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OCEAN SHRIMP REPORT  
1975 SEASON

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NINETEENTH ANNUAL SHRIMP REPORT

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OCEAN SHRIMP REPORT  
1975 SEASON 1/

by

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NINETEENTH ANNUAL SHRIMP REPORT

ABSTRACT

Statewide Pacific ocean shrimp, Pandalus jordani, landings totaled 4,992,233 lb, a record annual catch that was double the 1974 catch of 2,382,821 lb. Landings for Areas A, B-1, B-2, and C were 3.4, 0.3, 1.2, and 0.06 million lb, respectively. Catch per hour trawled by single gear vessels ranged from 360 to 2,443 lb per hour for the 4 areas. The outlook is for good 1976 seasons in Areas A and B-1 if the moderately strong 1974 year class is complemented by strong recruitment of the 1975 year class. Prospects for Areas B-2 and C are not as promising as those of other areas due to weak 1974 year classes.

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- 1/ Marine Resources Administrative Report No. 76-5, March 1976  
2/ Marine Resources Region, 619 2nd St., Eureka, CA 95501  
3/ Marine Resources Region, c/o Dept. Parks and Recreation, Star Route,  
Mendocino, CA 95460  
4/ Marine Resources Region, 411 Burgess Dr., Menlo Park, CA 94025

OCEAN SHRIMP REPORT  
1975 SEASON

California's 1975 ocean shrimp landings of 4,992,233 lb broke all existing records. The previous record was 4,053,104 million lb in 1970. Last season 2,382,821 lb were landed. The increase was due primarily to an increased quota in Area A and two quota increases in Area B-2, which made the higher landings possible.

Area A

The 1975 Area A shrimp landings of 3.4 million lb were double those of last year (1974) and the second best in the history of the fishery. Landings in southern Oregon's Area 19 (Cape Blanco to the California state line) are not yet available, but are thought to be small.

Total landings for Area A would have been higher had it not been for several price tie-ups during the season. Although the season opened April 16, no price was agreed upon until May 10 when one company signed for 16¢ per lb. Last year's opening price was 25¢ per lb. By the end of May, all companies had signed for 15¢ with most boats fishing on limits. Bad weather and more market problems kept fishing effort down in June. On June 6, price dropped to 10¢ per lb and remained there until the boats tied up for a better price on June 23.

A settlement of 13¢ per lb was reached on July 6. Good weather and excellent fishing prevailed throughout the month, with good concentrations of shrimp occurring from Point St. George to Patrick's Point in 50 to 90 fm (Figure 1). In August, fishermen were plagued with a good

