THE UNIVERSITY OF CALGARY

Science, Streams and Sport: Trout Conservation in Southern Alberta, 1900 - 1930

By

George Colpitts

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "Science, Streams and Sport: Trout Conservation in Southern Alberta, 1900 - 1930," submitted by George Colpitts in partial fulfillment of the requirements for the degree of Master of Arts.

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Abstract

The federal Department of Marine and Fisheries, beginning fish conservation in Alberta after the turn of the century, turned to two groups for information to shape its policies and regulations. Both Departmental scientists and local angling associations provided perspectives that significantly determined conservation history in the province. Fish and Game Protective Associations began their lobbying pressure in 1907 under the leadership of Calgary insurance salesman R.A. Darker. Dozens of other associations started conservation activities after 1919 when fish depletions became apparent in Alberta streams. Departmental scientists, such as Edward Ernest Prince, viewed nature differently than anglers but became equally prominent as decision-makers in issues ranging from bag limits and season dates, to biological perspectives guiding the province's first hatchery built in Banff in 1913. Both scientist and citizen provided two visions of nature, one broad, the other narrow – visions brought together in Alberta Progressive Conservation programs.

Acknowledgements

Many people helped me complete this thesis. Laurie Meijer Drees probably deserves most credit. She helped edit the final drafts and gave me valuable direction for research in such areas as Natural History, the history of Biology, and parks history. She also provided challenging 8-ball whenever work got a bit unbearable.

I am grateful also to Donald Smith who dedicated a great deal of time reading, critiquing and editing this work. His guidance opened up many avenues for further investigation and his suggestions helped clarify themes and ideas which were interesting me.

My family deserves a great many thanks. Mom, who listened patiently to my research stories was a great help during the two years of M.A. course work and thesis-writing. Linda and Gord were supportive throughout this project also. Jane, Herb, Katie, Paul; Maureen, Mike, Stevo; Helen, Tom, Lauren; Nancy, Bob, Grant, Mark; Barb, David, Cheryl and Brian – all deserve credit also.

The University of Calgary provided financial support during my course work and thesis year, enabling me to focus energy on study, research and writing. The University also provided a research grant to allow me to visit Ottawa and Toronto archives – and open up this new perspective on Alberta's history.

Dedicated to

Gordon Colpitts,
my big brother
who took me to Pine Lake, Alberta when I was a kid,
and taught me how to fish.

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Introduction

This thesis examines the Canadian government's conservation of Alberta's sport fisheries, specifically in Foothills streams from Red Deer to the United States border in the early twentieth century. It represents a contribution to the field of Western Canadian environmental history.[1] Geographically contained within the watersheds of southern Alberta, trout conservation can be analyzed as what it most basically was: a government attempt to regulate the use of a natural resource. This study reviews the now-dismantled federal Department of Marine and Fisheries and the type of conservation its servants promoted before transferring control over natural resources to the prairie provinces in 1930.[2]

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[1]For Alberta conservation history after 1930 see Margaret Lewis, *To Conserve a Heritage,* (Calgary: The Alberta Fish and Game Association, 1979). Janet Foster examines issues in late nineteenth and early twentieth conservation in *Working for Wildlife: the Beginning of Preservation in Canada,* (Toronto: University of Toronto Press, 1978), p. 11. The parks movement can grant useful perspectives and models for this study. Robert Craig Brown has identified a Canadian utilitarian doctrine that can unify both preservationism and conservationism in "The Doctrine of Usefulness: Natural Resource and National Park Policy in Canada, 1887-1914," *Canadian Parks in Perspective,* J.G. Nelson, ed., (Calgary: The Canadian National Parks Today And Tomorrow Conference, 1968) p.47. Leslie Bella has approached Canadian preservation as a conservation movement in *Parks For Profit,* (Montreal: Harvest House, 1987). Wildlife management issues from 1908 to 1930 are examined by Thomas R. Dunlap, "Ecology, Nature, and Canadian National Park Policy: Wolves, Elk, and Bison as a Case Study", *To See Ourselves: To Save Ourselves,* published in Canadian Issues, Vol XIII, 1991; (Victoria: University of Victoria conference, June 1990) p. 139. Bill Waiser also provides park models that can be applied to conservation themes, *Saskatchewan's Playground: A History of Prince Albert National Park,* (Saskatoon: Fifth House Publishers, 1989).

[2]Hodgetts provides an academic approach to the subject, and interesting insights into the Department of Marine and Fisheries, J.E. Hodgetts, *The Canadian Public Service: A Physiology of Government 1867-1970,* (Toronto: University of Toronto Press, 1973),p. 102.

"Progressive Conservation" has been defined in the U.S. as a conservation movement led by scientists. Many historians, perhaps the most prominent being the American historian Samuel Hays, have argued that governments attempting to make resource consumption most efficient, turned to scientists and expert technicians to plan, regulate and administer resources.[3] Within the Western Canadian context, Hays' definition of early conservation is too restrictive – at least in the discussion of Alberta fisheries, for in this province, the voice of the amateur naturalist, ranch hand, or grass roots angler proved as influential as the scientist's.

The Department of Marine and Fisheries supported the recommendations of both scientist and common citizen to obtain a more complete, valuable picture of nature. The Department's scientist, Edward E. Prince, for example, surveyed Albertan watersheds in 1910 with two locally-appointed citizens as assistants and co-commissioners. Canoeing, snowshoeing and hiking to almost each lake and stream in the province – even those located in remote northern areas – the commission introduced a type of Federal fisheries conservation to Albertans that combined both scientific and intuitive views of nature.

This Canadian-style Progressive Conservation was a deliberate and quite contrived environmental strategy, one celebrated by the Department of Marine and Fisheries. When the Department began producing

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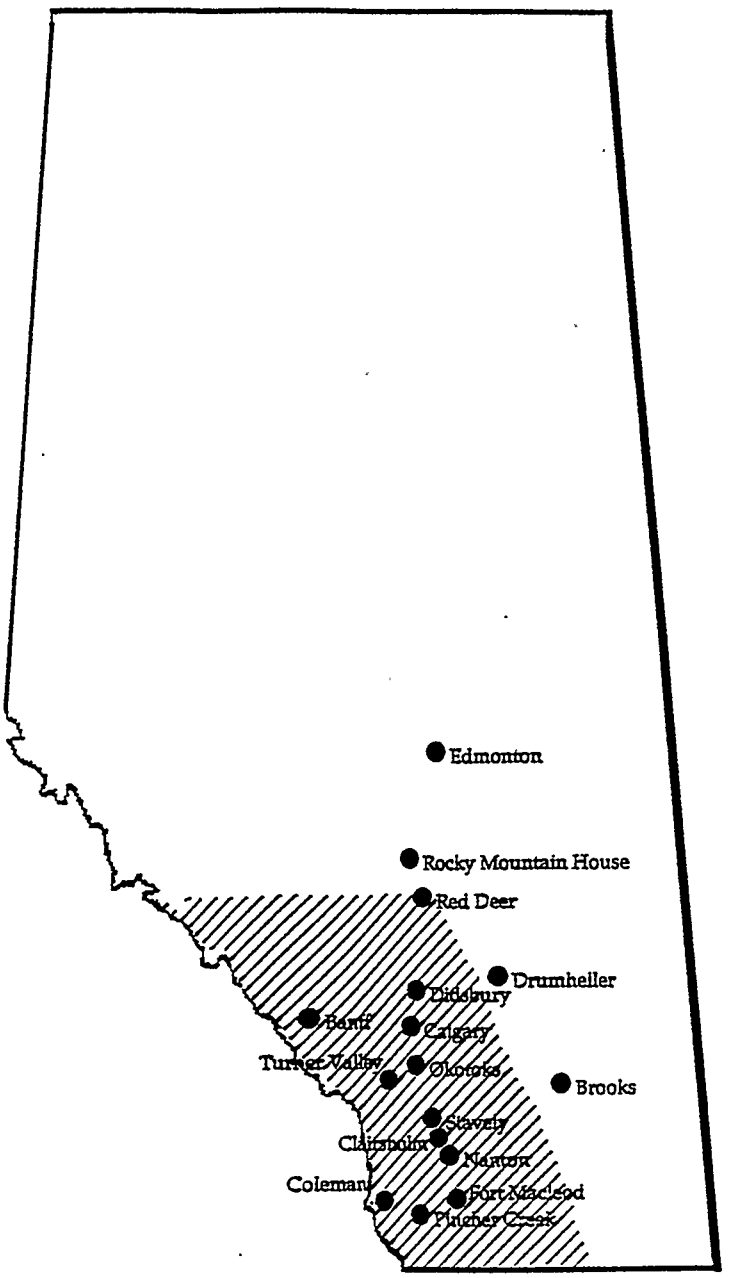
[3]Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920,* (Cambridge: Harvard University Press, 1959) p. 3. The classic example is Theodore Roosevelt's hiring of Gifford Pinchot to conserve U.S. forests. See p. 28. The term "expert" is vague, however. Instead of defining the methodologies, professional affiliations and social roles of government advisors, American historiography has largely investigated the effects of Progressive Conservation on politics. See Elmo R. Richardson, *The Politics of Conservation: Crusades and Controversies, 1897-1913,* (Berkeley: University of California Press, 1962.



Map 1: Study Area (shaded)

press bulletins in the 1920s, its stories praised the combination of scientific and common citizen perspectives, the attempt of both scientists and lay people to "take common issue against the difficulties which stand in the way of greater production and utilization."[4]

A prominent byproduct of this combined scientific and intuitive view of nature was a close relationship between the Alberta angler and Ottawa scientist in conservation planning. Chapter One examines scientists within the Department and their views of nature.[5] Edward E. Prince, hired in 1893 to oversee research of Canada's fisheries, serves as an example of the specialized fisheries expert. The Department, however, also turned to Andrew Halkett whose broader view of nature was shared by common citizens. As a Natural Historian, Halkett appreciated "aesthetic" and environmental views of fisheries. He presented an alternative view and scientific methodology to resource planners.

Halkett's perspective was often shared by the grass-rooted angler, whom the government consulted throughout the process of regulation-writing. Such views balanced those of specialized scientists. Chapter

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[4]Press Bulletin for December 1920, Vol. I, No.6; RG 23 Vol. 1558; 775-9-2, National Archives of Canada.

[5]For perspectives on science in Canada, see Suzanne Zeller, *Inventing Canada: Early Victorian Science and the Idea of a Transcontinental Nation* (Toronto: University of Toronto Press, 1987). Waiser examines bureaucratic science in his biography of John Macoun. W.A. Waiser, *The Field Naturalist: John Macoun, the Geological Survey, and Natural Science,* (Toronto: University of Toronto Press, 1989). Berger presents perspectives on natural history. Carl Berger, *Science, God and Nature in Victorian Canada,* (Toronto: University of Toronto Press, 1982). Also, Anthony W. Rasporich, in "Positivism and Scientism in the Canadian Confederation Debates",*Science, Technology and Culture in Historical Perspective,* eds. L.A. Knafla, M.S. Staum and T.H.E. Travers. (Calgary: University of Calgary Studies in History No. 1, 1976) examines the scientific ethos forming a "common philosophic base" for Canadian politicians. Science and Government are examined by Vittorio Maria Guiseppe de Veechi, *Science and Government in Nineteenth-Century Canada,* (Ph.D. Thesis, University of Toronto, 1978.)

Two examines the fish protective associations which soon appeared in almost every town in the Foothills watershed and throughout Southern Alberta. Here figures such as Calgary's R.A. Darker, life insurance salesman and avid outdoors enthusiast, played an active role. Darker created in 1907 the Alberta Fish and Game Protective Association, the first formal lobby group in the province which directly influenced conservation strategies of the Canadian government.

When fishing became a more pressing concern for the Federal government and anglers alike – at the end of the First World War – local fishing associations became full partners with the government in conservation planning. The influence of the angling associations, discussed in Chapter Two, reached its ascendency by the end of the 1920s.

Chapter Three examines High River as a case study of the common citizen's impact on conservation policies. In the early 1920s, High River settlers, ranchers and townspeople became radical proponents of "natural hatcheries," even though the idea was not based on scientific study. They successfully lobbied for the closing of Highwood River tributaries. That policy, once popularized by other anglers in Calgary, led the Department to close all the tributary streams in Southern Alberta in the early 1920s. This was one of the most radical conservation measures in the province's history.

The melding of common sense experience with scientific theory could, on occasion, produce conflict. Chapter Four examines the issue of aquaculture and what might be called "stream eugenics". Anglers wished to carry the concept of aquaculture to mythic, exotic lengths, envisioning Alberta streams brim-full of German, English, or American Trout. Scientists within

the Department, although party to extermination policies and favoring particular species over others, advocated the stocking of natural varieties.

Aquaculture was probably the most significant issue which caused discord between the scientist and the sportsman. In essence, differing visions of nature and opposing opinions over the role of conservation became the central point of division. The scientist looked at nature in narrow views, through microscopic study and clinical experimentation.[6] The common citizen looked at nature in broad views often to draw aesthetic pleasure. Placed together such views had the value of providing an holistic view of nature, a view that fisheries management scientists began pursuing more intensively with ecological stream studies after the 1950s.[7]

The taking from two, not one vision, might point to a basic difference between American and Canadian varieties of "Progressive Conservation." Further study is needed in other aspects of Canadian conservation of timber, water, hydro energy, minerals and wildlife. This being stated, this thesis indicates that in the specific instance of trout conservation in Alberta in the early twentieth century, compromise resolved the conflict between angler and scientist.

