

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

CRUISE REPORT 71-S-7 CRAB

Prepared by P. C. Collier

- Vessel: N. B. SCOFIELD
- Dates: Depart San Pedro, September 22, 1971  
Return San Pedro, October 7, 1971
- Locality: Coastal waters in the San Francisco area from Pt. San Pedro to Bodega Head.
- Purpose:
1. To assess the relative abundance of incoming year classes of the market crab, *Cancer magister*.
  2. To determine the depth distribution of male and female market crabs.
  3. To collect juvenile petrale sole for the Bottomfish Program.
- Operations: Trawling for crabs was conducted in inshore areas at depths between 6 and 12 fathoms in Bodega Bay, Fourfathom Bank, and the South Channel area between the Golden Gate and Pt. San Pedro (Figures 1 and 2). Trawling was also done on two transects at five (5) fathom intervals between 10 and 50 fathoms in the Gulf of the Farallones. Transect number 1 extended from the 10 fathom line near the San Francisco Light Buoy to 50 fathoms southeast of the Farallon Islands (Figure 1). Transect number 2 extended from 15 fathoms 10.8 miles ENE of Pt. Reyes to 55 fathoms WSW of Pt. Reyes (Figure 2).
- Eight 40-inch traps were set at each of 18 stations along the two transects described above. Six 40-inch traps were set at each of four stations in outer Bodega Bay. After setting the traps and trawling, the traps were retrieved approximately 24 hours later. Squid and rockfish carcasses were used in conjunction as bait in the traps.
- Results: A total of 1,399 crabs consisting of 1,045 male and 479 females were caught at 22 trapping stations. Twenty-seven percent (278) of the males were of legal size (159 mm) and of these, 79.5 percent were hard, 19.1 percent were filling and 1.4 percent were soft. No juveniles were caught in the traps. Juveniles were those crabs 50 mm or less in size (1971 year class).
- A sub-legal male tagged at Pt. Molate near Richmond on June 22, 1971 was recaptured 1 mile WNW of Double Pt. on September 30, 1971; a movement of approximately 27 miles.

Trawling produced a total catch of 7,815 crabs, of which, 98 were female, 262 were males, and 7,455 were juveniles.

Three percent (8) of the males were of legal size and of these 12 percent (1) were soft. A total of 99.9 percent of the juveniles were caught in Bodega Bay. A sample of 16 juvenile petrale sole was saved for Bottomfish Investigation.

A comparison of numbers and sizes of crabs trapped at various depths on the two transects reveals that in general at shallower depths the greater the number of crabs were caught (Tables 1 and 2). On transect number 1, 88 percent of the trapped crabs were caught in 25 fathoms of water or less. Transect number 2 showed a similar pattern with 84 percent of the crabs being trapped at depths of 30 fathoms or less.

Personnel: Tony Black, Vessel Captain  
P. C. Collier, Biologist-in-charge  
W. A. Dahlstrom, Biologist, September 27  
Gary Lawton, Project Transition Aid

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TABLE 1

Crab Depth Distribution by Area  
 CRUISE 71-S-7 CRAB  
 Transect Number 1 -Farallones  
 Trap Catches

Depth in Fathoms	Total No.				Average Size (Carapace Width) mm				Size Range (Carapace Width) mm		
	L ♂	SL ♂	♀	T ♂♀	L ♂	SL ♂	♀	T ♂♀	L ♂	SL ♂	♀
10	44	169	59	272	166.8	140.3	132.1	142.8	160 to 185	116 to 158	108 to 166
15	30	183	47	260	168.5	140.4	130.4	141.8	160 to 199	100 to 158	114 to 171
20	35	107	43	185	169.5	142.8	131.2	145.2	159 to 195	121 to 158	108 to 177
25	21	21	28	70	173.9	140.9	142.4	151.4	165 to 205	129 to 158	107 to 172
30	6	1	8	15	176.2	152	166	169.1	169 to 189	- 152 -	146 to 178
35	2	1	6	9	179.5	152	161	164.1	173 to 186	- 152 -	149 to 168
40	3	0	13	16	179.6	-	155.8	160.3	172 to 189	-	126 to 171
45	4	3	47	54	179	152	154	155.4	165 to 190	148 to 158	122 to 171
50	1	1	8	10	180	149	157	159	- 180	- 149	132 to 171
* 55	-	-	-	-	-	-	-	-	-	-	-