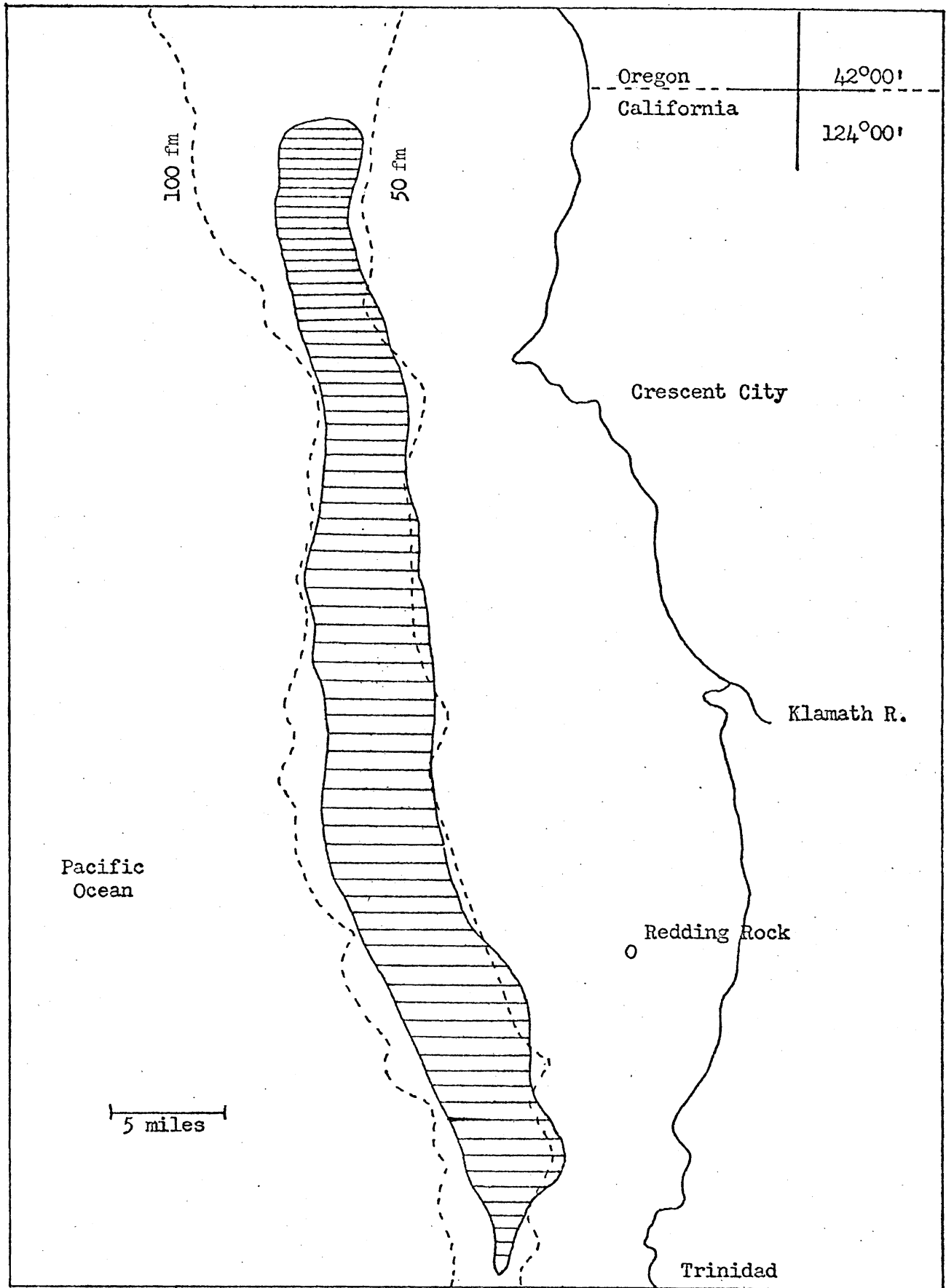


FIGURE 1. Area A ocean shrimp catch locations, 1975.

deal of bad weather and with heavy concentrations of smelt (*Osmeridae*) and soft crabs (*Cancer magister*) on the grounds. On September 2, fishermen withdrew the 13¢ market orders, asking for a raise to 15-3/4¢. A settlement of 14-3/4¢ was arrived at on September 12, but only two companies continued to buy for the remainder of the season. Some good fishing occurred in early October on the extreme southern end of the bed from Redding Rock to Trinidad.

Catch per hour remained high throughout the season; 18 single-rig and five double-rig vessels averaged 798 and 975 lb per hour respectively for the season (Table 1). Shrimp were found in such good concentrations on the entire bed during July that on August 15 the Fish and Game Commission raised the Area A quota from 3.2 to 4.7 million lb.

Shrimp of the strong 1973 year class, as 2-year-olds, dominated the catch by numbers and by weight from May through August (Table 2). Numbers of 1-year-old males and transitionals increased in September and made up over 65% of the catch in October. Only a small percentage of primary females was found in October samples (Table 3).

Average carapace lengths of shrimp during the 1975 season are shown in Table 4, along with 1974 figures for comparison. Although 1974 year class shrimp were larger in May than comparable shrimp in 1974, they grew more slowly gaining only 2.1 mm (0.08 inches) in length, as opposed to a gain of 3.4 mm (0.13 inches) by the 1973 year class from May through October 1974. Two-year-old shrimp also grew more slowly in 1975, gaining only 1.9 mm (0.07 inches) during the summer compared to a growth of 2.3 mm (0.09 inches) by the 1972 year class in 1974.

TABLE 1. Area A Monthly Catch and Effort Data, 1975 (California Ports Only).

Single-rig Vessels

Month	Pounds landed	Effort (hours)	Pounds per hr	Vessels	Trips
May	147,008	95.5	1,539	9	27
June	280,560	381.3	736	10	57
July	1,169,340	1,316.7	888	15	182
August	605,396	963.7	628	16	152
September	192,481	239.8	803	6	33
October	113,274	146.8	772	5	17
Totals	2,508,059	3,143.8	798*	18**	468

Double-rig Vessels

Month	Pounds landed	Effort (hours)	Pounds per hr	Vessels	Trips
May	13,672	3.7	3,695	1	1
June	104,682	140.9	743	4	13
July	245,975	298.6	824	4	23
August	162,395	153.7	1,057	4	17
September	204,920	160.7	1,275	5	18
October	155,475	152.2	1,022	5	18
Totals	887,119	909.8	975*	5**	90

\* Mean

\*\* Total vessels which made landings.

