

HARVEST OF INTERTIDAL, NONFOOD INVERTEBRATES

1983

A collecting permit from the Oregon Department of Fish and Wildlife is required to take intertidal nonfood invertebrates from permit areas or in excess of the personal bag limits (10 animals). Upon expiration of a permit, harvesters are required to report kinds and numbers of animals taken by areas.

Collecting reports are analyzed to determine commercial and educational harvest and number of animals taken by taxonomic groups by area. Collecting trends are determined by analyzing index species, harvest and number of collectors.

Results and Discussion

In 1983, 163 collecting permits were issued. Collecting reports were returned by 77 percent of the permittees. Reports showed a total harvest of 47,816 animals taken by 90 collectors (Table 1).

Table 1. Summary of Intertidal, Nonfood Invertebrate Collecting Permits Issued, Collecting Reports Returned, and Harvests Reported, 1983.

	Educational		Commercial	
	No.	%	No	%
permits issued	148	91	15	9
collecting reports returned	112	76	13	87
collecting reports showing a harvest	85	76	5	39
collecting reports showing no harvest	27	24	8	62
animals harvested	9730	20	38,086	80

Commercial Harvest

Commercial harvest of intertidal animals has been very low or non existent in the last few years. This year has been the first year in the last five where the commercial harvest has exceeded that of the educational collectors.

Fifteen permits were issued in 1983. However only five were actively used to harvest 38,086 animals, 82% of which came from central coast areas (Table 2). Tubeworms of the Eudistyla genus, used for fishing bait, made up 52.5% of the total harvest with shore crab and sea stars, for the curio market, making up the rest of the harvest. The commercial catch was 79.7% of the total invertebrate harvest.

Table 2. Intertidal Nonfood Invertebrates Harvested by Commercial Collectors along the Oregon Coast, by Area and Taxonomic Group, 1983.

Animal Group	North Coast	Central Coast	South Coast	Total	Percentage
Coelenterata					
Sea anemones		13,000	7,000	20,000	52.5
Arthropoda					
Shore, spider & kelp crabs		14,686		14,686	38.6
Echinodermata					
Sea stars		3,400		3,400	8.9
Total		31,086	7,000	38,086	
Percentage		81.6	18.4		

Educational Harvest

A harvest of 9730 animals was taken by 85 collectors. Similar to last year, the miscellaneous species category made up a large part of the harvest (36.8%) due to a couple of large collections of mussels and amphipods. Sea urchins, snails and limpets were the next highest categories harvested (Table 2).

The areas of harvest were very similar to last year, with most of the harvest (43.5%) coming from the open areas of the central coast, and Yaquina Head having the largest harvest of the permit areas (Table 3). Sunset Bay-Cape

Table 3. Intertidal Nonfood Invertebrates Harvested By Educational Collectors Along The Oregon Coast, By Area And Taxonomic Group, 1983.

Animal Group	Haystack Rock	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
Colelenterata												
Sea anemones		81		60	4	28	29	6	109	56	373	3.8
Annelida												
Marine worms		11		35		103	2		149	22	322	3.3
Arthropoda												
Hermit & porcelain crabs		126		99	4	130	4	42	36	5	446	4.6
Ghost & mud shrimp				21		9			396	22	448	4.6
Shore, spider & kelp crabs		39		73	2	108	1	10	538	1	772	7.9
Mollusca												
Chitons		44		73		41	16		8	10	192	2.0
Snails, limpets		461		197	2	86	40	50	81	37	954	9.8
Sea slugs or nudibranchs		18		37		11	1	2	28	3	100	1.0
Echinodermata												
Sea stars or star fish		61		96	4	46	1	4	57	9	278	2.9
Sea urchins		250		375	4	88	36		5	611	1369	14.1
Sand dollars							11		2	500	513	5.3
Brittle stars		3		2		7			7		19	.2
Sea cucumbers		2		83		100	100	25	8	50	368	3.8
Other groups		196		229	6	20		300	2807	18	3576	36.8
Total		1292	0	1380	26	777	241	439	4231	1344	9730	
Percentage		13.3	0.0	14.2	.3	8.0	2.5	4.5	43.5	13.8		

(1) Columbia River to Tillamook Bay

(2) Tillamook Bay to Coos Bay

(3) Coos Bay to California border

Arago again had a less percentage of harvest than in past years. Yaquina Head was also the most frequently used area (Table 4).

Table 4. Educational Collecting Intensity by Area, Oregon Coast, 1983.

