

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

CRUISE REPORT 73-KB-31 ABALONE INVESTIGATIONS

Prepared by Steve Schultz

Vessel: KELP BASS

Dates: November 15-20, 1973

Locality: China Point and Northwest Harbor, San Clemente Island and Isthmus, Catalina Island.

Purpose: 1. To complete the abalone population survey that was initiated during 73-KB-29 (October 30, 31, 1973).
2. To tag green abalone, *Haliotis fulgens*.

Procedure: Inclement weather prevented the completion of the abalone survey at China Point. However, good water conditions existed close to shore in protected areas allowing us to tag green abalone at China Cove and Northwest Harbor. During tagging operations divers brought the abalone back to the KELP BASS where they were tagged, measured (length and width) and then returned to the reef where they were picked.

Results: Biologists tagged and released 1,363 green abalone at two new sites in China Cove (Figure 1, - Site II and III). Abalone released at Site II totaled 413, while Site III releases totaled 425. Of the 838 tagged green abalone, 20 were eaten by predators when replaced (10 by bat rays, *Myliobatis californica*, and 10 by other fish). An additional 53 abalone that were cut by divers during picking were not tagged or replaced, bringing the total tagging and handling mortalities to 73 (8.2%).

A bang stick was used at China Point tagging Site II to eliminate a large bat ray, *Myliobatis californica*, feeding in the tagging site. It measured 4 ft 9 inches in width. Although this is larger than the maximum width reported for this species (4 ft), we have observed larger individuals during earlier trips in this area. Its stomach contained chunks of several green abalones (no shell).

The green abalone tagging site at San Clemente Island was established at Northwest Harbor (Figure 2). Due to inclement weather only 215 abalone were tagged and replaced at that site. An additional 310 green abalone picked and tagged at Northwest Harbor were replanted at the Isthmus, Santa Catalina Island (Figure 3). A total of 52 (9.1%) green abalone was lost to tagging and handling mortalities at Northwest Harbor.

Forty-four were not tagged or replaced due to damage by divers during picking. Eight were tagged abalones eaten by predators when replaced (1 by a bat ray and 8 by other fish).

Gonadal condition of the green abalones examined on this cruise was poor. Generally they were flaccid and spawned out, contrasting with the full, ripe condition of those examined in June-July.

Personnel: Marco Mazarovich, Vessel Captain
Richard Burge, Biologist-in-charge
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Jack Ames, Biologist
Robert Hardy, Biologist

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Figures 1 & 2. Green abalone tagging sites, San Clemente Island



China
Point

x II
x I.

x III

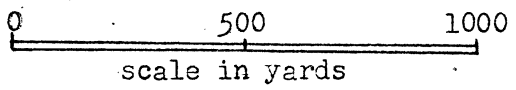


FIGURE 1.



x=tagging sites

Northwest
Harbor

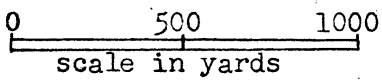


FIGURE 2.

Figure 3. Green abalone tagging site, Santa Catalina Island

