

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

CRUISE REPORT 73-KB-20 ABALONE

Prepared by Richard Burge

Vessel: KELP BASS

Dates: August 20-24, 1973

Locality: Nearshore areas of Santa Catalina and San Clemente Islands.

Purpose:

1. To tag green abalones for life history studies and to inspect new areas for survey and tagging sites.
2. To assess the abalone and spiny lobster resource in popular diving areas along the leeward side at Santa Catalina Island.
3. To obtain data on abalone condition, behavior, competition, predation and on environmental conditions.

Procedure: Scuba divers picked green abalones in pre-selected study areas. Abalones were brought aboard the KELP BASS, tagged and measured for length and width. Notes were taken on each abalone concerning growth and condition. Individuals were held in sea water, except when being tagged and measured, to prevent sunburn and desiccation. Tagged abalones were returned to their original area whenever possible and planted on a fresh abalone scar.

Results: Bad weather prevented operations at San Clemente Island as planned, so we began at an alternate site at Santa Catalina Island, near Three Rocks. A total of 797 green abalone was tagged and released from August 20-22. We then attempted to conduct operations at San Clemente Island but bad weather again forced us back to Santa Catalina Island where we conducted dives to survey abalone habitat and to assess abalone and lobster densities. In a total of 8 hours diving time we observed 124 lobster and 149 abalone at three locations (Table 1).

On August 24, we dove inside Black Point and picked approximately 100 green abalone. These and an additional group picked at Three Rocks were tagged and returned, bringing to 1034 the total number of green abalone tagged and released in the Three Rocks study area since the program began.

A total of 122 green abalone (10.55% of the total removed) was badly cut during picking and was not returned. An additional 132 of those replanted were lightly cut or blistered.

Only eight tagging mortalities were found following replanting. Large sheephead and bat rays that preyed heavily on our returned abalone at San Clemente and Santa Cruz Islands were not seen at Santa Catalina. Small sheephead, garibaldi, California moray and other carnivorous fishes were responsible for the light tagging mortality.

The remainder of the cruise was spent tagging green abalone at Black Point, and Three Rocks, Santa Catalina Island.

TABLE 1. Abalones and lobster observed in survey dives at Santa Catalina Island.

Area	Divers time (hrs)	Number of green abalones	Number of pink abalones	Number of black abalones	Number of spiny lobsters
Empire Cove	5	68	22	-	110
Parsons Landing (E)	2	18	3	7	5
Parsons Landing (W)	3	12	9	-	9

Personnel: Don Carvahlo, Vessel Captain  
Richard Burge, Biologist-in-charge  
Steve Schultz, Biologist  
Robert Hardy, Biologist  
Ken Aasen, Biologist

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