

*Tillamook #1*

**ANNUAL REPORT**

**HARVEST OF INTERTIDAL ANIMALS  
(NONFOOD INVERTEBRATES) IN 1975**

by  
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Marine Region**

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# HARVEST OF INTERTIDAL ANIMALS (NONFOOD INVERTEBRATES), 1975

## INTRODUCTION

Persons desiring to harvest intertidal nonfood invertebrates in permit areas or in excess of personal use bag limits in open areas must obtain a collecting permit from the Oregon Department of Fish and Wildlife and report the number and kinds of animals taken, by area.

This report summarizes data in the 1975 collecting reports. A general analysis of the data is followed by a separate analysis of index species such as sea anemones, shore crabs, sea stars and others to determine collecting trends.

## RESULTS AND DISCUSSION

The Department of Fish and Wildlife issued 223 intertidal nonfood invertebrate collecting permits in 1975 (Table 1), down 18% from 1974. Collecting reports were returned by 72% of the permittees and showed a harvest of 60,730 animals.

Table 1. Summary of Intertidal Animal (Nonfood Invertebrate) Collecting Permits Issued, Reports Returned and Harvest Reported from the Oregon Coast, 1975.

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	<u>Number</u>	<u>Percentage</u>
Educational permits	210	94
Commercial permits	13	6
	<u>223</u>	<u>100</u>
Number of collecting reports returned	151	72
Number of permits unused	34	22
Educational harvest	17,840	29
Commercial harvest	42,890	71
	<u>60,730</u>	<u>100</u>

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Miscellaneous species such as amphipods, isopods and barnacles made up 53% of the educational harvest. Sea anemones, worms, snails and sea urchins comprised most of the remaining harvest (Table 2). Shore crabs and sea urchins accounted for 45% of the commercial take, with chitons, snails and sea stars making up most of the other 55% (Table 3).

Table 2. Intertidal Nonfood Invertebrates Harvested by Educational Collectors Along the Oregon Coast, by Area and Taxonomic Group, 1975.

Animal Group	Haystack Rock	Boiler Bay	Shell Cove (Depoe Bay)	Yaquina Head	Neptune State Park	Sunset Cape	Bay-Arago	Harris Beach Permit Area	North Coast <sup>1/</sup>	Central Coast <sup>2/</sup>	South Coast <sup>3/</sup>	Total	Percentage
<b>Coelenterata</b>													
Sea anemones	0	48	0	64	0	365	0	0	1,100	2	1,579	8.9	
<b>Annelida</b>													
Marine worms	0	59	0	28	0	485	0	0	403	215	1,190	6.7	
<b>Arthropoda</b>													
Hermit & Porcelain crabs	0	34	0	135	0	310	0	0	30	10	519	2.9	
Ghost & mud shrimp	0	0	0	12	0	47	0	0	286	0	345	1.9	
Shore, spider & kelp crabs	0	19	0	68	0	441	0	0	383	5	916	5.2	
<b>Mollusca</b>													
Chitons	0	69	0	47	0	126	0	0	39	17	298	1.7	
Snails, limpets	0	123	0	394	0	658	0	0	394	45	1,614	9.0	
Sea slugs or nudibranchs	0	22	0	23	0	37	0	0	39	10	131	0.8	
<b>Echinodermata</b>													
Sea stars or star fish	0	41	0	75	0	66	0	0	13	35	235	1.4	
Sea urchins	0	493	0	292	15	569	0	0	8	0	1,377	7.7	
Sand dollars	0	0	0	5	0	15	0	0	0	0	20	0.01	
Brittle stars	0	4	0	1	0	15	0	0	0	2	22	0.01	
Sea cucumbers	0	15	0	18	0	26	0	0	58	22	139	0.8	
<b>Other groups</b>	0	80	0	124	0	125	0	0	7,426	1,700	9,455	53.0	
<b>Total</b>	0	1,007	0	1,286	15	3,285	0	0	10,184	2,063	17,840	100.0	
<b>Percentage</b>	0.0	5.6	0.0	7.2	0.0	18.4	0.0	0.0	57.2	11.6	100.0		

<sup>1/</sup> Columbia River to Tillamook Bay  
<sup>2/</sup> Tillamook Bay to Coos Bay  
<sup>3/</sup> Coos Bay to California border

Table 3. Intertidal Nonfood Invertebrates Harvested by Commercial Collectors Along the Oregon Coast, by Area and Taxonomic Group, 1975.