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[6]An important context to Alberta fisheries conservation includes the scientific inventories and studies Edward Prince and others performed in Manitoba, British Columbia, Quebec, Ontario and the Maritimes under the auspices of the Commission of Conservation from 1909 - 1919. See Commission of Conservation, *Sea-Fisheries of Eastern Canada*, (Ottawa: Mortimer Co.,1912). Also, *Proceedings of the National Conference on Conservation of Game, Fur-Bearing Animals and Other Wild Life*, (Ottawa: Commission of Conservation, 1919).

[7]Worster separates science into environmentalist and instrumentalist camps, depending upon how scientific practitioners appraise nature and place humans within it. Donald Worster, *Nature's Economy: A History of Ecological Ideas*, (Cambridge: Cambridge University Press, 1985) p., ix. For perspectives on stream ecology studies in Alberta, see R.B. Miller, "The Regulation of Trout Fishing in Alberta", *The Canadian Fish Culturalist*, published by the Department of Fisheries, Ottawa, issue 14, October 1953, p.22.

Chapter One

The Embodiment of Progressive Conservation in Canada: The Alberta Fish Commission of 1910-11

In 1910 and 1911, three representatives of the Department of Marine and Fisheries, one scientist and two private citizens, travelled by automobile, wagon, canoe, steamer and York boat to investigate the state of fisheries in Alberta and Saskatchewan.[1] In addition to their personal belongings and camping gear, they carried two dozen leather-bound blank notebooks, twenty scratch pads, two dozen HB lead pencils, and three fountain pens.[2] The stationary reflected the trio's largely administrative mandate, to inventory and then to formulate comprehensive recommendations for regulating fisheries in the two new western provinces.

The inclusion of one scientist and two members of the public symbolized the Federal government's desire to include both theoretical scientists and "practical" citizens in its conservation policy-making. During the summer months of 1910 and 1911, the trio completed an impressive inventorying feat, undertaking field research, holding almost 100 public meetings in dozens of small communities, and gathering information about water pollution, abundance of fish, and locations of lakes, rivers and streams in the two newly-established provinces. With the report, the Federal

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[1]Henceforth, the Commission is referred to as the "Alberta Fish Commission of 1910/11", as only the Alberta aspect of its findings are reviewed in this thesis. See Report of the Alberta and Saskatchewan Fishery Commission 1910-11, RG 23, Vol. 366, File 3216, Part III; National Archives of Canada (In this chapter hereafter designated as "NAC") p. 2-4.

[2]Memo, August 24, 1910; RG 23, Vol. 365, File 3216, Part III; NAC.

government instituted a system of fisheries administration which would last until the 1930s, when the Canadian government transferred responsibility of Alberta and Saskatchewan's natural resources to the provinces themselves.

The Department of Marine and Fisheries' responsibility for Alberta's fisheries dated back to the Canadian government's purchase of Rupert's Land from the Hudson's Bay Company in 1870. Yet, because of the area's relative underdeveloped status, the Department had never implemented a comprehensive conservation policy until the early twentieth century.[3]

The rush of land settlement in Alberta just before World War I caused the Department to consider the issue of fish conservation in the province. By 1907, the ranching frontier in the province's Foothills had been substantially reduced, fenced off to allow more farming. Settlers moved into the area from Montana, Utah, Minnesota and Eastern Canada,[4] anxious to transform buffalo grass environments into progressive farming hamlets.[5] Towns grew up over Southern Alberta, but particularly along the Foothills corridor where the railway formed a transportational backbone from Calgary to the U.S. border. There, often within sight of the Rocky Mountains, communities fiercely competed with each other, each brashly progressive and fortified by town councils building electric generators, water works, or sewer

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[3]Instead, the Department used Samuel Wilmot's regulations for Manitoba (written in the mid-1890s) to control fisheries in the Northwest Territories.

[4]See Howard and Tamara Palmer, eds.*Peoples of Alberta: Portraits of Cultural Diversity*, (Saskatoon: Western Producer Prairie Books, 1985). Also, Howard and Tamara Palmer, *Alberta: A New History*, (Edmonton: Hurtig Publishers, 1990).

[5]Lyle Dick, *Farmers Making Good: The Development of Abernethy District, Saskatchewan, 1880-1920* (Ottawa: Minister of Supply and Services, 1989).

plants to gain incorporated status.[6] Merely a few decades after the disappearance of the last buffalo, the Foothills was transformed, flourishing with new industries whether farming, ranching or town building.

By 1910 enough petitions requesting more efficient fishing regulations in Alberta had reached the Department of Marine and Fisheries to prompt the dispatching of Edward Ernest Prince, the Department's consultant fisheries specialist and two other commissioners, Physician Euston Sisley and Judge Thomas H. McGuire to investigate the fisheries in the two new prairie provinces.

Like most Canadian government scientists, and their American counterparts, Prince believed science could make nature most profitable for society. At the turn of the century, such "experts" determined a large portion of Canadian and American conservation policies.[7] Progressive ideals such as efficiency and scientific method led resource planners to turn more frequently to scientific authority. The federal government, for instance, hired Prince in 1893 to plan conservation programs and to make Canada's inland and saltwater fisheries more efficiently used.[8]

While most environmental historians agree that experts such as Prince dominated progressive-era bureaucracies, others such as amateur naturalists, anglers and grass-roots local citizens contributed to conservation

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[6]See *High River Times*, February 8, 1908.

[7]Samuel P. Hays writes that "Conservation, above all, was a scientific movement.... Conservation leaders sprang from such fields as hydrology, forestry, ... geology and anthropology," *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920,* (Cambridge: Harvard University Press, 1959) p. 2.

[8]A.G. Huntsman, "Edward Ernest Prince: 1858-1936", *The Canadian Field-Naturalist,* Vol. 59, No.1, January-February, 1945, p.1.

policy-making in Canada. The Department of Marine and Fisheries, between 1900 and 1930 turned to two "experts" while deciding conservation. In Alberta's case, the Fishing Commission of 1910 and 1911 might have been led by Professor Edward Prince, but it also comprised two common citizens. Calgary physician Euston Sisley and Saskatchewan judge Thomas H. McGuire saw nature in a significantly different way than Prince did. The Department solicited their views, based on common sense, grass roots experience, and simple intuition, to balance the opinions of the theoretical scientists. Herein lies the logic of Progressive Conservation: the federal government solicited the views of the common citizen as well as those of the specialized scientist to provide the Department with the most complete picture of fisheries resources possible.

A number of historians have addressed the "Progressive" movement in North American politics and society.[9] Progressivism has been described as a by-product of both the popular concern over monopoly power, and the growing application of the Social Gospel in politics.[10] Many North American reform movements believed society and the government leading it, had to be more "efficient" and the best direction to such efficiency was

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[9]See Keith Cassidy, "Mackenzie King and American Progressivism", John English, J.O. Stubbs Eds., *Mackenzie King: Widening the Debate*, (Toronto: Macmillan Company of Canada, 1978); W.L. Morton, *The Progressive Party in Canada* (Toronto: The University of Toronto Press, 1950). For Progressive topics in U.S. history see John D. Buenker, John C. Burnham, Robert M. Crunden, *Progressivism*, (Cambridge: Schenkman Publishing Company, Ltd, 1977); Lewis L. Gould, "The Progressive Era", Lewis L. Gould, ed.,*The Progressive Era*, (Syracuse: Syracuse University Press, 1974).

[10]See Lewis L. Gould's introduction in Lewis L. Gould, "The Progressive Era", Lewis L. Gould, ed.,*The Progressive Era*, (Syracuse: Syracuse University Press, 1974), p. 2; Stanley P. Caine, "The Origins of Progressivism", ibid., p. 14.

through science and "scientific method."[11] American historians have asserted Progressivism as an "ethos" might have begun in the 1880s but "crystallized" around 1907 when Americans became captivated by the ideal of "positive reform." That year marked the period when Americans were optimistic that their society could become better through rational, centralized, scientific leadership.[12] As an "ethos", however, Progressivism was evident in Canadian bureaucracies before the turn of the century.

Natural resource conservation became one of the cornerstone concerns of the Progressive age. "Progressive Conservation", as historians now refer to it, became important to bureaucrats seeking to better control resources, plan their use, and make consumption most efficient.[13] The most apparent feature of such progressivism in Canada was the Commission of Conservation launched in 1909 by Wilfrid Laurier, headed by Clifford Sifton and structured by consultants from universities, big business and other sectors of the public.[14] Such "experts" initiated natural resource inventories on an unprecedented scale and made recommendations to bureaucratic departments on proper use and administration of resources such as timber,

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[11]James Penick, Jr. "The Progressives and the Environment", Ibid., p. 116.

[12] John D. Buenker, John C. Burnham, Robert M. Crunden, *Progressivism,* (Cambridge: Schenkman Publishing Company, Ltd, 1977), p. 5.

[13]James Penick, Jr., "The Progressives and the Environment," Lewis L. Gould, "The Progressive Era", Lewis L. Gould, ed.,*The Progressive Era,* (Syracuse: Syracuse University Press, 1974) p. 116-117. Hays recognized the "efficiency"within Progressive Conservation and the heightened role of science within it, Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920,* (Cambridge: Harvard University Press, 1959) p. 2.

[14]See Michel F. Girard, "The Commission of Conservation as a Forerunner to the National Research Council 1909 - 1921", in *Building Canadian Science: The Role of the National Research Council,* eds Richard A. Jarrell & Yves Gingras, (Ottawa: Canadian Science and Technology Historical Association, 1991).

water, hydro energy, fish and minerals.[15] Provincial governments – who, apart from the prairie provinces, were the legitimate regulators of natural resources – became the recipients of the commission's advice, but they often took on the initiative of progressive planning themselves. By World War I, the province of Ontario had already hired fisheries expert J.B. Fielding to "scientifically" improve Ontario fisheries.[16]

The Commission of Conservation publicized the issue of conservation with its press clipping services, magazines and numerous published reports. Progressive Conservation, however, has a longer history in the civil service. It can be traced back to 1893, when such Departments as Marine and Fisheries placed a standing order to hire "scientific experts" for its staff.[17] In the area of agriculture, C.A. Magrath's experimental farm opened in 1896, as did W.H. Fairfield's in 1901 near Lethbridge – developing an enduring relationship between science and farming.[18]

At the Federal level, Laurier's Liberals advocated centralized planning of Western Canadian resources such as land, timber, riparian rights

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[15]Clifford Sifton, *Report of the First Annual Meeting of the Commission of Conservation, 1909*, (Ottawa: The Mortimer Co., 1910). As well, Clifford Sifton, "Review of the Work of the Commission of Conservation", *Commission of Conservation Canada*, (Montreal: The Federated Press, 1917). The commission's "scientific" status should be assessed by its membership. The 32-member-commission included 17 politicians, 4 university presidents, 4 lumber industry representatives and only 4 university professors.

[16]"Fisheries Engineer for Ontario", *Conservation*, July 1915, Vol. IV, (7), p. 27.

[17]The Department first hired Dr. Edward E. Prince in September 1895, part of a standing order to begin hiring scientific experts. Ironically, the problem to administrators was that the Department was never sufficiently scientific. By the 1920s, Minister C.C. Ballantyne wrote that "the scientific side of the Department has not been well developed ... it is essential ... that proper scientific study should be made...." See Interim Access 53, 710-32-2; NAC.

[18]Howard Palmer, *Alberta: A New History*, (Edmonton: Hurtig Publishers, 1990), pp. 106-123.

