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chapter eleven

THE NEWFOUNDLAND FISHERY RESEARCH COMMISSION, 1930-1934

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The story of Newfoundland's past efforts at scientific fishery research is little known, and existing literature has concentrated on fishery research associated with the crisis of the early 1990s. This literature has tended to focus on how federal fishery scientists have been unable to make more reasonable forecasts on the amount of codfish available for commercial harvesting, and on the social and economic impacts the cod moratorium has had on local fishers.¹ Thus, the impression has been created that Newfoundland ignored scientific fishery research in the past and was, therefore, a backward participant in the international codfish trade. This paper intends to correct this view by examining the research efforts that originated in the colony in the 1880s and culminated with the formation of the Newfoundland Fishery Research Commission in 1930.

Fishery Research prior to 1930

The first efforts to place fishery research in Newfoundland on a more formal, scientific basis occurred in the late 1880s. Because of poor catches earlier in the decade, the government appointed a legislative committee to examine the state of its fisheries and to ascertain what scientific work was being carried out by its British, Canadian, and Norwegian counterparts. The result was the appointment of a Fisheries Commission in 1888 and the hiring of Adolph Nielsen, a Norwegian fisheries official,² to run the commission. Nielsen established a codfish hatchery at Dildo, Trinity Bay, introduced a patented Norwegian barrel for preserving bait herring, published instructions for curing codfish and herring and for the manufacture of cod liver oil, and established lobster hatcheries. In the late 1890s the Newfoundland government lost interest in his efforts and in 1898 Nielsen became involved in developing modern shore station whaling in Newfoundland with Norwegian and local business persons; the work of the cod hatchery was allowed to lapse, and the building and its equipment were sold.³

In 1911, the government of Prime Minister Edward Morris, acting upon a suggestion by Harbour Grace merchant William Munn, hired an expert knowledgeable in the manufacture and grading of cod liver oil. Again the government turned to Newfoundland's main competitor, Norway, and appointed Mico Siemunsen to advise both merchants and fishers on preparing cod liver oil for export. Until 1914 when ill-health forced his return to Norway, Siemunsen also provided the government with extensive information on the operations of the Norwegian fisheries department and stressed the need to establish a fishery school in St. John's to instruct fishers in modern fishing techniques.⁴ In 1914 the government hired Walter Duff, an inspector with the Scottish Board of Fisheries, to examine and

report on local fisheries. Duff called for the hiring of skilled fishery officers to instruct fishers in curing and packing herring for export, recommended that fishers be provided with motor boats to travel further out into the bays to catch fish, and made suggestions for the catching of under-utilized fish such as turbot, haddock, smelts, hake, flat fish, and plaice.⁵ Later that same year Dr. Johan Hjort, Director of the Norwegian Fisheries Board, visited St. John's and gave an illustrated lecture showing how Norway's fisheries had benefited from scientific research, and how their research vessel had located fishing banks off Norway's coast.

Also, in 1914 the government appointed a commission to examine local fisheries. The commission reported in 1915 and recommended further scientific investigation and more government regulation by the creation of a fish inspection board. The commissioners wrote that "some attempt should long ago have been made to investigate in an intelligent, comprehensive, and scientific way, the waters and fishing grounds contiguous" to Newfoundland and called on the government to provide the necessary financial and other arrangements for this work. The report noted that "we have practically no detailed knowledge of the ocean bottom round our coast, nor has there ever been any intelligent attempt to locate new fishing areas which unquestionably exist." The legislators echoed a popular view among the public that Newfoundland was not taking full advantage of the fisheries potential along its coasts, and that "not one-half of the fish producing capacity... has been reached." The report called for a greater interventionist approach by the Newfoundland government since "further extended development cannot safely be left to private initiative alone."

In 1916 the Newfoundland Board of Trade called for a reorganization of the Department of Marine and Fisheries that would see a "much larger share of the public monies... expended in scientific investigation and practical experiment." It recommended the establishment of a fishery school and the acquisition of a vessel "properly equipped for experimental fishing and for scientific research around our coasts." The board also wanted the government to compile compulsory fishery statistics on catches as was done in Norway.⁶ Despite all recommendations, immediate government action on fishery research initiatives was delayed by the demands to meet Newfoundland's war commitments.

Post-war fishery reform centred on the efforts of William Coaker and his Fishermen's Protective Union. In the 1919 general election Coaker's Union Party in coalition with the Liberals won, and Coaker was appointed Minister of Marine and Fisheries. The new government issued a series of marketing regulations to govern the fisheries: minimum prices were set for each major market, and exporters were threatened with the loss of their licenses if they breached regulations. In 1920 the legislature passed several bills containing the various fisheries reforms the FPU had advocated. These were known collectively as the Coaker Regulations, which among other things regulated prices, shipping of fish to market, all aspects of catching, processing, culling, warehousing, and transportation of fish.⁷ The object was to improve the quality of Newfoundland fish and thereby to eliminate buyers' complaints about its poor quality. The government also intended to create a bureau to undertake scientific research, to be financed by an export tax on fish.⁸ The Coaker Regulations failed because some opposition politicians, who were also merchant-exporters, broke ranks rather than submit to government regulation.

