Canadians' gear while conducting their own trawling operations.

Claims filed by October 1975 totalled $400,000, and some remained unsettled. Additional claims had been submitted since the negotiations began, and the Soviets agreed to "examine" additional claims submitted by Canadian fishermen. The negotiations were held in Halifax, Nova Scotia.

Australia Regulates Rock Lobster Fishery

Commercial catch statistics and catch samplings in 1972 showed that annual catches of rock lobster, particularly in Tasmanian waters, had reached a stage where they were almost wholly dependent on the annual recruitment from undersized stocks. It is possible that this factor was partially responsible for the decrease in Western Australian rock lobster catches within the past two years.

New standards were set on the minimum lengths of rock lobsters caught in southern and western Australian waters in an effort to prevent the depletion of juvenile lobster stocks. The new legal size, measured as the total carapace length, is 110 mm for male and 105 mm for female rock lobsters in Tasmania, and 100 mm for all "southern" rock lobsters from the waters off Southern and Western Australia. Previous minimum lengths were measured as rostral carapace length. (The above regulations are in metric units because on 1 November 1974 Tasmania changed from the so-called British imperial measuring system to the metric system.)

The new method of measuring carapace length has been used by research scientists for many years. Its legal application to Australian commercial fisheries will prevent the evasion of legal requirements through the willful breaking off of rostral horns from caught lobsters.

Most Australian lobster catches are exported because of high overseas demand resulting in high prices. Over 95 percent of all exports are "lobster tails" shipped to the United States. During the 1973-74 season, the value of Australia's lobster tail exports decreased by 15 percent below that of the previous year (from $30.2 million to $25.9 million).

The remaining 10 percent of lobster exports were "whole lobsters" shipped mostly to Japan (53 percent of all "whole lobster" exports, or about 200 metric tons). The traditional Australian exports of "whole lobsters" to France were neglible largely because the Cuban government sells its spiny lobster there at a lower price.

Sources: *Tasmanian Fisheries Research* and *Australian Fisheries*.

Fishery Notes

Alaska's 1975 Salmon Catch Best in 3 Years

Alaska's 1975 salmon catch—25.6 million fish—was the largest in three years despite depressed fisheries in several areas, the Department of Fish and Game has announced. The catch surpassed the near-record low harvests of 22.3 million in 1973 and 21.9 million in 1974 and exceeded the preseason forecast of 19.0 million fish.

Good escapements of Bristol Bay sockeye, record chum catches and escapements in the Arctic-Yukon-Kuskokwim region, and strong showings of pink salmon in Prince William Sound and lower Cook Inlet were highlights of the salmon season. Low catches in the Kodiak area and near-record lows in southeastern Alaska, the Chignik area, and the south side of the Alaska Peninsula combined to reduce the statewide total.

Southeastern Alaska had one of its poorest seasons since the turn of the century. Sockeye, coho, and chum salmon runs, expected to offset the predicted poor return of pink salmon, also produced some of the lowest catches on record. In contrast, pink returns in southern southeastern Alaska exceeded escapement requirements and 3.1 million pinks were harvested. With good survival, the southern pink escapement, 4.5 million, could well produce a strong return in 1977. The pink return to northern southeastern Alaska was weaker than anticipated, and only 0.6 million salmon were harvested from isolated areas where escapement goals were reached. Pink salmon escapement there is estimated at 1.5 million, about 2.5 million short of the goal. The Yakutat red salmon harvest was also below average[1]. Total catch for all salmon species in the southeastern and Yakutat areas was 5.3 million compared to an average of 12.8 million.

A strong early pink salmon run to Prince William Sound produced the largest catch there since 1971, and the pink salmon escapement goal there was met. Chum returns, however, were lower than expected. The Copper River king (chinook) salmon catch was about average, but poor sockeye and coho catches brought the total catch to less than half of average. The total Bering River catch was also less than half of average. The total area catch, 5.2 million, was above the 5-year 3.9 million fish average.

A strong pink salmon run in lower Cook Inlet, combined with above-average coho and chum catches, produced the largest harvest there since 1970. Pink escapement goals were reached in all lower Cook Inlet streams, but sockeye escapements lagged in the major Kenai Peninsula river systems. Total catch was 3.3 million compared to a 2.2 million fish average.

The Kodiak catch was depressed for the fourth consecutive year. Because of a poor red salmon run, there were no openings for sockeye and the incidental sockeye catch of 136,300 was the lowest since 1882. Despite the complete closure, overall escapement goals were not achieved in any of the major sockeye systems. The pink salmon catch was the highest since 1971, and the total return of 3.7 million was above the pre-season forecast of 3.0 million. Pink salmon escapement was also good, but chum salmon catch and escapement were weak. Total Kodiak catch was 3.2 million salmon.

The Chignik fishery produced one of the smallest salmon catches in recent years. Early Black Lake sockeye escapement lagged at 309,000 versus a goal of 400,000 despite complete closure of the fishery. The later Chignik Lake red salmon run was considerably stronger, with the escapement goal of 225,000 being reached. Almost 400,000 late-run reds were harvested. Pink and chum salmon catches and escapements

[1]In this report, "average catches" refer to those of 1970-74.

were very poor. Total catch for the Chignik area was 544,000 salmon.