\*55= No samples taken

L = Legal

SL = Sub-legal

T = Total

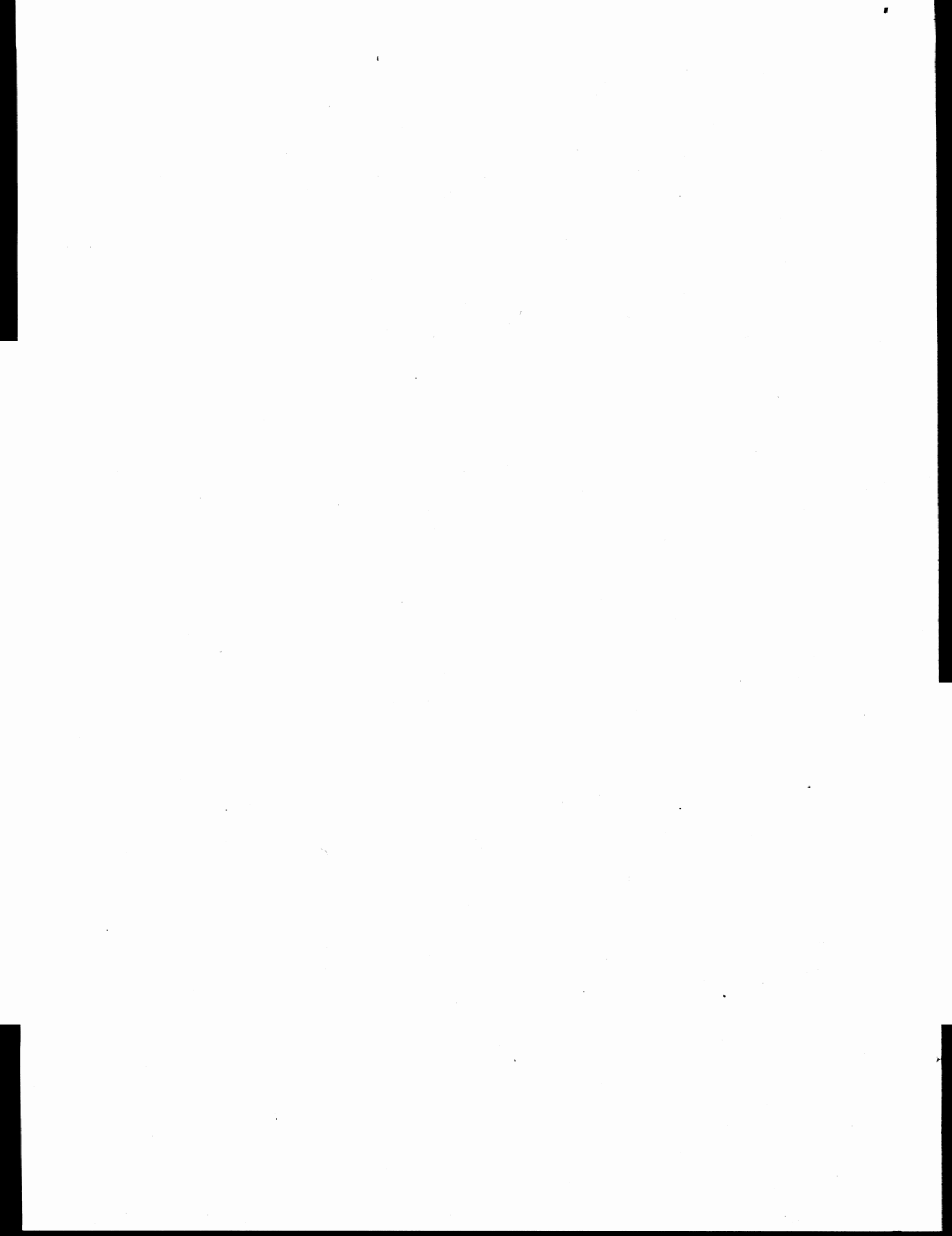


TABLE 2

Crab Depth Distribution by Area  
 CRUISE 71-S-7 CRAB  
 Transect Number 2 - Pt. Reyes  
 Trap Catches