The proposed scientific research bureau also fell victim to the failure of the Coaker Regulations. In 1921 Newfoundland sent James Davies, a government analyst,⁹ to the inaugural meeting of the International Committee on Deep Sea Fisheries Investigations, a joint creation of the Canadian, American, and Newfoundland governments. The committee's purpose was to form a "permanent means of co-operation between these countries in inves-

tigations between these countries, both those that are in progress and also those that may be undertaken in the future.”¹⁰ In the department’s annual report for that year, Coaker observed that it was “humiliating that Mr. Davies representing the oldest fisheries in the New World was not possessed of any information of a scientific or hydrographic nature.... and that all the recommendations concerning these matters which have been put forward during the past 10 years have been ignored.”¹¹ As Newfoundland’s public debt grew during the 1920s, fuelled in part by efforts to repay public loans raised to finance the war effort, and in part to pay for the annual operating deficits associated with nationalization of the Newfoundland railway in 1923, local politicians were reluctant to make the necessary expenditures for fishery research. In fact, of the \$50,000,000 the government raised in loans between 1918 and 1933, only about \$1,000,000 was spent on the fisheries.¹²

Despite Coaker’s prediction in 1921 that “Newfoundland will now be more in evidence generally as far as the main fishery problems are concerned,”¹³ the colony remained on the outside of research by the International Committee on Deep Sea Fisheries Investigations Committee and did not send a representative to its meetings until 1926.¹⁴

The need for scientific research was emphasized in 1923 when Newfoundland participated in a Canadian research visit to its coastal waters. Archibald Huntsman¹⁵ of the Biological Board of Canada conducted research on Newfoundland’s west and southwest coasts for the International Committee on Deep Sea Fisheries Investigations Committee, examining the tides, temperatures, plankton, and other conditions affecting cod and other fish. Newfoundland’s representative on the research vessel was Alan Gardiner of the British Ministry of Agriculture and Fisheries. In September, Huntsman and Gardiner addressed the Board of Trade stressing the importance of knowing where and when cod could be caught and urging Newfoundland to commence the scientific study of all cod stocks.¹⁶ The problem remained a financial one, and Newfoundland’s only contribution to the international committee was an attempt to maintain better annual codfish catch statistics. As the British Trade Commissioner to Canada and Newfoundland observed in his annual report on Newfoundland for 1925,

the need for the employment of an expert to follow scientific developments in fishery matters abroad and to apply suitable experience to Newfoundland has frequently been suggested by ministers of the government and others. The funds for such an appointment and for the establishment of the necessary biological laboratory had not as yet been provided.¹⁷

The founding of Memorial University College at St. John’s in 1925 was a major influence in stimulating public interest in scientific fishery research. College president John Lewis Paton sought to promote greater public awareness and study of Newfoundland’s natural resources in general and fish in particular. Soon after assuming the presidency, he outlined Newfoundland’s approach to fishery research:

No pisciculture—no stations for marine biology. No understanding of life-story of the cod. Troubled with bait—no study of the question. No guidance. All rule of thumb. As it was in the beginning so it is now. Same as to drying and curing of fish—they tell me Norwegians are far ahead of us, but we go on in the same old rut.¹⁸

Although biology was not part of the college's curriculum in its first year, Paton made inquiries among English academics for advice on the nature of the program that should be established. He asked F. E. Weiss of the University of Manchester for help in recruiting a suitable candidate to teach biology. While Weiss was making arrangements to interview candidates,¹⁹ another applicant appeared. George Sleggs, who had been seeking a position in Canada, wrote McGill University on 2 April 1926 for a position there or elsewhere. William Blackall, the Church of England Superintendent of Education and a member of the Board of Trustees of Memorial University College, was in Montreal in early April and, after being notified of Sleggs' availability, immediately wrote him. Since 1925 Sleggs had been working on a doctoral degree at the Scripps Institution of Oceanography of the University of California. He had previously conducted fishery research for the British government, including work in 1920 on the distribution of plaice and sole in the Irish Sea. On 10 May 1926, Sleggs accepted Paton's offer of appointment; Paton also arranged for Sleggs to be seconded during the summers to the Newfoundland Department of Marine and Fisheries to conduct local fishery research and secured its support to help finance a biology laboratory at the college.²⁰

During July 1926, the North American Committee on Fishery Investigations (formerly the International Committee on Deep Sea Fisheries Investigations) met in St. John's and expressed its satisfaction with the recent work undertaken by Newfoundland in the collection of codfish catch statistics. The committee's presence prompted the Newfoundland government to take some action and in August 1926 placed a vessel at Sleggs' disposal. The vessel examined temperature distribution and carried out drift bottle experiments along the island's eastern coast from St. John's to Bonavista Bay.²¹ Besides studying the migratory patterns of cod in Newfoundland waters, Sleggs gave public lectures on the preservation of fish by salting and smoking.²² In a lecture to the Rotary Club later in the year, he outlined the research work that needed to be undertaken. Noting that the "fishing industry... has not been in a very flourishing condition," Sleggs called for improved methods of preparing fish for markets.²³

The Report of the Imperial Economic Committee on trade between Great Britain and its overseas dominions and colonies was issued in 1927. The committee's report on fish stressed Britain's need for more fresh fish, since its own industry could not meet market demands.²⁴ However, the Newfoundland fish trade was dominated by salt codfish exports, although some companies had made efforts to diversify. One, Job Brothers and Company, was active in exporting fresh-frozen salmon to Britain.²⁵ The report also noted that Newfoundland's cod liver oil was priced too high compared with its Norwegian counterpart and that greater care was necessary to ensure that only the "clear colourless oil which is drawn off at the beginning of the steaming is placed on the market as medicinal oil." The committee recommended that the Empire Marketing Board conduct investigations into the preparation and medicinal value of cod liver oil in Newfoundland.²⁶