TABLE 2. Area A Count per Pound and Year Class Composition of Shrimp, 1975 Season.

Month	Count per lb	Age class percent by number				Age class percent by weight			
		0	I	II	III	0	I	II	III
May	134	0.0	26.4	70.1	3.5	0.0	15.3	78.4	6.2
June	123	0.0	28.0	62.4	9.6	0.0	15.5	67.5	17.0
July	119	0.0	40.1	55.9	4.0	0.0	25.2	66.9	7.8
August	113	0.0	45.1	52.2	2.6	0.0	30.0	64.8	5.2
September	131	0.0	58.4	41.0	0.6	0.0	44.0	54.7	1.3
October	128	0.0	65.8	33.7	0.5	0.0	51.9	47.2	0.9

TABLE 3. Year Class and Sex Composition of Area A Shrimp by Month, 1975 Season (Percentages).

Month	0	Males		Transitionals		Females		
		I	II	I	II	I	II	III
May	0.0	23.6	0.3	2.8	49.6	0.0	20.2	3.5
June	0.0	24.2	0.4	3.4	35.0	0.4	27.0	9.6
July	0.0	36.4	1.3	3.2	28.8	0.4	25.9	4.0
August	0.0	39.4	0.7	5.1	26.8	0.6	24.7	2.6
September	0.0	44.7	0.2	12.4	10.4	1.4	30.4	0.6
October	0.0	61.1	0.0	4.2	6.0	0.5	27.7	0.5

TABLE 4. Average Carapace Length (mm) of Area A Shrimp, 1974 and 1975 Seasons

Season (Year Class)	I		II		III	
	1974 (1973)	1975 (1974)	1974 (1972)	1975 (1973)	1974 (1971)	1975 (1972)
April	12.8		18.7		22.6	
May	12.9	14.2	19.2	18.5	22.6	21.7
June	14.3	14.7	19.9	18.8	23.0	22.4
July	15.3	15.6	20.3	19.7	23.4	23.3
August	15.9	16.2	20.8	20.1	23.6	23.6
September	16.6	16.3	21.0	20.4	24.0	24.2
October	16.3	16.3	21.5	20.4	24.1	24.4

Area B-1

Landings totaled 347,832 lb for the 1975 season in Area B-1. Last season (1974) 517,146 lb were landed.

Fishing began on July 16. Fishing effort was sporadic throughout the season. No Fort Bragg based vessels entered the fishery, and fishing effort correlated with quota closures in Area B-2 and/or drop in catch rates in Area A. Total landings would have been considerably higher if a continuous fishery was maintained throughout the season.

Price was 12.5¢ per lb from July to September 12, increasing to 15¢ per lb for the remainder of the season.

Fishing effort during July and August concentrated off Usal in 65 to 85 fm, ranging from Mistake Point to Rockport (Figure 2). Eighteen tows made during this period between Ten Mile River and Cape Vizcaino produced less than 200 lb totally.



