

State of California - The Resources Agency
Department of Fish and Game
Marine Resources Operations
California State Fisheries Laboratory
Terminal Island, California

CRUISE REPORT 69-S-2 PRAWNS

Prepared by W. A. Dahlstrom and Mel Willis

Vessel: N. B. SCOFIELD

Dates: Departed San Pedro March 26, 1969
Returned San Pedro April 11, 1969

Locality: Coastal waters in deep water canyon areas off Catalina Island, Santa Cruz Island, Anacapa Island, Port Hueneme, Point Mugu, Point Dume, Redondo, San Pedro, La Jolla and San Diego.

Purpose: To conduct exploratory fishing for spot prawns, *Pandalus platyceros*, to determine distribution and abundance of the species.

To determine catching efficiency of mesh covered traps and burlap covered traps.

To determine size, sex, and weight of prawns from all areas.

To identify and count all incidental species caught.

Operations: A total of 73 stations, 12 off Catalina Island (Figure 1), 20 off Santa Cruz and Anacapa Islands (Figure 2), 24 from Point Hueneme to Point Fermin (Figure 3), and 17 off La Jolla and San Diego (Figure 4), was fished with cylindrical traps. All traps were baited with salted rockfish carcasses. At each station, eight to ten traps generally were set in 90 to 120 fathoms of water; however, the depth of the sets ranged from 18 to 140 fathoms.

Experiments to determine the catching efficiency of mesh covered traps and the burlap covered traps were conducted off Catalina Island. Five traps of each type were used at each station. These were alternated along the line until all ten traps were set.

A sample of the catch from each station which produced prawns was sexed, weighed, and measured.

Incidental species and surface temperatures were recorded for all stations.

Results: Best catches of prawns came from off Catalina Island where 119 traps caught 165.9 pounds, an average of 1.4 pounds per trap. The best station yielded 2.8 pounds per trap. Prawns were caught at all stations in this area.

Sex composition of the Catalina catch was 53.0 percent males, 13.3 percent transitionals, and 33.7 percent females. Eggs were observed on 30.7 percent of the females. Average heads-on count per pound for the combined sexes was 13.4.

The catch of burlap covered traps off Catalina Island was 96.1 pounds for 59 traps compared with 69.8 pounds for 60 meshed traps. These traps were identical in construction and size except on one-half of them the meshes were covered over with burlap. The center 1/3 of the trap was not covered. Average catch per trap was 1.6 prawns per trap for the covered and 1.2 prawns per trap for the uncovered. Highest station catches were 2.6 and 2.8 pounds per trap for the covered and uncovered traps respectively. Analyses of the data showed virtually no difference between size of the prawns caught by each type of gear.

Only three prawns were caught off La Jolla from six stations. On the Coronado Escarpment off San Diego, 122 prawns were caught in 107 traps at 11 stations. This amounted to 9.9 pounds and an average heads-on count of 12.0 per pound. Sex composition of the catch was 42.6 percent males, 24.6 percent transitionals, and 32.8 percent females. Eggs were observed on 62.5 percent of the females.