The red salmon catch at South Unimak and the Shumagins was limited to a total harvest of 233,000 fish. A generally weak showing of pinks and chums along the South Peninsula resulted in few openings and poor catches. However, escapements were fairly good for both species. The total South Peninsula catch was 406,000. Aleutian returns were generally weak and no fishery occurred in the area. The last fishery there was in 1973 when 2,768 pink salmon were taken. On the north side of the Alaska Peninsula, red salmon escapement goals were achieved in the Bear and Sapsuck river systems and the sockeye catch of 232,000 was close to the average of 235,000. The chum return was poor, but coho catch and escapement were good.

Bristol Bay experienced a very weak peak year with 4.8 million sockeye harvested from a total run of 24.1 million. Escapement goals were attained or exceeded in all major Bay systems this year. With average natural survival, the total Bay escapement of 19.3 million, coupled with the 1974 escapement of 9.6 million, could produce bumper runs in 1979 or 1980. Record chum catches were made in the Norton Sound, Yukon and Kuskokwim districts and the Kotzebue chum harvest was second only to the record 1974 catch. Escapements were also some of the largest ever observed. King salmon catches were below average on both the Yukon and Kuskokwim rivers. Final chum catch for this region was 2.0 million and total catch was 2.2 million.

Publications

New NMFS Scientific Reports Published

The publications listed below may be obtained from either the Superintendent of Documents (address given at end of title paragraph on affected publications) or from D825, Technical Information Division, Environmental Science Information Center, NOAA, Washington, DC 20235. Writing to the agency prior to ordering is advisable to determine availability and price, where appropriate (prices may change and prepayment is required).

NOAA Technical Report NMFS SSRF-689. French, Robert R., Richard G. Bakkala, and Doyle F. Sutherland. "**Ocean distribution of stocks of Pacific salmon, *Oncorhynchus* spp., and steelhead trout, *Salmo gairdnerii*, as shown by tagging experiments. Charts of tag recoveries by Canada, Japan, and the United States, 1956-69.**" June 1975. 89 p. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402

ABSTRACT

Extensive tagging experiments by member nations of the International North Pacific Fisheries Commission—Canada, Japan, and the United States—have been conducted in offshore waters of the North Pacific Ocean to investigate the ocean distribution of stocks of Pacific salmon, *Oncorhynchus* spp. This effort has resulted in the recovery of 15,215 tags including steelhead trout, *Salmo gairdnerii*, from inshore and high-seas areas. To provide a reference by which the offshore distribution of the various stocks can be readily seen as shown by tagging results through 1969, the tagging locations at sea are illustrated for each species and recovery area.

NOAA Technical Report NMFS SSRF-684. Nicholson, William R. "**Age and size composition of the Atlantic menhaden, *Brevoortia tyrannus*, purse seine catch, 1963-71, with a brief discussion of the fishery.**" June 1975. 29 p. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

ABSTRACT

The catch of Atlantic menhaden, *Brevoortia tyrannus*, estimates of numbers of fish caught by age, fishing effort, age and size distribution, and changes in the fishery are summarized and briefly discussed for the five areas of the Atlantic coast of the United States for 1963-71. Appended are tables of seasonal length frequency distributions and mean lengths by age and port and tables of monthly mean lengths by sex, age, and port. The purse seine fishery declined after 1962. North of Chesapeake Bay, plants closed or reduced fishing as fish became scarce. Of eight plants that processed menhaden in 1962 only two operated in 1971. The catch and catch per unit of effort in Chesapeake Bay declined as effort increased. South of Cape Hatteras, N.C. the fishery, which had been small compared to the fishery in other areas, showed little change. The average age and size of fish in the total catch declined as the fishery north of Chesapeake Bay, which mainly caught older and larger fish, declined. Age-1 and -2 fish, which constituted most of the catch from Florida to Chesapeake Bay, increased in average length and weight.

NOAA Technical Report NMFS CIRC-391. Damkaer, David M. "**Calanoid copepods of the genera *Spinocalanus* and *Mimocalanus* from the central Arctic Ocean, with a review of the Spinocalanidae.**" June 1975. 88 p. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

ABSTRACT

The family Spinocalanidae includes small to medium-sized marine calanoid copepods belonging to the genera *Spinocalanus*, *Monacilla*, *Mimocalanus*, and *Teneriforma*. All species are deep-living and often comprise a large proportion, or even a majority, of the copepods in deep samples. In spite of their prevalence, definitive knowledge of the Spinocalanidae has lagged behind that of other copepod groups because adequate collections from deep water have been few, and specimens from widely separated localities have seldom been compared. Most important, however, is the fact that the fragility of the specimens makes them very difficult to study; most investigators attempting to describe or identify Spinocalanidae have indicated that their specimens were damaged and incomplete.

The present study is based on collections of zooplankton from Fletcher's Ice Island, T-3, in the Canadian Basin of the Arctic Ocean in 1967-68. The seven species of Spinocalanidae from these collections are redescribed, and their vertical distributions are discussed, based on series of samples from discrete depth intervals to 3,000 m.