversityireland.ie/).

Figure 1. Lough Hyne showing dive sites. A = Whirlpool Cliffs. B = Near UCC pontoon. Satellite image reproduced from Bing Maps.

The GPS co-ordinates for these sites were as follows:

A)	Whirlpool Cliffs	51□ 30.04' N	9□ 17.74' W
B)	UCC pontoon	51□ 30.00' N	9□ 17.78' W

Results

Whirlpool Cliffs

The area around the Whirlpool Cliffs is composed mostly of boulders that drop sharply from the surface down to a depth of around 17 metres, where the seabed levels out to a soft bottom composed of sand. The area is adjacent to The Rapids. When the tide is rising, the Whirlpool Cliffs are subject to very fast currents, a factor that strongly influences the community of animals and plants that inhabit the area.

Mixed seaweeds were dominant to a depth of around 5 or 6 metres, including kelp species, green seaweeds of the genus *Ulva*, and various red seaweeds (Figure 2).

Figure 2. Rock surfaces at around 3 metres, dominated by Ulva *species (green seaweed) and mixed red seaweeds. The circular red feature in the centre is the inhalent syphon of a sea squirt (*Ascidia mentula*).*

Below around 6 metres there were far fewer seaweeds with just small red species present, including encrusting coralline seaweeds (Figures 3-5). The rock surfaces from around 6 metres down to the sand were dominated by sessile animals, particularly sponges, anemones, fan worms and sea squirts.

*Figure 3. Boulders on the Whirlpool Cliffs at approximately 15 metres. A large number of fan worms (*Bispira volutacornis*) are apparent. There is a single orange colony of dead men's fingers (*Alcyonium digitatum*) towards the bottom right corner. There is a spiny starfish (*Marthasterias glacialis*) and numerous Devonshire cup-corals (*Caryophyllia smithii*) in the bottom left corner. There are also a few small red seaweeds.*

*Figure 4. Boulders on the Whirlpool Cliffs at approximately 15 metres. A small colony of fan worms (*Bispira volutacornis*) are in the centre of the image. There are two spiny starfish (*Marthasterias glacialis*) and numerous jewel anemones in green and white colour variants (*Corynactis viridis*). There are also a few small red seaweeds and significant cover of pink coralline algae.*

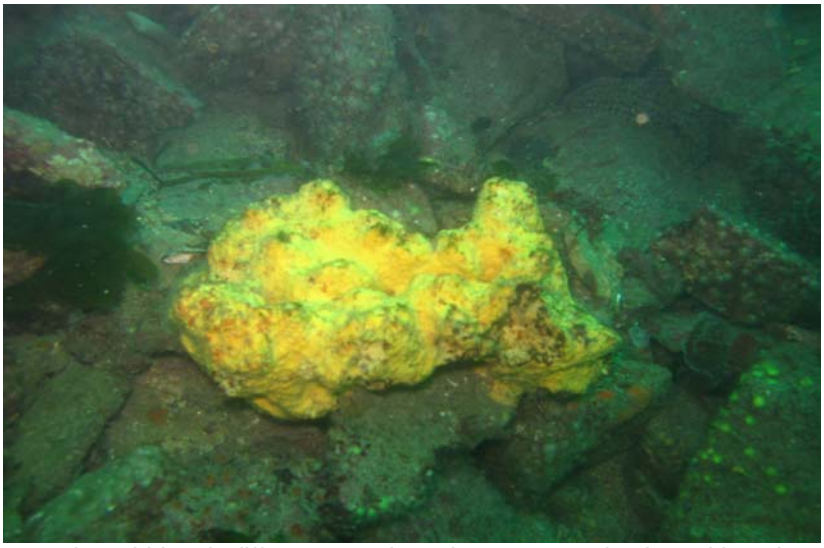

*Figure 4. Boulders on the Whirlpool Cliffs at approximately 10 metres dominated by a large colony of boring sponge (*Cliona celata*). There are numerous jewel anemones (*Corynactis viridis*).*

A number of red-mouthed gobies (*Gobius cruentatus*) were recorded in this habitat (Figure 6). This fish is one of the characteristic species of Lough Hyne, its distribution in the British Isles being limited to only a handful of locations.