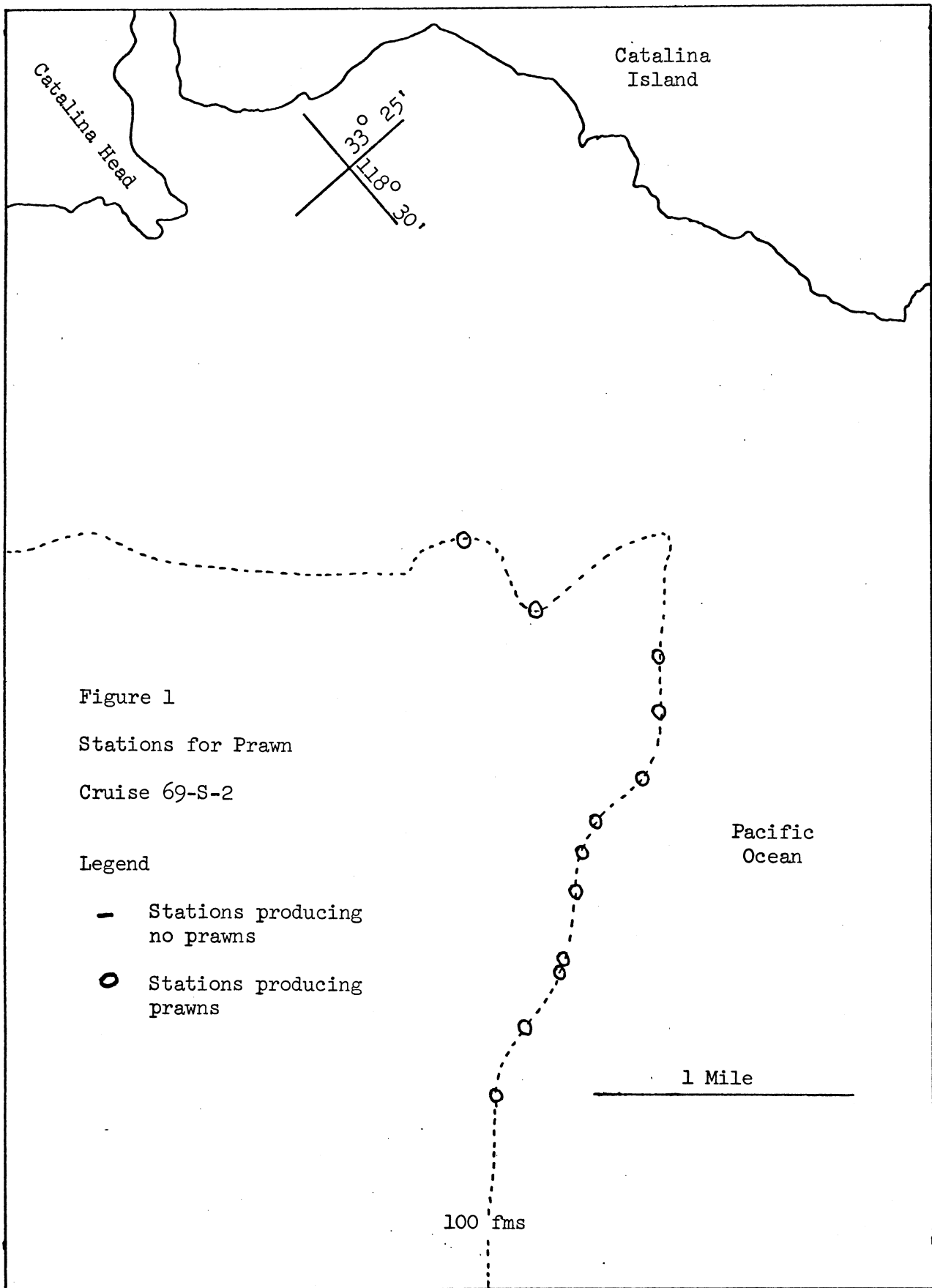
A total of 48 prawns was caught off Anacapa and Santa Cruz Islands in 189 traps at 20 stations. These weighed 6.3 pounds and had an average heads-on count of 7.4 per pound. Sex composition of the catch was 20.8 percent males, 2.1 percent transitionals, and 77.1 percent females. Eggs were observed on 29.7 percent of the females.

Of the 24 stations from Point Hueneme to Point Fermin, the only one that yielded prawns was off Point Dume. Here only four prawns were caught and they were all females with an average heads-on count of 5.4 per pound.

Surface temperatures ranged from a high of 16.3°C (61.3°F) off Catalina Island on March 31 to a low of 11.9°C (53.4°F) off Anacapa Island on April 3.

Incidental species were collected and saved for the California State Fisheries Laboratory. About 40 live sablefish were saved for Marineland of the Pacific.