After the report's release, Sir Halford McKinder, president of the Imperial Economic Committee for the British government, visited St. John's. Addressing the Board of Trade on 9 September 1927, McKinder said that the British government was making one million pounds available annually for the marketing of foodstuffs produced in its overseas dominions and sold in the United Kingdom. He emphasized that there was no future for dried and salted codfish, except in the poorer economies of the world, and that Britain and other wealthy countries wanted fresh fish. Concerning the need for local fishery research, he suggested that Newfoundland make arrangements with Canada for co-operative research that could be undertaken in a fishery research station that the Empire Marketing Board was

prepared to assist Canada to establish at one of its eastern ports. McKinder told President Paton of Memorial University College that any biological work done in Newfoundland should be done under the general direction of A.G. Huntsman and other Canadian scientists.²⁷

In early 1929, President Paton prepared a proposal that would further enhance the study of marine biology at Memorial University College. Having failed to secure financial assistance of \$100,000 from the Rockefeller Foundation to endow a chair in biology at the college, and believing that Newfoundland could not afford its own independent fishery research laboratory, Paton prepared an application to the Empire Marketing Board and wrote Huntsman on 6 March 1929 for his support. The proposed funding would also be used to set up a research laboratory that could carry out work assigned to the college by Huntsman and to demonstrate to local people techniques in the curing and canning of fish. In the draft proposal he prepared for the board, Paton was very critical of the conservatism inherent in the Newfoundland fishery.

The plain facts of the case are as follows: Those engaged in the fish business of Newfoundland—merchant, planter and fisherman alike—are, in their conservatism, persisting in putting new wine into old bottles. With little (and indeed frequently with no) modification they are following the methods of drying, curing and marketing the fish that have been inherited as it were from past centuries. Tastes change, economical and geographical conditions change, science throws her light on many things that were to our forefathers darkness, this world of to-day cannot work and live as did the world of three or four hundred years ago.... Greater knowledge of her fisheries is necessary, new methods, new markets are imperative. There can be no doubt that from the harvest that lies at her feet, Newfoundland could be prosperous; the potential value of her fisheries is surely immense in food products of many kinds, medicines, cattle feeds, fertilizers, oils, fats, skins, glues, etc., but until research comes to the rescue much or must run to waste or remain latent.²⁸

Paton also expressed his frustration with local politicians who paid only token attention to improving local fisheries, and with the general public's scepticism towards scientific research. He wrote Huntsman that politicians could not be depended upon to provide and sustain the funding required: "Directly 'Brother Ass' gets up in the House of Legislature, and asks—'What's the good of paying a man to be chucking bottles into the sea?'—their assistance collapses," a reference to Sleggs' 1926 drift bottle work. In 1928 Paton had attempted to convince the fisheries department to convene a conference of business representatives interested in lobster canning on the west coast. As he told Huntsman, he "offered any help that the college might be able to provide through its biological and chemistry staff. But I have heard no more. This is the sort of dead end that we are up against if we look to the government to take the initiative."²⁹

The college proposal included the rental of a research vessel each summer, oceanographic equipment, research laboratory equipment, the stocking of a library with standard works in marine biology and fisheries, and the erection of a fisheries research building attached to the college.³⁰ As Paton envisaged it, the college's research program would be in cooperation with and under the general direction of the new Canadian fishery research station at Halifax, and would employ recent college graduates who had continued their studies at Acadia and Dalhousie Universities. A joint research station, as McKinder had

suggested in 1927 and which Paton strongly supported, was not to be; Newfoundland proved reluctant to commit itself financially and, in any case, the Canadians were evidently not prepared to devote part of their resources to Newfoundland's research needs.³¹

In July 1929, biochemist Dr. Jack Drummond of the University College of London, visited Newfoundland on behalf of the Empire Marketing Board to examine local oil refineries and their products. In an address to the St. John's Rotary Club, he stressed the importance of science to industry and said that research was what Newfoundland needed for its fishing industry. He observed that the oil he had examined was of good quality, but that there was considerable room for improvement.³² During his 1929 visit, Drummond apparently discussed with Prime Minister Sir Richard Squires the necessity for greater fishery research, and gave him a proposal from the Empire Marketing Board for this purpose. In late 1929, Squires attended the Imperial Conference in London where agreement was reached on a proposal that would see both the board and the Newfoundland government provide an annual sum of £5,000 to establish and maintain a fishery research program for a five-year period. It would also provide a maximum of £5,000 in capital for the joint research scheme. The board also agreed to pay half the cost for a marine biologist to visit Newfoundland to investigate how a research scheme could be carried out, and to suggest estimates for it.³³

On the recommendation of Jack Drummond, the Empire Marketing Board selected Dr. Harold Thompson, a biologist with the Scottish Fishery Board, to undertake the proposed survey. A First World War veteran, the Scottish-born Thompson had received his bachelor of science degree in zoology and chemistry from Aberdeen University in 1920 and his doctoral degree in 1925. From 1922 he had been a marine biologist with the Fisheries Board of Scotland and was a specialist in North Sea haddock.³⁴ Thompson carried out his Newfoundland survey between 15 July and 25 October 1930.