*Figure 6. Red-mouthed goby (*Gobius cruentatus*).*

Adjacent to UCC Pontoon

The area around the pontoon for the UCC laboratory is sheltered from the strong currents that are a feature of the Whirlpool Cliffs. This area consisted of a gently sloping boulder field down to around 15 metres where the sea bed becomes muddy in nature. The silty sea bed was notable for the presence of numerous king scallops (*Pecten maximus*). The boulders in this site were covered with a layer of fine silty sediment (Figures 7 and 8). Black gobies (*Gobius niger*) were quite common in this area (Figure 9), and a small number of very large common lobster (*Homarus gammarus*) were encountered (Figure 10).

Figure 7. Typical view of the boulder field in the area adjacent to the UCC pontoon at approximately 12 metres.

*Figure 8. Boulders in the area adjacent to the UCC pontoon. A colony of fan worms (*Bispira volutacornis*) is in the centre. The small fish to the left is a two-spot goby (*Gobiusculus flavescens*). There is a common prawn (*Palaemon serratus*) to the right. The long straggling tentacles below the fan worms belong to an unidentified polychaete worm. Encrusting pink coralline algae are also visible on rock surfaces.*

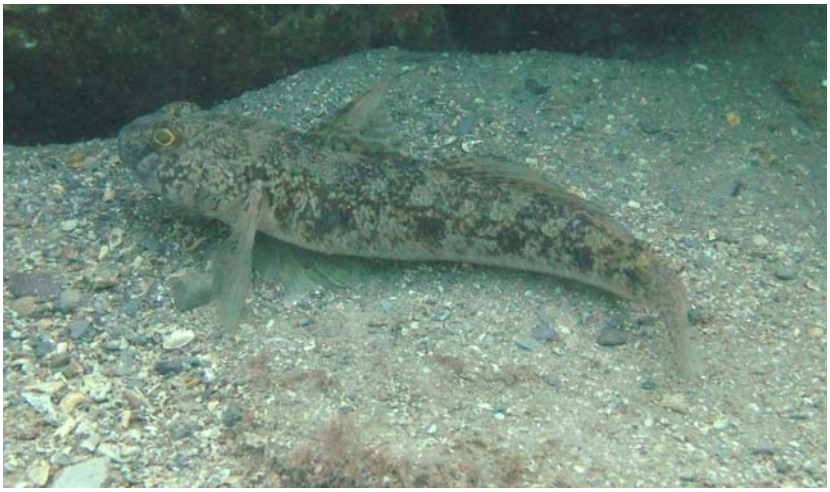

*Figure 9. Black gobies (*Gobius niger*) were common on the boulder field near the UCC pontoon.*

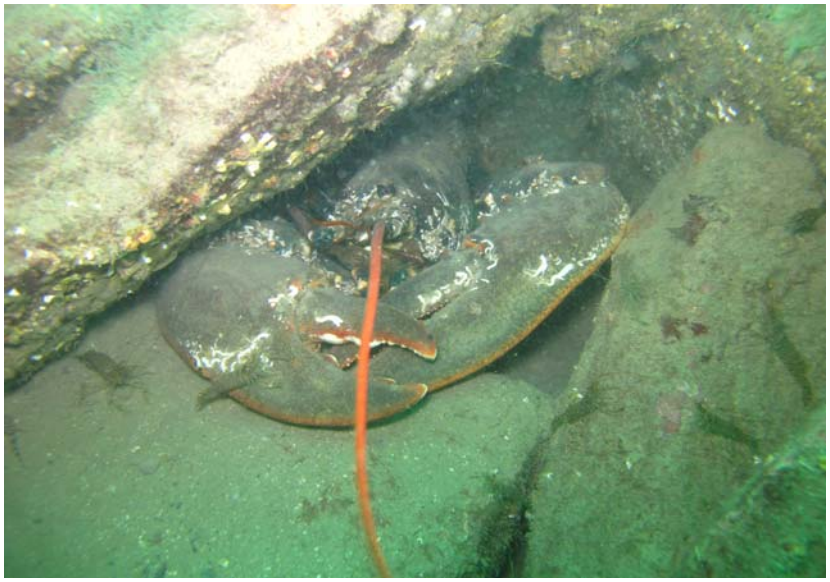

*Figure 10. Large common lobster (*Homarus gammarus*) with attendant common prawns (*Palaemon serratus*).*

In shallower water, from around 7 metres upwards, more seaweeds were apparent, mostly small red and green species. There were also numerous snakelocks anemones (*Anemonia viridis*), Figure 11.