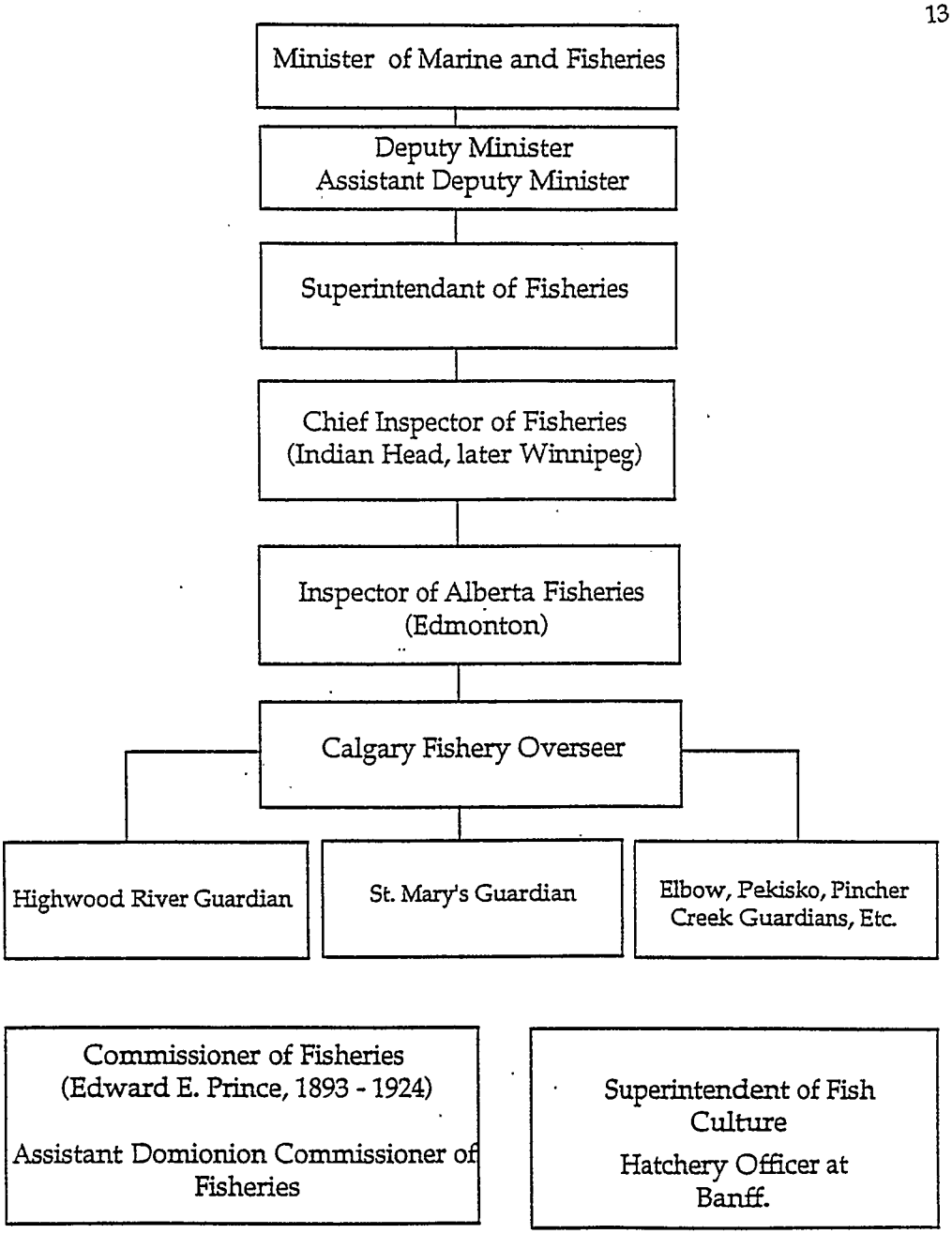

Figure 1: Western Canada Power Structure within the Department of Marine and Fisheries, 1900 - 1930

and hydro power development.[19] The government proudly publicized the prominent "experts" who now determined how western resources were being rationally and efficiently used, such as the Dominion's timber reserve inspector.[20] Following Borden's election victory in 1911, the Conservatives became dedicated to the equitable allotment of prairie farm land and the prudent apportioning of riparian rights.[21]

Marine and Fisheries seemed one of the federal offices most affected by Progressivism. The Department, long overextended in its responsibilities (it oversaw the fresh and salt water fisheries of the second largest country in the world) required as much rational planning as it could obtain.[22] The Commission of Conservation's press bulletin *Conservation* (which the Commission distributed free of charge to Canadian daily and weekly newspapers in 1912[23]) carried numerous articles publicizing the

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[19]Altmeyer states that Canadians in Laurier's years tended to have a "certain uneasiness" to industrialization, urbanization and materialism which energized a "back to nature" movement. See George Altmeyer, "Three Ideas of Nature in Canada, 1893-1914", *Journal of Canadian Studies*, No. 11, 1976, p. 22.

[20]See "Forest Reserves are Progressing Says A. Knechtel", *Calgary Daily Herald*, July 18, 1911; Also, "Review of World's Resources in Timber", a clipping service story probably supplied by the Commission of Conservation, *Calgary Daily Herald*, August 10, 1910. The Commission's clipping service *Conservation*, which reached most weekly newspapers in Canada carried stories such as "Permanent Forest Reserves Now", "Forest Growth in B.C.", "Forest Preservation and Watershed Protection". See *Conservation*, March - June 1912, Vol. 1, Nos. 1 - 3, Vol. II, No. 1. National Library.

[21]"Conserve Our Resources", Calgary Daily Herald, June 21, 1910.

[22]Hodgetts provides some of the only – yet still insufficient – academic analysis of the Department's history. See J.E. Hodgetts, *The Canadian Public Service: A Physiology of Government 1867-1970*, (Toronto: University of Toronto Press, 1973) pp.102-103. The Department of Fisheries provided a history of the Department of Marine and Fisheries in a government publication available at the National Archives.

[23]The Commission published *Conservation* every month for eight months a year beginning in March 1912 to assist the "busy editor who has not the time to study lengthy [conservation] reports." Printed on single-sided broadsheet, in one-column press style, stories could be

progressive planning of the Dominion's fisheries. Stories such as "Resolutions Respecting Fisheries,"[24] "Whitefish Habits", "The Fishery Act as Applied in Alberta"[25], and "Fish Hatcheries and Fish Food",[26] all stressed the Progressive ideal of centralized government control and the value of scientific planning. One account of "Fish Culture in Canada" lauded the way the federal government assisted "so materially in the maintenance of Canada's fresh water fisheries" through the use of hatcheries.[27]

The Alberta Fish Commission of 1910/ 1911 signalled a further extension of the Progressive ethic in Western Canada. As its three members, Prince, McGuire and Sisley reached Red Deer, Edmonton, Calgary, High River and Fort Macleod, they confirmed the existence of species in Western Canadian waters never before acknowledged by the Department. It more systematically reported depletions of native fish populations, the migration of "coarse" varieties into trout beds, pollution, poaching and lax enforcement of existing regulations. Having identified distinct problems, its members used information generated by interviews and field research to substantiate recommendations.[28]

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clipped and placed directly in editorial pages. See *Conservation* issues held in the National Library.

[24]"Resolutions Respecting Fisheries", *Conservation*, February 1913, Vol. II, No.1, p. 4.

[25]"Whitefish Habits", "The Fishery Act as Applied in Alberta", *Conservation*, June 1912, Vol. I, No. 4, p. 3.

[26]"Fish Hatcheries and Fish Food", *Conservation*, July, 1913, Vol. II, No. 6, p. 1.

[27]"Fish Culture in Canada", *Conservation*, June 1915, Vol. IV, No. 6, p. 1.

[28]See Report of the 1910-11 Fisheries Commission in Alberta and Saskatchewan, Department of Marine and Fisheries, RG 23, Vol. 366, File 3216, Part III; NAC.

The most important feature of the commission lay in its structure. Within the forums held in town halls throughout Southern Alberta, the voices of the specialized scientist and the common citizen joined together to determine the type of conservation required in Alberta. Dr. Edward E. Prince, the government's fisheries expert was joined by Thomas H. McGuire, Saskatchewan Judge, who envisioned conservation as a means of promoting and boosting town growth.[29] Calgary physician Euston Sisley, the third member of the group, was an amateur angler who had once been president of the Alberta Fish and Game Protective Association. Sisley's only exposure to fisheries science had been his backyard fish pond experiments in Ontario before moving to Calgary.[30] He was also an ardent natural historian, active in the leadership of the Calgary Natural History Society, which had started work in that city in 1905.[31]

Apparently, the group was seen as a well-balanced investigative body. As the *High River Times* wrote, the three men "eminently represent the scholastic, the legal and the professional mind. A most valuable combination in such an investigation...."[32] Moreover, witnesses at the commission inquiries made up a similar "combination." They included engineers, physicians, lawyers, cowhands, insurance salesmen, and

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[29]See "Was Greatly Pleased", *Medicine Hat News*, October 27, 1910 and "The Fisheries Commission", *High River Times*, October 27, 1910.

[30]A.L. Sifton to L. P. Brodeur, June 20, 1910; RG 23, Vol. 365, File 3216, Part III; NAC. Sisley's status as a specialist was also criticized by Norman Luxton who said "sure the doctor as authority on fish in Banff is a joke, always was, and always will be." Norman Luxton, *Craig and Canyon*, March 27, 1915.

[31]Calgary Natural History File and Minutebook, Box No. 87-013, City of Calgary Archives.

[32]"The Fisheries Commission," *High River Times*, October 27, 1910.

ministers[33] – anyone who had either scientific or intuitive nature experiences.[34]

This melding of practical experience with theoretical specialization had roots not in American, but rather British (and particularly, Scottish) methods of commission inquiry. As early as 1878, when Scottish commissioners attempted to solve herring depletion problems, the testimonies of fishermen were mixed with those of scientists, the views of the "practical" man being valued as much as those of the specialist.[35] The Scottish authorities held that the narrow view of the specialist by necessity had to be balanced by the wider, holistic view of the fisherman and natural historian. For that reason, 19th century fishermen provided what could be termed the "physiological" description of fish at commission hearings: the movement, behavioral characteristics, general observations of fish, and, very important in an age stressing progress and utility, estimates of the commercial value and pricing of the resource. The scientific witness, on the other hand, provided a "structural" perspective, the microscopic analysis or the focussed study of particular features of the fish such as spawning times and egg characteristics. As present-day anatomical studies require physiological and structural descriptions to provide a full view of an organism, Scottish inquiries also required both views of fisheries resources to apprehend a certain type of "truth" regarding nature. By 1893, a Scottish commission boasted that its

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[33]Report of the 1910-11 Fishery Commission, pp. 1-2; NAC.

[34]For discussion of the Scottish influence of Paley's Natural Theology and Reid's Common Sense schools in Victorian Canada, see A.B. McKillop, *A Disciplined Intelligence: Critical Inquiry and Canadian Thought in the Victorian Era*, (Montreal: McGill - Queen's University Press, 1979), pp. 24 - 72.

[35]"Report on the Herring Fisheries of Scotland", *British Parliamentary Papers, 1878*, p. 163.

fishery inquiry had been founded, "not merely on the statements and ideas of rival classes of fishermen, but upon facts and statistics." Its list of witnesses included not only fish salesmen, steam trawlers, and oyster dredgermen, but also Oxford scientists, naturalists and other fishery specialists.[36] Certainly the specialist's attendance at such gatherings foreshadowed the growing preference of the narrow, specialized perspective. Up to the turn of the century, these forums integrated specialized and practical perspectives, one seeming to balance the other.

The Scottish tradition had implications for Prince's Alberta Fish Commission of 1910/ 11. Historian A.B. McKillop has highlighted the influence of Scottish intellectuals, scientists and teachers on Canadian institutions.[37] He has also pointed to the strong use of Scottish philosophy, such as the Common Sense movement, in Canadian universities. McKillop's observations apply to the Department of Marine and Fisheries which went out of its way to hire British, and particularly Scottish fisheries experts instead of those of other nationalities.[38]

The Common Sense school harboured a suspicion of the specialized academic. It strongly argued that the common man is naturally and equally enlightened in philosophy as the trained philosopher.[39] The enduring popularity of this school of thought possibly explains why the

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[36]Ibid, for the year 1893, p. iii.

[37]For discussion of the Scottish influence in Victorian Canada, see A.B. McKillop, *A Disciplined Intelligence: Critical Inquiry and Canadian Thought in the Victorian Era*, pp. 24 - 72.

[38]Maurice to Litchfied, August 1, 1919, Interim Access 53, 710-32-2; NAC.

[39]McKillop, p. 26.

Department of Marine and Fisheries took on the structure of Scottish inquiries and consulted both scientist and common citizen.

The work of Historian Lynn Merrill on 19th century Natural History helps further explain why the Department mixed scientific and intuitive opinions. Merrill asserts that 19th century naturalists tended to have one of two views of nature. One had a "broad view" tied to natural ecology and the "landscape as a whole." The other had a "narrow view" of nature tied to "anatomical details, microscopic focus, the object as isolate."[40] These two perspectives were married in conservation planning. The Department of Marine and Fisheries solicited the wide views of nature seen by the common citizen for its value of "appreciation," "display" and "beauty", as Merrill might describe its function.[41] Such views, though, had to be balanced by specialized, "scientific" study: the perspective of such dedicated professionals as Edward Prince.[42]

The Alberta Commission, then, sought to create a valuable picture of western fisheries by involving both scientists and common citizens.

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[40]Lynn L. Merrill, *The Romance of Victorian Natural History*, (New York: Oxford University Press, 1989), p. 81.

[41]Ibid., p. 91.

[42]This thesis will assert that "views" of nature affected developing conservation programs. Geographer Wreford Watson would concur with this idea, as he states that physical geography is perceived by humans and translated into images which becomes a "cogent, meaningful reality.... The real 'reality' is the image in the mind, rather than the pattern on the ground." R. Douglas Francis, "Changing Images of the West", in *The Prairie West: Historical Readings*, eds. R. Douglas Francis and Howard Palmer, (Edmonton: Pica Press, 1985), p. 642. See also Gerald Friesen's "Three Generations of Fiction: An Introduction to Prairie Cultural history", *Ibid.*, pp. 650-659. For work in geographic perception see Robert Beck's studies in the manner in which cultural groups perceive and give meaning to their environments, Robert Beck, "Spatial Meaning, and the Properties of the Environment", in *Environmental Perception and Behavior*; ed. David Lowenthal (Chicago: Public Litho Service, Inc., 1967). Also, George Altemeyer, "Three Ideas of Nature in Canada, 1893-1914", *Journal of Canadian Studies*, No. 11, 1976, pp. 21-36.

Perhaps the most prominent of the commission's trio was Edward E. Prince who led the group and chaired meetings. A respected scientific authority, Prince was consulted on almost every Alberta conservation issue from 1900 until 1930 from close season dates and the regulations for Banff and Foothills streams, to the biological perspectives on fish culture at Alberta's first hatchery.[43] Prince also represented the specialized mind active in conservation planning, the narrow view of the scientist examining nature and its resources.

