

Research in the Dominion Astrophysical Observatory at Victoria, B.C., consists almost entirely of spectroscopic study of the stars carried out by means of the seventy-two inch reflecting telescope, with accessories consisting of spectrographs, cameras, etc.

Much attention has been paid to determinations of radial velocity, and the institution has the record of having determined more spectroscopic binary orbits than any other observatory. Among the other notable investigations are: determination of a large list of spectroscopic parallaxes; definite proof of the rotation of the galaxy and measurement of the resulting solar motion; confirmation of the widespread distribution of absorbing material in interstellar space; rotation of the line of apsides in spectroscopic binaries; measurements of the masses of binary stars; the distribution of variables in the globular clusters; investigations of Wolf-Rayet stars and novæ; and many other related problems.

THE DEPARTMENT OF FISHERIES AND THE FISHERIES RESEARCH BOARD.*

The Background of Fishery Research in Canada.—The beginning of fishery research in Canada dates from the appointment in 1852 of Dr. Pierre Fortin as Stipendiary Magistrate. He was provided with a vessel, *La Canadienne*, for the protection of the fisheries in the Gulf of St. Lawrence. Dr. Fortin investigated and reported upon all the fisheries, described the various species, and inaugurated a system of annual reports, with detailed statistics of the catches, fishermen, and gear. This investigation was extended to the remainder of the Province and, after Confederation, to the other provinces as they came in, or were constituted.

Decrease in the catches of the valuable salmon was the incentive for the development, in the fifties and sixties of the 19th century, of methods of taking, fertilizing, and hatching their eggs (following similar work in other countries) as a means of replenishing the diminishing supply of this fish. Pioneer work was done more or less independently by Richard Nettle in Quebec, Samuel Wilmot in Ontario, and Stone and Goodfellow in New Brunswick. There came into being a system of fish culture carried on by the Government and extended during succeeding years to more and more species of fish.

Then came the idea of a biological or fishery station that might assist in the development of fish culture, particularly for marine species. In 1893 a scientist was obtained from Great Britain to take the new post of Dominion Commissioner of Fisheries. The movement for a scientific station or laboratory gathered force, and in 1898 the Government made a grant to a Board of Management of a Marine Biological Station, which was located for successive two-year periods at St. Andrews, N.B., Canso, N.S., Malpeque, P.E.I., Gaspé, Que., and Seven Islands, Que. In 1907 it was located permanently at St. Andrews, N.B. In the meantime the Georgian Bay Biological Station had been established at Go Home in 1901 to serve the Great Lakes fisheries but this station continued only until 1913. A Pacific Biological Station was established at Departure Bay, B.C., in 1907. The managing board was incorporated by Act of Parliament in 1912 as the Biological Board of Canada.

The Board consisted entirely of scientists, principally biologists from the larger universities, and the investigations were carried out by scientists from the universities, working at the stations during the summer and continuing at their institutions during the winter. The problems were those of the fishermen, dealing with the abundance of the fish, bait, etc. However, the War of 1914-18 gave a

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