*Figure 11. Snakelocks anemones (*Anemonia viridis*) in shallow water (approx. 3 metres) near the UCC pontoon. Numerous small seaweeds can be seen on the upper surface of the boulder.*

Open Water
A notable feature throughout the lough was the presence in relatively large numbers of the oceanic jellyfish *Pelagia noctiluca* (Figure 12). This species is seldom encountered in inshore waters.

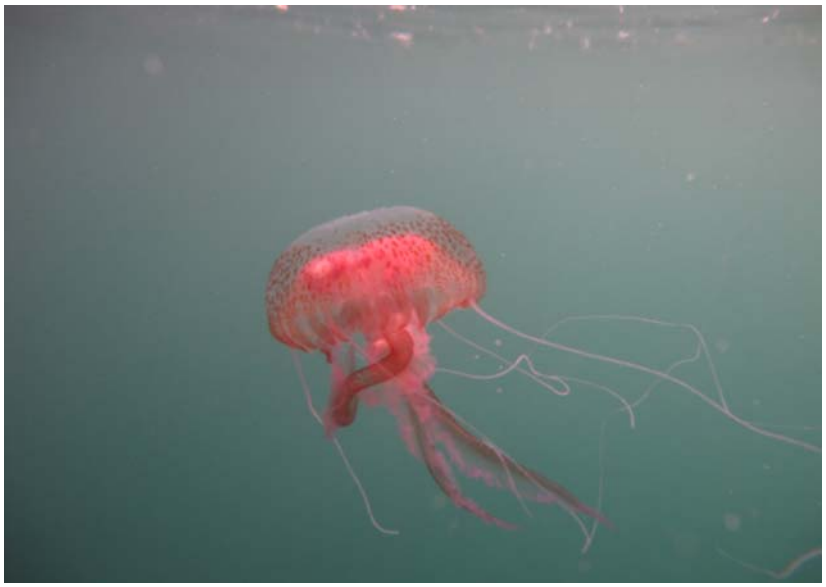

Figure 12. The jellyfish Pelagia noctiluca*.*

Summary
The Seasearch survey of November 2014 follows from similar surveys undertaken by Cork SAC in December 2013, March 2011 and November 2009. The habitats have remained relatively consistent over this time period, as have the species lists.

Pink sea fingers (*Alcyonium hibernicum,* Figure 13) were recorded in the survey in March 2011 but do not appear to have been recorded in Lough Hyne since this date. This is a close relative of the common dead men's fingers (*Alcyonium digitatum*, Figure 3) but with a far more restricted distribution. It would be useful for future surveys to target this species in order to determine the status within the lough.