Animal Group	Area			Total	Percentage
	North Coast	Central Coast	South Coast		
Coelenterata					
Sea anemones	0	350	0	350	0.9
Annelida					
Marine worms	0	0	389	389	0.9
Arthropoda					
Hermit & porcelain crabs	0	1,600	0	1,600	3.7
Shore, spider and kelp crabs	0	10,200	0	10,200	23.8
Mollusca					
Chitons	0	0	6,905	6,905	16.1
Snails, limpets	0	7,000	0	7,000	16.3
Sea slugs	0	0	0	0	0.0
Echinodermata					
Sea stars	0	6,847	404	7,251	16.9
Sea urchins	0	780	8,299	9,079	21.2
Sand dollars	0	0	0	0	0.0
Brittle stars	0	0	0	0	0.0
Sea cucumbers	0	0	0	0	0.0
Other groups	0	0	116	116	0.2
Total	0	26,777	16,113	42,890	100.0
Percentage	0.0	62.4	37.6	100.0	

The peak educational catch came from open areas on the central coast but 73% of the animals were miscellaneous species such as amphipods, isopods and barnacles. Sunset Bay-Cape Arago had the largest harvest among the permit areas (Table 2). The central coast was still the most popular commercial area but Cape Blanco on the south coast has also become important to the commercial collector (Table 3).

Yaquina Head and the central coast were the most frequently visited areas in 1975 (Table 4).

Table 4. Summary of Collecting Intensity by Area, Oregon Coast, 1975.

Location	Permittees Collecting in Area	Percentage
Yaquina Head	39	28.7
Sunset Bay-Cape Arago	30	22.1
Boiler Bay	22	16.2
Neptune State Park	3	2.2
Central Coast <sup>1/</sup>	35	25.7
South Coast <sup>2/</sup>	7	5.1
	<u>136</u>	<u>100.0</u>

<sup>1/</sup> Central Coast: Tillamook Bay to Coos Bay

<sup>2/</sup> South Coast: Coos Bay to California border

To get a more accurate indication of collecting trends, a separate analysis of the data was made, eliminating such "annual" species as amphipods and isopods. Most of the chosen index species are of general interest and can be accurately counted. Collecting report returns have averaged 87% over ten years with a high of 96% in 1966 and a low of 72% in 1975. An estimate of the unreported harvest was made by calculating the number of index animals reported per collecting report. This value was then applied to the number of permits unreported. This estimate was made only for educational collectors since all commercial collectors usually file reports. Collecting of index species was down 1.5% among educational collectors and up 3.2% among commercial collectors for an overall increase of 2.3% compared to 1974 (Table 5). Educational collecting was 35% below the 11-year average (1965-75) and the commercial harvest was 10% above the 11-year average commercial take (Figures 1 and 2).

Table 5. Selected Groups of Intertidal Nonfood Invertebrates Harvested by Permit Holders Along the Oregon Coast, 1975.

Animal Group	Educational Catch		Commercial Catch		Total Catch	
	Number	Percentage	Number	Percentage	Number	Percentage
Coelenterata						
Sea anemones	1,579	23.1	350	0.8	1,929	3.9
Arthropoda						
Hermit & porcelain crabs	519	7.7	1,600	3.8	2,119	4.3
Shore, spider and kelp crabs	916	13.4	10,200	24.1	11,116	22.6
Mollusca						
Chitons	298	4.4	6,905	16.3	7,203	14.6
Snails, limpets	1,614	23.6	7,000	16.5	8,614	17.5
Sea slugs	131	1.9	0	0.0	131	0.3
Echinodermata						
Sea stars	235	3.4	7,251	17.1	7,486	15.2
Sea urchins	1,377	20.2	9,079	21.4	10,456	21.3
Brittle stars	22	0.3	0	0.0	22	0.0
Sea cucumbers	139	2.0	0	0.0	139	0.3
Subtotal	6,830	100.0	42,385	100.0	49,215	100.0
Estimated unreported catch	2,856		-		2,856	
Grand total	9,686		42,385		52,071	
Percent change from 1974	-1.5%		+3.2%		+2.3%	