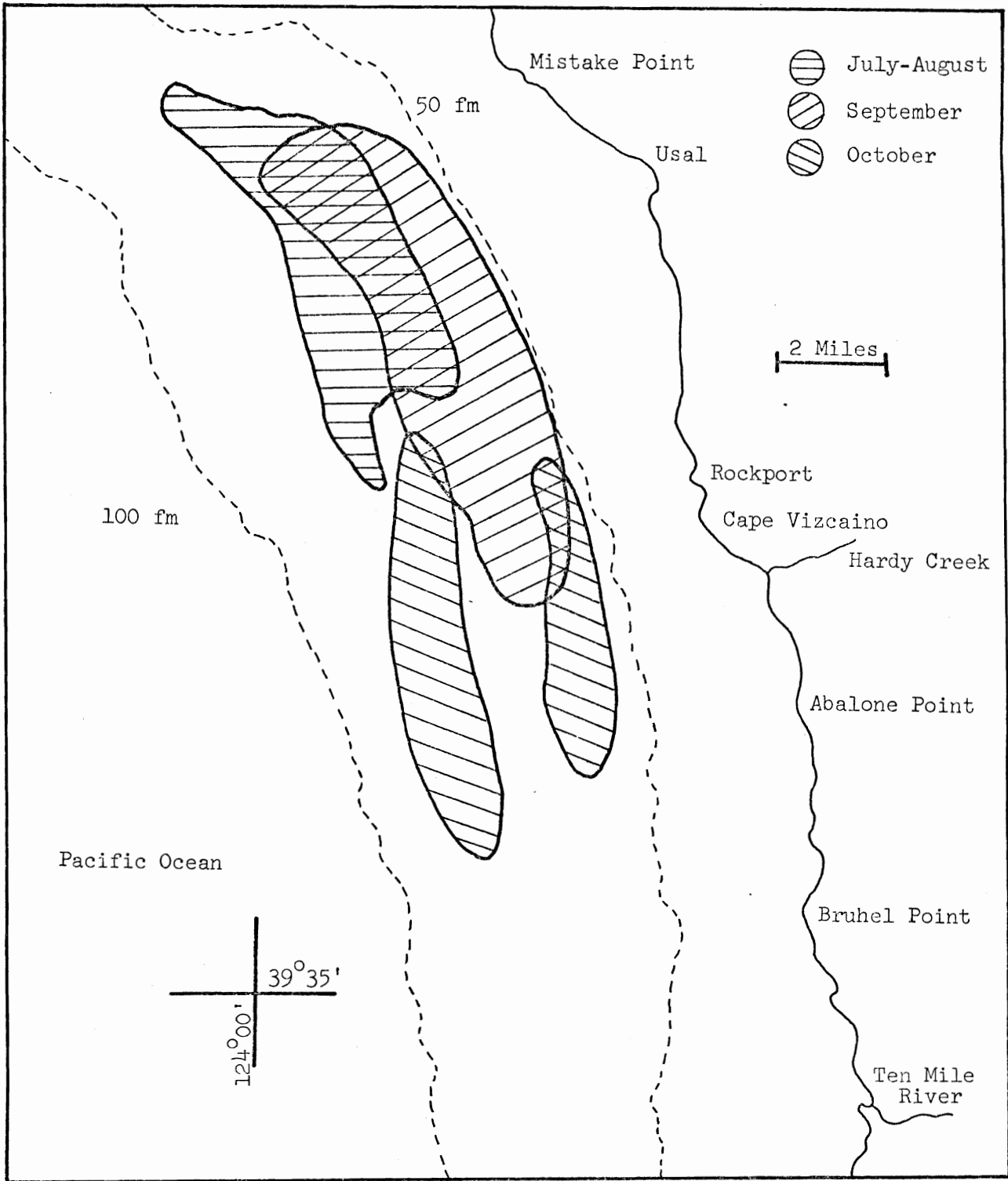


FIGURE 2. Area B-1 ocean shrimp catch locations, 1975 season.

The fishery shifted south into shallower water in September, ranging from Usal to Hardy Creek in 50 to 75 fm.

In anticipation of consistent effort and continued high catch rates, a request for a 500,000 lb quota increase was submitted to the Fish and Game Commission at the October 3 meeting by the industry. The request was granted, increasing B-1 quota to 1 million lb.

In October, fishing effort was light, occurring in the extreme southern portion of the fishery with almost no effort in the previously productive areas.

A total of seven vessels participated in the B-1 fishery, four single draggers averaged 844 lb per hr for the season, while three double draggers averaged 1,293 lb per hr (Table 5). Eureka based double draggers landed in Eureka, and each trip usually consisted of three fishing days.

Two-year-old shrimp (1973 year class) dominated the catch in numbers and weight (Table 6). Two-year-old females steadily increased throughout the season, accounting for 46% of the catch in October (Table 7).

Average carapace length by year class (Table 8) indicates better growth rates than Area A and comparable with Area B-2 during July through September, with a similar leveling off in growth in October.

TABLE 5. Area B-1 Catch and Effort Data, 1975 (California Ports Only).

Month	Pounds landed	Single-rig Vessles		Vessels	Trips
		Effort (hours)	Pounds per hr		
July	59,588	57.5	1,036	3	13
August	39,284	51.9	757	3	12
September	36,223	30.7	1,181	1	6
October	11,410	28.3	403	3	7
Totals	146,505	168.4	844*	4**	38

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TABLE 5. (contd.)