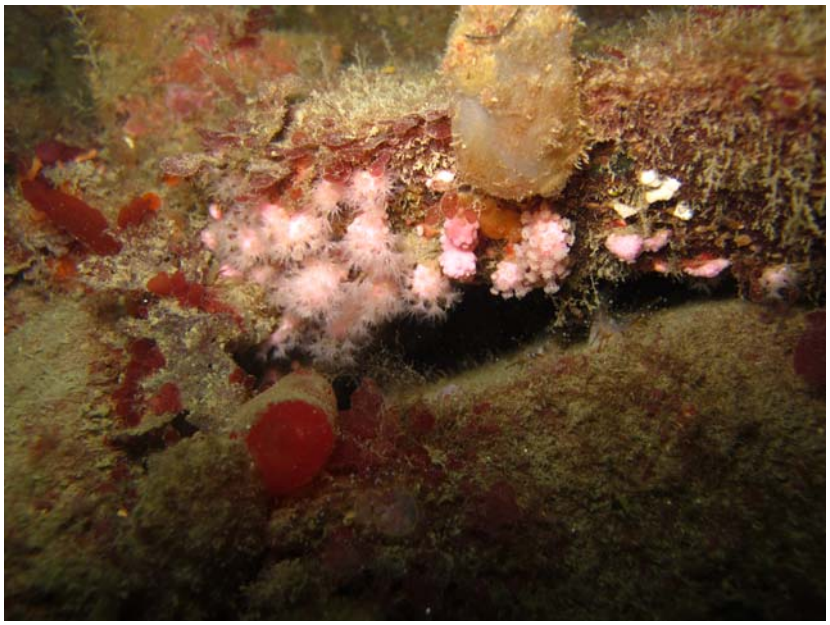

*Figure 13. Pink sea fingers (*Alcyonium hibernicum*), photographed in Lough Hyne in March 2011.*

The species lists for the November 2014 surveys are summarised in Table 1.

Table 1. Species lists for Seasearch surveys in Lough Hyne by Cork SAC on 16 November 2014.

Whirlpool Cliffs	Near UCC Pontoon
Seaweeds *Ulva* sp. – sea lettuce *Ascophyllum nodosum* – egg wrack *Halidrys siliquosa* – sea oak *Himanthalia elongata* – thong weed Coralline sea weeds	**Seaweeds** *Ulva* sp. – sea lettuce Coralline sea weeds
Sponges *Cliona celata* – boring sponge *Pachymatisma johnstonia* – elephant hide sponge *Suberites ficus* – sea orange *Tethya aurantium* – golf ball sponge	**Sponges** *Suberites ficus* – sea orange
Cnidarians *Caryophyllia smithii* – Devonshire cup coral *Corynactis viridis* – jewel anemone *Alcyonium digitatum* – dead men's fingers *Pelagia noctiluca*	**Cnidarians** *Caryophyllia smithii* – Devonshire cup coral *Corynactis viridis* – jewel anemone *Adamsia carciniopados* – cloak anemone *Cerianthus lloydii* – burrowing anemone *Anemonia viridis* – snakelocks anemone *Isozoanthus sulcatus* – ginger tiny anemone *Pelagia noctiluca*
Worms *Bispira volutacornis* – fan worm	**Worms** *Bispira volutacornis* – fan worm *Pomatoceros triqueter* – fan worm Unidentified polychaete
Molluscs	**Molluscs** *Pecten maximus* – king scallop *Gibbula cineraria* – grey top shell

Crustaceans *Palaemon serratus* – common prawn *Cancer pagurus* – edible crab *Necora puber* – velvet swimming crab	**Crustaceans** *Palaemon serratus* – common prawn *Cancer pagurus* – edible crab *Necora puber* – velvet swimming crab *Pagurus prideaux* – hermit crab *Homarus gammarus* – common lobster *Galathea strigosa* – spiny squat lobster
Echinoderms *Marthasterias glacialis* – spiny starfish *Henricia oculata* – bloody Henry starfish *Echinus esculentus* – common sea urchin	**Echinoderms** *Marthasterias glacialis* – spiny starfish *Echinus esculentus* – common sea urchin
Sea Squirts *Ascidia mentula*	**Sea Squirts** *Ascidia mentula* *Aplidium punctum*
Fish *Pollachius pollachius* – pollack *Trisopterus minutus* – poor cod *Taurulus bubalis* – long-spined sea scorpion *Chelon* sp. – grey mullet *Labrus bergylta* – ballan wrasse *Centrolabrus exoletus* – rock cook *Ctenolabrus rupestris* – goldsinny *Symphodus melops* – corkwing wrasse *Gobius cruentatus* – red-mouth goby *Pomatoschistus pictus* – painted goby *Parablennius gattorugine* – tompot blenny	**Fish** *Pollachius pollachius* – pollack *Trisopterus minutus* – poor cod *Labrus bergylta* – ballan wrasse *Ctenolabrus rupestris* – goldsinny *Symphodus melops* – corkwing wrasse *Gobius niger* – black goby *Gobius paganellus* – rock goby *Thorogobius ephippiatus* – leopard-spotted goby *Gobiusculus flavescens* – two-spot goby *Pomatoschistus pictus* – painted goby *Pomatoschistus* sp. – goby