

## **REPORT ON THE FISHES UNDER RAPID BAY JETTY**

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The fish fauna under Rapid Bay Jetty (RBJ) is remarkable. During surveys of coastal reef fishes on the South Australian coast during the period 2001-5, a standardised survey technique has been used, involving four 100 m transects in which fish species and their sizes are recorded in a 5 m swathe. So far, 46 sites have been surveyed in southern Gulf St Vincent and Investigator Strait, as well as many sites on Eyre Peninsula. Here a comparison is made between the fishes under RBJ and the fishes of lower Gulf St Vincent and Investigator Strait.

1. The mean number of species recorded per site (=4×100 m transect) for the region is 15.0 (s.e. 0.7) for 46 sites. In contrast under RBJ the number of species recorded was 30, and since that survey in December 2004 four more species have been recorded. The abundance of fishes under RBJ is also high. At the 46 sites referred to, the total number of fishes per 2000 m<sup>2</sup> ranges from 55-501 whereas 617 were recorded under RBJ per 2000 m<sup>2</sup>. On other occasions very large schools of 1000-2000 fish have been seen. The sites most similar in terms of fish abundance and diversity to RBJ are Haystack and Althorpe Is at the entrance to Investigator Strait.
2. The species list includes the protected leafy seadragon, which is relatively numerous, and some deeper water species rarely seen inshore. They include: silverbelly, black-spotted wrasse, rough leatherjacket, western cleaner clingfish, four cave-dwelling species of bullseyes, and the rare black-throated threefin. Other species present are the pelagic species, snook, long-finned pike, and yellowtail.
3. The site is a nursery for a number of species. Very large numbers of juvenile red mullet, black-spotted wrasse, bullseyes, as well as other unidentified species occur in the rubble and concrete cladding scattered on the seabed under RBJ.
4. Another phenomenon of great biological interest is the presence of fish cleaning stations near some piles. The cleaner fish are the black-spotted wrasse and the western cleaner clingfish, and host species, which come to be cleaned of ectoparasites, include zebra fish, magpie perch, wrasses, silver drummer and other species. Studies on these symbioses are on-going.

### **CONCLUSIONS**

The fish fauna under RBJ is very rich in terms of numbers, and diverse in terms of species richness, and comprises a comparative diversity hotspot for the region. This is apparently due to the fact that both shallow water reef species and deeper water fishes congregate there in the reduced light. It is also a nursery haven for juveniles of some species, and contains a number of fish cleaning stations. Such stations are known to be biologically important for the health of fish assemblages.