The Commission and the Bay Bulls Research Laboratory

On 21 August 1930 the Squires government appointed a Fishery Research Commission consisting of Clyde Lake (Minister of Marine and Fisheries), Prime Minister Squires, John Paton, James Davies (Newfoundland's Acting High Commissioner in London, who was appointed secretary of the commission), Sir William Coaker, Frederick Alderdice (Leader of the Opposition), and Leonard Outerbridge, of Harvey and Company. The Commission held its first meeting that same day and met with Thompson who submitted an interim progress report. Any successful research program, he wrote, required a well-equipped laboratory with research materials to be acquired from two sources: the first from a research vessel, and the second from fishers who would be trained by fishery officers. The laboratory should be close to government facilities and services in St. John's, so he suggested a fish plant at Bay Bulls. The plant was owned by Harvey and Company which promised to make part of the facility available for a nominal rent and to share their fishmeal, smoke house, and cold storage departments. This plant was situated "on a deep and sheltered waterway, open all the year round, and capable of developing into a busy modern fishing centre." As for a vessel, a trawler would be needed and the only one available in Newfoundland belonged to Harvey and Company. The firm agreed to make this vessel available to the laboratory for six weeks each summer. Thompson stressed that Newfoundland's research should "dovetail into and be correlated with similar work in Canada and the United States."³⁵

Before returning to Britain, Thompson met with the Fishery Research Commission again on 20 October 1930, to present estimates of the capital and annual maintenance

accounts required for the research scheme, which had to be approved by the Empire Marketing Board. For capital expenditures of approximately \$50,000, about \$31,750 would be required to equip the laboratory, while \$3,700 would be needed for the installation of scientific gear on the trawler. He recommended that the balance be retained for emergencies and further installations. For salaries, rental space, and the trawler, another \$50,000 would be needed. The commissioners told Thompson to inform the Empire Marketing Board of their wish that the proposed research scheme should begin as soon as possible and no later than 1 May 1931.³⁶ In 1931, the board accepted Thompson's final report, which contained the main recommendations he had made earlier to the Fishery Research Commission. There were also suggestions to improve the cure of salt codfish, to market a larger portion of fishery products in the canned, smoked, or frozen state, and calls for investigations of the life-histories of cod, salmon, herring, and squid.³⁷

Thompson accepted the directorship of the Newfoundland program, agreeing to a five-year contract, the life of the agreement between Newfoundland and the Empire Marketing Board.³⁸ Faced with the decision by Harvey and Company to sell their vessel the *S.S. Cape Agulhas*, the commission recommended that the government purchase the vessel and lease it to the laboratory. The government was initially reluctant to do so, but, when Thompson suggested that the work of the laboratory would otherwise be hampered for 1931, the government relented.³⁹

The fishery research program established by Thompson in 1931 was practical in nature and had three main objectives. The first was to survey Newfoundland's fishery resources that were being actively developed or capable of being exploited. This work included studying the life-histories of the principal fishes in local waters by examining fluctuations in their numbers and movements. It also involved the compilation of statistics demonstrating the "maximum, minimum and normal densities of numbers of the stocks, these to serve in future as a guide to the existing trade and to possible new enterprises, and as part-basis for future protective or other legislation."⁴⁰ The second objective was to examine existing methods of fish processing and to suggest improvements. The third was to find new ways of utilizing waste products of the fishery.⁴¹ Specific research carried out by the commission included the influence of currents upon the two different types of cod (that "born in and 'acclimatised' to cold and relatively warm-water conditions respectively") off Newfoundland, improved methods to secure more oil from cod livers, the canning of fish products, and general public educational programs.⁴² Thompson and his staff actively participated in the North American Council (formerly Committee) on Fishery Investigations. At a meeting in Ottawa in 1931, Thompson explained the work of the commission, and subsequently became a regular participant at meetings and in its general research programs.⁴³ The laboratory took on the task of collating all hydrographic data collected by Canada, the United States, Newfoundland, and France in the northwest Atlantic. Thompson's work in the 1930s was supplemented by research work carried out by French marine scientists and by Sleggs of Memorial University College, who in 1933 under the auspices of the Fishery Commission published a study of the caplin in Newfoundland waters.⁴⁴

The establishment of a fishery research program in the midst of a world depression, which saw demand for Newfoundland's fish exports drop drastically, came at a time when Newfoundland's financial problems were reaching crisis proportions.⁴⁵ Since 1920, the government had operated its annual budget on a deficit basis. In 1931, the Canadian banks refused to do any further business with the country because of its financial condition. In 1931 the national debt stood at approximately \$100 million, with interest payments consuming 65% of current revenues. Prime Minister Squires appealed to the Canadian banks

to reverse their decision, because he needed a loan to help the government meet its debt interest payments due on 30 June 1931. Eventually, Squires' personal intervention with Canadian Prime Minister R. B. Bennett resulted in the latter persuading the banks to lend Newfoundland an additional \$2 million to meet its June 30 deadline. The loan, however, came with several preconditions that Squires had no alternative but to accept. The government agreed to a policy of tariff revision and retrenchment in public expenditures. It would also ask the British government to appoint a financial advisor to advise on the reorganization and coordination of the various public services and to make recommendations with a view to strengthen the dominion's finances. In August 1931, the Squires' government made arrangements with the British government for the appointment of Sir Percy Thompson, deputy chair of the Board of Inland Revenue, as financial advisor.