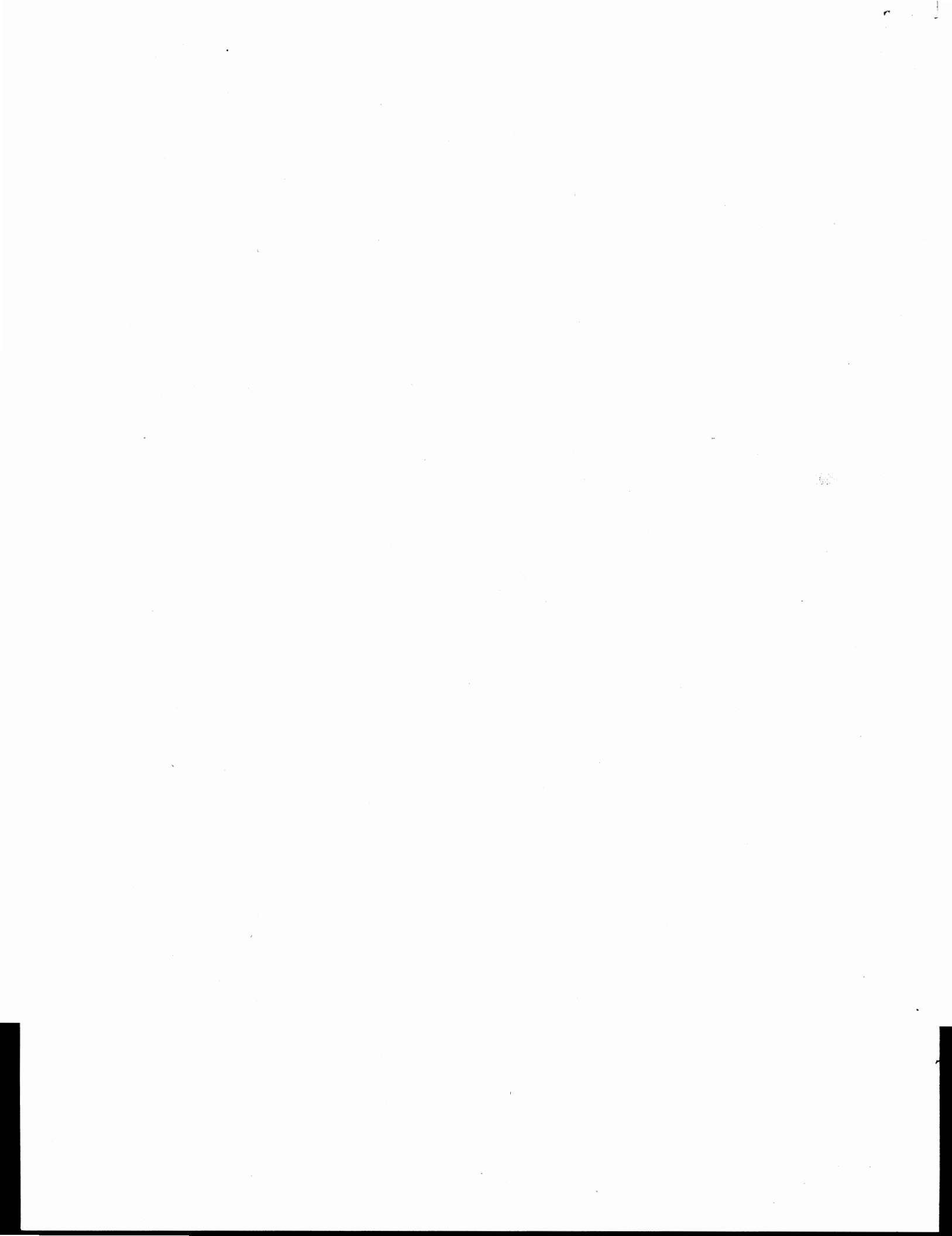
Depth in Fathoms	Total No.				Average Size (Carapace Width) mm				Size Range (Carapace Width) mm		
	L ♂	SL ♂	♀	T ♂♀	L ♂	SL ♂	♀	T ♂♀	L ♂	SL ♂	♀
* 10	-	-	-	-	-	-	-	-	-	-	-
15	6	13	52	71	163.8	143.7	155.6	154.1	159 to 168	122 to 158	110 to 175
20	11	8	48	67	168.7	146.8	157.8	153.3	161 to 180	131 to 154	107 to 176
25	17	2	18	37	171.1	155	157.4	163.5	159 to 190	154 to 156	144 to 187
30	16	2	22	40	178.2	143.5	163.2	168.2	159 to 193	134 to 153	131 to 178
35	3	1	13	17	168.3	158	160.4	161.7	167 to 171	- 158 -	152 to 179
40	5	0	7	12	187	-	162.4	172.6	169 to 198	- - -	143 to 177
45	2	-	2	4	186.5	-	157	171.7	180 to 193	- - -	151 to 163
50	2	-	-	2	182.5	-	-	182.5	182 to 183	- - -	- - -
55	-	-	7	7	-	-	165	165	- - -	- - -	155 to 185

