

State of California - The Resources Agency  
Department of Fish and Game  
Marine Resources Region  
Long Beach, California

CRUISE REPORT 72-KB-1

INSHORE FISHERIES HABITAT EVALUATION AND MONITORING

Prepared by Dan B. Odenweller

Vessel: KELP BASS

Dates: January 12 - January 13, 1972

Locality: Inshore waters near the San Onofre Nuclear Power Plant.

Purpose: To conduct general ecological surveys of the area near the plant intake and outfall structures.

Operations: Biologist-divers conducted general surveys of the biota associated with both intake and outfall structures. Additional surveys were made in the surrounding areas, one on two reefs seaward from the plant, one in a new kelp bed developing in the vicinity of the plant, and one along a transect south of the outfall across a bed of cobble.

Results: The intake structure has a more diverse faunal assemblage than the outfall. The velocity cap of the intake supports a large bed of *Mytilus edulis* and some *Mytilus californianus*. Large numbers of starfish (*Pisaster giganteus*, *P. ochraceus*, *P. brevispinus* and *Patiria miniata*) were found associated with the structure. The walls of the intake structure were covered with *Coryanactis californica*, *Muricea californica*, *M. fruticosa* and *Styela montereyensis*.

The outfall structure was similar to the intake with the absence of a velocity cap. The fauna was quite similar, but greater numbers of *Anthopleura xanthogrammica* were present here. A layer of broken barnacle shells, several feet deep surrounded the outfall structure. This deposition is presumably the result of heat treatment operations.

Spiny lobster were common at both structures, though most observed were sub-legal. Large numbers of fish were located near both structures, but the intake appeared to support a larger population. This observation might be the result of poorer visibility at the outfall.

One dive was made into the intake structure, the only forms observed were barnacles and mussels.

The two reefs offshore from the intake and outfall supported lush growths of the gorgonian coral *Muricea californica*. Both fish and spiny lobster were abundant at these locations.

The kelp bed surveyed was situated approximately one mile south of the outfall. The largest plants appear to be approximately two years old, and the bed is apparently spreading and maturing quite successfully. Left untouched, it may develop into a large, self-supporting bed, and provide an excellent test of the effects of heated discharge on an unaltered kelp bed. No evidence of excessive urchin grazing was observed, and young plants were evident throughout the area.

Personnel:

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