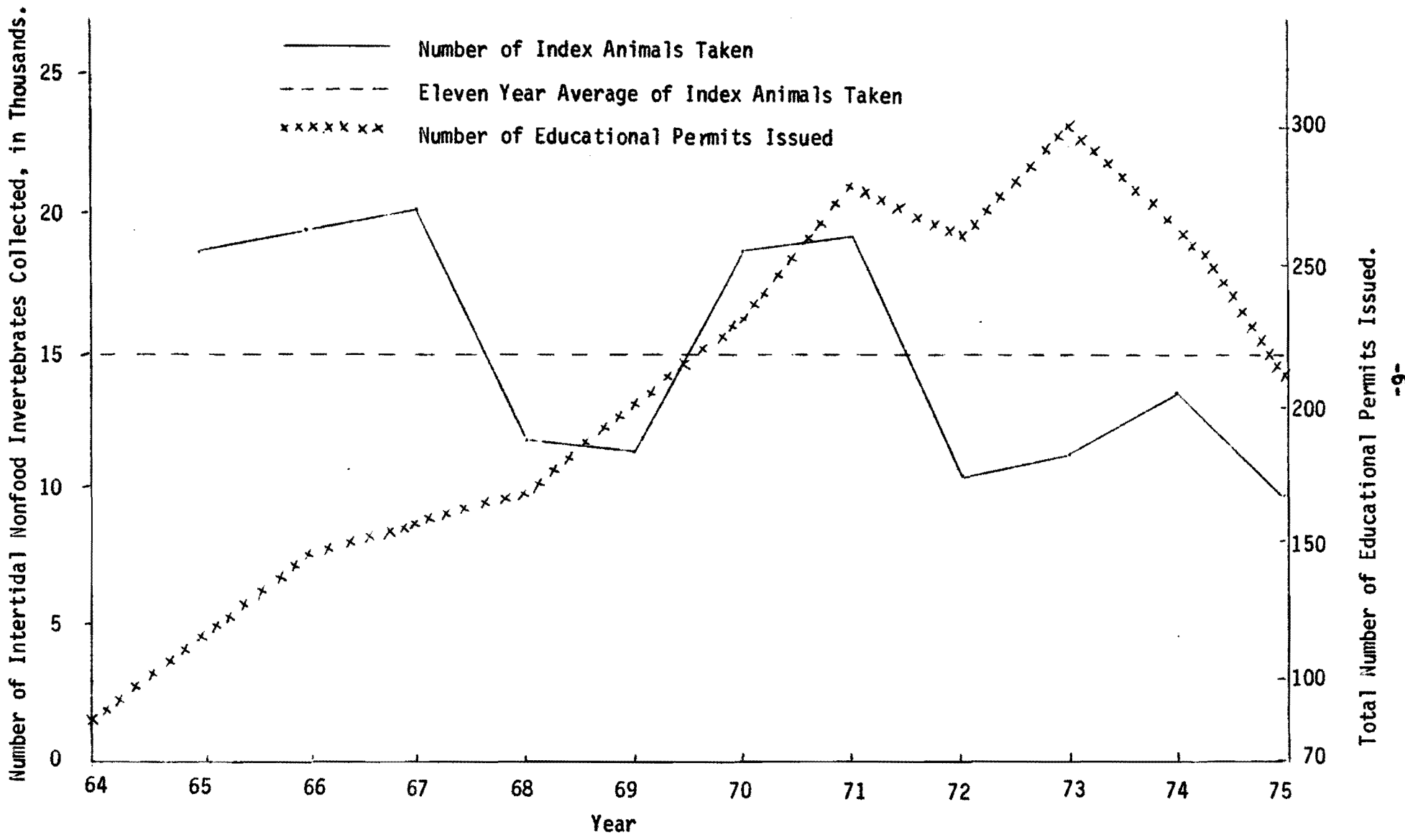


Figure 1. Number of Selected Invertebrates Harvested Along the Oregon Coast by Educational Permit Holders, 1964-1975. Totals Include Estimate of Number of Animals Taken and not Reported by Permittees.

