

Helping our long distance wanderers

The long distance wanderings of the Atlantic salmon are quite amazing. Although it is common knowledge that many salmon born in rivers of the Maritime provinces and Maine are caught off Greenland, it is now apparent that salmon from the other side of the Atlantic are finding their way into our waters. In the past 10 years five salmon tagged in Scotland have been caught off our coasts.

According to John Pippy, Program Head of Freshwater and Anadromous Fisheries in Fisheries and Oceans, recent discoveries have a number of

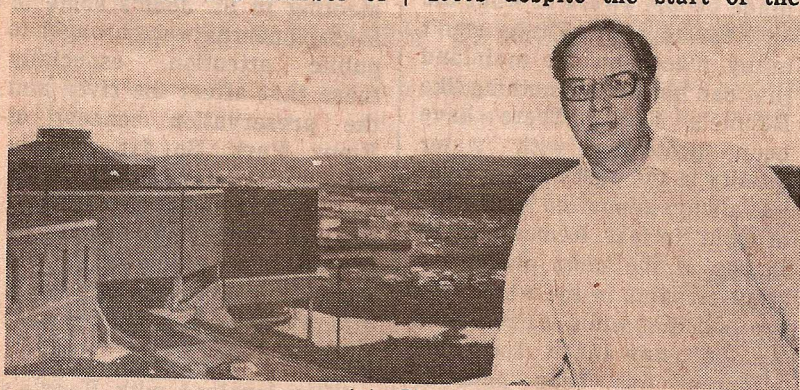
implications for our fishery.

"Canadian and European salmon feed off both coasts of Greenland in late summer and fall," he says. "They're also present on the high seas between Iceland and Greenland, and Greenland and Canada. There has certainly been a long-term decline in Atlantic Canadian salmon catches and you can't put all the blame on the commercial fishery in Greenland or along our coasts. Records of salmon catches go back to the 1800s, so trends are fairly easy to find. There was a peak in 1930, a low in 1955 and a climb in the 1960s despite the start of the

Greenland fishery at that time. A variety of management schemes have been implemented in recent years including delaying the opening of the commercial season, reducing the number of commercial fishing licences and tougher regulations on the bycatch of salmon."

John sees inshore ice conditions and cold water temperatures as major factors that have contributed to the low numbers of salmon off our coasts in 1983.

"Abundance of Atlantic salmon was extremely low in 1983 throughout eastern Canada," he confirms. "Catches in the commercial fishery were about 50% below average. This indicates high mortality at sea and suggests that large salmon will again be scarce in 1984. The low numbers also relate to the low spawning runs in 1978 and 1979. Distribution of ice is also important in determining the migration of salmon along our coasts. Heavy ice conditions last winter changed migration patterns and resulted in a lower percentage of salmon being



John Pippy

caught in commercial fisheries.”

Changes in oceanic and in-shore conditions, coupled with the migratory nature of salmon, make it very hard for scientists to advise on yearly adjustments to the fishery, as Rex Porter of the Salmon and Char Management Section explains.

“Large salmon go farther afield to feed,” comments Rex, who hails from Change Islands, “and very few salmon winter in the Gulf of St. Lawrence. That means they can be found feeding in two main areas: the slope of the Grand Banks and the Labrador Sea. It’s all a question of water temperature. They prefer a temperature of 3 - 7°. The most critical group of salmon as far as stocks go is the population of smolt that migrate out to sea after leaving their home rivers.”

A few basic facts about the salmon life cycle are necessary to point out why the smolt is such an important stage in the salmon fishery. Salmon migrate upstream in June and July to spawn in late October or November. The young parr that result from eggs hatched the following spring remain in the river for up to five years in Newfoundland and seven years in Labrador until they reach a length of around 12 centimetres. When the water temperature rises in May or June the parr become smolts and move out to sea. One group stays at sea only one year before returning to their natal stream to spawn as grilse. Another group stay another year at sea and return as large salmon. Most salmon in this province are grilse, but some rivers produce more grilse than others and it appears that there are usually two different groups of fish in the same breeding population. Conditions at sea may influence whether salmon return as grilse or mature another year at sea.

Regardless of their age or origin salmon first appear back along Newfoundland’s east coast in May and then move northward and westward to



A fair reward — (Photo courtesy Fisheries & Oceans).

natal streams to spawn. It is at this time that the commercial fishery takes its toll.

“The commercial fishery takes about 85% of all large salmon caught and 60% of the grilse,” Rex figures. “The sports fishery takes another 10%, with the result that about 25% of all salmon get to spawn. This low spawning rate makes the salmon stocks very sensitive to overfishing. Another problem is that salmon from all the different stocks get mixed up in the open ocean and Newfoundland fishermen may intercept fish from other stocks, especially on the east coast.”

“About 25% of the salmon moving along the coasts are of mainland origin,” John adds. “The last staging area is southwest Newfoundland which has about 46% mainland fish and a high proportion from streams and rivers in western Newfoundland.”

There is pressure from the Maritimes to reduce the Newfoundland commercial catch, but the suggestion that the coastal salmon fishery should be reduced and effort shifted to a river fishery would bring its own share of problems.

“There has been no legal commercial river fishery for salmon in Newfoundland since 1895,” adds Rex. “If the fishery moved to the rivers, it would be much harder to manage. The

fish would be more susceptible to overfishing and our whole research program would have to be re-directed. Our present resources would only be sufficient to provide the necessary biological information to manage four or five rivers.”

John Pippy estimates that there are at least 40 sites in Newfoundland and others in Labrador that in time can be developed to double or triple landings of Atlantic salmon, and the emphasis is now being placed on salmon enhancement. A recent discussion paper describes a \$45 million 10-year enhancement plan that would rely heavily on public and community involvement. The plan includes expanding natural stocks into nearly 50 watersheds of the province as well as including studies to locate and establish sea farms and rear young salmon for river fisheries.

The Salmon Association of eastern Newfoundland recently announced that their salmon enhancement program on the Colinet and Little Salmonier Rivers will continue until at least September of this year. Another project is planned on nearby Rocky River. These and other projects are expected to ensure the survival and growth of the salmon fishery in Newfoundland and Labrador. 