

DATA REPORT

HARVEST OF INTERTIDAL, NONFOOD INVERTEBRATES, 1973

by
LAIMONS OSIS

Oregon Department of Fish and Wildlife
Marine Region

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INTRODUCTION

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

This report summarizes the 1973 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 308 intertidal, nonfood invertebrate collecting permits in 1973. Seventy-eight percent of the permittees returned collecting reports which showed a harvest of 77,463 animals (Table 1). This is an

Table 1. Summary of Intertidal, Nonfood Invertebrate Collecting Permits Issued, Reports Returned and Harvest Reported from the Oregon Coast, 1973.

	<u>Number</u>	<u>Percentage</u>
Educational permits	301	98
Commercial permits	7	2
Total	308	100
Number of collecting reports returned	240	78
Number of permits used	170	71
Number of permits unused	72	30
Educational harvest	16,602	21
Commercial harvest	66,861	79
Total	77,463	100

7% increase in permits issued over 1972, but a 48% decrease in the take of animals over the previous year. This decrease reflects the lower catch of miscellaneous species such as amphipods, isopods and barnacles, listed as "other groups" in Table 2. These miscellaneous species made up 51% of the total 1972 take but only 11% of

the combined educational and commercial harvest (Table 2).

Educational collectors took 22% of their catch from open areas on the central coast. Neptune State Park had the most animals reported taken among the permit areas, but 75% of the harvest were amphipods. These animals have high annual mortality and recruitment rates and are not significantly affected by collecting. Yaquina Head, Sunset Bay-Cape Arago, and Boiler Bay experienced significant collecting among the permit areas (Table 3). Commercial collectors took 93% of their animals from open areas on the central coast (Table 4).

The most frequently visited areas were Yaquina Head, Sunset Bay-Cape Arago and the central coast (Table 5).

Index species collecting was down 8% among educational collectors but up 60% among commercial collectors for an overall increase of 45% over 1972 (Table 6). An increased commercial harvest of snails and shore crabs accounted for most of the increase. Educational collecting was 35% below the 10-year average but the commercial harvest was 41% above the 10-year average take (Figures 1 and 2).

Table 2. Intertidal Nonfood Invertebrates Collected by Permit Holders Along the Oregon Coast, January 1 to December 31, 1973.

Animal Group	Educational Catch		Commercial Catch		Total Catch	
	Number	Percentage	Number	Percentage	Number	Percentage
Coelenterata						
Sea anemones	654	3.9	85	.1	739	0.9
Annelida						
Marine worms	1,866	11.2	2,500	4.1	4,366	5.6
Arthropoda						
Hermit & porcelain crabs	1,169	7.0	10,000	16.4	11,169	14.4
Ghost & mud shrimp	392	2.4	-		392	0.5
Shore, spider & kelp crabs	1,109	6.7	18,000	29.6	19,109	24.7
Mollusca						
Chitons	485	2.9	3,625	6.0	4,110	5.3
Snails, limpets	2,873	17.3	3,700	6.1	6,573	8.5
Sea slugs	348	2.1	35	.6	383	0.5
Echinodermata						
Sea stars	565	3.4	16,160	26.6	16,725	21.6
Sea urchins	1,333	8.0	3,715	6.1	5,048	6.5
Sand dollars	9	<0.1	0	0.0	9	0.1
Brittle stars	81	0.5	1	<.1	82	0.1
Sea cucumbers	185	1.2	40		225	0.3
Other groups	5,533	33.3	3,000	4.9	8,533	11.0
Total	16,602	100.0	60,861	100.0	77,463	100.0

Table 3. Intertidal Nonfood Invertebrates Harvested by Educational Collectors along the Oregon Coast, by Area and Taxonomic Group, 1973.