Prince was employed at the St. Andrews Experimental Station in Scotland when the Canadian government approached him in 1893 to begin work in Canada. They offered him $2,000 per fishing season to provide scientific advice to the Department on all aquatic matters.[44]

Prince, who emigrated that year and replaced Samuel Wilmot, the Department's amateur fish culturalist, had a propensity for hard work, intensive research and publishing. His first years with the Department produced such reports as "Practical Notes on the Culture of trout", "Peculiarities in the Breeding of Oysters", and "The Sardine Fishing Industry in New Brunswick."[45] These papers reveal the eclectic and ambitious scope of Prince's interests – as well as his over-extended responsibilities. A cursory review of his published scientific papers, most of which were penned as the

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[43]Hunt to Secretary of the Interior, March 31, 1908, RG 84, Vol. 70; R296, Part I. NAC.

[44]See Interim Access 53, 710-32-2, NAC.

[45]See Sessional Papers No. 11a, Report of the Department of Marine and Fisheries - Fisheries, for the year 1895 (Ottawa: King's Printer, 1896) pp. xvii - xii.

Department's fisheries expert until 1923, totals 94 in number.[46] Prince also had a second life as a popular writer in such Scottish and British publications as *McMillan's English Illustrated Magazine,* where he wrote in 1889 a story entitled, "An Hour in a Scientific Laboratory on the Scottish Coast." Other accounts of marine animals appeared in *Longman's Magazine,* and the *National Observer.*[47]

Whether writing in popular magazines or government publications, Prince's subject matter rarely deviated far from Canadian inland and saltwater fisheries. The Scottish scientist gained recognition as the world's unequalled authority on Canada's waters, appearing as the Dominion's expert within the British scientific community and winning roles in international fisheries commissions. By 1911 Prince took a short leave from the Alberta Commission to speak at the International Congress of Fisheries at Rome.[48] That same year he briefly returned to St. Andrews University in Scotland to deliver a "well-received" paper on the "Eggs and Life History of Marine Food."[49]

Fanatically, Prince completed his assignments on time and he reprimanded fishery officers who did not share his work ethic.[50] A Scottish Methodist, he was correspondingly a teetotaller and tacitly thrifty with

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[46]A.G. Huntsman, "Edward Ernest Prince: 1858-1936", *The Canadian Field-Naturalist,* Vol. 59, No. 1, January-February, 1945, p. 1.

[47]A.G. Huntsman, "Edward Ernest Prince: 1858-1936", p. 3.

[48]Miller to Found, June 14, 1911; RG 23, Vol. 365, File 3216, Part III; NAC.

[49]Sisley to Prince, March 6, 1912; RG 23, Vol. 365, File 3216, Part III; NAC..

[50]E.E. Prince, the Dominion Commissioner of Fisheries, to Coleleugh, October 23, 1900; RG 23, Vol. 87 File 45; NAC.

government expenses accrued by himself and co-workers. On one occasion he even sent a letter rebuking his two fellow commissioners, the judge and the physician, for including scotch whisky on the Alberta Fish Commission's expense account for their travels in 1911.[51] Hard working, sober, inexhaustibly curious: Prince was a true adherent to the Edwardian ideals of "ingenuity and indefatigability; success and industry."[52]

Prince's approach to science requires further explanation for it had long-term implications for the Department's conservation policies.[53] Prince was a product of the specialization movement emerging within the scientific community at the turn of the 20th century. His mentor and professional associate, William Carmichael McIntosh, was himself a specialized scientist created from the quirky mould from which many 19th century scientists were cast. Formerly a medical psychiatrist who had published such papers as "The Morbid Inclinations of the Insane," McIntosh had dabbled in fish research at St. Andrew's University while teaching

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[51]Memo, February 3, 1912; RG 23, Vol. 365, File 3216, Part III; NAC.

[52]Many of Prince's scientific methodologies can be found in his summation of Professor McIntosh; Edward E. Prince, "A Great Scottish Naturalist: Notes on the Scientific Labours of Professor McIntosh", read before the Andersonian Naturalists' Society, Glasgow 1893. Leeds: S. Moxon Printer, 1893. p.6. A photograph taken in the early 20th century revealed Prince as a balding, middle-aged man with white gray hair and a carefully trimmed, but imposing walrus moustache. The photograph also revealed a somewhat mischievous smile and the lighter side to Prince's personality – often expressed in practical jokes played on colleagues. For a number of months at the Victoria Museum in Ottawa, Prince had left a new fish "species" prominently on display and suspended in a glass jar. Only close inspection of the *Cornu bovis*, as Prince had named it, revealed that the fish was really a cow horn, with paper flaps for "fins" and discs of felt for eyes. See A.G. Huntsman, "Edward Ernest Prince: 1858-1936", *Canadian Field-Naturalist*, Vol. 59, No. 1, Jan.-February, 1945.

[53]Studies regarding views of nature nature has helped explain different conservation approaches taken in Britain, Canada and the United States. Henderson states that "Differing conservation objectives relate to different perceptions about what is desirable in the natural world." Norman Henderson, "Wilderness and the Nature Conservation Ideal: Britain, Canada, and the United States Contrasted," *AMBIO*, 21, 6 (September 1992) p. 394.

medicine. His observations of marine animals and mollusks living in the bay waters on campus led McIntosh finally to discard his medical career, and by the 1880s was fully devoted to marine matters and directing the university's experimental marine station.[54] Through laborious investigation, the interviewing of hundreds of commercial fishermen, and hands-on experimentation aboard fishing trawlers for months on end, McIntosh had shown the advantages of intense, focussed inquiry – in essence, demonstrating the value of specialized science.[55]

Prince had learned well from his mentor. Upon his arrival in Canada, he began pressing the Department of Marine and Fisheries to specialize in its scientific investigations. Already the Department had hired experts in such pursuits as oyster culture. Prince carried specialization much further, advocating the building mobile, floating experimental stations modelled on those used in Scotland.[56] Working inside them, scientists could pull species from the depths, dissect them on special tables or study them alive in large water tanks.

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[54]See McIntosh's testimony at the Select Committee on Sea Fisheries, June 6, 1893; *British Parliamentary Papers - Sea Fisheries, 1893-94.* (London: King's Printer, 1893) p. 159.

[55]Indeed, by the 1890s, when Prince began work for the Federal Government, McIntosh had become the foremost British authority on Sea Worms, floating fish eggs, and artificial hatcheries and few fisheries commissions were carried out in Scotland at the end of the 19th century without his consultation. Edward E. Prince, "A Great Scottish Naturalist", p. 11.

[56]See Edward E. Prince, "A Marine Scientific Station for Canada", 1894 Special Report No. 2, Department of Marine and Fisheries, Canadian Institute for Historical Microreproductions (In this chapter hereafter designated CIHM) C3496 No. 24787. Prince had first advocated a laboratory in 1893. A.P. Knight of Queen's University then brought the idea to the Royal Society of Canada in 1895, later supported by the British Association for the Advancement of Science in 1897. Professor Ramsay Wright, head of the University of Toronto's Department of Biology supported Prince's appeal also. W.A. Clemens, "A Brief History of the Development of Limnological and Freshwater Fisheries Research in Canada", *The Canadian Fish Culturalist,* Issue 12, (Ottawa: The Department of Fisheries, July 1952) p.1.

The Canadian government paid for the building of two stations at the turn of the century. Prince and a host of university scientists signed on, like sailors, for a few months a year to study particular marine features, whether floating off Cape Breton or near the shores of Lake Ontario. Research was diverse but, under Prince's direction, invariably had direct commercial applicability.[57]

The marine stations opened a window for Canadians to view their vast and fantastic aquatic frontiers. After each season of research, Prince published his scientists' discoveries. Often the researchers identified new species not known have existed in the Dominion. Lavish illustrations, sometimes penned by Prince's artistic sister-in-law, decorated such reports.[58] Other work expanded existing knowledge about already well-known species. At the turn of the century, for instance, A.P. Knight of Queen's University investigated the effects of pollution on fish life.[59] The next year he studied the effective use of explosives in the capture of fish, which in Prince's words was " a question of momentous practical importance."[60] Joseph Stafford of the University of Toronto examined "the habits, distribution and breeding of the

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[57]Prince wrote that "no doubt pure scientific research, that is research with no direct practical end in view, must be carried on by private rather than public support, and the work of marine stations, like those in Scotland and elsewhere, must have sole regard to practical questions and utilitarian ends." Edward E. Prince, "A Marine Scientific Station for Canada", Special Reports II, for the year 1894, CIHM C3496 No. 24781. p. 8.

[58]A.G. Huntsman, "Edward Ernest Prince: 1858-1936", *Canadian Field-Naturalist*, Vol. 59, No. 1, Jan.-February, 1945, p. 1.

[59]Edward E. Prince, "Marine Biological Station", *Thirty-third Annual Report of the Department of Marine and Fisheries - Fisheries - for the year 1900*, (Ottawa: King's Printer, 1901), p. xi.

[60]Edward E. Prince, "Report of marine Biological Station, Canso, NS", *Thirty-fifth Annual Report of the Department of Marine and Fisheries - Fisheries - for the year 1902*, (Ottawa: King's Printer, 1903) p. xv.

clam."[61] Stafford's colleague C.C. Benson analyzed the chemistry of fish muscle and F.S. Jackson, from McGill, undertook histological analyses of fish pancreas.[62] Such projects, in Prince's words, attempted to settle "perplexing questions which have baffled practical men." They also had the goal of immediately profiting Canadian fisheries as they aimed to use directly "scientific knowledge in order to promote the prosperity of our coast and inland fisheries."[63]

Methodologically, Prince and his consultants focussed on existing commercial problems in Canada's fisheries: the lobster industry in the Maritimes, the salmon industry in British Columbia, and fish culture in the Great Lakes. Once having identified a problem, they began its specialized study, often towing a floating marine station to the site to begin investigation. Such stations were equipped with aquariums, tables, microscopes, cabinets of scientific apparatus and sometimes hatcheries.[64]

Prince had little time for the inductivist model then framing the work of natural historians such as John Macoun and his own department's museum curator Andrew Halkett. Inductive naturalists believed that meaning would emerge from nature only after collections of natural objects were complete, and that scientists should resist drawing

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[61]"Marine Biological Station", Thirty-third Annual Report of the Department of Marine and Fisheries - Fisheries - for the year 1900, (Ottawa: King's Printer, 1901), p. xi.

[62]Edward E. Prince, "Biological Stations in Canada," Fifty-sixth Annual Report of the Department of Marine and Fisheries - Fisheries - for the year 1922 (Ottawa: King's Printer, 1923), p. 21.

[63]Edward E Prince, "A Marine Scientific Station for Canada," 1894 Special Report No. 2, Department of Marine and Fisheries, CIHM C3496 No. 24781, p. 3.

[64]Edward Prince, "A Marine Scientific Station for Canada", p.4

conclusions from their materials until such a time.[65] Such an approach had little immediate commercial application.

As a Darwinist, however, Prince fully endorsed the hypothetic-deductive model, one which confidently drew theoretical conclusions from incomplete natural collections.[66] By sampling a smaller number of natural features, Prince was able to make quick decisions, ones he hoped would prove directly profitable for Canada's lobstermen, clam dredgermen or salmon fishermen.

Yet, despite the fact Prince was invariably consulted on important fisheries matters, a great deal of evidence suggests that his political masters added to his analysis the opinions of the "common citizen."[67] The Alberta Fish Commission of 1910/ 11 included, as well as Prince, common citizen representatives, Euston Sisley and Thomas McGuire and the many ranch hands, townspeople and farmers who gave testimony at inquiries. These individuals held innate, holistic views of nature seen as being very different from those held by the scientist and adding balance to his theories.

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[65]Mayr's work has a valuable overview of biological methodologies. See Ernst Mayr, *The Growth of Biological Thought: Diversity, Evolution and Inheritance,* (Boston: Harvard University Press, 1982) pp. 27-31.

[66]Ibid., 28-31. The work of bureaucratic pure science is examined by De Veechi, who asserts that scientists were unable to pursue "science for science's sake", and were pushed to create rapid wealth-producing results. See Vittorio Maria Guiseppe de Veechi, *Science and Government in Nineteenth-Century Canada,* (Ph.D. thesis, University of Toronto, 1978), pp. 10, 28, 167. For reference to Biological Board, see p. 337.

[67]The recommendations of the commission, for instance, did not not correspond with the next year's angling regulations. Sisley to Prince, March 6, 1912; RG 23, Vol. 365, File 3216, Part III; NAC.

Grass-roots, amateur naturalists made up an impressive component of settler communities. Most towns apparently had resident naturalists like Thomas Baird, High River's bootmaker who arrived from Scotland in 1894. Although not formally educated in the sciences, Baird spent weekends and his afterhours exploring the Highwood Valley. Often accompanied by throngs of town children, he gathered one of the most complete collections of moths and butterflies in southern Alberta.[68] Entomologists visiting Alberta invariably consulted the naturalist to ask about native species. After his death in 1933, a species became his namesake (the "Nephrides Bairdis) and his collection was divided between the Smithsonian Institute, British Museum and the Victoria Museum in Ottawa.[69]

Baird was one of Alberta's many followers of the 19th century Natural History movement. Natural History can be defined as an amateur, broad interest in nature often including geology, botany and wildlife. In the 19th century, natural historians often treked into forest and field to appreciate nature's intricate relationships, and displayed afterwards collections of rocks and minerals, plants, insects and butterflies in parlour cabinets.[70] By the 20th century, natural historians often specialized in one pursuit such as insects, birds or animals, but unlike specialized scientists, they tended to "dabble" in

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[68]Baird Obituary, *High River Times*, July 23, 1931.