Further retrenchment proved publicly unpopular for Squires, who lost a general election in 1932 to Frederick Alderdice of the United Newfoundland Party. With the threat of Newfoundland's default, Great Britain offered further financial assistance in return for Alderdice's accepting the appointment of a Royal Commission of enquiry into Newfoundland's financial condition and its future financial prospects. This commission's main recommendation was that parliamentary democracy be suspended until Newfoundland was financially self-supporting; in the meantime, it should be governed by a commission of six appointees with equal representation from Britain and Newfoundland. The Commission of Government assumed office on 16 February 1934 with Alderdice serving as one of the Newfoundland representatives.⁴⁶

The Fishery Research Commission operated against this background. On 19 September 1931, the commission had received a telegram from the Empire Marketing Board asking it to reduce expenditures on the joint research scheme. The commission was told not to approve any capital expenditures, to reduce staff salaries by 10%, and not to use the trawler for the 1932 summer research period. The commissioners decided upon a maximum \$5,000 reduction in capital expenditures, and to make no additional staff appointments. They refused to cancel the trawler research program for 1932, but informed the board that they would seek a reduction of the vessel's rental charge. Regarding the staff salaries, the commission decided to allow Thompson to make a representation to the board.⁴⁷ Thompson warned that "any considerable whittling down of the scale of operations (such as would occur were the use of the trawler withdrawn) would result in the almost complete cessation of the existing public interest in the scheme." The British members of his staff all had five-year contracts and they would have to agree to it, which he believed would be doubtful.

At the 9 January 1932 meeting of the Fishery Research Commission, the future of the research scheme was debated with Sir Percy Thompson present in an advisory role on Newfoundland finances. He stated that the research station was a "vital public service and one which must be budgeted for in the annual vote to the Department of Marine and Fisheries." However, to keep the scheme alive, the commission decided to guarantee the Marketing Board that a 10% cut would be made on its annual maintenance account.⁴⁸ This cut was achieved by the staff agreeing to reductions in their salaries.⁴⁹ For the springs of both 1933 and 1934 the government also used the *Cape Agulhas* for commercial trawling experiments and for employment purposes in general.⁵⁰

Financial considerations continued to trouble the commission, for the following year the British government abolished the Empire Marketing Board effective 1 October 1933. The British government wanted to reduce its financial commitment to the research program, but members of the Fishery Commission were determined to hold Britain to its financial obligations until 31 March 1936.⁵¹ The research program itself received favourable

comments by witnesses who testified in camera before hearings of the Royal Commission on Newfoundland's political future. Raymond Gushue of the Newfoundland Board of Trade informed the commissioners that the laboratory did "very good work,"⁵² a view endorsed by the commissioners themselves in their report to the British and Newfoundland governments. The laboratory, they wrote,

has already succeeded in doing admirable work and is recognized both in Canada and the United States as a leading authority on the deep sea fishery of the Western North Atlantic. Its potential importance to the industry can hardly be exaggerated. Scientific investigation cannot, however, give full results so long as the administrative services of the government are inefficient and the industry itself remains unorganized.⁵³

Government inefficiency was also a major aspect of Harold Thompson's evidence in camera before the commissioners on 3 April 1933. He considered the Department of Marine and Fisheries to be inefficient and more concerned with "job farming" instead of encouraging local fisheries. The change of government in 1932, he noted, was a case in point, where the captain and crew of the *Cape Agulhas* were dismissed by the new government despite their familiarity with the vessel and the work of the scientists. The Fishery Research Commission also came in for scathing criticism. He told them that "we have a Research Commission to make appointments, for making the major decisions, such as expenditures. It is very difficult to get them to agree. They contend with leaders of all parties—Squires and Alderdice—who do not meet at the same table."⁵⁴ In 1934 the Commission of Government abolished the Fishery Research Commission and placed the Bay Bulls laboratory under the management of the newly-established Department of Natural Resources.

Conclusion

On the expiry of the five-year lease with Harvey and Company in 1934, the government purchased the premises containing the laboratory for \$25,000.⁵⁵ In 1935 the future work of the Bay Bulls laboratory was placed in the hands of a government commission under the auspices of Supreme Court Judge James Kent appointed to examine local fisheries in general. The Commissioner for Natural Resources, Sir John Hope Simpson, asked the Kent Commission for a recommendation on whether the Bay Bulls laboratory should be continued, and if so, whether it should be moved to St. John's. Kent's reply on 10 October 1936 was a strong endorsement of the laboratory and its research, and he saw no advantage in moving it to St. John's. He recommended that it be vigorously supported by the government.⁵⁶

When Thompson's five-year contract expired in 1936, the government offered him only a one-year extension. Thompson took this as an indication that it no longer wished to retain his services, and he started a job search that led to his appointment as Director of Fisheries Research in Australia,⁵⁷ where he subsequently wrote two studies on the biology of haddock and codfish in Newfoundland waters. In his last annual report for the laboratory in 1935, Thompson reflected on his tenure in Newfoundland. He noted that on the practical research side over the five years of operation, "more fishery developmental projects broke down owing to lack of provision in the matter of ensuring the necessary supplies of raw material, than owing to imperfections of processing technique." It was necessary to emphasize this point, he wrote, because there was a "popular tendency, not shared by those who have real experience of the fish trade or of fisheries' science, to consider that great forward

steps could be made by the expenditure of large capital sums and the application of what are vaguely called formulae."⁵⁸

On 19 April 1937 the Bay Bulls facility was destroyed by fire, resulting in the loss of a considerable amount of scientific records, equipment, and library.⁶⁰ Despite this setback, the government decided to continue the scientific work by combining fishery laboratory work with the services provided for public health and the government analyst. In 1940 fishery research was continued as part of the Newfoundland Government Laboratory in a new building opened at St. John's.⁶¹

By 1940 marine fishery research had become strongly entrenched and Newfoundland thereafter relied on its own well-trained people to fill the positions necessary for this work. Its establishment owed much to the determination of President Paton of Memorial University College. The college continued to prepare students for marine biology and these students became important figures in fishery research in post-confederation Newfoundland. Paton and his fellow college professors and students strongly believed, as George Whiteley wrote in 1932, that the fishery laboratory may "suggest changes in different cures, perfect new ones, or advise that certain things should or should not be done." However, "if a better article is to be offered to world markets," he continued, "the burden and responsibility rests on the trade and on every fisherman engaged in it."⁶² How Newfoundland has adapted to technological and scientific change in the fishery during the 20th century is still little known and worthy of further study.

