

The Recent Development of the Southeastern Alaska Herring Fishery

HOWARD O. NESS

High commercial salmon catches are not among recent Alaskan brags. It's no secret that the state's commercial salmon fisheries have been plagued by declining runs and escalating operating costs.

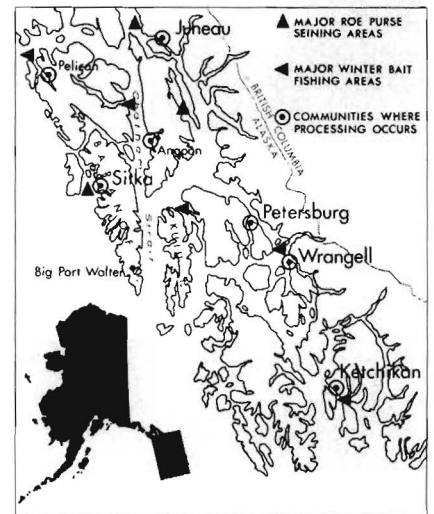
The commercial fishing industry has become the victim in this escalated production cost-depressed supply squeeze. Hatchery enhancement and rehabilitation schemes have been proposed and funded, but these are, at best, long-range attempts at increasing salmon production.

What the salmon industry has needed is diversification into alternative fisheries, and new markets for fish production that would require minimal change and investment in

existing gear and production techniques. The development of the spring and winter herring fishery could provide immediate relief in giving an economic boost to this depressed industry.

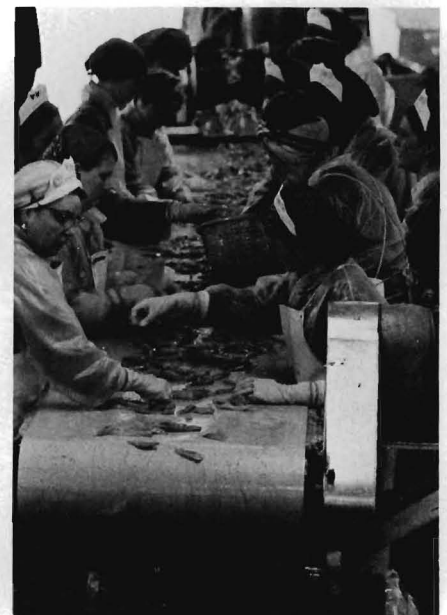
To diversify into herring fishing, fishermen can outfit their salmon purse seine boats with a herring seine for approximately \$20,000-25,000 and electronic "fish finding gear" for \$7,500-15,000. Receipts from herring fishing in 1974-75 helped supplement some southeastern Alaska purse seiners' incomes.

A study, conducted by the National Marine Fisheries Service in cooperation with the Alaska Department of Fish and Game, fishermen, and processors throughout the state, attempts to estimate the total



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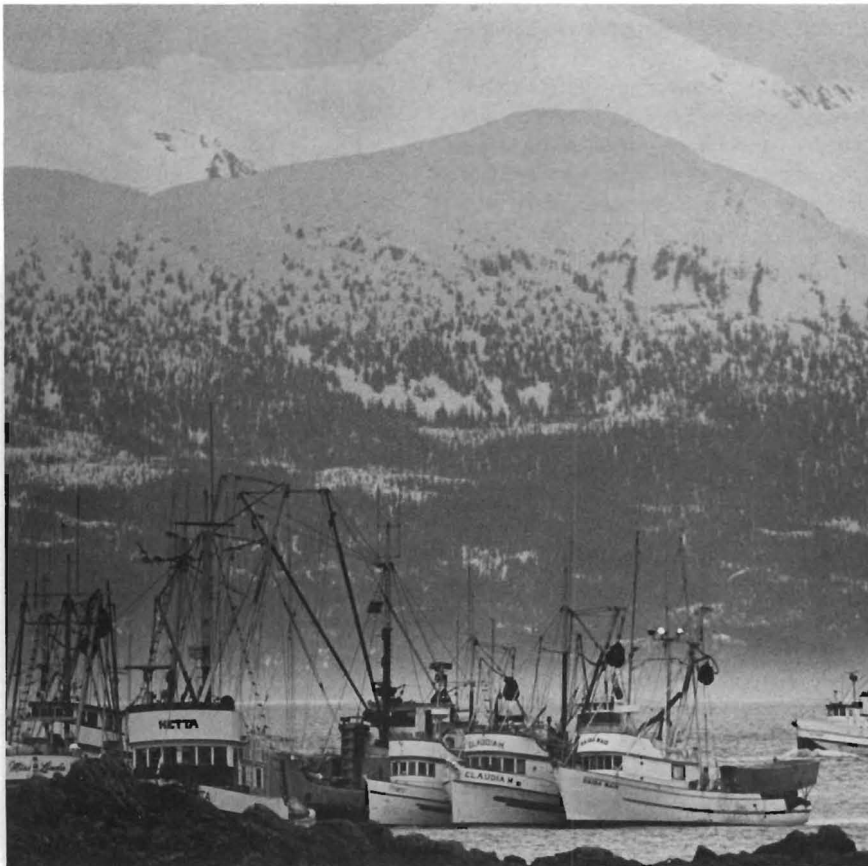
Grading roe, below and right.