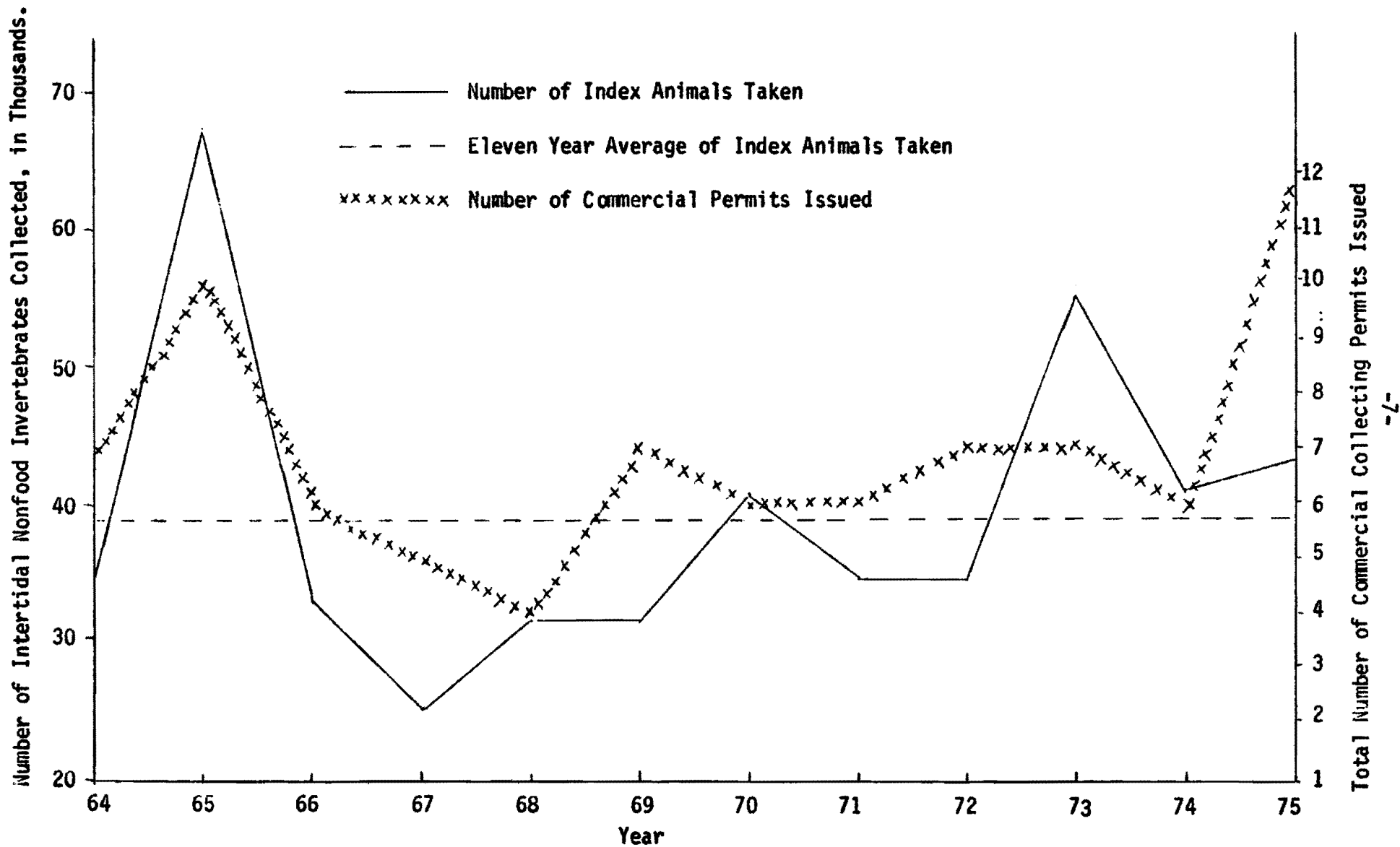


Figure 2. Number of Selected Invertebrates Harvested Along the Oregon Coast by Commercial Collectors, 1964-1975.