The Fishery Research Commission was a major attempt by the Newfoundland government to develop an institution to study the fisheries. It certainly made a gallant effort in this direction and through the Bay Bulls laboratory brought knowledge of the fisheries to the forefront both locally and internationally.⁶³ However, the Fishery Research Commission was established during a time of local and international chaos and any potential long-term benefits of its work could not counteract the short-term problem of selling fish. Nevertheless, the Fishery Research Commission was a watershed in Newfoundland's efforts to understand its marine resources.

Notes

1. See, for instance, Alan Christopher Finlayson, *Fishing for Truth: A Sociological Analysis of Northern Cod Stock Assessments from 1977-1990* (St. John's: Institute of Social and Economic Research, 1994); Manuel Do Carmo Gomes, *Predictions Under Uncertainty: Fish Assemblages and Food Webs on the Grand Banks of Newfoundland* (St. John's: Institute of Social and Economic Research, 1994); David Ralph Matthews, *Controlling Common Property: Regulating Canada's East Coast Fishery* (Toronto: University of Toronto Press, 1993); and R. Andersen, "The Need for Human Sciences Research in Atlantic Coast Fisheries," *Journal of the Fisheries Board of Canada*, vol. 35, no. 7 (1978), pp. 1031-49.
2. Melvin Baker and Shannon Ryan, "Adolph Nielsen," *Dictionary of Canadian Biography*, vol. 13 (Toronto: University of Toronto Press, 1994), pp. 768-69.
3. M. Baker, A.B. Dickinson, and C.W. Sanger, "Adolph Nielsen: Norwegian Influence on Newfoundland Fisheries in the Late 19th-Early 20th Century," *Newfoundland Quarterly*, vol. 87, no. 2 (Spring 1992), pp. 25-32, 35. See also Keith Hewitt, "The Newfoundland Fishery and State Intervention in the Nineteenth Century: The Fisheries Commission, 1888-1893," *Newfoundland Studies*, vol. 9, no. 1 (Spring 1993), pp. 58-80; Provincial Archives of Newfoundland and Labrador (PANL), GN2/5A, Special File of the Colonial Secretary's Office, file 32-k, W.M. Macfarlane to A.W. Piccott, 29 April 1911.

4. Newfoundland, *Annual Report of the Department of Marine and Fisheries for 1911*, pp. xxxiii-xliv, and for 1912, pp. 55-64. His view was also supported by the Royal Dominions' Commission, which visited St. John's in July 1914 as part of its survey of the natural resources of the British Empire. See Newfoundland, *Annual Report of the Department of Marine and Fisheries for the Year 1916*, p. 28; and paper on cod liver oil read by W.A. Munn before the Royal Dominions Commission, July 1914, published in the *Daily News*, 20, 21, 23 November 1914.
5. PANL, GN2/5A, file 251, Governor W.E. Davidson to J.R. Bennett, 24 July 1914; and Walter Duff, *The Fisheries of Newfoundland: Lecture delivered in St. John's, Newfoundland* by Mr. Walter Duff of the Fishery Board for Scotland (1914).
6. Cited in the *Daily News*, 7 April 1932. See also *Seventh Annual Report of the Newfoundland Board of Trade for 1915*, p. 4.
7. David Alexander, *The Decay of Trade: An Economic History of the Newfoundland Saltfish Trade, 1935-1965* (St. John's: Institute of Social and Economic Research, 1977), pp. 23-24.
8. Ian D.H. McDonald, "To Each His Own": William Coaker and the Fishermen's Protective Union in Newfoundland Politics, 1908-1925, edited by J. K. Hiller (St. John's: Institute of Social and Economic Research, 1987), p. 96.
9. The Welsh-born Davies had been appointed to this position in 1914. The government analyst was responsible, for example, for examining the quality of food such as milk and butter. See PANL, GN2/5A, file 27-6 "Report of the Government Analyst for 1915."
10. Canada, *Fifty-Sixth Annual Report of the Fisheries Branch, Department of Marine and Fisheries for the Year 1922* (Ottawa: F.A. Acland, 1923), p. 23. Canada and the United States each had three representatives on the committee, while Newfoundland was given one. France received a place in 1922 on the committee because of its fisheries off St. Pierre and Miquelon and carried out fishery research off Newfoundland. See, for instance, "Preliminary Report on the Fishing Campaign in Newfoundland and Greenland in 1930, by Commander Beauge, in charge of an investigation undertaken by the Office Scientifique et Technique des Peches Maritimes, December 1930" in PANL, GN34/2, Department of Marine and Fisheries, file "Fishery: Research Commission." The committee was a predecessor of the International Commission for the Northwest Atlantic Fisheries (ICNAF). See Kenneth Johnstone, *The Aquatic Explorers: A History of the Fisheries Research Board of Canada* (Toronto: University of Toronto Press, 1977), p. 119.
11. Newfoundland, *Annual Report of the Department of Marine and Fisheries for the Year 1921*, p. 18. The extent of scientific research in Newfoundland was the work in 1918 by Davies who had "examined microscopically some hundreds of codfish scales.... to determine approximately the ages of the codfish caught for that year." See *Fifteenth Annual Report of the Council of the Newfoundland Board of Trade, 1923*, p. 19.
12. McDonald, *To Each His Own*, pp. 132-33.
13. Newfoundland, *Annual Report of the Department of Marine and Fisheries for the Year 1921*, p. 18.
14. Newfoundland, *Annual Report of the Department of Marine and Fisheries for the Year 1926*, p. 17.
15. Huntsman (1883-1973) was curator of the St. Andrews Biological Station from 1915 to 1919 and its director from 1919 to 1934. From 1924 to 1928 he was also director of the Fisheries Experimental Station at Halifax. See Jennifer Hubbard, "Home Sweet Home: A.G. Huntsman and the Homing Behaviour of Canadian Atlantic Salmon," *Acadiensis*, vol. 19, no. 2 (Spring 1990), pp. 40-71; and W.E. Ricker, *The Fisheries Research Board of Canada: Seventy-Five Years of Achievements*, Report No. 2, August 1975.
16. *Daily News*, 19 September 1923.
17. F.W. Field, *Report on the Trade, Industries and Resources of Newfoundland for 1925*. (London: 1926), p. 13.
18. MUN, President's Office, Box PO-9, file "Biology, JLP," Paton to George Russell, nd.
19. MUN, President's Office, Paton Papers, Box 1, file "January 1926," F.E. Weiss to Paton, 18 January 1926; file "March 1926" Weiss to Paton, 2 March 1926; and Box 2, file "May 1926" Weiss to Paton, 13, 26 May 1926. See also Box PO-9, file "Fishery Research, 2," Paton to James Nelson Gowanloch, 5 February 1930.