[69]Lillian Knupp, *Harness, Boots & Saddles*, (Calgary: Sandstone Publishing Ltd.), p. 3.

[70]Philip C. Ritterbush, "Art and Science as Influences on the Early Development of Natural History Collections", *Natural History Collections, Past, Present and Future*, (Washington D.C.: Proceedings of the Biological Society of Washington Conference, November 1969) p.561.

general nature study, often to appreciate its aesthetics or derive spiritual lessons from their surroundings.

After Darwin's theories came to the fore in North American society, historian Carl Berger believes that Natural History lost much of its appeal. Naturalists could no longer look for a divine design in nature, a means of apprehending some of the character, impressive power and diversity of God.[71] Yet, a following in Natural History remained strong in Alberta until the 1930s.[72] Rancher and brewery baron A.E. Cross, for instance, maintained an interest in science, fisheries and artificial fish propagation. Before the First World War, he became a powerful advocate for the construction of a hatchery at Banff.[73] Fellow rancher and businessman George Pocaterra appreciated the tenets of Natural History enough to allow J. R. Snyder, a Chicago scientist and professor at the University of Wisconsin to stay at the Buffalo Head Ranch during a three month stay in 1931 to collect small birds and mammals.[74]

Others, such as Okotoks rancher Dave Blacklock, (a member of Sheep Creek, High River and Calgary Fish conservation associations) used Natural Historical knowledge to promote fish conservation. The High River

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[71]Carl Berger, *Science, God and Nature in Victorian Canada,* (Toronto: University of Toronto Press, 1982).

[72]For examples of Natural History writing, see essays of "JFC" published in the *High River Times* and displaying both the aesthetic appreciation of nature and the search for divine design. "Contact, intimate contact, with our surroundings invariably breeds a laxity of appreciation....[of the wonders] handed out to us by the great Master of Creation...." "The Old Home Town", High River *Times,* July 21, 1921.

[73]A.E. Cross to Minister, March 12, 1913; RG 23 Vol. 395 File 3737 Part I.

[74]Snyder was collecting samples for the Chicago Academy of Science which apparently planned to construct a special Highwood River Valley section. *High River Times,* July 2, 1931.

Times described Blacklock, the son of a Scottish game guardian, as a *"practical* authority on the life, habits, propagation and destruction of our bird and fish life." In the 1920s the entertaining orator delivered a number of lectures to Foothills anglers on topics such as "Fish and Fish Preservation." He ended that speech with the assertion that the area was "one of the greatest countries in which the Lord has ever allowed a man to cast a hook."[75] Whether finding expression in dinosaur bone collecting,[76] butterfly netting or bird watching, Natural History was a common pursuit and one enthusiastically espoused by turn of century anglers and hunters, townspeople and farmers.[77]

Beginning in 1905, the provincial government financially supported the Alberta Natural History Society, the province's most prominent naturalist society.[78] Figures such as F.C. Whitehouse, the Society's vice president, submitted articles on Alberta's entomology and fish life to the Ottawa Field Naturalist Society (later the Canadian Field Naturalist Society) newsletter.[79] He also published in *The Canadian Entomologist* which stated

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[75]See newspaper clippings and correspondence in File 28, RG 23, Vol. 1002; 721-4-37; NAC.

[76]*High River Times.*, July 29, 1909. I have italicized the section.

[77]Wintrop S. Brooks Diary, "Wild fowling in Alberta, Canada. 1909" Microfilm 73-023; Provincial Archives of Alberta (In this chapter hereafter designated "PAA"). Other naturalists enjoyed more focussed interests such as Donald Wilby, an Albertan farmer with an enduring interest in natural history collections (he had won the Toronto Industrial Exhibition award in 1909 for an insect collection). At the turn of the century, he supplied field notes on western birds and their nesting techniques to English naturalists and taxidermists. He sold numerous nests to eastern Canadian and British naturalists. Donald Wilby Files, M1306, Glenbow Archives (In this chapter hereafter designated "GA").

[78]The province donated $100 a year to the group. See Third Annual Report of the Alberta Natural History Society, Annual Report of the Department of Agriculture of the Province of Alberta, 1908, p. 247.

[79]See "Executive Report, Alberta Natural History Society", Annual Report of the Department of Agriculture of the Province of Alberta, 1920, (Edmonton: King's Printer, 1921) p. 193.

"[s]o little is known of the insects of Alberta that Mr. Whitehouse's work makes a valuable addition to our knowledge of the fauna of this Province."[80] The Alberta Natural History Society's mandate was staggering – yet exhilarating. Its members sought to create a "complete and perfect Natural History" of Alberta, coordinate with societies in Ottawa and England, host botanical collecting expeditions and insect inspections in swamps and fields near Red Deer and Innisfail, and maintain a comprehensive Natural History museum at the Red Deer public library.[81]

In Calgary, the Calgary Natural History Society began work in 1905. Its members formally inaugurated the society in 1913 with similar goals to those held by naturalist organizations in Red Deer and Edmonton, including nature studies near the city and topics in zoology, ornithology, botany, and geology. An "Indian Section" within the group also studied nearby Amerindian groups.[82] The group funded the mounting of a buffalo for a museum it began creating in 1912, and brought in speakers such as the A. Knechtel, the Federal forestry expert, or University of Alberta zoologists and entomologists. They also assisted the famed dinosaur hunter Barnum Brown (of the American Museum of Natural History) during the summer of 1913.[83]

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[80]See "Report of Alberta Natural History Society", Ibid., for the year 1918) p. 154.

[81]For a variety of the Society's activities and mandate, see the reports for the year 1915 (p. 307); 1909 (p. 249); 1910 (p. 272).

[82]Incorporation of the "Calgary Natural History Society", January 27, 1913. Box 87-013, City of Calgary Archives.

[83]October 10, 1913, Calgary Natural History Society Minute Book, Box 87-013, City of Calgary Archives

Euston Sisley, one of the commissioners on the Alberta Fish Commission of 1910/ 11, was president of the group for well over a decade.[84]

While complementing theoretical science and promoting professionalization of such disciplines as botany and entomology,[85] natural historians maintained their own distinct view of nature. This can be clearly seen by comparing the specialized scientist Edward Prince, with natural historians employed in the Department. Concurrently with the Alberta Fish Commission of 1910/ 11, the Federal government's natural historian John Macoun and the Department of Marine and Fisheries' naturalist Andrew Halkett, competed independent surveys of western fisheries. The views of nature shared by Macoun and Halkett differed radically from those shared by Prince and other specialized scientists.

Firmly entrenched in the inductive approach of 19th century natural historians, John Macoun ceaselessly collected specimens both for the Victoria Museum, where he was head curator, as well as for the Department of Marine and Fisheries. Rarely did he carry out specialized study or theoretical assessments of the materials piled in boxes or floating in jars he amassed. He could barely, in fact, keep up with the more remedial job of naming specimens.[86] Moreover, Macoun resisted theoretical and specialized

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[84]Ibid., October 26, 1912.

[85]This is largely the conclusion of Benson's work on the Young Naturalists' Society in the Puget Sound area of the U.S. Northwest. See Keith R. Benson, "The Young Naturalists' Society and Natural History in the Northwest", *American Zoologist*, No. 2 (26), 1986 pp. 351-361. Also, Keith R. Benson, "The Young Naturalists' Society: From Chess to Natural History Collection", *Pacific Northwest Quarterly*, No. 77, July, 1986: 82-93.

[86]W.A. Waiser, *The Field Naturalist: John Macoun, the Geological Survey, and Natural Science*, (Toronto: University of Toronto Press, 1989). Carl Berger, *Science, God and in Victorian Canada*, (Toronto: University of Toronto Press, 1983), p.24.

study, saying once that he did not want to hurt his eyes staring into a microscope.[87] Rather, he and other natural historians were content to wait until their collections were complete, when meaning would emerge from nature. Macoun's science was quite different, if not opposed, to the work of specialists such as Prince and possibly for this reason, Prince regarded Macoun's report on fish on the west side of the Rocky Mountains, completed in 1910, as both erroneous and incomplete.[88]

Andrew Halkett, the Department of Marine and Fisheries' natural historian and curator of the Fisheries Museum in Ottawa, shared Macoun's approach to nature. Halkett belonged to the Ottawa Natural History Society, a forum for the government's stable of natural historians. This group included Gordon Hewitt, the Dominion entomologist; J. B. Harkin, the Commissioner of Dominion Parks; and James M. Macoun (John's son). Its far-ranging interests spread from geology, to anthropology, to archeology, and to biology. Halkett led talks and walking tours of nearby Ottawa streams, contributing frequently to the society's monthly newsletter.[89]

Originally a bank clerk, Halkett had won a minor clerical position at the Department of Marine and Fisheries in 1878.[90] There John

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[87]Carl Berger, *Science, God and in Victorian Canada,* (Toronto: University of Toronto Press, 1982), p.24.

[88]John Macoun, "Fish of the Western Slopes of the Rockies", 3, *Canadian Alpine Journal,* (Winnipeg: Alpine Club of Canada, 1911).Macoun's naturalist forte clearly lay in collecting birds and botanical species, part of the reason why Edward Prince so thoroughly dismissed Macoun's report as erroneous and incomplete. Prince to Sisley, April 4, 1911; RG 23, Vol. 365, File 3216, Part III; NAC.

[89]See the *Ottawa Field Naturalist* Newsletter, later the *Canadian Field Naturalist,* held at the University of Calgary Library.

[90]Hoyes Lloyd, "Andrew Halkett, Naturalist: 1854-1937", *The Canadian Field-Naturalist,* Vol. LIII, No. 3, March 1939. p. 31.

Macoun had encouraged him to collect an "all-round knowledge of Natural History by observation and study" – advice Halkett took to heart.[91] During the course of his bureaucratic career, Halkett had investigated larger nature themes than Prince had. In 1896, he studied fur seals in the Behring Sea (while being lost adrift in a dugout canoe during a snowstorm); by 1903 he had published observations of arctic birds; by 1909 he had become the Canadian authority on Cape Breton lobster. [92]

In the tradition established by Ernest Thompson Seton and carried into the work of writers such as Charles G.D. Roberts[93], Halkett described the *life stories* of species. When writing about lobsters, for instance, he stressed their life-cycles, emphasizing the drama of survival and protection, eating and mating.[94] Natural Historians such as Thompson Seton had capitalized on the dramatic representation of nature, and Halkett attempted to do the same for aquatic life. He emphasized its environments and enemies to represent the totality of the organism's experience. In 1913 he completed his *magnum opus,* a *Check List* of Canadian fresh and salt water

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[91]At the end of his 52 years of government service, Halkett had won the position of Associate Zoologist in the Department, second only to Edward Prince. It is interesting to note that upon retiring at the age of 75 years, Halkett enrolled in philosophy at Oxford. Ibid.

[92]Ibid.

[93]John Henry Wadland points out that Seton, as well as Charles G. D. Roberts capitalized on this Canadian "genre" of writing. See *Ernest Thompson Seton: Man in Nature and the Progressive Era 1880-1915,* (New York: Arno Press, 1978) pp. 167 - 177. An example of the animal story with Roberts' characteristic tragic ending, can be found in Sir Charles G.D. Roberts, "When Twilight Falls on the Stump Lots", *An Anthology of Canadian Literature in English,* Vol. I, eds. Russell Brown & Donna Bennett (Toronto: Oxford University Press, 1982) pp. 166-169.

[94]Andrew Halkett, "Remarks on the Matamorphosis of the Scallop" and "On the Early LIfe-History of the American Lobster," Canadian Field Naturalist, Vol. XXXIII, April, 1919, p. 22.

fishes where he made a "pioneer" effort to compile a complete listing of fish species in the country.[95] While the approach of Natural Historians seems tedious and non-analytical – the pages of Halkett's *Checklist* are filled with descriptions and names of fish, interspersed with photographs – the approach was ambitious and quite holistic in its attempt to gather together all species of fish in the Dominion.

Unlike Prince, Halkett's view of nature was not restricted to species. Halkett looked for the full representation of an aquatic environment and the interactions of organisms. For that reason, he advocated the radical renovation of the Dominion's National Museum and the Fisheries museum in Ottawa. Instead of the "worthless" stuffed fish on display which he complained were flaking and discolouring,[96] Halkett wanted a collection "fully representative of the innumerable aquatic forms" of the Dominion's waters. In jars, cases and aquariums, the zoologist envisioned a display with mollusks, crustaceans, echinoderms and sponges, as well as fish. He wanted a full representation – an ecosystem in present-day parlance – of rivers, lakes and oceans.[97] As he wrote in the Department's annual report for 1912: "the aquarium could be laid out with rock-work and water plants, in imitation of the natural environment of the fish."[98]

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[95]Andrew Halkett, *Check List of The Fishes of the Dominion of Canada and Newfoundland,* (Ottawa: King's Printer, 1913).

[96]Photographs of these original fish can be found in Halkett's *Check List.*

[97]Andrew Halkett, Annual Report of the Department of Marine and Fisheries for the year 1912, p. 419.

