

State of California  
DEPARTMENT OF FISH AND GAME

BUREAU OF MARINE FISHERIES - M V N.B.SCOFIELD  
Cruise Report

Cruise: Cruise 4 of the N.B.SCOFIELD for 1952. 52-S-4  
Sailed: May 23, 1952 from Los Angeles Harbor  
Returned: June 13, 1952 to San Diego and  
June 14, 1952 to Los Angeles Harbor

Locality: West coast of Baja California from Asuncion Bay to Cedros Island,  
San Benito Islands and Guadalupe Island.

Purpose: (1) To mark yellowtail with various tags which have proved most  
promising.  
(2) To collect gonad, stomach and scale samples.  
(3) To take surface temperatures and incidental bathythermograph  
readings.

Results: Procuring bait proved to be a serious problem. Twenty hauls were made  
during early morning, evening and under a 1500 watt surface light.  
Bait was sought at San Bartolome Bay, Asuncion Bay, and at three places  
on the south and southeast sides of Cedros Island. Numerous schools of  
fish were seen but they were very wild. In many cases the water was  
too deep for our eight-fathom lampara net and either no set was made or  
we drew blank hauls. Finally, 40 scoops of jack mackerel, 6-9 inches  
in length, and 36 scoops of sardines, about the same size, were caught.  
All bait was taken in two hauls at Cedros Island.

Yellowtail fishing was tried during the day at many places around  
Cedros Island, at San Benito Islands, and at Guadalupe Island. Trolling  
with various jigs and feathers, hand lines, and rod and reel with live  
bait and artificial lures were all tried. Nine yellowtail were taken on  
the hand lines, one on a red bonito striker, and the rest were caught  
with rod and reel using live bait.

Two hundred and twenty yellowtail were tagged and released; five at  
East San Benito Island and 215 at Guadalupe Island. Petersen disks of  
cellulose nitrate attached by two strands of .021" monofilament nylon  
were used as the basic tags on each fish. In addition, all but five  
yellowtail were marked with a second tag of the varieties described  
below:

(1) Streamer tags. These consisted of a short piece of tubing about  
1" long with a message inside. A piece of braided 45 pound test nylon  
line passed through the tubing and was held by a knot on each end. The  
whole tag was dipped in soluble nylon to seal it securely. It was  
originally intended to have these tags all nylon, however, it was  
impossible to get enough nylon tubing and some lucite tubing and cellu-  
lose acetate tubing was used as a substitute. The streamer tags were  
attached to the occipital crest by looping the braided nylon through a  
loop in the end of the line. Fifty-five streamer tags were used.

Cruise Report #4 - N.B.Scofield

(2) Diamond shaped opercular tags. These tags were made of cellulose nitrate, .040" thick and measured 1" x 3/4". They were attached to the operculum by type 302 stainless steel staples which were covered by a sheath of polyvinylchloride tubing. Seventy-one diamond opercular tags were used.

(3) Opercular strap tags. These tags were made of cellulose nitrate, .040" thick, 1-1/4" long and 1/2" wide. The tag was passed through a hole punched in the operculum and secured by the long end snapping under the short end. Eighty-eight opercular strap tags were used.

(4) Jawtag. This tag was the same dimensions and material as the opercular strap tag but was bent to fit around the mandible. One jaw tag was used.

Ovaries, stomachs and scales were obtained from 12 fish which were unfit for tagging.

Surface temperatures at each fishing locality and a limited number of bathythermograph casts were taken.