Personnel: R. B. Mitchell, Vessel Captain
W. A. Dahlstrom, Biologist-in-charge
M. Willis, Biologist



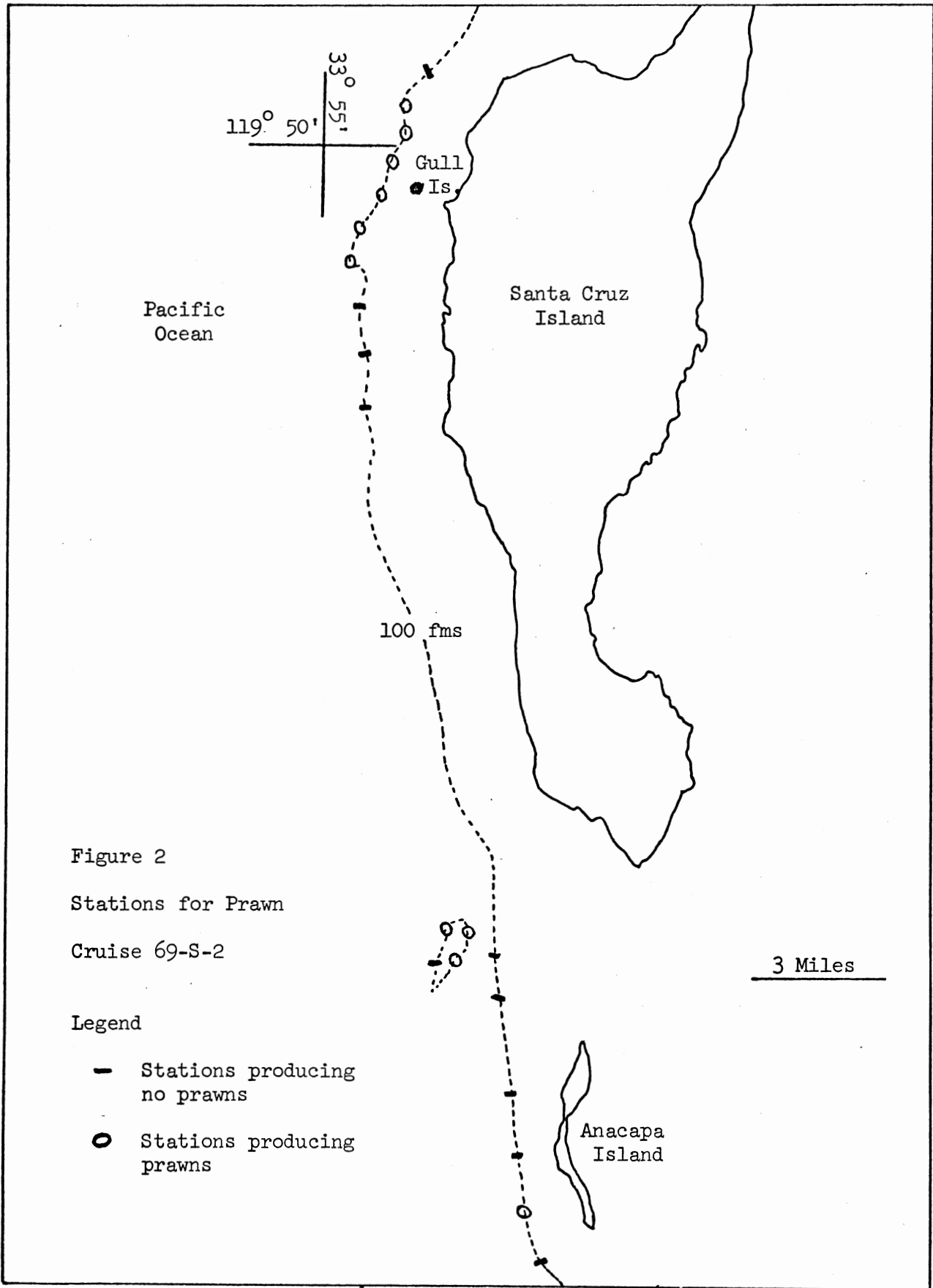


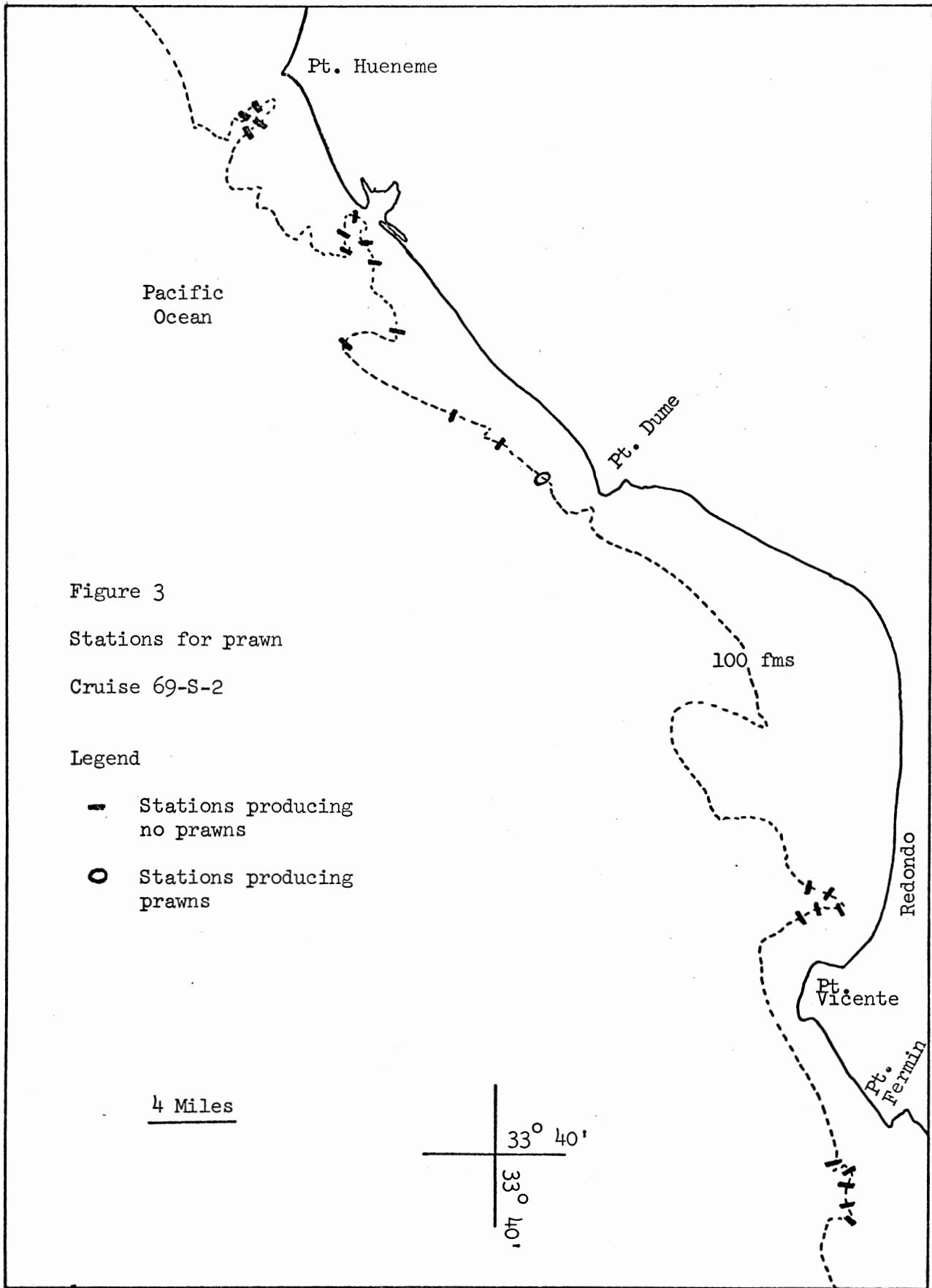