Double-rig Vessels					
July	---	---	---	---	---
August	90,484	84.6	1,070	3	7
September	110,843	71.1	1,559	3	6
October	---	---	---	---	---
<hr/>					
Totals	201,327	155.7	1,293*	3**	13
<hr/>					
Season Total All Vessels					
	347,832	324.1	1,073	7	51

\* Mean

\*\* Total vessels which made landings.

TABLE 6. Area B-1 Count per lb and Year Class Composition of Shrimp, 1975 Season.

Month	Count per lb	Age class percent by number				Age class percent by weight			
		0	I	II	III	0	I	II	III
		July	127	0.0	36.9	61.1	1.9	0.0	25.1
August	117	0.0	45.1	53.7	1.3	0.0	32.7	65.1	2.2
September	113	0.0	48.8	50.6	0.6	0.0	36.9	62.1	1.0
October	107	0.0	44.4	53.4	2.2	0.0	33.3	63.0	3.7

TABLE 7. Year Class and Sex Composition of Area B-1 Shrimp by Month, 1975 Season (Percentages).

Month	0	Males		Transitionals		Females		
		I	II	I	II	I	II	III
July	0.0	27.4	2.9	9.5	34.5	0.0	23.7	1.9
August	0.0	31.6	1.6	11.6	28.3	1.9	23.8	1.3
September	0.0	32.7	0.7	10.1	14.9	5.9	35.1	0.6
October	0.0	30.3	1.1	8.4	6.2	5.7	46.1	2.2

TABLE 8. Average Carapace Length (mm) of Area B-1 Shrimp, 1975 Season.

Month	Age		
	I	II	III
July	15.8	19.1	21.6
August	16.6	19.9	22.3
September	17.3	20.5	22.6
October	17.1	20.3	22.6

Area B-2

Area B-2 fishermen broke the area landing records with landings of 1,187,719 lb, the largest catch since 1957 when 450,000 lb were landed.

Fishing started on April 16 and 18, with one vessel attempting to negotiate a higher price than the offer of 14¢ per lb. The fisherman was unsuccessful in obtaining a higher price, so he delivered to the local Bodega Bay market for 18¢ per lb during the following 2 weeks. Volume fishing finally got started on May 7 when two companies started buying at 16¢ per lb, and two more vessels entered the fishery.

Fishing in May occurred mostly off Salmon Creek in 34 to 41 fm (Figure 3). Fishing was excellent, and the quota of 250,000 lb was reached on May 28 when the area was closed. The area was reopened by the Commission at midnight June 2 with a 500,000 lb increase to 750,000 lb. Fishing continued in the same area at approximately the same depths until July 9 when the quota was reached and the area closed.

The Commission reopened the area on July 29 with a quota of 1,100,000 lb. Fishing during August extended from Salmon Creek to Fort Ross in

