

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

CRUISE REPORT 73-KB-15

ABALONE INVESTIGATIONS

Prepared by Richard Burge

Vessel: R/V KELP BASS

Dates: June 25-29, 1973

Locality: Nearshore waters of San Clemente Island.

- Objectives:
1. To inspect traditional commercial abalone fishing beds to determine the species present, their spatial distribution and relative abundance.
 2. To select appropriate abalone beds for life history studies and population surveys.
 3. To identify the more common floral components and obvious abalone predators in the beds.
 4. To determine relative abundance and spatial distribution of spiny lobsters.

Procedure: Divers occupied 23 selected stations at San Clemente Island including 13 near Northwest Harbor, 4 near Seal Cove, 3 around China Point, and 3 at Pyramid Head (Figure 1, 2). Information recorded during each dive included: a count of each species of abalone present; a count of spiny lobsters; relative estimates of the major benthic and canopy forming kelps; relative abundance of competitors and predators; and physical data such as bottom type and depth, water visibility, and length of time on station.

Results: Several dense populations of pink and green abalones were observed at Pyramid Head and inside China Point. Stations 18 and 22, both in relatively shallow depths of 20 to 40 ft, contained large numbers of short pink abalone. A dense and physically confined population of green abalone was located between wash rocks at Station 19 in 5 to 20 ft depths. Abalones at this southern end of San Clemente Island generally exhibited good growth and excellent recruitment. During dives lasting approximately one hour each we counted 334 pink abalone at Station 18, 309 pink abalone at Station 22, and 303 green abalone at Station 19. Most abalones observed were smaller than the minimum commercial size limits.

FIGURE 1. Location of southern diving stations occupied during a scuba inspection of San Clemente Island during June 25-29, 1973

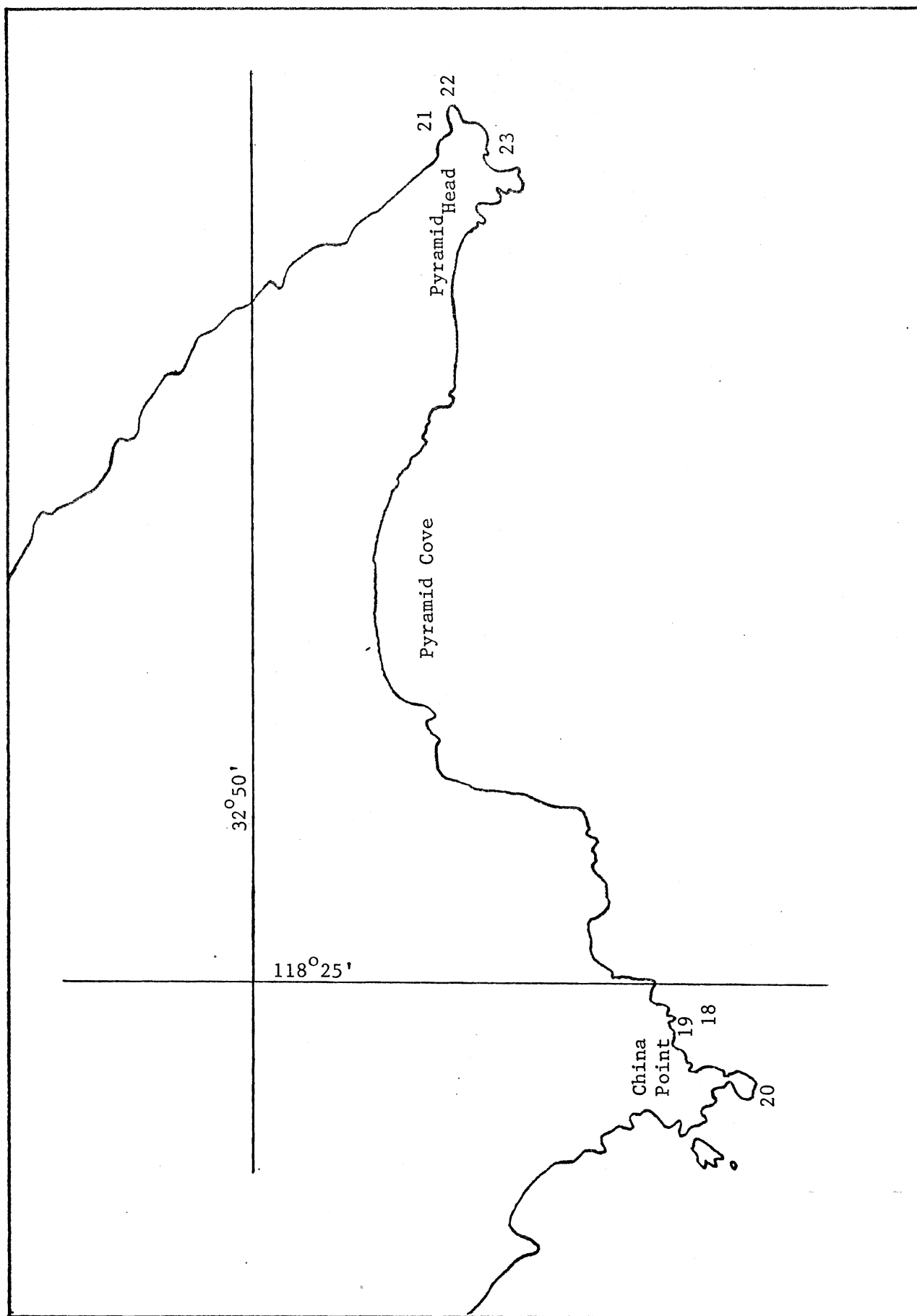
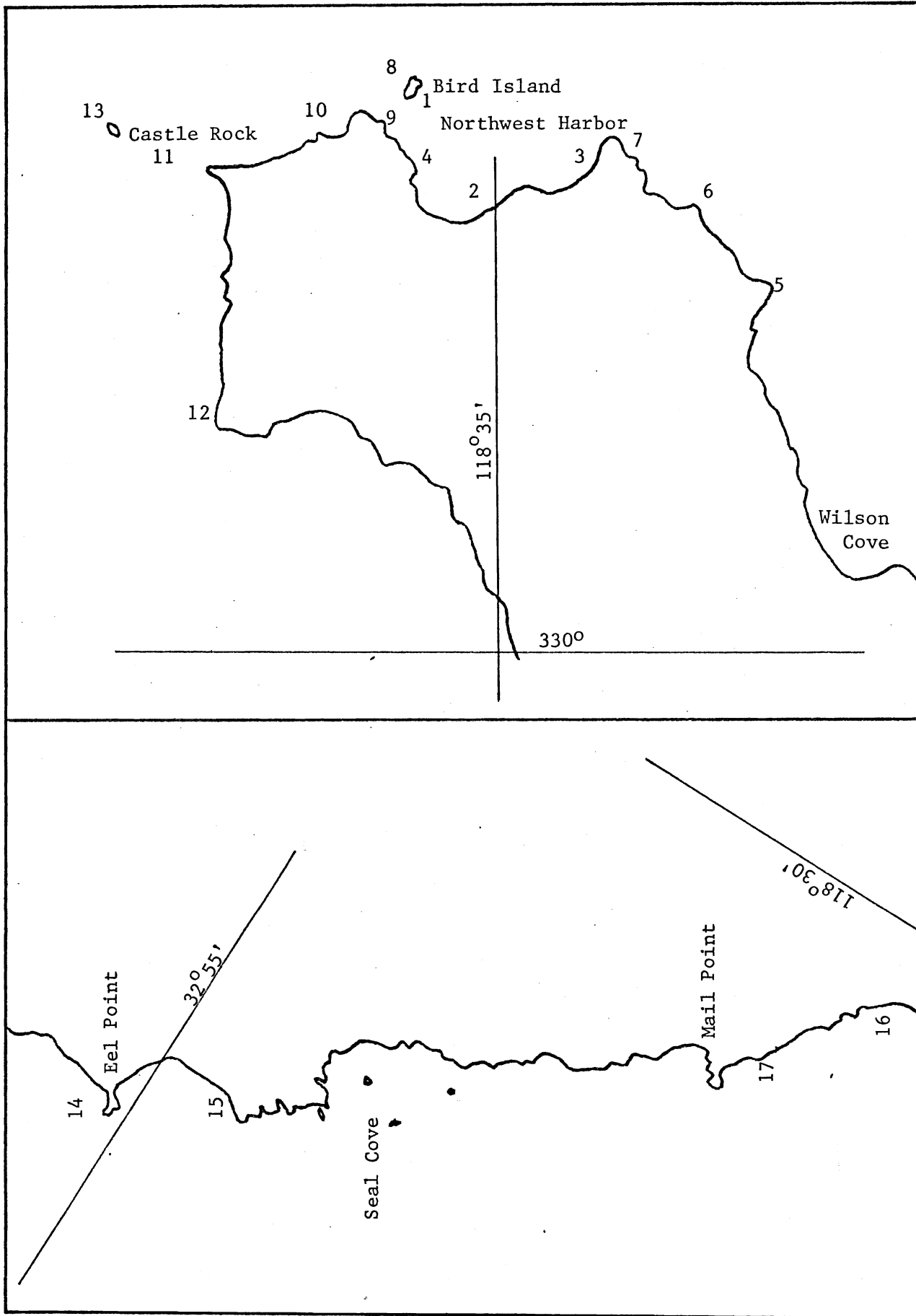