[98]Ibid., p. 420

In 1908, Halkett had completed his own study of Alberta's fisheries, examining lakes in the southern portion of the province. He travelled alone under "almost insuperable difficulties" while examining sloughs and following roads into mud holes. The natural historian wrote a poetic description of Albertan waters, most likely of little use to Prince and his followers. Halkett described Ministic Lake as "picturesquely studded with islands... a regular natural haunt of innumerable kinds of birds...."[99] Buffalo Lake, containing pike, suckers, gold-eye, ling, minnows and perch, was "rocky in parts and has sand, gravel, rushes and weeds." The naturalist described Wabamun lake as "a regular natural aquarium of molluscian life, untold thousands of which, with their egg masses, find here among the weeds a congenial haunt."[100]

Such Natural History was hardly analytical – and of little direct commercial use – but its ambitious scope of inquiry allowed a more holistic observation of nature, one which implicitly apprehended today's concept of eco-systems. Interestingly, there were few – if any – recommendations in Halkett's report. He neither identified "problems" nor their solutions. For that reason, species favorable to society either in the form of commercial or sporting ventures received no focussed inspection, and no preferential recommendations. Halkett's inductive methodology structured much of his report and explains the decided absence of clear recommendations.

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[99]Andrew Halkett, "Natural History Report", *Forty-second Annual Report of the Department of Marine and Fisheries - Fisheries - for the years 1908-09*, (Ottawa: King's Printer, 1910), p. 387.

[100]*Ibid.*, p. 387.

In a society just entering the age of specialized study of nature, the Department of Marine and Fisheries blended the intuitive view of nature – shared by amateur naturalists, grass roots citizens and anglers – with the specialized view of scientists such as Prince. Such perspectives would provide, it was hoped, the most complete picture of nature as a Departmental press bulletin from 1920 reflects. The bulletin announced that "Fisherman and Scientist to Come Much Closer," and asked for "scientific investigators and practical fish men get better acquainted for the goal of both of us, that we may take common issue against the difficulties which stand in the way of greater production and utilization."[101] For the Canadian public such a conservation policy was reassuring. Indeed, the Department hoped that both groups could together create conservation programs required to properly manage resources. The policies inaugurated after the fisheries commission in Alberta in 1910 are expressions of such combined views of nature.

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[101]Press Bulletin for December 1920, Vol. I, No.6; RG 23 Vol. 1558; 775-9-2; NAC.

Chapter Two
"Saving the Lost Science": The Development of Protective Associations

At the conclusion of the First World War, Western Canadian anglers became keenly aware of the depletion of game fish in Alberta's cold water streams. Concern grew that the federal Department of Marine and Fisheries was doing little to enforce regulations. Albertans such as C.A. Hayden, news editor of the *Calgary Herald,* worried that if the Department did not act angling would become a "lost science" as far as Alberta was concerned.[1]

These stream depletions led anglers to group themselves into fish and game protective associations.[2] From their beginnings, such groups attracted the wealthy and powerful. Ranchers, businessmen, lawyers and other prominent citizens became figurehead executives and outspoken advocates for fish conservation. Less politically powerful members became the workhorses of the conservation movement, driving fishery inspectors to tributaries, and delivering milkcans full of fry to stocking locations.[3]

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[1]Hayden to dept. June 20, 1919, RG 23, Vol. 999; 721-4-37; National Archives of Canada (In this chapter hereafter designated as "NAC").

[2]High River anglers were particularly motivated to create a protective association after the 1918 season, when townspeople estimated some 1000 undersized trout had been poached during closed seasons. Petition, High River Anglers, February 18, 1919; RG 23, Vol. 999; 721-4-37; NAC. Anglers were also concerned about structural changes to river beds, the lingering use of dynamite and lime, pollution from construction and resource endeavors, the prevalence of pot hunting and the perception that too many anglers were over-running sensitive spawning beds.

[3]For examples of information supplied to the Department see the correspondence of Calgary angler and self-appointed angler watchdog, Frank Kemish to department, Feb 26, 1921; RG 23, Vol. 999; 721-4-37.

Rapidly, the associations assumed a significant role in the formation of government conservation policy and public perception towards nature and fishing conservation. Either acting locally, or as a large lobbying force, these groups helped to define the evolving angling regulations in Southern Alberta and to determine fish management issues such as season-opening dates, tributary closures and bag limits. The Department of Marine and Fisheries in the 1910s and 1920s chose to give such associations a prominent voice as "experts" for policy development.

Conservation associations first appeared in Alberta in 1907, when the Alberta Fish and Game Protective Association (AFGPA) formed in Calgary under the leadership of Robert A. Darker. At the time of the association's creation, Darker had become a wealthy insurance sales manager for Canada Life. He lived in Calgary's prestigious Mount Royal district and participated in both the Rotary Club and the Alizar Temple.[4] An immigrant from Ireland, Darker had first lived in Quebec before moving to Alberta in 1902.[5] Although he had only recently arrived in Alberta, he had quickly formed an extensive network of influential friends. In addition to strong leadership abilities, and able organizational skills,[6] Darker had a distinctive

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[4]The author would like to thank John W. Darker for the information the Darker family provided pertaining to R.A. Darker, including newspaper and magazine stories.

[5]Guy Weadick, "Active Early Calgarians", File 12, M1287, Glenbow Archives (In this chapter hereafter designated as "GA").

[6]Interview with John Darker, Vancouver, October 16, 1992.

physical appearance. The avid hunter and angler was described by the Canada Life inhouse magazine editor as "seven feet of muscular manhood."[7]

Robert Darker often inspected forest reserves streams with pack mules and then sent critical letters to the Department of Marine and Fisheries demanding increased protection from Ottawa.[8] The *Herald* noticed Darker's adventuresome spirit, especially after he and his family in 1921 made an automobile/ camping trip into British Columbia on mountain gravel roads.[9] With his friends, the outdoor enthusiast often took the CPR into the Rockies. At some isolated siding they left the train to be picked up again a few days later, bearded and smelling of fish.[10]

Darker probably envisioned the AFGPA becoming a lobbying group to force both the Federal government in fisheries matters, and the Provincial government in game concerns, to allocate more money for fish and game guardians. As a sportsman, Darker also wanted regulations to reflect the reality of western game, geography and climate.He did not want politicians to determine game laws without first consulting sportsmen.[11]

The formation of the group in 1907 showed the public support behind Darker's ideas and his conservation association. A three-day

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[7]Darker was profiled in Canada Life's inhouse magazine in 1912 after his southern Alberta district topped the million dollar mark in sales. "R.A. Darker: Manager for South Alberta," *Life*, Vol. 1, No. 13, p. 5.

[8]Darker to Hazen, August 4, 1917, RG 23, Vol. 999; 721-4-37.

[9]"From Calgary to Windermere By Motor Is a Journey of Joy", *Calgary Daily Herald*, August 6, 1921.

[10]John Darker interview, October 16, 1992.

[11]By 1907, Alberta game laws were a controversial issue. See "The Right of the Public to Shoot", *The Edmonton Journal*, March 1, 1907. Also, "Alberta Game Laws Radically Changed," *The Edmonton Journal*, December 7, 1910.

organizational convention held in Calgary attracted no less than eighty delegates from all over Southern Alberta. The strength, organization and concerns of the group impressed Harrison Young, a Department of Marine and Fisheries' inspector who attended the organizational meetings. Young reported to Ottawa that the group had addressed issues such as river pollutants, spawning times, and season dates as well as a host of hunting concerns. Probably to allay fears about the group's activist approach, the inspector described the association as "composed of all the best settlers in the country and principal men of the towns and villages."[12]

Alberta's Minister of Agriculture himself attended the meetings. Immediately, he promised to incorporate the proposals respecting game into the next year's regulations. Young himself endorsed the new association and relayed the motions concerning close seasons and other regulation changes to his superiors. In effect he helped to establish an enduring and close relationship between the federal Department and this sporting elite.

Discussions over both artificial fish culture and game introductions dominated the early AFGPA meetings.[13] In 1909, Darker wrote an article in *Rod and Gun in Canada,* reporting the group's success in introducing Hungarian partridges in Southern Alberta.[14] The group's secretary, Austin de B. Winter who had arrived from Exeter, England in 1903 to practice as a Calgary lawyer, had facilitated the first introductions of game

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[12]Young to R.M.Venning, February 18, 1907; RG 23, Vol. 344, File 2995, part I, Reel T-4031; NAC.

[13]See Summary of a Protective Association by Winter, Winter to Irgens, December 17, 1919, Winter Files, GA.

[14]R.A. Darker, "Grouse in Alberta", *Rod and Gun in Canada,* Vol. XI, No. 1, p. 23.

birds to the western provinces. Winter, and Calgarians Fred Green and George Wood independently funded the importation of fifteen pairs of Virginia quail in 1907, an experiment that failed.[15] The next year the trio brought in Hungarian Partridge from dealers in Yardley, Pennsylvania.[16] The AFGPA added to the bird's numbers the next seasons and within a few years, their offspring overflowed into Saskatchewan, Manitoba and the northern areas of Montana. The new game birds vastly changed the hunting practices – and wheatgrass ecology – of western Canada. As secretary for the AFGPA, Winter corresponded to hundreds of Alberta anglers and promoted the establishment of satellite associations all over Southern Alberta.[17]

The cornerstone issue of game bird introductions invariably shifted the focus of sportsmen to the protection of "sport", not necessarily "species." The AFGPA's preferred sport of focus was hunting, not angling. Members debated the costs of procuring European grouse and partridge from Oregon and Washington distributors and which species would thrive best in Southern Alberta. "One of our main object[ive]s," Winter wrote to a sportsman in a Southern Albertan town, "is to get legislation passed to meet local requirements, and the introduction and protection of game-birds from

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[15]See Article on Alberta bird introductions, File 18, Box I, Winter Files, M1327, GA.

[16]Austin de B. Winter, "Some Facts About the Introduction of Hungarian Partridges into Alberta", *Game Trails in Canada*, July 1940, p. 12.

[17]Quite clearly, though, fish were of less importance to Winter as game bird propagation. Winter became chairman of the association's "Liberating Committee" and by 1912, he had constructed backyard pheasant pens in his Calgary home on Mount Royal's Hope Street. There he raised more of Alberta's first exotic birds. Since there was no room in his backyard pheasantry, household laundry had to be strung from frontyard telephone poles. Winter to Irgens, December 17, 1919, Winter Files, GA. Austin de B. Winter, "Some Facts About the Introduction of Hungarian Partridges into Alberta", *Game Trails in Canada*, July 1940, p. 12. See article on history of Alberta game bird introductions, File 18, Box I, Winter Files, M1327, GA.

other provinces and countries which are likely to be beneficial to sport."[18] While stating "that it would be advisable from the standpoint both of sport and business to stock the streams with suitable fish,"[19] beyond issues such as striking an agreeable balance between fishing seasons and spawning times, the first AFGPA meetings concentrated on hunting bird matters and strategies for maintaining Alberta's wildlife.[20]

In its attempts to gather support and assistance in game bird introduction, the AFGPA carried the conservation message to all areas of Southern Alberta. Affiliated and non-affiliated groups of the AFGPA sprung up in even in the most remote reaches of the province.[21] When initial enthusiasm seemed to have waned by the outbreak of World War I in areas of bird protection, a powerful organizational network already existed throughout the province to articulate new concerns for Alberta's fisheries.

The decline in Alberta's game fisheries became most apparent during the Great War. At the first meetings of the AFGPA, angler members recognized settlement as the dominant factor undermining the province's game fisheries.[22] But by the end of World War I, Albertans better perceived

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[18]Winter to Burtch, January 24, 1912; Austin de B. Winter Files, M1327; GA.

[19]1910 Minutes, Alberta Fish and Game Protective Association; Austin de B. Winter Files, M1327; File 21; GA.

[20]Ibid.

[21]See correspondence between the Wetaskwin branch of the association and Winter. A.T. Kinnaird to Garrett, July 14, 1910; Austin de B. Winter Files, M1327, File 21; GA.

[22]"[O]wing to the settlement of this country or causes[,] the supply of fish in the streams is becoming depleted," said a declaration from one of the 1910 meetings. See minutes

the environmental consequences of the settlement rush into areas of the foothills which until 1907 had been reserved for ranching, railway leases, and grazing lots.[23] With farms rapidly developing and town populations expanding along the Foothills corridor, fish populations immediately declined.[24] Some hunters and anglers blamed the Native peoples, whom they believed were over-fishing Foothills streams, for stream depletions.[25]

Most anglers, however, blamed new angling practices for downturns in fish populations. From the 1890s to 1910, Alberta anglers had been largely restricted to their localities. The Department in 1906 sought to assign guardians to specific towns, "for it is in proximity of the town," one inspector wrote, "that most reckless fishing is done."[26] By the beginning of

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of the Alberta Fish and Game Protective Association, Winter Files, File 21, M338; NAC.

[23]David Breen, *The Canadian Prairie West and the Ranching Frontier: 1874-1924* (Toronto: University of Toronto Press); Katherine Hughes, "The Last Great Roundup", *Alberta Historical Review*, Vol. 11, No. 2, 1963.

