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Charter Vessel Cruise

MV *Ocean Bounty*

H21

REPORT

8-18 October 1990

Personnel

| | |
|-------------|-------------------|
| J Kinnear | HSO (in charge) |
| R Priestley | SSO 13-18 October |
| C Shand | HSO 8-13 October |

Objectives

1. To survey the artificial reef in Pease Bay, Torness.
2. To estimate edible crab (*Cancer pagurus*) densities using the towed camera sledge.

Narrative

Crew and scientists joined the vessel on 8 October at Granton. Departure was delayed due to bad weather. Survey work commenced on the artificial reef in Pease Bay on the 10th. Transect lines were conducted using the 1989 survey coordinates. A survey of commercial edible crab grounds was also carried out from Berwick-on-Tweed to Pease Bay. The trip ended at Berwick-on-Tweed on 18 October. One and a half days were lost due to bad weather.

Results

1. General

The artificial reef showed little change from the 1989 survey. There was silting apparent around the reef periphery. Silting was also observed around natural reefs between Pease Bay and St Abb's Head. The increase in silt in this area was probably caused by the severe NW storms which had occurred the previous week. Silting was less apparent south of St Abb's Head.

The artificial reef is now virtually indistinguishable from naturally occurring boulder/stone reefs. The most obvious difference is the total absence of the coelenterate, *Alcyonium digitatum*. This slow growing animal is common in the area but is not yet apparent on the artificial reef. The sea urchin, *Echinus esculentis* and the squat lobster *Galathea dispersa* were still the most commonly occurring mobile animals on the reef. *Galathea dispersa* was observed in virtually all the photographs in densities similar to those observed in 1989 (at least three per metre). *Echinus esculentis* was not evenly distributed over the reef, occurring instead in isolated groups of up to 15 individuals of mixed sizes. The common starfish, *Asterias rubens* was present on the reef as juvenile animals, few were observed over 5 cm in size. As with *Echinus*, distribution was uneven.

The only fish species observed during the reef transects was *Myxocephalus scorpinus*. However, trammel net fishing by St Andrews University during the summer months showed the presence of large numbers of cod around the reef. Catches appeared significantly up on 1989 levels, but results are still in the process of being analysed.

No lobsters or crab were seen, but catch per unit effort data from local fishermen has indicated catch rates of 12 lobsters/100 creels on the reef; this is comparable to normal catch rates on natural lobster grounds.

2. Edible Crab Survey - Berwick to Pease Bay

The survey was conducted on known edible crab fishing grounds up to 2 miles offshore. Crabs were only found in one area, half a mile east of Burnmouth. The bottom consisted of small loose stones and gravel/sand/mud. The density of crab in this area was approximately one per 100 m. No crabs were found elsewhere, including the area to the west of the artificial reef which in the 1989 survey had very large concentrations of edible crab. Time did not permit exploration further offshore.

J Kinnear
27 February 1991