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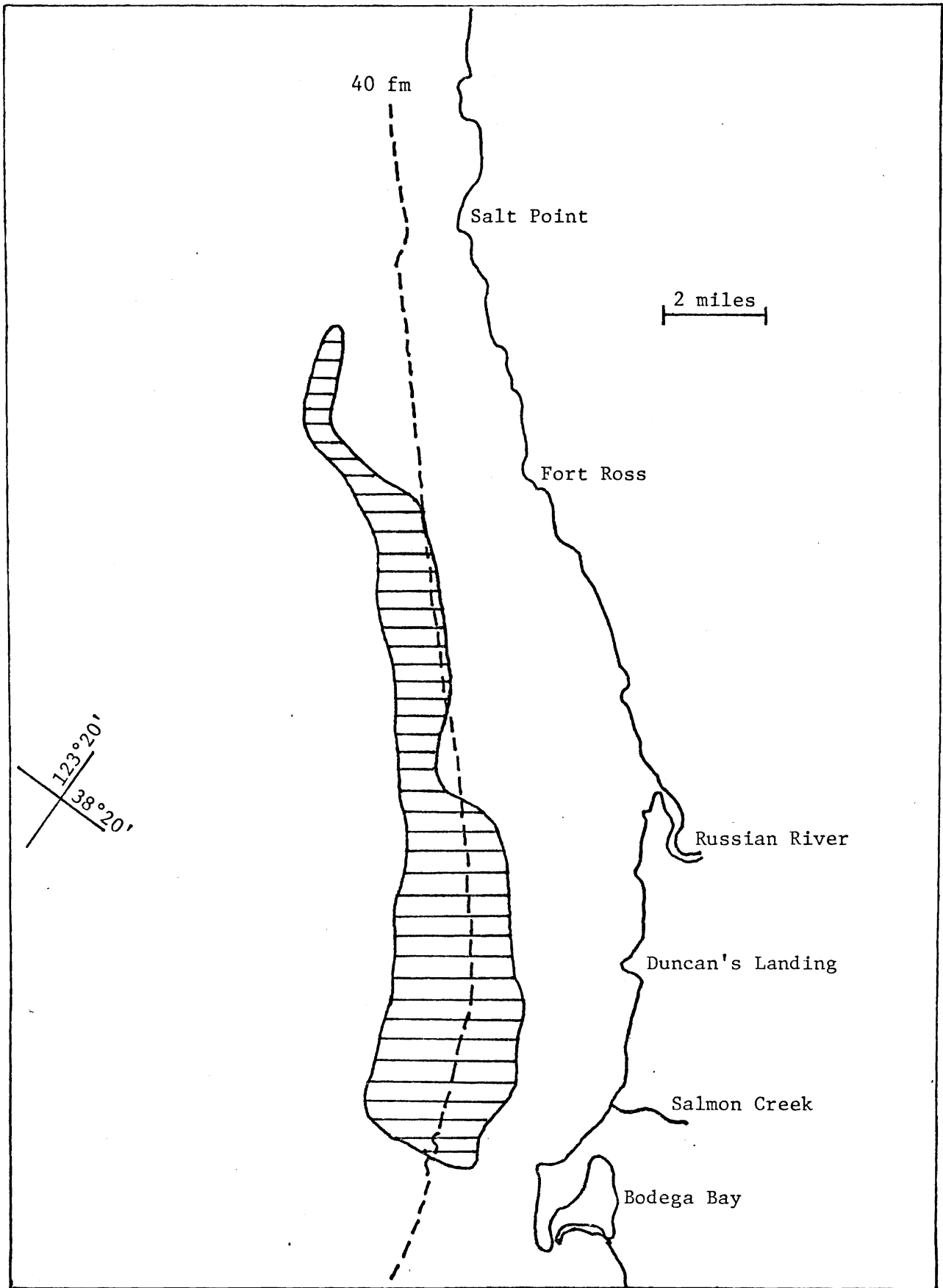


FIGURE 3. Area B-2 ocean shrimp catch locations, 1975.

39 to 45 fm. Fishing was good but the fishermen had to keep up with the shrimp which were apparently migrating to the north. The quota was reached and the area was closed at midnight August 27, with final landings of 1,187,719 lb.

Average catch per hr for the season was a high 2,443 lb. This is the second highest catch per hr on record. The record is 2,722 lb per hr for 246,000 lb landed in 1973. Average catch per hr ranged from a low of 358 lb in April to a high of 4,531 lb in May (Table 9). Even through August, the catch per hr averaged 3,000 lb. A total of five vessels fished in Area B-2 during the season and these were single riggers. Sampling of the catch throughout the season revealed a strong 1973 year class (2-year-olds), which showed an average of 78.5% by number

TABLE 9. Monthly Shrimp Landings and Effort of Area B-2, 1975 Season.

Month	Pounds landed	Effort (hours)	Pounds per hr	Vessels	Trips
April	4,652	13.0	358	1	5
May	315,415	69.6	4,531	4	27
June	331,343	174.4	1,900	5	45
July	248,871	92.2	2,699	5	30
August	287,438	136.9	3,000	5	38
	1,187,719	486.1	2,443*	5**	145

\* Mean

\*\* Total vessels that made landings.

and 84.4% by weight in the samples (Table 10). The 1974 year class

(1-year-olds) and the 1972 year class (3-year-olds) were represented 18.2% and 3.3% by number and 10.8% and 4.8% by weight, respectively. Average heads-on counts per lb ranged from 117 in May to 97 in August. The season average, weighted by monthly landings, was 108. Two-year-old females contributed 44.4% of the catch. One-year-old males and 2-year-old males,

TABLE 10. Count per lb and Year Class Composition, Area B-2, 1975 Season.