20. MUN, President's Office, Paton Papers, Box 2, file "April 1926" Blackall to Paton, 26 April 1926; Box 1, file "Enclosures: Letters sent to Paton but not written to him," Sleggs to the President, McGill University, 2 April 1926; Box 2, file "May 1926" Sleggs to Paton, 10, 25, 30 May 1926. While he taught biology at Dalhousie University during 1921-22, he was also involved in drift bottle experiments in the Cabot Strait. During 1924-25 he was an instructor in biology at the University of Saskatchewan where he incidentally had sat in on a public lecture that Paton had given as part of a public speaking tour of Canada prior to his appointment as president of Memorial University College. During his 1921 drift bottle experiments, he had spent "two pleasant days" in St. John's. Sleggs resigned from Memorial University College in 1933.
21. *Daily News*, 10 July 1926; Newfoundland, *Annual Report of the Department of Marine and Fisheries for the Year 1926* (St. John's: 1927), p. 14; and *Twenty-First Annual Report of the Council of the Newfoundland Board of Trade*, 1929, pp. 33-46. Sleggs' observations on these meetings were published in the annual reports of the Newfoundland Department of Marine and Fisheries.
22. *Annual Report of the Department of Marine and Fisheries for the year 1926* (St. John's: 1927), pp. 19-20.
23. *Daily News*, 26 October 1926.
24. The theme of Newfoundland concentrating more on fresh fisheries had long been advocated by former premier Edward Morris who, following his resignation from politics in 1917 and retirement to Britain, lobbied British industrialists and businessmen to invest in the local fresh fish industry. See issues of the St. John's *Colonial Commerce* for January and April 1918, for articles on Morris's activities in Britain and his "Cold Storage in its Application to the Newfoundland Fisheries," *Newfoundland Quarterly*, vol. 22, no. 2 (Autumn 1922), pp. 30-31, and "Newfoundland's Contribution to the Empire's Larder," in *Ibid.*, vol. 30, no. 3 (1930), pp. 10-11.
25. Melvin Baker, "Hazen Algar Russell," *Newfoundland Quarterly*, vol. 89, no. 3 (Spring/Summer 1995), pp. 35-37.
26. "Report of the Imperial Economic Committee on Fish," in *Daily News*, 9 September 1927.
27. *Nineteenth Annual Report of the Council of the Newfoundland Board of Trade*, 1927, p. 30; *Daily News*, 10 September 1927; and MUN, President's Office, Box PO-9, Paton to Arthur Barnes, 1 March 1929.
28. MUN, President's Office, Box PO-9, file "Fishery Research, 2," Paton to Arthur Barnes 1 March 1929, and to Huntsman, 8 March 1929. See also file "Biology, JLP," Paton to Pearce, 13 October 1926.
29. MUN, President's Office, Box PO-9, file "Fishery Research, 2," Paton to Huntsman, 8 March 1929.
30. *Ibid.*, "Scientific Research in connection with the Fisheries of Newfoundland."
31. See comments by Leonard Outerbridge in the *Daily News*, 7 April 1932.
32. *Daily News*, 9 August 1929.
33. PANL, GN8/2, Richard A. Squires Papers, file 31.ii, Passfield to Governor Sir John Middleton, 2 December 1929.
34. A copy of Thompson's resume is in PANL, GN8/6, Frederick Alderdice Papers, file 15.i.
35. PANL, GN34/2, Box: Fisheries and Lifesaving, file "Fishery Research, 1930-31," Progress Report by Harold Thompson, 23 August 1930. Minutes of meetings of the Fishery Research Commission for 21 August, October, 30 December 1930, 8 January, 21 February, and 6 March 1931, are located in this file. See also Arthur Barnes to H.B. Clyde Lake, 21 August 1930, for the appointment of the commissioners. On the question of a site for the laboratory, Thompson wrote that it "might even be situated in the City itself, but for the facts that the suitable sites on the waterside are occupied and that a pure sea-water supply for fish tanks and other purposes is necessary. There is much to do with our limited capital, and the least expenditure will be incurred if we can rent and adapt suitable existing premises."
36. PANL, GN34/2, file "Fishery Research, 1930-31," Minutes of the 2nd meeting of the Fishery Research Commission, 20 October 1930.
37. Harold Thompson, *Reports of the Newfoundland Fishery Research Commission, Vol. 1, No. 1: A Survey of the Fisheries of Newfoundland and Recommendations for a Scheme of Research* (St. John's: Newfoundland Fishery Research Commission, 1931), pp. 9-12, 18-28.