Figure 2

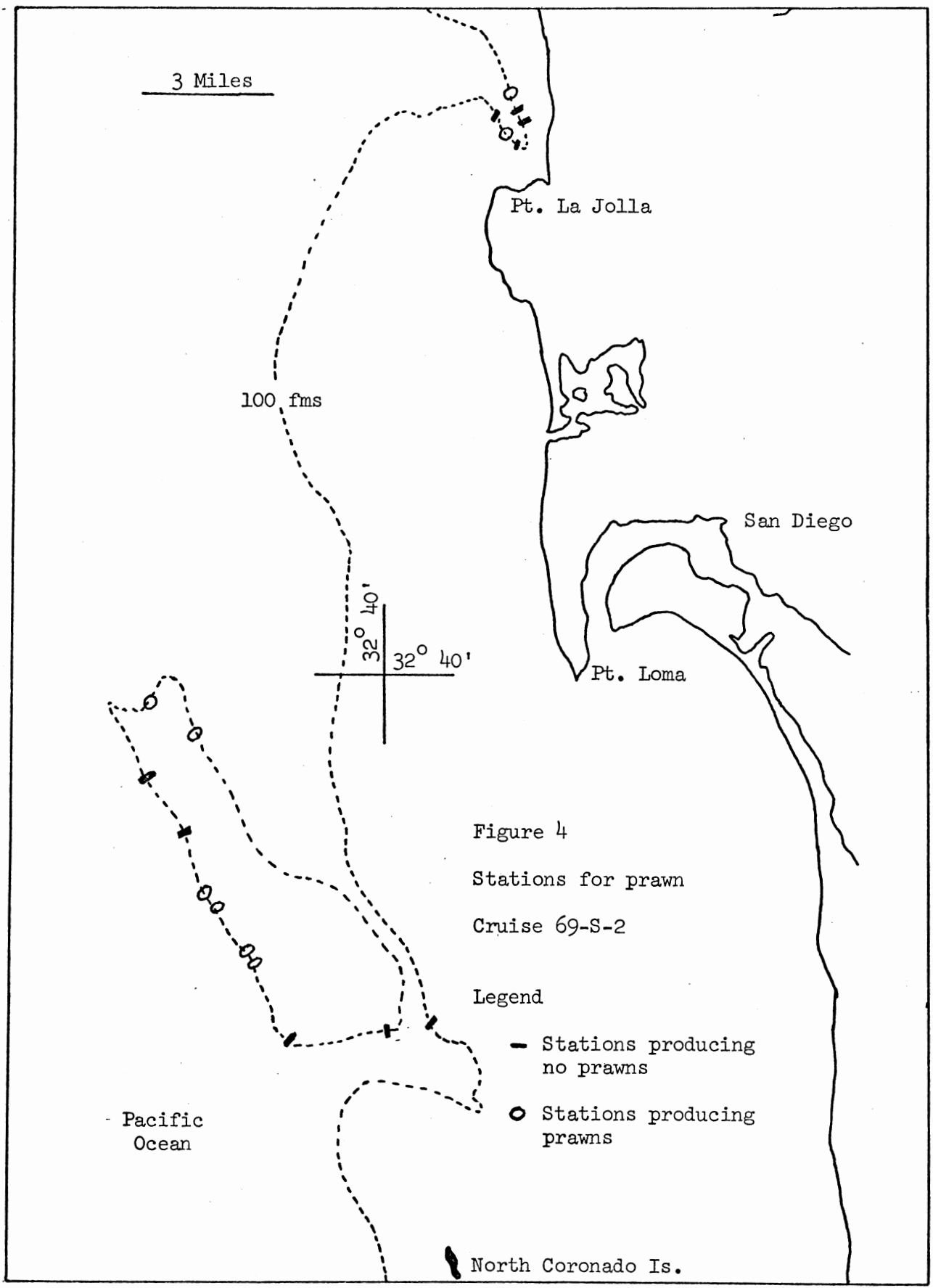
Stations for Prawn

Cruise 69-S-2

Legend

- | Stations producing no prawns
- Stations producing prawns





3 Miles

Pt. La Jolla

100 fms

San Diego

32° 40'
32° 40'

Pt. Loma

Figure 4
Stations for prawn
Cruise 69-S-2

Legend

- Stations producing no prawns
- Stations producing prawns

Pacific Ocean

North Coronado Is.