

In 1951 when an exceedingly large catch of seals—about 440,000—was recorded by all vessels from both sides of the Atlantic, some concern was expressed for the maintenance of the herds. Informal discussions took place between Canada, Norway, Denmark and France on the need for information as to the size of the herds and their productivity. Since then, a standard opening date for sealing has been agreed upon each year and a research program has been conducted. Tagging operations and aerial surveys carried out by the Fisheries Research Board have produced a great deal of new information which should prove useful if any joint conservation measures are found necessary in the future.

The Pacific Fisheries.—The continental shelf off Canada's Pacific Coast is not as extensive as that of the Atlantic, reaching out only from three to 60 miles from land. The valuable salmon constitutes the main prop of the fishing industry and, in terms of dollars and cents, are more valuable than any other fish in Canada. There are five species of salmon, all in abundance, ranging the Pacific coastline and ascending the rivers through most months of the year. The five species belong to a single race, distinct from that of the Atlantic salmon and the true trouts but grouped within the same general family. The popular names for them are sockeye, pink, coho, chum and spring. They differ considerably in size, habits, time of their returns to fresh water and in commercial quality. The sockeye is the most famous because its flesh is very red, very rich in oil and holds both colour and flavour well under all conditions of storage. It is the fish on which the salmon-canning industry of the Pacific Coast was built and it is especially the fish of British Columbia and the great Fraser River. All Pacific salmon spawn in fresh water. The young migrate to sea and when they reach maturity they return to fresh water to spawn and, after spawning, die. The biggest catches are taken when they begin their spawning run and come into estuary waters on the flood tides. About 150,000,000 lb. are taken annually by British Columbia fishermen using purse-seines, gill-nets and trolls. A large portion of the catch is canned, production being as high as 2,000,000 cases (case = 48 1-lb. tins) in some years.

Obviously the salt-water life of the salmon is largely beyond human control and, therefore, present conservation efforts are directed mainly towards three objects—ensuring a sufficient escapement of salmon to produce the eggs necessary for future runs, improving spawning areas that have been adversely affected by industrial developments and natural disturbances, and protecting the young salmon between their emergence from the gravel and their arrival in salt water.

The salmon's predictable habits make them highly vulnerable and rigid controls are put on the fishing operation. There are regulations governing the sizes of nets and methods of using them. There are certain areas, usually near the mouths of rivers, that are closed to fishing at all times. The controls, based on exhaustive biological research, are effective and it may be said that the fishery is being well managed now on a sustained-yield basis. But the productivity of the salmon depends largely on conditions in streams and lakes, primarily water height and water flow. Fluctuations in stream level and in stream flow can be extensive with devastating losses likely to occur under extreme conditions. Stream improvement measures, particularly to control stream flow, hold great promise for increasing salmon productivity and are being continually investigated. Hydro-electric power dams and water-storage impoundments for irrigation and flood control present obstructions to the ascent of salmon to the spawning grounds of major river systems. But power dams are not the only impediments to access by up-stream migrating