VALUES OF COMMERCIALLY CAUGHT FISH AND SHELLFISH LANDED IN TILLAMOOK COUNTY IN 1971 AND SOME FACTORS AFFECTING PRODUCTION IN ESTUARIES, STREAMS, AND HATCHERIES

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INTRODUCTION

Food fish resources of the state, including fish, shellfish, and intertidal animals, are managed by the Fish Commission of Oregon (ORS 506.036). Some species such as salmon, shad, striped bass, and sturgeon are both food and sport fish. Sport fish regulations are generally promulgated by the State Game Commission. However, for certain species such as clams, crabs, smelt, herring, bottomfish, and intertidal animals, both sport and commercial regulations are set forth by the Fish Commission (ORS 506.141).

The bulk of commercial food fish landings come from the ocean, but estuaries make an important contribution. There are 14 major estuaries in Oregon, including the Columbia River (Wick, no date). Five of these are in Tillamook County and comprise about 40% of the state's estuarine area south of the Columbia River. These estuaries are important to Tillamook County and to the state as a whole. Estuaries provide clams, crabs, oysters, and bait species for commercial harvest. They also are spawning and rearing areas for many species of crabs and fin fish commonly thought of as species that inhabit the ocean. Estuaries are also important as rearing and transport areas for anadromous fish such as salmon and shad which spend part of their life in salt water and spawn in fresh-water streams along the coast.

In this report we will examine the commercial harvest of marine and estuarine species in Tillamook County bays and along its coast. Sport harvest of game fish has been discussed in a separate report by Heckeroth, OGC (1972). Sport harvest of food fish in the estuaries was studied by the Fish Commission in 1971 and the data from that study are now being

analyzed and will be the subject of a separate report. This study included the five estuaries of Tillamook County and estimates of the numbers of people using food fish resources of the county and what they harvested will be included in the report.

COMMERCIAL HARVEST

The retail values contained in this report are not official figures from the Fish Commission of Oregon. Most of the retail values are based on a market survey by Frederick J. Smith (OSU, 1970).

Salmon

All of the commercial landings of salmon in Tillamook County presently come from the ocean. There have been river net fisheries in past years but these were closed by vote of the people or by Fish Commission regulations. Ocean landings are hampered by poor bar conditions on all estuaries in the county except Tillamook Bay. Commercial fishermen at Pacific City use dories, launched through the surf, to harvest salmon and other fish from the ocean.

In 1971 there were 692,278 pounds of salmon landed at Garibaldi and 705,321 pounds landed by the dory fleet at Pacific City (Table 1). The county total of some 1,400,000 pounds of salmon was valued at $511,000 to the fishermen who caught them. Data presented by Smith show value to the fishermen is increased by processing and handling to a selling price mark up of about 100%. Thus the retail value of salmon landed in Tillamook County during 1971 was about $1,022,000.

Crab

Most of the 1,008,000 pounds of crab landed in the county during 1971 came from the ocean with about 10% taken in Tillamook Bay. Fishermen

Table 1. Commercial Landings of Food Fish and Value to Fishermen, by Port of Landing in Tillamook County, 1971 1/

Species	Tillamook		Netarts		Pacific City		County Total	
	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
Salmon 2/								
Chinook	18,449	$ 10,000	0	$ 0	18,347	$ 10,000	36,796	$ 20,000
Coho	777,671	243,000	0	0	792,773	248,000	1,570,444	491,000
Crabs	987,058	227,000	21,761	5,000	142	0	1,008,961	232,000
Clams	5,948	1,000	1,598	270	0	0	7,546	1,270
Shrimp	896,080	109,000	0	0	0	0	896,080	109,000
Tuna								
Albacore	118,217	37,000	0	0	7,924	3,000	126,141	40,000
Groundfish	72,689	6,000	0	0	45,030	4,000	117,719	10,000
Oysters	239,136	270,000	0	0	0	0	239,136	270,000
Sand Shrimp	688	1,000	0	0	148	220	836	1,220
Bait fish	43,728	14,000	0	0	0	0	43,728	14,000
TOTAL 3/	3,055,822	$918,000	23,359	$5,270	758,565	$265,220	3,837,746	$1,188,490

1/ *Includes both ocean and estuarine species by port of landing (from FCO records).*

2/ *Round weight.*

3/ *Includes 1,307 pounds of miscellaneous species from Nehalem valued at $285 to fishermen.*

were paid about $232,000 for the crabs they landed in 1971. Assuming one-half of these crabs were sold in the shell and the balance as crab meat, a retail value can be established. Shell crab at $0.79/lb and picked crab at $2.89/lb give a retail market value of $762,300 for the 1971 landings.

Clams

There were about 8,000 pounds of clams harvested by commercial diggers on Nehalem, Tillamook, and Netarts bays and county beaches in 1971. These clams, in the shell, brought about $1,500 to the fishermen but were worth over $4,000 on the retail market after cleaning.

Oysters

Tillamook Bay is the largest producer of oysters in Oregon. Annual harvest is 240,000 to 250,000 pounds valued at $250,000 to $270,000 to the grower. The value to the grower includes some products sold directly to consumers. As a result, it is difficult to determine the retail value of this product. Oyster harvest is restricted by Oregon law to licensed oyster growers, hence there is no legal sport harvest.

Shrimp

A fleet of trawlers working out of Garibaldi on Tillamook Bay landed 896,000 pounds of shrimp in 1971. The fishermen were paid about $109,000 for the shrimp which were worth about $575,000 on the retail market after processing.