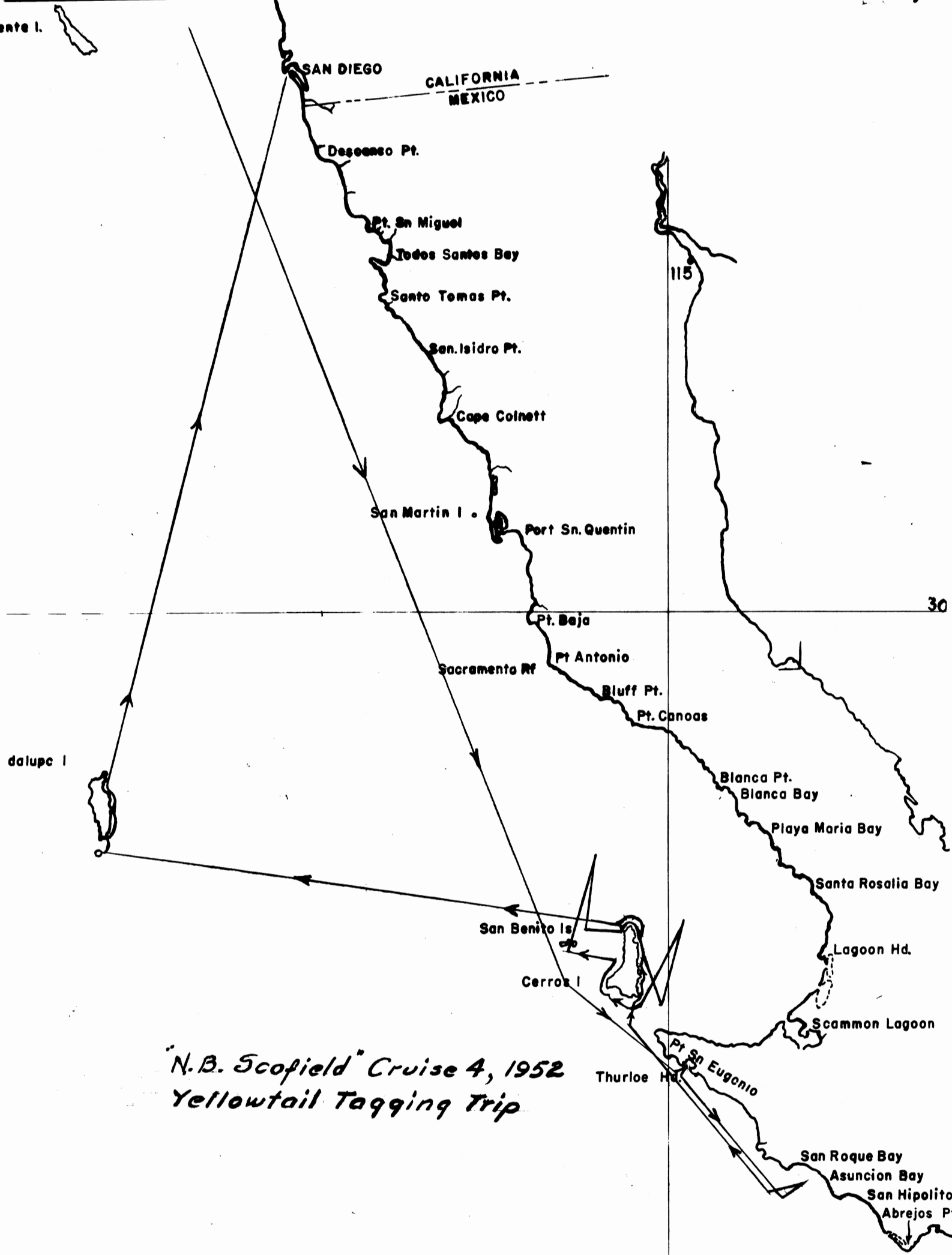
About 100 live fish which were caught incidentally to yellowtail fishing or in bait hauls were given to the Scripps Institution of Oceanography Aquarium. These included: sheepshead, ocean whitefish, sculpin, sargo, halfmoon, big-eyed bass, Pacific mackerel, jack mackerel, kelp bass and sand bass. Four yellowtail were brought back alive for further studies at the aquarium.

By permission of the Mexican Government, two young elephant seals were captured alive at Guadalupe Island for the San Diego Zoo.

Scientific Personnel: Robert D. Collyer, Biologist in Charge  
Ed. V. Dwyer, Biologist

FNC:f  
125--6-23-52

ente I.



*"N.B. Scofield" Cruise 4, 1952  
Yellowtail Tagging Trip*