[24]Contemporaries of the period cited periods of unusually dry weather during the war, local forest fires in the foothills, and stream freezings (Found to Harkin August 13, 1919; RG 23, Vol. 999; 721-4-37, NAC); an inexplicable increase of predatory fish such as Ling and Suckers (Elliot to Deputy Minister, November 25, 1922; RG 23- Vol 777; 781-11-1; NAC); Structural changes to rivers such as unscreened irrigation works tapping into the Bow River basin from the 1890s onwards and Calgary Power's new hydroelectric projects (Lawrence P. Burns' compilation of Irrigation Office correspondence, *Pioneer Irrigation Developments in the Bow River Basin*, Calgary: The Glenbow Foundation, 1961; GA);

[25]The press played a role in creating perceptions that native ways of hunting and, to a smaller extent, fishing were at odds with the ways of British Canadians. W. Keith Regular, *"Red Backs and White Burdens" : A Study of White Attitudes towards Indians in Southern Alberta: 1896-1911*, (M.A. Thesis: University of Calgary, 1985) p. 138. For information concerning native fishing practices, see Clark Wissler, "Material Culture of the Blackfoot Indians", *Anthropological Papers of the American Museum of Natural History*, Vol. V, Part I. (New York: American Museum of Natural History, 1910) pp. 39-41. John Snow, *These Mountains are our Sacred Places: The Story of the Stoney People*, (Toronto: Samuel Stevens, 1977) p. 47.

[26]Harrison Young to Prince, August 30, 1906; RG 23, Vol. 344 File 2995; Part I. Reel T-4031; NAC.

the First World War, however, the use by Southern Albertans of automobiles and pack horses on fishing trips forced the Department to start assigning guardians and honorary guardians to remote streams deep in ranching country, rather than to the larger town centres.[27] Upon discovering depletions in such streams as the Highwood, anglers blamed tourists who fished within the sensitive spawning areas high in forest reserves. They also accused the Department of not hiring enough fish guardians.

Citing declining fish populations, anglers began to form into protective associations at the end of the First World War. Rather than merely lobbying the government, however, the anglers sought to make their associations volunteer extensions of the government. John F. Eastwood, the AFGPA secretary in 1915, typified many anglers of the period when he called for a new fishing association to be created from the AFGPA. He stated that such an angling association would work closely with the Department to gather data on the habits of Alberta fish. It would maintain its own brooding ponds, and even produce a blue-book quality annual report. To further cement the relationship between the Federal government and the Southern Alberta Angling Association (SAAA), the group that finally emerged in 1919, Eastwood wanted a salaried government official to act as the group's secretary.[28] While Eastwood's vision of a scientific advisory association was not sanctioned by the federal government, the S.A.A.A. did ensure that a

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[27]As a Departmental representative reported: "We have a good Guardian living right on the [Pekisko Creek] and he is making patrols every four or five days in each week...." Miller to Assistant Minister, July 26, 1913, RG 23, Vol 344; File 2995; Reel T-4032; NAC.

[28]John F. Eastwood,to Desbarats, March 24, 1915; Winter Files, M1327; GA.

much closer relationship developed between the government and common citizen.

Eastwood's correspondence confirms that the issue of game conservation had become less pressing by 1915. Now new fears over sport fisheries prompted a membership revival, but one focussed on angling regulations.[29] By the conclusion of the war, scattered chapters of the AFGPA came back to life, revived by the issue of fish protection. New associations, independent of the AFGPA, also found "flourishing" memberships in such towns as Coleman.[30] Anglers within the AFGPA Calgary chapter formed the Southern Alberta Angler's Association (SAAA) in 1919, and the Calgary Angling Association (CAA) in 1920. Other groups, such as Edmonton's Northern Alberta Fish and Game Protective Association (1920) were modelled on Calgary's example and had special Fish Committees which focussed energy on angling matters.

Outside Calgary's city limits, an extensive network of rural chapters formed either as new angling affiliates of the AFGPA, or as independent fish protective associations. Anglers, for instance, started associations in Coleman (1915), Stavely (1919), High River (1920), Pincher Creek (1920), Nanton (1921), Clairsholm (1921), Fort Macleod (1921), Craik (1924), and Bellevue (1925). By 1925 the Department of Marine and Fisheries could count on the assistance of associations in "almost every town" in

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[29]Eastwood to J.A. Joseph of the Coleman Angling Club, May 26, 1915; Winter Files; M1327; GA. The Calgary group by then was sending letters to prospective recruits such as rancher J.W. Ings, one of the original settlers on the Highwood living at Lineham, to create local chapters. Eastwood to J.W. Ings, April 28, 1915; Winter Files; File 21, M1327; GA.

[30]Joseph to Darker, May 14, 1915; Austin de B. Winter Files, M1327, File 21; GA.

Alberta[31] and in the 1929-1930 season, the Department worked with forty Alberta associations in areas of conservation publicity, fish culture and policy decisions.[32]

For various reasons, the government increasingly turned to such associations. Poorly funded and understaffed, the Alberta Division needed help to enforce regulations. Such associations provided a wealth of energy and personnel to support field staff. The Department could also use angling associations to channel the collective environmental concerns of their members. Darker, who assumed control of the SAAA in 1919, did so because he recognized that anglers all over the province wished to cooperate with the Department. Even separate associations wanted to at least affiliate with the SAAA "to form a strong association for the protection of the sporting fish in the southern district."[33]

In 1920 a Departmental memo reflected the advent of what might be called Alberta's Association Age, stating that "the great number of those really interested in the sport [of angling] have formed themselves into associations."[34] The Department realized how closed the associations worked together. Secondly, their adherents carried multiple memberships. Such was the case of the early Alberta conservationist, David Blacklock. The Okotoks rancher belonged to the Highwood River Angling Protective Association, as

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[31]J.A. Rodd to J.E. Martin, March 19, 1925; RG 23, Vol 778; 718-111; NAC.

[32]63th Annual Report, Fisheries Branch, Department of Marine and Fisheries: 1929-30 (Ottawa: King's Printer, 1930), p. 89.

[33]Davidson to Found, November 24, 1919; RG 23, Vol. 999; 721-4-37; NAC.

[34]Memo, January 19, 1920; RG 23, Vol. 999; 721-4-37; NAC.

well as one of the Calgary associations. He also served as secretary of the Sheep River Fish and Game Protective Association.[35]

Edmonton and Vancouver anglers soon followed their Calgary counterparts. They asked Darker for advice on how to create such organizations as the SAAA and the AFGPA.[36] In 1919, Edmonton angler Christopher Irgens wrote Darker that "the time has now come that we [of a Rod and Gun Club] should all get together and form a Game Protective Association."[37] Irgens, however, had no idea of how to create such an organization. Austin de Winter, as the AFGPA secretary , replied to Irgens' letter and declined an invitation to speak at an Edmonton sportsmen's annual dinner. His lengthy letter of instruction was read verbatim at the club's annual dinner.[38] In 1920, the Edmonton anglers and hunters formed Northern Alberta Fish and Game Protective Association (NAFGP). Irgens became chairman of the group's fish committee.[39]

Common elements existed between Calgary and Edmonton associations. The Edmonton group scheduled its first meeting on March 3,

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[35]See references to David Blacklock, File 28, RG 23, Vol. 1002; 721-4-37; NAC.

[36]C.L. Burtch to Darker, January 18, 1912; Austin de B. Winter Files, M1327; File 21; GA.

[37]Irgens to Winter, December 11, 1919;Winter Files; M1327; GA.

[38]Winter to Irgens, December 17, 1919; Winter Files; M1327; GA.

[39]The Edmonton association was created to "further the interest of sportsmen by planting game birds and fish in local fields and waters," but unlike its southern counterpart focussed its energy on lake fishing, and took on projects such as the stocking of Lake Minnistik and Hastings with perch. While it later took on active lobbying for Rainbow and Brown trout introductions, it was, like the earlier AFGPA chapters, more interested in the success Calgary sportsmen had enjoyed in game bird introduction. Alberta Fish and Game Association Files, Constitution, January 1, 1920; Acc. 87.327/1; and 3271/2, Provincial Archives of Alberta(In this chapter hereafter designated "PAA").

1920 in the city's prominent hotel, the Macdonald.[40] The decorum well reflected the memberships' social standing. Associations in Edmonton, Calgary and towns throughout Southern Alberta tended to be headed by prominent public figures who had little interest in protest-lobbying as such. Their efforts tended to be conservative, representing the needs of urban sportsmen.

The socially prominent individuals active in these groups, such as physician W.G. Bigelow, looked upon fishing as a necessary form of relaxation. They headed out with rod and reel for enjoyment, not food.[41] Associations, in fact, sought to delineate waters as either "sporting" or "commercial" and attempted to rid sporting streams of lower-income pot hunters. In this endeavour, sporting associations attempted to make creel sizes too low for dietary requirements, prohibiting the commercial sale of trout, or lobbying for higher costs for fishing permits. [42]

In Alberta, the protective association concept was largely transplanted from Eastern Canada and the United States. Such groups as the Wentworth [Ontario] Society for the Protection of Game and Fish, created in

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[40]Prohibitive costs of renting a meeting room at the Macdonald forced the group to meet in a King Edward Hotel boardroom, which was donated by the manager free of charge.

[41]W.A. Bigelow, *Forceps, Fin and Feather: The Memoirs of Dr. W.A. Bigelow*, (Altona, Manitoba: D.W. Friesen & Sons Ltd.) Bigelow's recreational angling experiences were confirmed later by Dr. Gordon Fahrni who wrote that "Each time I went away for even a few days [from work] ... on a hunting or fishing trip ... I returned refreshed...." Gordon S. Fahrni, M.D., *Prairie Surgeon*, (Winnipeg: Wignell Printing Ltd, 1976), p. 94.

[42] The "Angling Permit", established for Alberta and Saskatchewan, made it impossible for the pot-hunter to fish in the Foothills without one. Memo, January 19, 1920; RG 23, Vol. 999; 721-4-37; NAC. There was also a Departmental tradition since the 1880s allowing anglers to decide the nature and rules (regulations) of their sport. See Wilmot to Litton, April 18, 1887, Wilmot Letters, ROM.

1860, had set an example of what a Protective Association could do in conservation matters.[43] Formed in a tavern after farmers and townspeople became alarmed that "noble game and fish" had been "vanishing before the *arts of civilization*,"[44] the society lobbied the Canadian government for more strictly enforced regulations and a demarcation of commercial and angling zones on nearby lakes. The group petitioned for special fishing privileges for those living around Burlington Bay and nearby Hamilton, and the exclusion of commercial ventures on certain waters.[45] Even at this early juncture, the protective game and fish association was not merely a club, such as the many rod and gun clubs already in existence. Protective associations actively tied themselves to governmental bodies and expected compensation for voluntarily enforcing federal regulations.

By the end of the war in eastern Canada, protective associations had changed their function and stature in society. No longer were conservation associations merely lobbying groups. The post-war Essex County Wild Life Conservation Association had proven their value to game wardens who felt behind them was "a body of men, members of [an] association, who pledge themselves to observe the laws and to do everything they can to see that others observe them."[46] The apparent success of these groups, from both the government's and sportspeople's perspectives, was reflected in the

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[43]Newspaper Clipping, Day unknown, 1860; Kerr Diaries, ROM, Vol. 2, SC 39.

[44]Ibid.

[45]Ibid.

[46]Rev. J.T. Crowley, "Fish and Game Protective Associations", delivered to the "Conference on Wild Life," Commission of Conservation's 10th Annual Report, (Ottawa: J. de Labroquerie Tache, 1919), pp. 43-44.

Commission of Conservation's recommendations to provincial governments to encourage the formations of wildlife protective associations to help in conservation.[47]

Unfortunately, few records of Alberta associations survive, but the available Departmental correspondence reveals the conservation programs these sporting elites advocated. The case of High River is particularly instructive. During the First World War ranchers noted a decline in Highwood River fish populations and subsequently they gathered in 1918 to lobby the Department of Marine and Fisheries for stream protection. The ranchers and interested High River residents formed the Highwood River Angling Protective Association (HRAPA) in March, 1920, independent of Calgary groups, "in the interest of fish culture and protection in High River."[48] Its executive included many of High River's most prominent citizens, such as H.D. Elliot, a local bank manager and president of the group. A.A. Ballachey, a High River lawyer and an active member and executive officer, replaced Elliot as president in 1928. The first meeting in 1920 elected George Lane, horse breeder and town patriarch, as Honorary Vice-President. The membership also made Edward, Prince of Wales, (at that time an avid angler on his stocked lake on the E.P. Ranch), Honorary President.[49] Non-executive members included the Count de Foras and town lawyer, A.Y.

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[47]At the "Conference on Wild Life" of the Commission of Conservation, a resolution read: "...one of the best means of promoting the conservation of these animals is by the promotion of local game and wild life protective associations ... and that the Provincial governments be recommended to make special efforts to promote the organization and to assist in the maintenance of such associations.", p. 145.

[48]High River Angling Protective Association, Meeting Minutes, February 16, 1920; RG 23- Vol 777; 781-11-1; NAC.

[49]Ibid.

McCorquodale. In 1922, the club's secretary assured the Department, that the HRAPA's fifty members "are representatives of all walks of life in this community from farmers and ranchers to Barristers, and bankers."[50] Other associations had similar strength among the male elites of of small towns in Alberta, from banking, ranching, legal, medical and ministerial professions. Bank manager J.J. Gillespie led the Pincher Creek Association. Such figures as Dr. Eugene Sisley, former commissioner for the Department, and the Reverend Cameron Hayes, ran Calgary groups.