FIGURE 2. Location of north and central diving stations occupied during a scuba inspection of San Clemente Island during June 25-29, 1973



Lower concentrations of pink, green and black abalones were observed at the 13 stations in the vicinity of Northwest Harbor. Very few abalones were seen deeper than 20 ft; most were found only within a very narrow band along the shoreline. Green abalone were most abundant in 5-15 ft, black abalone were found in 5-10 ft, while the few pink abalone observed were in 5 to 20 ft. Only 4 abalones were seen deeper than 25 ft at six stations (1, 2, 4, 8, 11, 13) during 2 hours 40 minutes bottom time.

One dense population of green abalone was found in 5 to 15 foot depths inside Bird Island (Station 9). Observations of several hundred adults in this area indicated they were growing at a relatively fast rate of 5 to 6 inches, but most had ceased to grow or had slowed considerably before reaching 7 inches.

The 4 dives in the vicinity of Seal Cove (Stations 14-17) revealed conditions similar to those at Northwest Harbor. One bed of mixed pink and green abalone (62 pink and 214 green) was located at Station 15 in 15 to 25 ft of water.

Major forage items throughout the area around the island included *Macrocystis pyrifera*, *Eisenia arborea*, *Egregia laevigata*, *Halidrys dioica*, *Dictyota flabellata*, and an unidentified Laminarian.

Spiny lobsters were numerous at most stations shallower than 20 ft. Highest counts were made inside Castle Rock (74 at Station 11 in 15 to 20 ft of water) and inside China Point (70 at Station 19 in 10 to 20 ft of water). Most of the lobsters that we observed appeared to be "shorter" than minimum legal size.

Thirteen berried female lobsters as well as adult pink and green abalones were collected for the Granite Canyon Mariculture Laboratory.

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