Month	Heads-on count per lb	Age class percent by number			Age class percent by weight		
		I	II	III	I	II	III
April	106	12.9	83.3	3.8	6.3	88.5	5.2
May	117	21.7	73.1	5.2	12.3	79.8	7.9
June	112	26.2	71.9	1.9	16.5	80.5	3.0
July	103	16.9	80.5	2.6	10.3	85.8	3.9
August	97	13.2	83.9	2.9	8.4	87.6	4.0
Seasonal average	108	18.2	78.5	3.3	10.8	84.4	4.8

which made up most of the remainder, were represented by 17.3 and 20.5% respectively in the samples (Table 11). Primary females (1-year-old females and transitionals) accounted for only 5.3% of the 1-year-old population in August. This indicates that most of the 1-year-olds year class remained males through the rest of the year. In 1974, primary females accounted for 58.5% of the 1-year-old population in September.

TABLE 11. Year Class Composition, Area B-2, 1975 Season.

	(Percent by number)							
	Males		Transitionals		Females			
	I	II	I	II	I	II	III	
April	12.5	17.7	0.4	5.9	0.0	59.7	3.8	
May	21.4	23.8	0.3	11.3	0.0	38.0	5.2	
June	24.4	18.4	1.7	14.0	0.4	39.3	1.8	
July	15.4	18.0	1.2	16.6	0.2	46.0	2.6	
August	12.5	24.7	0.6	20.1	0.1	39.1	2.9	
Seasonal average	17.3	20.5	0.8	13.6	0.1	44.4	3.3	

One-year-old shrimp grew approximately 1.7 mm (0.7 inches), 2-year-olds grew approximately 0.9 mm (0.035 inches), and 3-year-olds grew about 1.0 mm (0.04 inches) from April to August (Table 12). Growth rates for the first two year's classes appeared slower than last season.

TABLE 12. Average Carapace Length (mm), Area B-2, 1975 Season.

Month	1-year-old (1974 year class)	2-year-old (1973-year-class)	3-year-old (1972-year-class)
April	14.8	19.1	21.3
May	15.4	19.3	21.8
June	15.8	19.7	22.1
July	16.1	19.9	22.4
August	16.5	20.0	22.3



Area C

Area C landings totaled 62,009 lb and were the highest landings since 1970 when 66,600 lb were landed. A double-rigger (two-net trawling) caught 57,975 lb in May and June, and a single-rigger caught 4,034 lb in September (Table 13). Catch per hr for the double and single-rig vessels was 861 and 360 lb respectively for the season. Fishing took place off Pt. San Luis in 8<sup>4</sup> to 12<sup>4</sup> fm (Figure 4).

Two-year-old shrimp (1973 year class), which dominated the catch by number and also by weight, accounted for 73.2% by number and 66.6% by weight of the season catch (Table 14).

TABLE 13. Monthly Shrimp Landings and Effort, Area C, 1975 Season.

Month	Pounds landed	Double-rig vessel		Vessels	Trips
		Effort (hours)	Pounds per hr		
May	34,385	48.3	712	1	5
June	23,590	19.0	1,347	1	2
	57,975	67.3	861*	1**	
		Single-rig Vessel			
September	4,034	11.2	360	1	3
		Totals - all Vessels			
	62,009	78.5	789*	2**	10

\* Mean

\*\* Total vessels that made landings.

