

## Methods

### Littoral Survey - 8<sup>th</sup> February 2012

The littoral survey comprised the laying of two transect lines, from low water springs (0.4m acd – above chart datum), to the supralittoral zone in the area of slipway and barge ramp construction and in front of the proposed fendered berth.

The transect line in the area of the slipway and barge ramp ran from 58° 00' .341N, 006° 32.544W, for 45m, to 58° 00' .365N, 006° 32.533W.

The second transect line was laid in front of the proposed fendered berth and ran from 58° 00' .360N, 6° 32' .628W, for 22m, to 58° 00' .367N, 6° 32' .617W.

Biotores were identified using the JNCC Marine Habitat Classification, Version 04.05 (Connor *et al.*, 2004). Organisms were identified to species (Howson And Picton, 1997)



Transect line

and their abundances noted (Hiscock, 1996). Field recording forms for site and littoral habitats (detailed) were completed, following the guidance of the MNCR publication *Rationale and Methods* (Hiscock, 1996). Any species that could not be identified in the field were collected for laboratory examination. Positions were fixed using an EGNOS enabled GPS and a photographic record taken using a Nikon D80 and Sony A77 with lenses as appropriate.

All surveys were carefully planned with regard to health and safety; with two persons carrying appropriate safety equipment and following safe working practices.

### Sublittoral Survey – 7<sup>th</sup> & 9<sup>th</sup> February 2012

The sublittoral survey comprised six spot dives and two transect dives.

Six spot dives were carried out at the following locations:

Dive 1 - 58° 00' .339N, 6° 32' .636W (upper infralittoral and sublittoral fringe on the inside of the proposed concrete fender piles)

Dive 2 - 58° 00' .333N, 6° 32' .556W (base of proposed slipway)

Dive 3 - 58° 00' .342N, 6° 32' .617W (easterly proposed concrete fender pile)

Dive 4 - 58° 00' .354N, 6° 32' .656W (westerly proposed concrete fender pile)

Dive 7 & 8 - 58° 00' .293N, 6° 32' .672W (two dives in deeper water to southwest of berth)

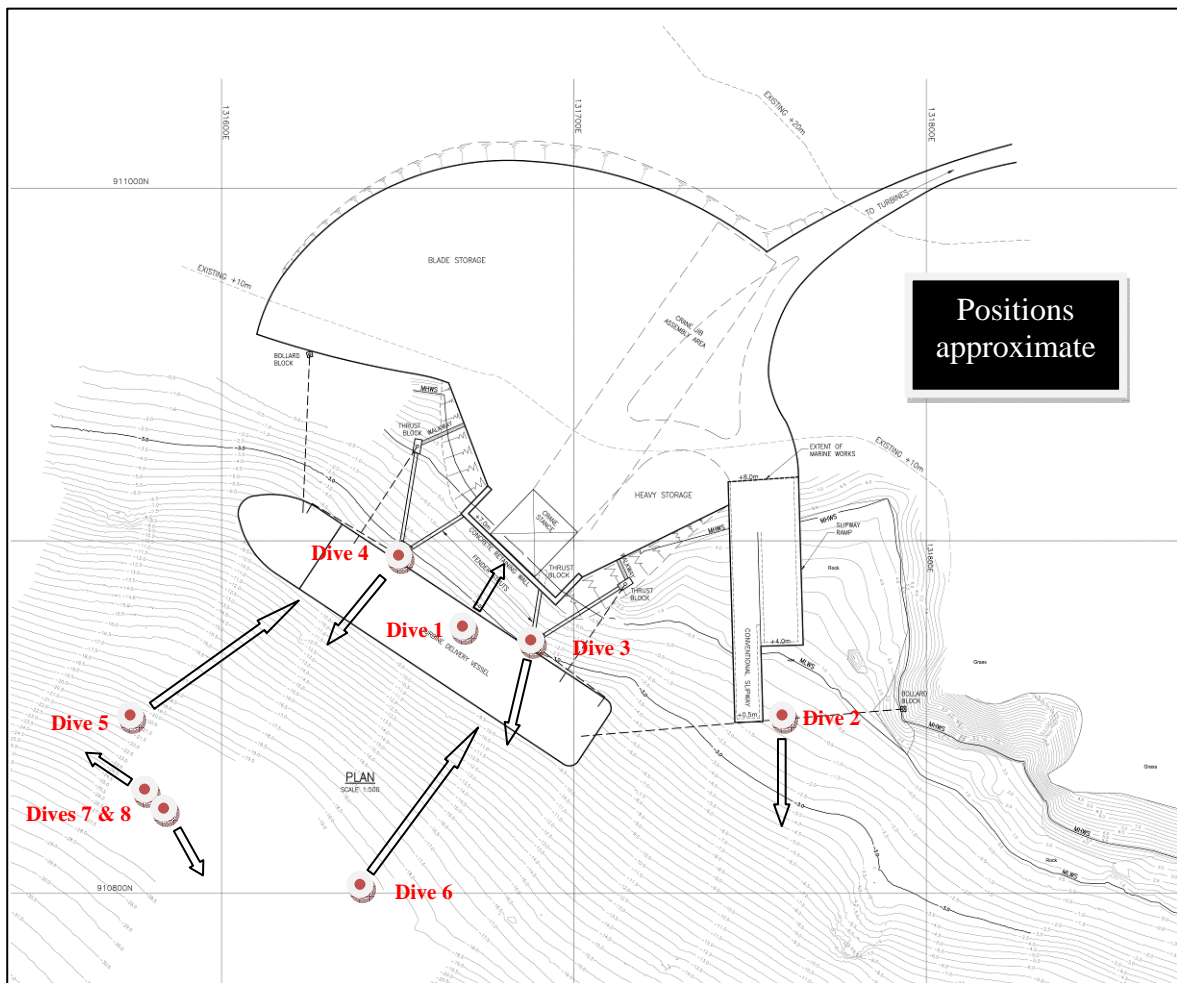
For the spot dives, a shot line was placed in the centre of each site. A pair of divers descended the line and surveyed the area around the shot.

In addition two transect dives were carried out:

Dive 5 – 21m bcd heading on a bearing shoreward of 60° towards the westerly proposed concrete fender pile.

Dive 6 – 21m bcd heading on a bearing shoreward of 35° towards the easterly proposed concrete fender pile.

Similarly, during the transect dives, each dive pair descended a shot line and surveyed the area along the transect.



Dive sites

Diving survey methods were based on techniques developed for use on the Marine Nature Conservation Review (MNCR) surveys (Hiscock, 1996) and carried out under HSE diving regulations. All dives were on SCUBA with compressed air. All dives followed 'The Diving at Work Regulations 1997' and the 'Approved Code of Practice for Scientific and Archaeological Diving Projects' (1998). The diving vessel was a coded Polar Circle, carrying all appropriate safety equipment.



**Polar Circle dive boat**



**Dive team**

Each dive pair recorded habitat features, biotopes (JNCC Marine Habitat Classification, version 04.05, Connor *et al.*, 2004), depths, species present and abundance.

Standard MNCR recording forms, incorporating the species codings of Howson and Picton (1997) and the abundance scales of Hiscock (1996) were completed. Any specimens difficult to identify *in situ* were collected for later identification and, if appropriate, preservation.

Underwater photographs of biotopes and conspicuous species were taken, using a housed Fuji S2 Pro and Nikon D90 with lenses as appropriate.