

FISH COMMISSION OF OREGON
RESEARCH DIVISION

Harvest of Intertidal Nonfood Invertebrates, 1966

INTRODUCTION

Since the adoption of General Order No. 39 in 1962 governing the harvest of nonfood intertidal invertebrates, records have been kept on annual collecting activities. This report is a brief discussion of 1966 collecting and some problems encountered.

RESULTS

Oregon's intertidal areas are receiving steadily increasing use. There was a 17% increase in the number of permits issued and a 32% increase in the number of animals reported in 1966 over 1965. Of the 150 permit holders, 144 (96%) reported collecting 156,500 animals (Table 1). This steady increase in number of animals collected may be due to several factors: (1) more people are becoming aware that collecting permits are needed in some areas; (2) they are reporting their collecting activities; and (3) utilization of our intertidal areas is increasing.

Yaquina Head and Boiler Bay again were the most heavily utilized of the collecting areas with 34 and 29%, respectively, of the permittees collecting from these areas. Cape Arago-Sunset Bay and the nonpermit central coast areas had substantial use with 17 and 14% reporting collections from these areas.

In interpreting the intertidal collecting data it must be emphasized that the number of animals collected are only approximations; some people report their collections by the bucket, bushel, or pound. Barnacles, tube worms, and colonial sponges are impractical to count individually. Collections of animals of a specific group will vary greatly from year to

Table 1. Summary of intertidal nonfood invertebrate catch data from the Oregon coast, January 1 to December 31, 1966.

Number of permits issued	:	150
Noncommercial	:	144
Commercial	:	6
Number of collecting reports returned:		144 (96%)
Permits issued and animals taken	:	127
Permits issued but not used	:	17
Number of animals taken	:	156,477
Noncommercial	:	123,226 (79%)
Commercial	:	33,251 (21%)

Breakdown of Area Usage

<u>Location</u>	<u>Permits/area</u>	<u>% of total</u>
Yaquina Head	50	34.2
Boiler Bay	29	29.0
Cape Arago-Sunset Bay	25	17.1
Central Coast <u>1/</u>	20	13.7
South Coast <u>1/</u>	7	4.8
Neptune State Park	6	4.1
North Coast <u>1/</u>	5	3.4
Harris Beach State Park	3	2.1
Depoe Bay	1	0.7

1/ North Coast: Columbia River to northern Tillamook Bay.
 Central Coast: southern Tillamook Bay to northern Coos Bay.
 South Coast: southern Coos Bay to California border.

year, depending on specific research activities or the number of commercial collectors active that year.

Most of the increase in the 1966 catch is attributable to a new public aquarium; 51,200 animals or 33% of the total catch was reported by Undersea Gardens in Newport. The bulk of these animals (98%) were tube worms and barnacles, groups whose numbers can only be estimated.

Commercial collecting in 1966 decreased from 10 people in 1965 to six in 1966. The ratio of the commercial catch to the total number of animals collected was reversed from 64% of the total catch in 1965 to 21% in 1966. This is a reflection of the decrease in commercial collectors as well as increased activity by noncommercial collectors. Commercial collectors traditionally concentrate on groups such as shore crabs, starfish, and sea urchins.

Of the several phyla reported, Arthropoda were the most sought after. Fifty-nine per cent of the total or 92,400 animals were collected from this phylum. This was largely due to the collecting of barnacles (41%). Other groups within the phylum showed reduced collecting or only a slight increase. This again reflects changing research projects and decreased commercial activity (Table 2).

Polychaete worms were the second most collected group. This was largely due to collecting by the Undersea Gardens and specialized research projects.

Echinoderms showed an overall increase in all groups. Starfish were most heavily collected, mainly by commercial collectors. Sea urchin collecting showed the greatest percentage increase over 1965 with 50% more animals being taken in 1966.

DISCUSSION

In evaluating the past year's activities, our inadequate knowledge of population changes in intertidal areas becomes apparent. Large annual variations in populations may be the consequence of natural limitations such as winter storms or summer heat. It is difficult to evaluate the tolerance of a particular intertidal area to human activities until the changes are perhaps too drastic to correct. To get some idea of what annual and long-range changes take place in intertidal areas, a sampling program has been started.

Table 2. Intertidal nonfood invertebrates taken along the Oregon coast from January 1 to December 31, 1966.

Animal group	Noncommercial catch			Commercial catch			Total		
	Number	% by di- vision	% of total noncom. catch	Number	% by di- vision	% of total com. catch	Number	% by di- vision	% of total catch
Coelenterata									
Cl: Hydrozoa	1,026	0.8	1.5	-	-	-	1,026	0.7	1.2
Anthosoa	784	0.7		-	-	-	784	0.5	
Annelida									
Cl: Polychaeta	33,283	27.0	27.0	-	-	-	33,283	21.3	21.3
Arthropoda									
Cl.: Cirripedia	64,124	52.0	61.0	-	-	-	64,124	41.0	59.0
Cl.: Malacostraca				-	-	-			
Subcl.: Peracarida	5,331	4.3		-	-	-	5,331	3.4	
Subcl.: Eucarida									
Tribe: Anomura	1,462	1.2		7,005	21.1	51.6	8,467	5.4	
Tribe: Brachyura	4,309	3.5	10,130	30.5	14,439		9.2		
Mollusca									
Cl.: Amphineura	1,331	1.1	4.8	2,135	6.4	6.8	3,466	2.2	5.7
Cl.: Gastropoda	4,605	3.7		791	2.4		5,396	3.5	
Echinodermata									
Cl.: Asteroidea	1,721	1.4	4.9	10,283	30.9	39.6	12,004	7.7	12.2
Cl.: Echinoidea	3,811	3.1		2,907	8.7		6,718	4.3	
Cl.: Ophiuroidea	213	0.2		-	-		213	0.1	
Cl.: Holothuroidea	221	0.2		-	-		221	0.1	
Miscellaneous	1,005	0.8	0.8	-	-	-	1,005	0.6	0.6
Totals	123,226	100.0	100.0	33,251	100.0	100.0	156,477	100.0	100.0

Attempts will be made to sample both undisturbed and heavily utilized intertidal areas.

Public education is an important part of protecting Oregon's intertidal areas. In issuing permits, emphasis is placed on avoiding excess harvesting, especially by large school groups. Large groups in an intertidal area can do great damage to the population simply by carelessly walking through sea urchin pools or leaving rocks overturned. Biology classes are encouraged to study the animals in situ, making collecting unnecessary.

An important part of public education is making the existence of intertidal regulations known. Too many casual visitors to the coast are overcome with a hoarding urge, collecting starfish, sea urchins, and other species. To combat this, informative signs have been put up around popular beaches, first around Lincoln County and eventually all along the coast. Vandalism and upkeep are major problems.

SUMMARY

There was a 17% increase in the number of intertidal, nonfood invertebrate collecting permits issued in 1966. One hundred and forty-four permittees reported collecting an estimated 156,500 animals or an increase of 32% over 1965.

Arthropoda was the most sought after phylum, followed by Annelida and Echinodermata.

Yaquina Head was the most popular permit area. Thirty-four per cent of the permittees reported collecting in this area. The "Central Coast" from Tillamook to northern Coos Bay was the most popular nonpermit area.

Distribution:

Portland	Commissioners
Astoria	Newport - 20
Library	Charleston
Brookings	File

Laimons Osis
Research Division
October 24, 1967