Animal Group	Boiler Bay	Shell Cove (Depoe Bay)	Yaquina Head	Neptune State Park	Sunset Bay-Cape Arago	Harris Beach	North Coast ^{1/}	Central Coast ^{2/}	South Coast ^{3/}	Total	Percentage
Coelenterata											
Sea anemones	79	4	179	29	156	7	0	200	0	654	3.9
Annelida											
Marine worms	115	0	122	340	147	0	15	1,102	25	1,866	11.2
Arthropoda											
Hermit & porcelain crab	144	7	345	137	393	5	0	118	15	1,169	7.0
Ghost & mud shrimp	6	1	15	4	158	0	0	200	0	392	2.4
Shore, spider & kelp crabs	34	4	747	18	150	10	0	141	5	1,109	6.7
Mollusca											
Chitons	93	5	132	39	131	2	1	77	5	485	2.9
Snails, limpets	265	0	345	63	741	12	5	1,442	0	2,873	17.3
Sea slugs	27	2	125	32	95	0	0	67	0	348	2.1
Echinodermata											
Sea stars	71	3	166	15	173	3	3	129	2	565	3.4
Sea urchins	313	16	467	18	413	12	0	68	26	1,333	8.0
Sand dollars	0	0	0	0	1	0	2	6	0	9	<0.1
Brittle stars	14	4	21	0	41	0	0	1	0	81	0.5
Sea cucumbers	2	0	7	121	36	0	0	5	14	185	1.2
Other groups	1,104	1,500	212	2,521	67	0	0	129	0	5,533	33.3
Total	2,267	1,546	2,883	3,337	2,707	51	26	3,693	92	16,602	100.0
Percentage	13.7	9.3	17.4	20.2	16.3	<0.1	<0.1	22.2	0.7	100.0	

- 1/ Columbia River to Tillamook Bay.
2/ Tillamook Bay to Coos Bay.
3/ Coos Bay to California Border.

Table 4. Intertidal Nonfood Invertebrates Harvested by Commercial Collectors from Oregon Coast, by Area and Taxonomic Group, 1973.

Animal Group	Area			Total	Percentage
	North Coast ^{1/}	Central Coast ^{2/}	South Coast ^{3/}		
Coelenterata					
Sea anemones	0	85	0	85	<0.1
Annelida					
Marine worms	0	2,500	0	2,500	4.1
Arthropoda					
Hermit & porcelain crabs	0	10,000	0	10,000	16.4
Shore, spider and kelp crabs	0	18,000	0	18,000	29.6
Mollusca					
Chitons	0	1,800	1,825	3,625	6.0
Snails, limpets	0	3,700	0	3,700	6.1
Sea slugs	0	35	0	35	<0.1
Echinodermata					
Sea stars	0	16,100	60	16,160	26.6
Sea urchins	0	1,475	2,240	3,715	6.1
Sand dollars	0	0	0	0	
Brittle stars	0	1	0	1	<0.1
Sea cucumbers	0	0	40	40	<0.1
Other groups	0	3,000	0	3,000	4.9
Total	0	56,696	4,165	60,861	100.0
Percentage	0.0	93.2	6.8	100.0	

^{1/} North Coast: Columbia River to Tillamook Bay.

^{2/} Central Coast: Tillamook Bay to Coos Bay.

^{3/} South Coast: Coos Bay to California Border.

Table 5. Summary of Collecting Intensity by Area, Oregon Coast, 1973.

Location	Permittees collecting in area	Percentage
Yaquina Head	66	27.8
Sunset Bay-Cape Arago	55	23.1
Boiler Bay	30	12.6
Neptune State Park	17	7.2
Shell Cove (Depoe Bay)	6	2.6
Harris Beach Permit Area	6	2.6
Central Coast ^{1/}	51	21.5
South Coast ^{2/}	6	2.5
North Coast ^{3/}	1	<0.1
Total	238	100.0

1/ Central Coast: Tillamook Bay to Coos Bay.

2/ South Coast: Coos Bay to California Border.

3/ North Coast: Columbia River to Tillamook Bay.

Table 6. Selected Groups of Intertidal Nonfood Invertebrates Harvested by Permit Holders Along the Oregon Coast, 1973.

Animal Group	Educational Catch		Commercial Catch		Total Catch	
	Number	Percentage	Number	Percentage	Number	Percentage
Coelenterata						
Sea anemones	654	7.4	85	<0.1	739	1.1
Arthropoda						
Hermit & porcelain crabs	1,169	13.3	10,000	18.1	11,169	17.4
Shore, spider & kelp crabs	1,109	12.6	18,000	32.5	19,109	29.8
Mollusca						
Chitons	485	5.5	3,625	6.5	4,110	6.4
Snails, limpets	2,873	32.7	3,700	6.7	6,573	10.2
Sea slugs	348	4.0	35	<0.1	383	0.6
Echinodermata						
Sea stars	565	6.4	16,160	29.2	16,725	26.1
Sea urchins	1,333	15.1	3,715	6.7	5,048	7.9
Brittle stars	81	0.9	1	<0.1	81	<0.1
Sea cucumbers	185	2.1	40	<0.1	225	0.4
Total	8,802	100.0	55,361	100.0	64,162	100.0
Percent change from 1972.	-8.5		+59.7		+44.9	