Location	Permitees Collecting in Area	Percentage
Boiler Bay	16	14.7
Yaquina Head	41	37.6
Neptune State Park	1	0.9
Sunset Bay-Cape Arago	17	15.6
Harris Beach	4	3.7
North Coast (Columbia River - Tillamook Bay)	3	2.8
Central Coast (Tillamook Bay - Coos Bay)	18	16.5
South Coast (Coos Bay - California border)	9	8.3
TOTAL	109	

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. An estimate of the unreported harvest was made by calculating the number of index animals reported per collecting report returned. This value was then applied to the number of permits unreported. This estimated catch is probably high. Past data indicates a larger portion of the permittees that did not return reports also did not collect, as compared to those that filed reports. The harvest of index species by educational collectors was up slightly (10.2%) from last year (Table 5) but was still the third lowest harvest since the records have been kept (Figure 1). Despite the fact that the commercial harvest in 1983 was the highest in the last five years, it was still low compared to that which occurred during the 1970's (Figure 2).

Table 5. Selected Groups of Intertidal Nonfood Invertebrates Harvested by Permit Holders Along the Oregon Coast, 1983.

	Educational Catch		Commercial Catch		Total Catch	
	Number	Percentage	Number	Percentage	Number	Percentage
Coelenterata						
Sea anemones	373	7.7	0		373	1.6
Arthropoda						
Hermit & porcelain crabs	446	9.2	0		446	1.9
Shore, spider & kelp crabs	772	15.8	14686	81.2	15458	67.3
Mollusca						
Chitons	192	3.9	0		192	.8
Snails, limpets	954	19.6	0		954	4.2
Sea slugs	100	2.1	0		100	.4
Echinodermata						
Sea stars	278	5.7	3400	18.8	3678	16.0
Sea urchins	1369	28.1	0		1369	6.0
Brittle stars	19	.4	0		19	.1
Sea cucumbers	368	7.6	0		368	1.6
Subtotal	4871		18086		22957	
Estimated unreported catch	1566		2782		4348	
Grand total	6437		20868		27305	
Percentage change from previous year	+10.2		*		*	

* 1982 data incomplete.