Herring reduction plant, Big Port Walter, Alaska, with seiners both approaching and leaving the unloading dock. The entire operation was dependent on highly efficient Pelton wheel power. Circa 1930.

Purse seiners waiting for a Juneau area opening outside of Amalga Harbor.



contributions of the herring fishery to the economy of southeast Alaska. The study shows that, assuming a constant demand for herring products and a sustained availability of the resource, there is a tremendous growth potential for the herring industry in southeast Alaska.

Presently, about 14 percent of all southeast Alaska processing labor is devoted to herring production. The total employment during the peak of the herring roe fishery totals about 750 in processing and 80-100 individuals in fishing and tendering. The winter herring fishery employs about 50 and 60 in processing and fishing and tendering, respectively. The present industry contributes an estimated monetary benefit of over \$2 million annually to the economy of southeastern Alaska.

Processors would support an immediate expansion in the spring herring roe fishery because this fishery has proven to be highly profitable and expansion requires little increase in facilities and investments.

Expansion in the meal and oil fishery would occur more slowly because of the large capital outlays that reduction machinery would require. This investment would not occur unless the meal market improves and a substantial increase in allowable her-



Graded roe worth thousands of dollars is stacked in baskets before further processing.



Whole herring bait packed in 50-pound boxes.



Final brining and salting process in export containers.

ring harvests was permitted. Most herring processing activity occurs in Petersburg, and this impact upon that community is considered here. There is, however, some herring fishing and processing in Ketchikan, Sitka, and Juneau. Herring fishery development would benefit these communities also.

FISHERY MANAGEMENT SITUATION

Management of herring stocks in southeastern Alaska has, for decades, been so steeped in complexity and controversy that the situation resists simple explanation. Salmon management district boundaries are employed. Quotas filled in a single bay can result in closure of the district.

Acoustical techniques are being tested and used with moderate success for assessing biomass of herring stocks in certain southeastern Alaska bays. Herring quotas are limited to 10 percent of the biomass as measured by the acoustic work. Frequent disputes arise over both the 10 percent limitation and the reliability of still questionable acoustical assessing techniques.

In recent years, the herring quotas in Alaska have been quite restrictive because of pressure applied by some of the public constituencies who want herring used only for bait and for forage within the ecosystem.

HISTORY OF THE SOUTHEASTERN ALASKA HERRING FISHERY

Historically, herring has been a heavily utilized resource in Alaska. As early as 1916, several herring salteries in southeast-

ern Alaska were supplying dry salted herring to the Oriental markets. Some herring were also processed for bait, oil, and fish meal.

The herring oil and meal reduction industry had its conception in the early 1920's. These plants produced pickled herring products and processed meal and oil. The peak of the herring reduction-oil industry occurred between 1926 and 1929 when 28 plants operating in southeastern Alaska were processing 140-166 million pounds of herring annually (Fig. 1). Most of the plants were located on Chatham Strait on both Kuiu and Baranof Islands. The most active season in this fishery was late summer and early fall when the oil and fat content of herring was the highest. The oil was sold to large soap manufacturers that used herring oil as a basic ingredient in their soap products. The meal was sold for fertilizer.