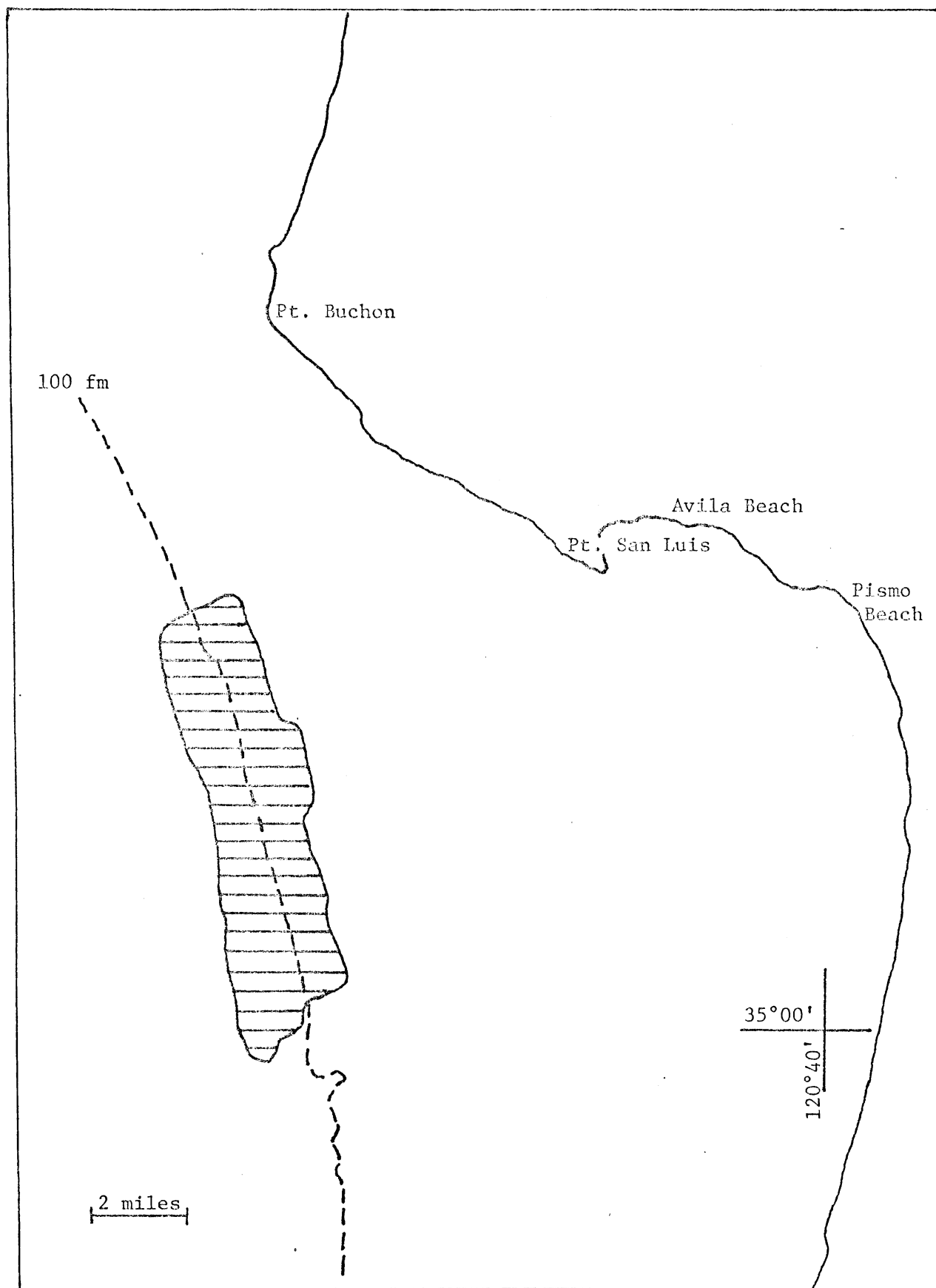


FIGURE 4. Area C ocean shrimp catch locations, 1975.

TABLE 14. Count per lb and Year Class Composition, Area C, 1975 Season.

Date	Heads-on count/lb	Age class percent by weight			Age class percent by weight		
		I	II	III	I	II	III
May 29 to June 1	62	3.5	73.0	23.5	1.3	66.9	31.8
June 8	64	2.0	73.5	24.5	0.5	66.3	33.2
Seasonal average	63	2.8	73.2	24.0	0.9	66.6	32.5

Heads-on count per lb averaged 63 for the season, with an average of 62 and 64 per lb in May and June, respectively.

#### Outlook

In Area A, the relative strength of the 1975 year class is unknown at this time. The 1974 year class, although not as strong as the 1973 year class, is expected to carry the fishery as 2-year-olds in 1976 with assistance from the incoming 1975 year class.

The outlook for Area B-1, based on the relative strength of the 1974 (1-year-old) year class, indicates that there will be a viable fishery in 1976. However, the strength of the 1975 year class (young-of-the-year) is unknown and its strength could affect count per pound figures.

Area B-2 outlook does not look promising with a relatively weak 1974 year class in the fishery during the season. Ten tows during the N. B. SCOFIELD cruise in September produced no shrimp and only seven 2-year-old shrimp were recovered in 221 hake, Merluccius productus, stomachs. No

1974 or 1975 year class shrimp were found. Areas trawled covered an area from off Salmon Creek to north of Fort Ross in 38 to 45 fm. It appears that the shrimp continued their northward migration, which was evident in August.

Strong recruitment from the 1975 year class in Area C is needed to strengthen the population.