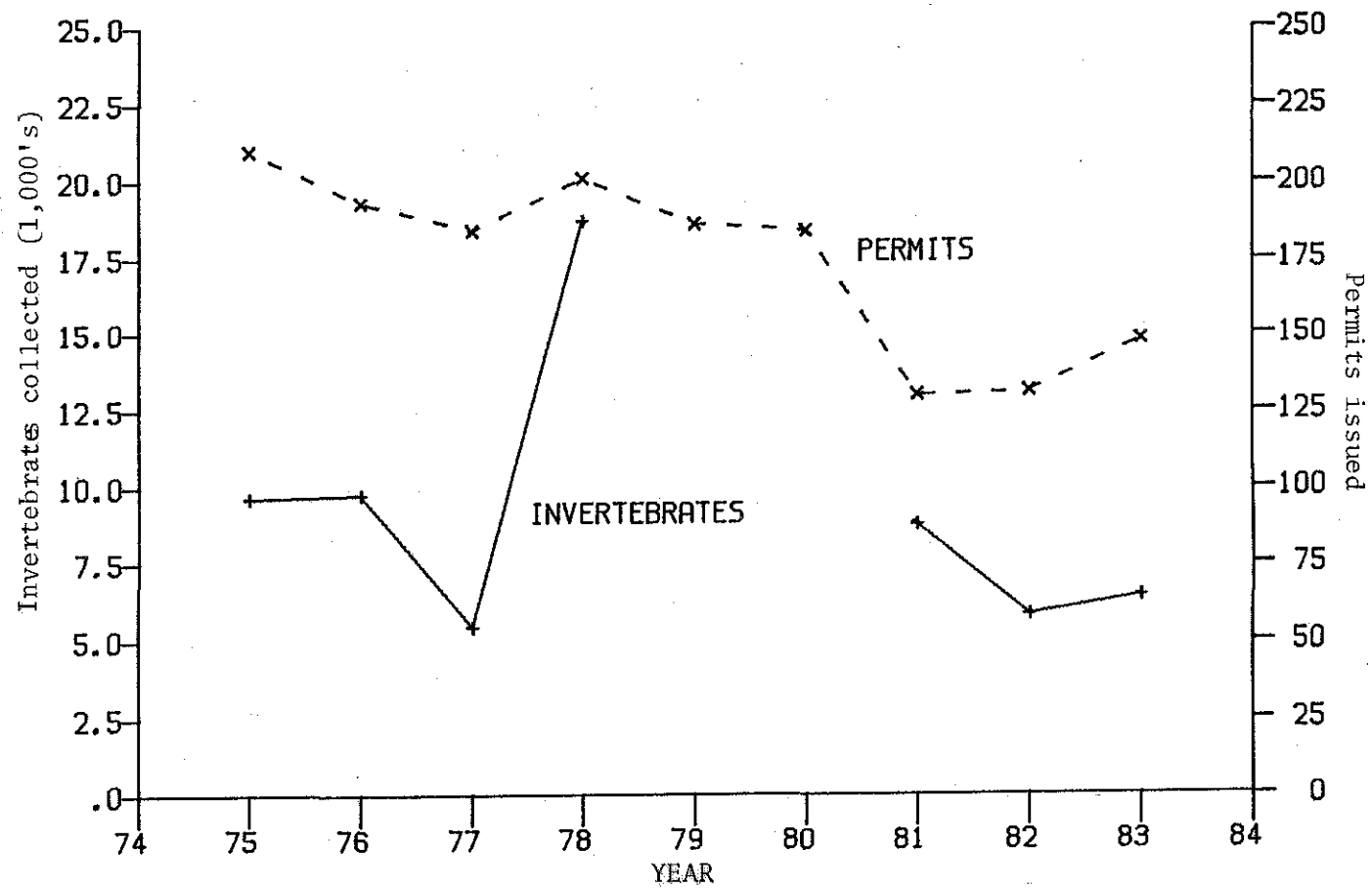


Figure 1. Number of Selected Invertebrates Harvested Along the Oregon Coast by Educational Permit Holders, 1983.

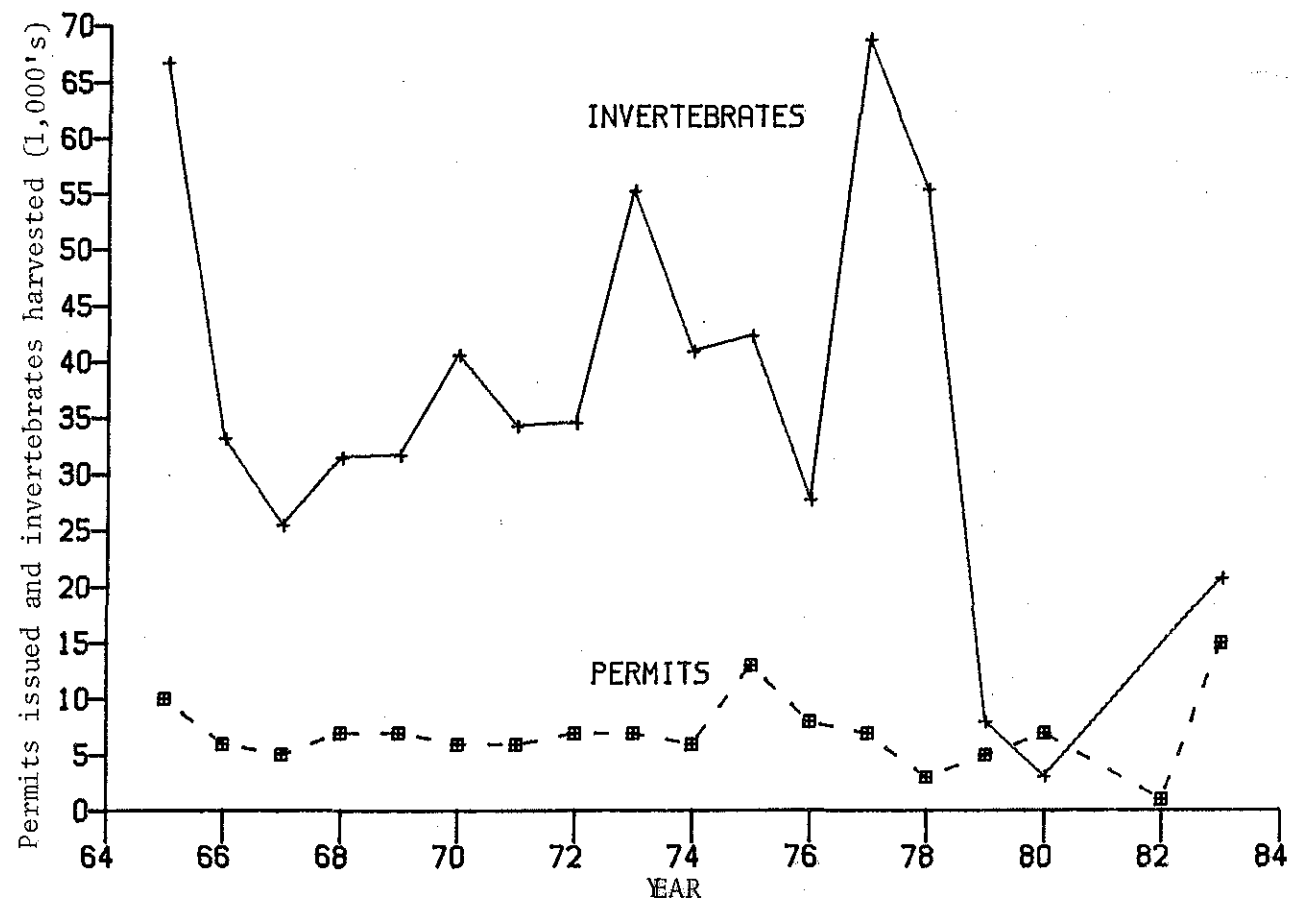


Figure 2. Number of Selected Invertebrates Harvested Along the Oregon Coast by Commercial Permit Holders, 1983.