Bottomfish

Groundfish or bottomfish landed at Garibaldi and Pacific City totaled 117,719 pounds for a value of about $10,000 at the fisherman

level. The retail value of groundfish is somewhat difficult to pinpoint because it contributes to an ever changing animal food market and to a higher value fillet market. Some species are separated from the catch and filleted for the fresh fish market, then the skeletons and less desirable fish are processed into animal food or sold for crab bait. However, assuming all of the fish and offal are used, a retail value of $24,000 is reasonable for bottomfish landings.

Tuna

The main tuna product landed in Tillamook County is albacore which migrates near the coast of Oregon during summer months. There were 126,141 pounds of albacore landed in Tillamook County ports in 1971. These fish brought $40,000 to the fishermen and over $76,000 when canned for human consumption. The offal or parts not used for human consumption could be combined with less expensive fish flesh or canned alone for the pet food market to further increase the value of these landings.

Bait

Several species including herring, anchovies, bay smelt, sand or ghost shrimp, and some clams are taken for bait. Landings of all species totaled over 44,000 pounds in 1971. These were sold locally and added about $15,000 to the commercial harvest from the county estuarine and ocean waters. These and other species are also important in providing food for forage species such as salmon along the Tillamook coast.

FACTORS AFFECTING PRODUCTION

Estuaries

Animal life found in bays or estuaries is a selfrenewing resource of Tillamook County. Such resources have been greatly diminished in our

world today. Bays form catch basins for nutrients from land and from the ocean, thus are richer in nutrients for production than is land, fresh-water streams, or the ocean alone. Filling and indiscriminate dredging of the county's estuaries might give an immediate gain in income for those who are able to sell the land so gained. However, all of the people of the state must pay for loss of estuarine area in production of renewable resources from the filled area and in loss of use through elimination of access to their tidelands. Removal of these estuaries by man's encroachment now will reduce the fishery potential from both the bays and the ocean in future generations.

Citizens of the county have the ability and the means within planning agencies, local governments, and existing laws to protect their renewable resources, including estuaries, to maintain present or increased annual income from fisheries and recreation.

Streams

The county rivers and their tributaries support the gravel and pool areas needed by anadromous and fresh-water fish. Indiscriminate alteration of streams and adjacent areas can be detrimental to fish, fish food, and wildlife that depend on the stream environment for survival. Some of the activities that must be controlled to protect streams are gravel removal, timber harvest, road building, pesticide spraying, crop fertilization, channelization, sewage from cities and industry (including barns and feed lots). Benefits accrue to the people of the county from coordinated use of streams in the form of better recreation, fish production, municipal and industrial water supplies, waterways for transportation, and scenic beauty.

Salmon Hatcheries

The Fish Commission operates a hatchery and a rearing pond on the Trask River and a hatchery on the North Fork Nehalem River. Spring chinook, fall chinook, and coho salmon are reared at the Trask facilities. Coho and some steelhead are reared at Nehalem. Together these hatcheries release about 3,500,000 fish of varying ages into streams of the area and provide some stock for rearing at other facilities in the state. The Oregon Game Commission also rears some salmon at their trout hatchery on the Nestucca system.

A private chum salmon hatchery was built in Tillamook County in 1971. This facility was designed after the experimental hatchery built on Netarts Bay by Oregon State University and other cooperating agencies including the Fish Commission. Facilities of this type and the rearing of pan-sized fish by private companies such as that proposed at a shore-based facility on Yaquina Bay could lead to increased production of salmon in the county in future years. As yet, these experimental facilities are unproven both in terms of harvestable fish and profit. Fish produced by these experimental projects will initially be harvested at the rearing facilities instead of at sea.

For an indeterminate number of years into the future juvenile salmon will be mainly produced by natural means in the streams and estuaries of Tillamook County. Artificial propagation by the state and by private companies will only supplement the natural rearing areas, which will continue for now as the primary producers of salmon contributing to the economies of the county and larger geographic entities.

SUMMARY

Commercial fishermen were paid an estimated $1,188,000 for almost 3,838,000 pounds of fish and shellfish landed in Tillamook County in 1971. These fish had a value estimated at over $2,700,000 on the retail market. Salmon, oysters, crab, and shrimp contributed most of these landings and value. They are a direct annual benefit of the many streams, several estuaries, and ocean in and along the county boundaries. Protection of these renewable resources from abuse or elimination by other interests is paramount to continuation of this annual benefit from fisheries products, processing plants, and shipping facilities which handle products raised or landed in the county.

Current federal and state laws, with county rules, and zoning by the people can protect this annual benefit provided by the renewable fishery resources of the county. Additional benefits are derived from this protection for county residents and their guests in the form of a better place to work, live, and play.

LITERATURE CITED

Heckeroth, D.N. 1972. Report of the Oregon Game Commission to the Tillamook County Planning Commission regarding identification of fishery resource values in the county with recommendations for their protection and enhancement. Ore. State Game Comm. mimeo 46 p.

Smith, F. J. 1970. Pricing and marketing Oregon seafoods, studies in marine economics. Sp. Rept. 289 Ag. Exp. Sta. OSU. 4 p.

Wick, W. Q. (Ed) (no date). Crises in Oregon estuaries, OSU Marine Advisory Program, Oreg. St. Univ. 8 p.

Distribution:

Kruse/Thompson
McGie
Dugan
Snow
WRA
Newport Lab (2)
Clackamas (3)
Tillamook Lab (12)
(6 ea to Tillamook Co.
2 ea to Heckeroth
4 ea for lab file and stock)