\*10 = No samples taken.

L = Legal

SL = Sub-legal

T = Total



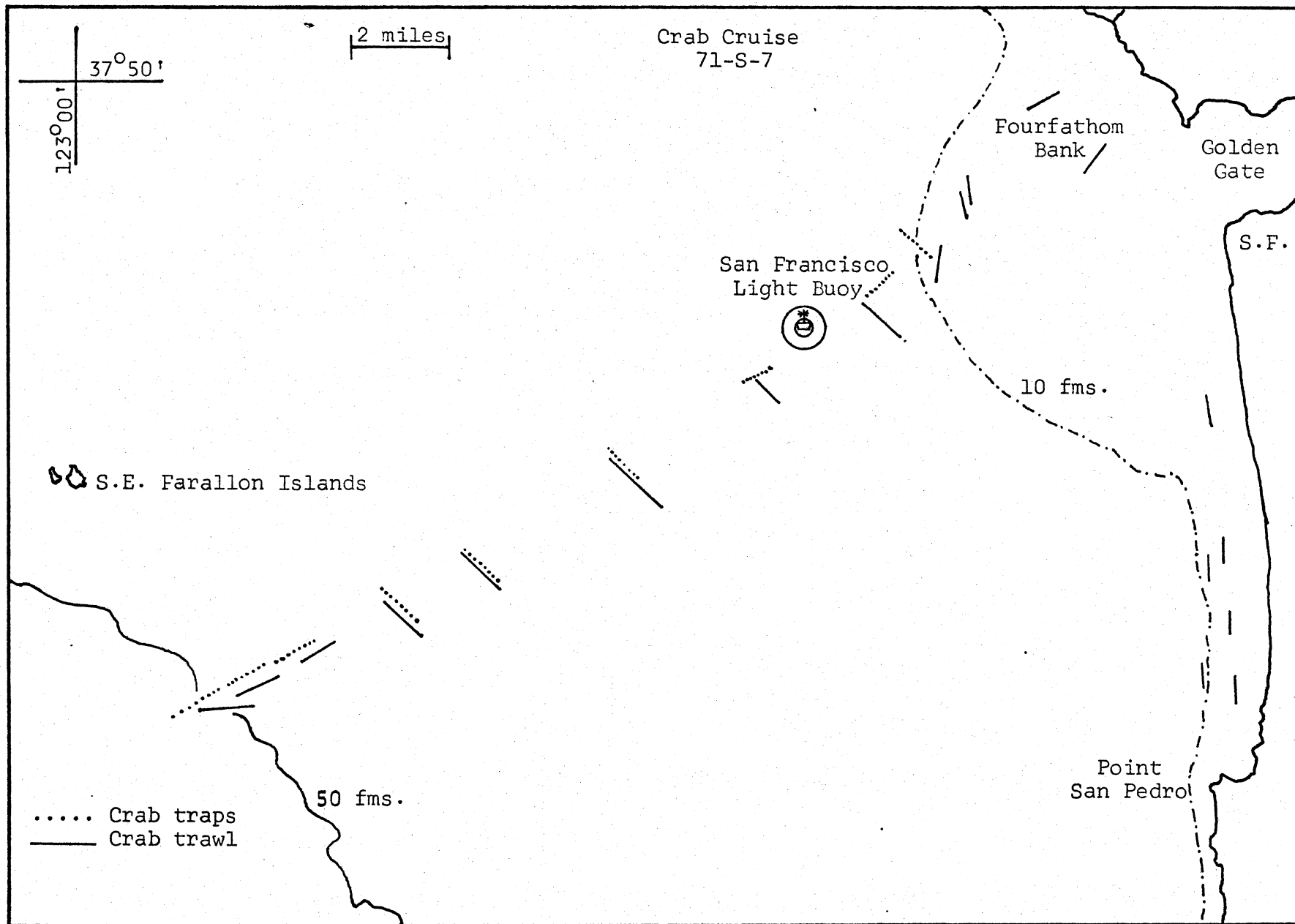
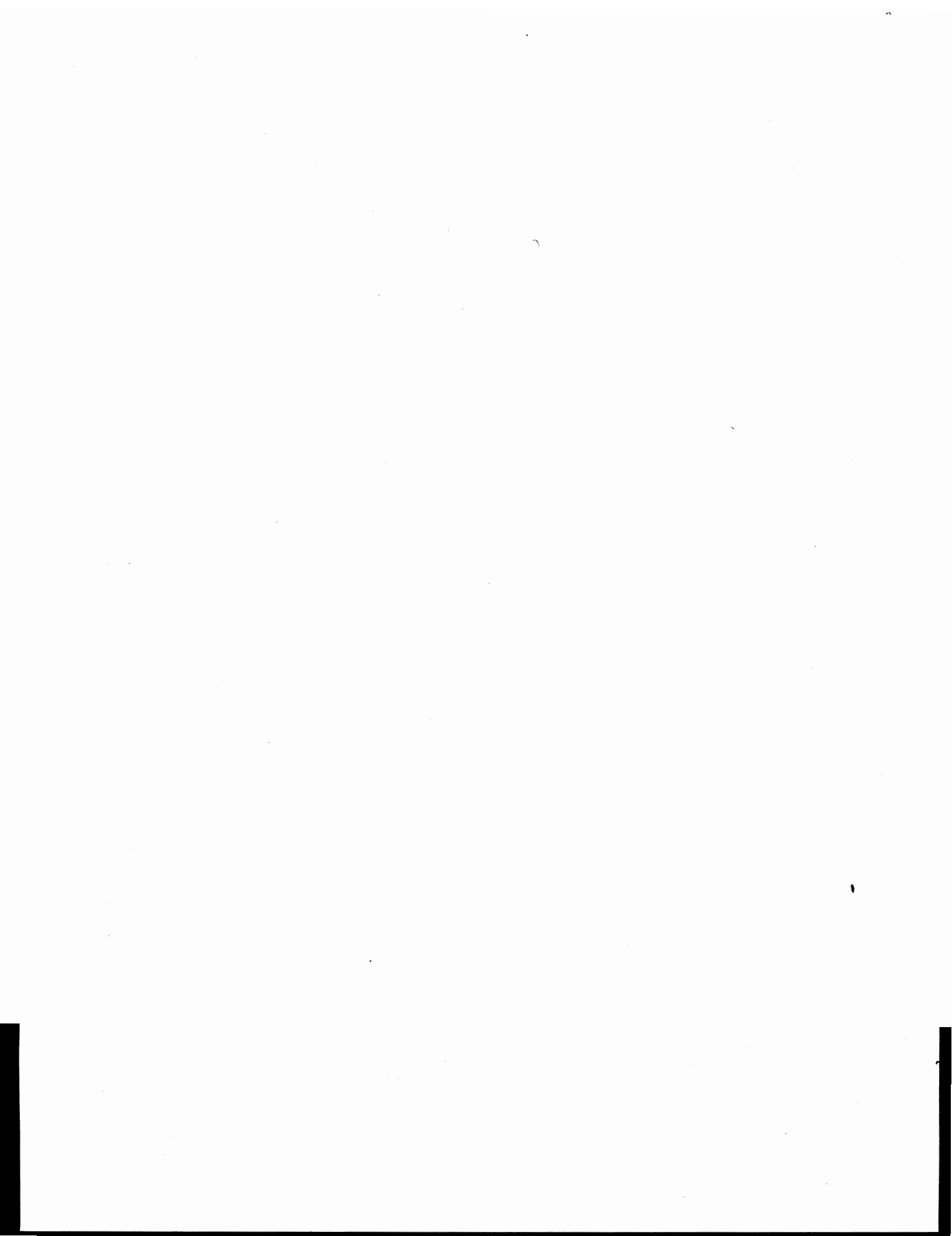