38. PANL, GN8/2, file 31.ii, James Davies to H.B. Clyde Lake, 26 January 1931, enclosing a copy of the contract terms offered to Thompson.
39. *Ibid.*. See also minutes of the meeting of the commission for 21 February 1931.
40. Harold Thompson, "Fishery Research in Newfoundland," in J.R. Smallwood, ed., *The Book of Newfoundland*, vol. 2 (St. John's: Newfoundland Book Publishers, 1937), p. 211. The work of biologist Whiteley is described in his article, "Marine Research and the Scientific Method," *Newfoundland Quarterly*, vol. 31, no. 4 (Spring 1932), pp. 28-31, and his autobiographical *Northern Seas, Hardy Sailors* (New York: W.W. Norton & Company, 1982), pp. 83-110.
41. Thompson, "Fishery Research in Newfoundland," p. 211.
42. *Ibid.*, pp. 212-13.
43. PANL, GN34/2, Box "Fisheries and Lifesaving," file "Fisheries: International and Scientific Investigations," minutes of the 18th meeting of the North American Council on Fishery Investigations. See also Thompson, "Fishery Research in Newfoundland," p. 212.
44. See *North American Council on Fishery Investigations. Proceedings 1934-1936* (Ottawa: 1939), pp. 23-26; and George F. Sleggs, *Observations upon the economic biology of the caplin* (St. John's: Fishery Research Commission, 1933), pp. 7-8.
45. For a discussion of Newfoundland's economic problems in the early 1930s, see Peter Neary, *Newfoundland in the North Atlantic World, 1929-1949* (Montreal and Kingston: McGill-Queen's University Press, 1988), pp. 12-43.
46. *Ibid.* See also his "'With great regret and after the most anxious consideration': Newfoundland's 1932 Plan to Reschedule Interest Payments," *Newfoundland Studies*, vol. 10, no. 2 (1994), pp. 250-59.
47. PANL, GN8/6, file 15.1, file "Fishery Research, 1929-32," minutes of an informal meeting of the Fishery Research Commission, 23 September 1931.
48. *Ibid.*, Minutes of the meeting of the Fishery Research Commission, 9 January 1932.
49. PANL, GN8/6, file 15.1, file "Fishery Research, 1929-32," minutes of the meeting of the Fishery Research Commission, 24 November 1932.
50. *North American Council on Fishery Investigations. Proceedings 1931-1933*, no. 2 (Ottawa: 1935), p. 26; and H.F. Gurney, *Economic Conditions in Newfoundland, March 1935* (London: 1935), p. 13.
51. MUN, President's Office, Box PO-9, file "Fisheries Research," minutes of the meeting of the Fishery Research Commission for 4 October 1933.
52. PANL, MG 300, Charles A. Magrath Papers, Microfilm Reel 2, Evidence of Raymond Gushue, 30 March 1933.
53. Great Britain, *Newfoundland Royal Commission 1933 Report* (London: His Majesty's Stationery Office, 1933), p. 114.
54. PANL, MG 300, Microfilm Reel 2, "Evidence of Harold Thompson, 3 April 1933."
55. *North American Council on Fishery Investigations. Proceedings 1931-1933*, no. 2 (Ottawa: 1935), p. 26.
56. *Report of the Commission of Enquiry investigating the Sealfisheries of Newfoundland and Labrador other than the Sealfishery, 1937* (St. John's: 1937), pp. 155-60.
57. See Peter Pownall, *Fisheries of Australia* (Farnham, Surrey, England: Fishing News Books Ltd., 1979), p. 106.
58. Harold Thompson, *Annual Report of Fishery Research Laboratory 1935* (St. John's: 1936), p. 7.
59. Malcolm MacLeod, "Prophet with Honour: Dr. William F. Hampton, 1908-1968, Newfoundland Scientist," *Newfoundland Quarterly*, vol. 81, no. 1 (Summer 1985), pp. 29-36.
60. *Daily News*, 20, 21 April 1937.
61. Wilfred Templeman, "Fisheries Research," in *Encyclopedia of Newfoundland and Labrador*, vol. 2 (St. John's: Newfoundland Book Publishers, 1984), p. 170.
62. Whiteley, "Marine Research and the Scientific Method," p. 31. As Newfoundland-born mathematician and Paton's successor in 1933 as President of the College, Albert Hatcher, told the Rotary Club in 1929, "Newfoundland needs science.... If our country is to advance into prosperity, all trades, professions, business and science must move forward together." See *Daily News*, 12 October 1929.
63. See Shannon Ryan, *Fish Out of Water: The Newfoundland Saltfish Trade, 1814-1914* (St. John's: Breakwater Books, 1986) for many examples of Britain's support for the Newfoundland saltfish trade.