

## Hans Hansson Inshore Fisheries Research Cruise (7th-17th August)

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Over a 10 days research cruise, a mixed team of divers and scientists have been collecting data for the Inshore Fisheries Research Project, led by Dr Deborah Davidson (Debs) and Dr Paul Brickle.

The Hans Hansson, originally a Norwegian rescue ship, had a major refit in 2005, becoming a comfortable cruiser and research vessel and provided the platform for this trip. The ship, captained by Dion Poncet and first mate Juliette Hennequin, was loaded with gear in Stanley, and left a couple of days before the rest of the team for an arranged rendezvous at New Haven. On 7<sup>th</sup> August, the final seven members of the group joined the vessel and they departed for the South-West Islands.

Despite a very poor forecast for high winds, low temperatures, and various levels of precipitation, the following week was spent collecting and processing samples of potential commercial species. The dive team was comprised of members of the Shallow Marine Surveys Group, SAERI and volunteers (Stevie Cartwright, Dr Paul Brewin, Dr Paul Brickle, Joost Pompert, Dion Poncet, Jamie Simpson and Juliet Hennequin). Two pairs of divers were deployed from the Zodiac at each of the sites we visited. The pairs were assigned either a "shallow" or "deep" transect to sample. Whilst one diver ran out a 30m reel of tape that defined each transect line and counted the species we were looking for, the second diver laid out 0.5m<sup>2</sup> quadrats and took photos for habitat and species mapping purposes. Throughout the trip, we generally managed to get 3 sites per day, and along with each set of dives, we deployed a CTD, which is a water quality probe that measures temperature, depth, salinity and chlorophyll *a* as it is lowered through the water from the side of the ship.

Some of the potentially commercial species collected by divers were Chilean urchins (*Loxechinus albus*), Patagonian scallops (*Zygochlamys patagonica*), ribbed mussels (*Aulacomya ater*), keyhole limpets (*Fissurella* spp.), and long and short spired volutids (*Adelomelon ancilla* and *Odontocymbiola magellanica*). The processing team was Debs and Emily, who set themselves up in the available lab space to measure, weigh and dissect the species as they were collected by divers. Despite the difficulty of getting into some of the bivalves, once a technique was mastered, the processing became much

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faster. Everyone helped out to speed up some parts of processing, such as scraping orange *Iophon* sponge off the scallops or barnacles of the mussels (for accurate weight) or assisting in shucking open any immense buckets of bivalves.



Chilean urchin



Patagonian scallops



Ribbed mussel



Keyhole limpet



Long spired volutid



Short spired volutid

50mph winds on Wednesday 13<sup>th</sup> August may have stopped much of the commercial fishing fleet from trawling, but we anchored in the relative shelter of Beaver Island Harbour and spent the day diving and mapping out a shallow clam (*Eurhomalea exalbida*) bed.

Over the duration, we managed 35 dives in 7 sampling days (map to follow), around Weddell Island, New Island, Beaver and Staats Island, and deployed 32 CTDs. We tried out some new equipment including: a drop-down underwater camera, that gave us a good snapshot idea of different habitats, and at greater depths than the divers can attain (limited to 20m for safety purposes); a side scan sonar that presented images of the sea bed – although this was limited because of the regular rough weather experienced.

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We also used an Isaacs-Kidd plankton net (borrowed from the Falkland Islands Fisheries Department) and did several plankton trawls after dusk or before dawn to collect samples of various species that have planktonic life stages.

It was a busy and eventful research cruise, and the team is excited to have collected so much data despite the prevalent poor weather. We were lucky to have such a fantastic chef in Juliette, who prepared us some beautiful dishes (utilising some of the samples – even though she doesn't eat shellfish!) and Paul Brickle knocked up a couple of tantalising curries. Thanks to everyone who was involved, and watch out for the Penguin News article to follow, which will have some preliminary mapping and results, as well as some stunning underwater photography!



Divers getting ready whilst Peale's dolphins play by the Zodiac

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The team with a large seastar (*Cosmasterias lurida*)