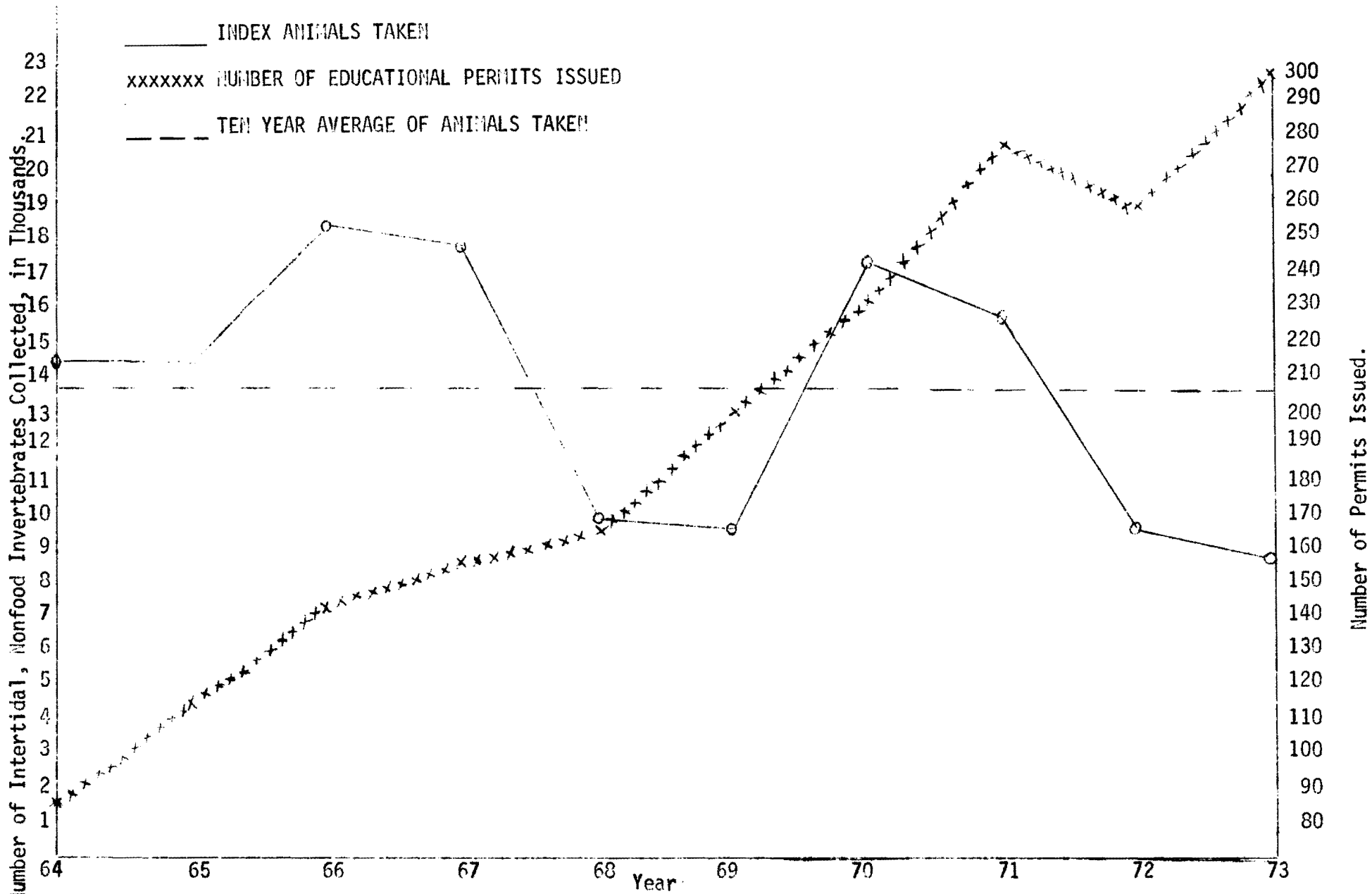


Figure 1. Number of Permits Issued and Selected Invertebrates Collected Along the Oregon Coast by Educational Collectors, 1964-1973.