Figure 1





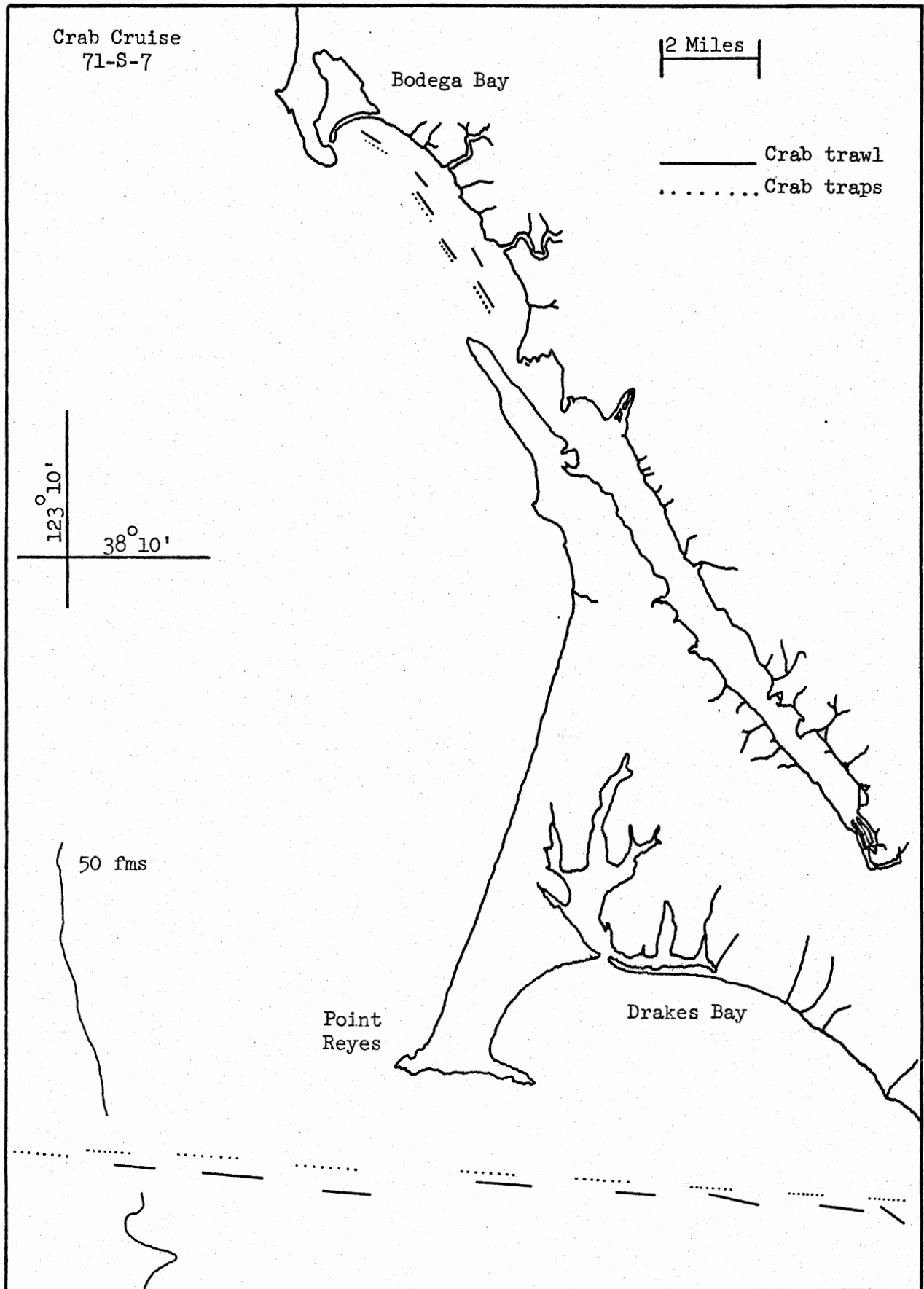


Figure 2