During the depression in the early 1930's,

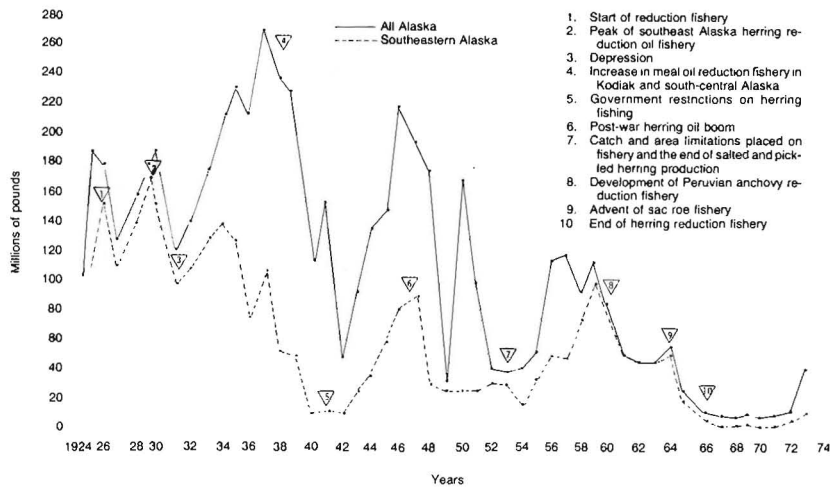


Figure 1.—Comparative 50-year herring catch, 1924-74, for southeastern Alaska and all of Alaska, including events contributing to the growth and decline of the industry in southeastern Alaska.

the industry suffered severe setbacks. This continued into the war years until all herring purse seine fishing activity was stopped by the government. After the war, in 1946, four reduction plants began operation. That year was one of the most profitable for those existing plants in the history of the fishery because of the lack of competition from other producers. The price for oil then was 18-20 cents per pound. Also, by this time, all of the meal production was produced for the more profitable feed market. The meal market became more lucrative and in 1950 meal prices of \$140-200 a ton were paid. Meal production then replaced oil in importance in production value because by 1950 soap companies began to manufacture detergents and oil prices dropped back to 4-5 cents per pound. The producers were able to protect themselves from fluctuating meal market conditions by hedging investments in the commodity future market.

By 1950, extreme pressures were placed

upon the Territorial Board of Fish and Game to limit herring fishing. Most of this pressure came from the salmon troll fishing industry which claimed fishing was destroying the valuable forage necessary to sustain salmon stocks. One of the major fishing areas subjected to closure was Larch Bay, located south of Sitka. In some years 80 percent of southeastern Alaska's total production was caught there. This area was totally closed to herring purse seining by 1955. Also in 1955, Peru entered the world fish market by establishing an anchovy reduction fishery. By 1958, because of Peruvian production competition, meal prices in the United States were cut back to \$80/ton. By 1959, over 60 percent of the world's fish meal was being produced by Peru, a fishery that was developed by the Food and Agriculture Organization of the United Nations and American industry investment. The agricultural sector concurrently increased its production and technology of soybean meal,

furthering the production of competitive products.

By 1966 the southeastern Alaska herring reduction fishery industry was dead, from measures of pressure from opponents of the fishery and depressed market conditions. The bait fishery harvest has remained approximately the same, averaging 2,500 tons annually since 1910.

THE ALASKAN SAC ROE HERRING FISHERY

In 1963 the Japanese began to explore the possibilities of processing salmon roe in the northern and westward regions in Alaska. The Japanese, incidentally, discovered at this time that herring roe was available in the Kodiak Peninsula area in the late spring months. Consequently, in 1964, 23,000 pounds of roe were exported to Japan by a Kodiak Island producer. By 1971 the number of processors handling herring products had increased to 10. Their output of both herring roe and eggs on kelp totaled 334,000 pounds, valued at \$1.5 million.

In 1973 more than 24 plants were processing herring in Alaska, 6 of them in southeastern Alaska. These firms produced herring products from a catch of 35 million pounds worth \$6 million. Almost two-thirds of this value was comprised of roe and eggs on kelp products produced in central Alaska. Southeastern Alaska contributed 3 percent of the roe and eggs on kelp product value and 31 percent of the total product value of herring in Alaska.

Today, in terms of gross returns per season duration, the herring roe fishery is one of the most valuable in the world. That value and the total regional input of the herring roe and bait fishery industry to southeastern Alaska are discussed in MFR Paper 1239, "The Southeastern Alaska Herring Fishery," by Howard O. Ness.

MFR Paper 1240. From Marine Fisheries Review, Vol. 39, No. 3, March 1977. Copies of this paper, in limited numbers, are available from D825, Technical Information Division, Environmental Science Information Center, NOAA, Washington, DC 20235. Copies of Marine Fisheries Review are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 for \$1.10 each.