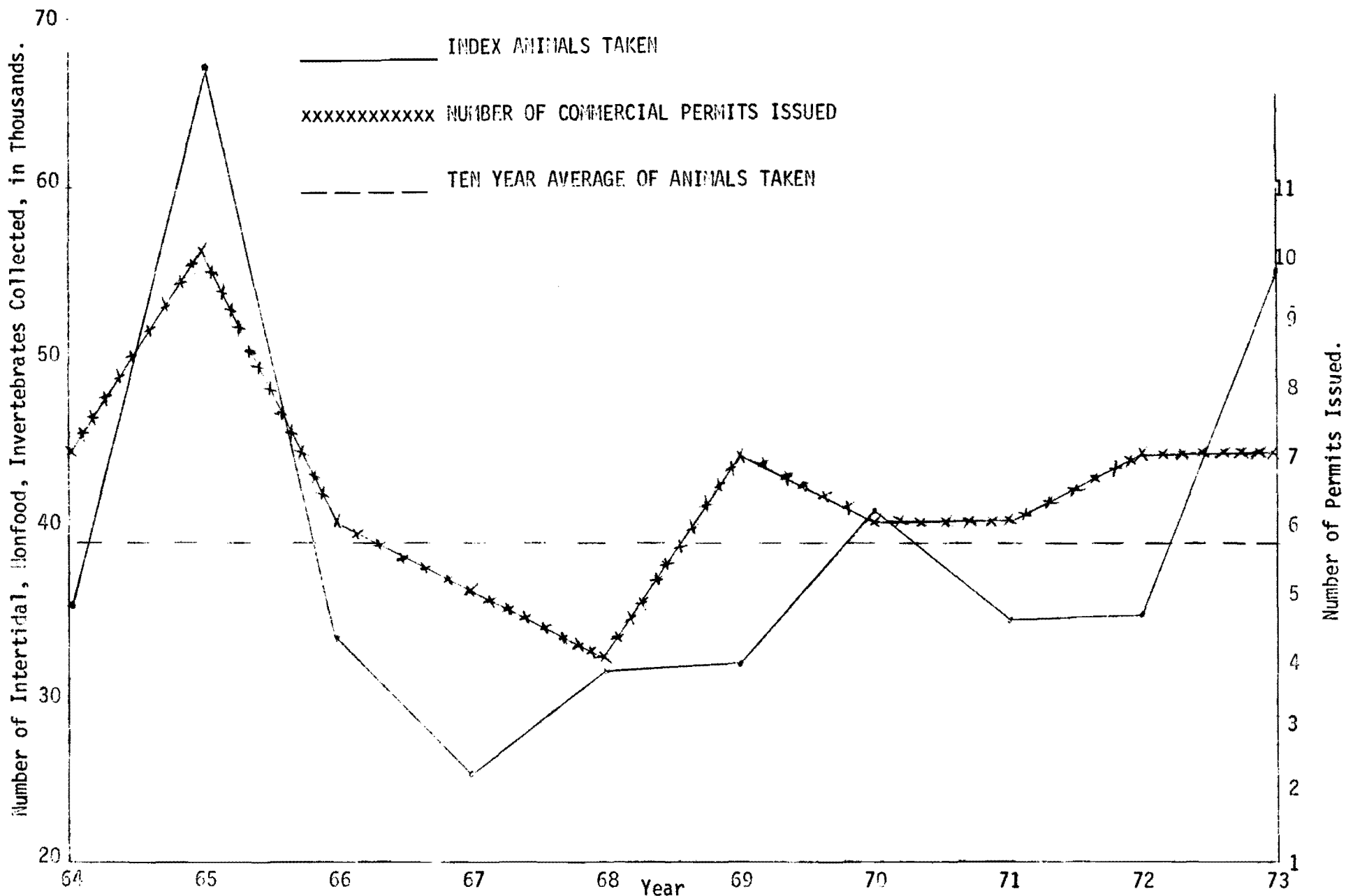


Figure 2. Number of Permits Issued and Selected Invertebrates Collected Along the Oregon Coast by Commercial Collectors, 1964-73.