The association members' wealth, education and social standing gave them considerable influence in Departmental decisions such as the hiring of local guardians. In High River's case, the Department had to keep Sam Smith on government payroll for forty years after local anglers decided he was the man for the job. They even offered a free automobile for the guardian to use on patrols, provided Smith won the position.[51]

Conversely, anglers with no local association and less public influence, such as at Bragg Creek, stood clearly outside government decision-making circles.[52] Political influence, in fact, seemed to determine which association received more attention by the Department. The well-connected

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[50]Highwood River Angling and Protective Association letter to Assistant Minister, April 27, 1922, RG 23, Vol. 1001; 721-4-37; NAC.

[51]Originally Smith replaced Liberal supporter A.A. Dunlop after the Conservative's 1911 victory. In 1918, he was replaced by a home-coming war veteran. By 1919, High River anglers began to pressure M.P. George Stanley and George Cootes and that year Smith was re-employed for a job that lasted the rest of his working life. For information on Smith, see RG 23, Vol 344; Miller to Found, June 23, 1913; File 2995; Reel T-4032; NAC. RG 23, J.R. Rodd to Department, March 10, 1920; RG 23, Vol. 999; 721-4-37, NAC. Bert Sheppard, *Spitzee Days.*, p. 199.

[52]Bragg Creek ranchers soon lost all voice in the Department after guardian T.W. Fullerton was pulled off his horse and beaten by locals. Rodd to Found, June 22 and July 13, 1928; RG 23 Volume 733; 715-12-1; NAC.

membership of the High River Association, for instance, clearly had more power than the Stavely Fishing Club.[53]

As association members represented a sport that drew important tourist dollars to communities, town and city boards of trade invariably supported them.[54] Associations also had little trouble drawing sympathy from Departmental ministers and federal politicians who were often anglers themselves. Angler and local M.P. George Stanley represented the High River association in Ottawa.[55] The associations met little philosophical resistance from Departmental representatives and they became prominent advisors to Departmental officials.

Conscious of their power locally, the Department included association members in its decision-making. Field staff were instructed to arrange for the "closest co-operation" between the Department and such associations[56] and proposals sent to planners from such groups were more often accepted than rejected. Financial contributions helped nullify differences between government and association. In 1917, the AFGPA received its first annual provincial government grant of $100.[57] Often close bonds developed between association members and local guardians and

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[53]The Stavely Fishing Club was indignant that the High River association was stocking Willow Creek without first consulting them. E.C. Webster to H.M. Shaw, October 9, 1920; RG 23- Vol 777; 781-11-1.

[54]Both the Macleod and Pincher Creek associations were heavily endorsed by Macleod, Calgary, Bassano and Lethbridge Boards of Trade. See J.H. Howard to Johnston, March 6, 1925; RG 23, Vol 778; 718-11-1; NAC.

[55]G.D. Stanley to Herron, July 16, 1913, RG 23, Vol 344; File 2995; Reel T-4032; NAC.

[56]Found to Davidson, March 15, 1920, RG 23, Vol. 999; 721-4-37; NAC.

[57]Winter to Marshall, April 26, 1917, file 21; Austin de B. Winter Files, M1327; GA.

Department Overseers stationed in Calgary. Such officials, who often accompanied anglers on fishing trips and interacted socially with them, not surprisingly praised local sportsmen and endorsed local recommendations for regulations.[58]

The province's evolving regulations reveal the impact of the sporting elites' lobbying. At the provincial level, associations made recommendations which were directly incorporated into the Department of Agriculture's game laws. The associations maintained close ties with Benjamin Lawton, the chief game warden, on matters of game inventories, bird introductions and the extermination of pest birds and animals.[59] Lawton also became a regular guest-speaker and participant at Edmonton association meetings.[60] On matters regarding fish management, the associations communicated to the Department of Marine and Fisheries through the chief superintendent's office at Qu' Appelle or, later, Winnipeg. They Department also had inspectors, guardians and overseers attend and speak at association meetings. Clearly the associations became more than merely a lobbying group. In fact, they served, in effect, as a voluntary arm of the government – a second "expert" voice in conservation programs – for the purposes of enforcement and gathering information for government scientific boards.

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[58]David Richardson to the Department; RG 23, Vol. 999; 721-4-37; NAC.

[59]For a clear example of such a relationship see Winter's correspondence with the province's Chief Game Guardian, especially in the formulation of 1910 game laws. A.T. Kinnaird to Garrett, July 14, 1910; Austin de B. Winter Files, M1327, File 21; GA.

[60]Lawton in fact encouraged the work of the Northern Alberta Fish and Game Protective Association at one meeting, "speaking generally on the need of such an organization; outlining the work before it," the secretary recorded in the minutes. Alberta Fish and Game Association Files, Minutes; March 3, 1920; Acc. 87.3271/2.

They often compiled statistics and made recommendations for changes to existing regulations.

The Department itself fostered close relations with associations. In 1920, for instance, J.R. Rodd, the government's aquaculturalist at Banff, strongly advised High River anglers to consider forming a protective association.[61] The meeting established a verbal agreement, or contract, between the Department and the local group. Rodd promised fry to stock the Highwood tributaries provided that volunteer ranchers, or "Honorary Guardians" living along them, protected the streams.[62] Close ties to the government – its regulation decisions and fish culture allotments – were tangible and tempting rewards for voluntarily enforcing regulations.

The promise of fry sometimes became the only motivation for an association's existence. In 1928, the Coleman Rod and Gun Club, which had joined with the Bellevue Fish and Game Protective Association in 1925 to protect the waters in the Crow's Nest Pass (at that time accessible by a new road system), stated what they expected from their relationship with the government: "Since our inception we have endeavored to educate the local public ... This work has been cheerfully undertaken, and will continue to be undertaken by the members of the club, provided we are given assurance that it is recognized by the Department" – the assurance being fry allotments.[63]

From the government's perspective, such associations as those in High River, Coleman, or Calgary, provided a considerable saving of

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[61]J.R. Rodd to Department, March 10, 1920, RG 23, Vol. 999; 721-4-37; NAC.

[62]Ibid.

[63]Purvis to R.T. Rodd, April 18, 1928; RG 23, Vol. 778; 718-11-1; NAC.

money. The volunteers greatly assisted understaffed guardian ranks. A network of volunteers suddenly existed ready to help plant fry in Foothills streams, and more importantly, to apprehend anglers ignoring regulations.

Volunteer associations, in return, expected a prominent – if not deciding – voice in determining fisheries policy. During the 1920s the associations initiated most clauses in federal angling regulations in Alberta and Saskatchewan, from bag limits and size limits, to minor details such as the mandatory carrying of hook removers ("disgorgers")[64], to the creation of a permit that would fit in an easy-to-carry pouch. In 1920, the Federal government even accepted the SAAA's recommendation that angling permits be increased to $2 from $1. (This idea was mostly based on the erroneous assumption that there were far too many anglers on Foothills streams.)[65] Indeed, by the mid-1920s Department officials regularly visited the executives of High River, Pincher Creek, Bellevue, Blairmore, Macleod and

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[64]R.T. Rodd To Found, March 16, 1926; RG 23, Vol. 1002; 721-4-37; NAC.

[65]Memo, January 19, 1920; RG 23, Vol. 999; 721-4-37; NAC. The numbers of anglers, however, seemed quite constant. Hoad reported a doubling of angling permits sold just prior to the beginning of the war: from 1,250 permits sold in 1912, to 3,500 sold in 1913. That was the most dramatic increase in angling for well over a decade. Hoad reported 4,200 permits sold in his district 1916. Only by 1926 did the number of angling permits sold in Southern Alberta increase to almost 6,000 and it was not until the end of the decade that 8,000 permits were sold.See reports from Southern Alberta, and in particular:*47th Annual Report*, Fisheries Branch, Department of Marine and Fisheries: 1913-1914 (Ottawa: King's Printer, 1914), p. 229; *49th Annual Report*, Fisheries Branch, Department of the Naval Service: 1915-1916 (Ottawa: King's Printer, 1916), p. 230; *50th Annual Report*, Fisheries Branch, Department of Marine and Fisheries: 1916-17 (Ottawa: King's Printer, 1917);60th Annual Report, Fisheries Branch, Department of Marine and Fisheries: 1926-27 (Ottawa: King's Printer, 1927); 63th Annual Report, Fisheries Branch, Department of Marine and Fisheries: 1929-30 (Ottawa: King's Printer, 1930), p. 290.

Lethbridge associations to gather opinions before they wrote the next year's regulations.[66]

The issue of the length of fishing seasons displays the power of such associations. The AFGPA had originally decided that an opening date of July 1 would give enough time for trout to spawn.[67] Subsequently, the trout season had been established from June 30 until November 1. That date was subsequently adopted by Banff National Park. By 1917, however, the Department felt strong pressure from fishing associations to change the season dates which clearly infringed upon sportsmen. Some Calgary anglers promoted an opening date of June 1.[68] For obvious commercial reasons Calgary merchants wanted an earlier season. Alex Martin, of Martin Sporting Goods, collected a petition of 885 signatures asking for an opening as early as May 15 . Charles Venables, a game guardian himself and proprietor of the Western Sporting Goods Co. sent a similar petition stating that "it would be in the best interests of preservation of all trout and of the sport of Angling, if close season ... be altered."[69] He also asked for an opening date of May 15.

The reasons for an earlier season are quite understandable from a sporting perspective. The existing season lost early-season tourist revenue in such centres as Calgary and Banff. As well, seasonal flushes on the Bow usually sullied waters for angling throughout much of July. By 1917, bowing

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[66]See R.T. Rodd's meetings with Pincher Creek, Bellevue, Blairmore, Macleod and Lethbridge Associations in March, 1926; R.T. Rodd to Found, March 16, 1926; RG 23, Vol. 1002; 721-4-37; NAC

[67]Harrison Young to R.M. Venning, Feb. 18, 1907; RG 23, Vol. 344 File 2995; Part I. Reel T-4031; NAC.

[68]EE Prince Memo to department, February 26, 1917; RG 23, Vol. 999; 721-4-37; NAC.

[69]See petitions, RG 23, Vol. 999; 721-4-37, File 4; NAC.

to the pressure of associations, the Department opened fishing in Southern Alberta on June 15, a full fifteen days earlier than usual.[70] In 1920, with the creation of the SAAA, new lobbying called for a fishing season beginning on May 24, to allow for more Cut Throat fishing, its members claiming that spawning ended by that date.[71] The membership of the Calgary Angling Association, formed that same year, also called for an earlier opening to avoid high water on the Bow.[72] In 1921 the fishing season consequently began May 23.[73]

The power given to the common citizen to decide conservation policies placed fishery inspectors in Banff National Park in a dilemma. Customarily, park officials acquiesced to the advice of fisheries experts within the Department of Marine and Fisheries. They had accepted E.E. Prince's recommendations on issues such as fish introductions, indigenous fish in the park, and open seasons. In 1913, for instance, the park had a season-opening of June 30, conforming to the Department's own season in the neighboring foothills region.[74] By 1917, however, season opening dates outside of the park had been so affected by "Calgary anglers" that the park system could no longer accept the Department's close season recommendations. One park official visited the Department's chief inspector to find out why the regulations had

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[70]Graham to Harkin, June 18, 1917; RG 84, Vol. 70; U3-1-1, Part I; NAC.

[71]Resolutions by the Calgary Anglers Association, January 24, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[72]Kemish to Department, February, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[73]See new regulations, and in particular Kemish's protest to same: April 28, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[74]Vick to Mather, December 3, 1913, RG 84, Vol. 70; U3-1-1 Part I; NAC.

been pushed back and was told that local anglers wanted to catch game fish as soon as weather permitted. As the park official stated to the Dominion Parks Commissioner, the park service had to choose between regulations "based on the careful deliberations of undoubted authorities", or those which were not.[75] His comment probably best captures the difference between preservationists operating in Banff under the direction of the scientists, and the conservationists operating elsewhere under the direction of both scientists and common citizens.

The risk associated with giving such anglers a leading voice over other "common" perspectives is obvious. In Calgary, large numbers of anglers could sway Departmental decisions on any particular issue. Alex Martin and Charles Venables had demonstrated how quickly a large – and influential – list of signatures could be drawn from the Calgary populous.[76] The financially constrained R.V. Hunt, proprietor of the "Fisherman's Inn" compiled his own petition of 171 names to have a longer fishing season, a petition the Department recognized "made entirely for business purposes."[77]

The Department willingly gave concessions to such associations because they represented significant blocs of power in their respective communities and, secondly, because they promised to enforce regulations as a voluntary body of anglers and "Honorary Guardians." The Department did not hesitate in admitting that its regulations, such as the 9" trout limit in

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[75]Graham to Harkin, June 18, 1917; RG 84, Vol. 70; U3-1-1, Part I; NAC.

[76]Alex Martin Petition, RG 23, Vol. 999; 721-4-37, File 4; NAC.

[77]R.V. Hunt to the Minister, May 19, 1924; and Richardson to Rodd, November 7, 1924; RG 23, Vol. 1001; 721-4-37; NAC.

1919, required the "moral support" of fishermen and without it regulations would be impossible to enforce.[78] Community members used associations to build solidarity among anglers under a common set of rules and "morals", and used the shame of being a "game hog" to stop members from erring.

On a promotional level, associations publicized and verbally communicated the idea of conservation to the public. The letterhead of the Clairsholm Fish and Game Protective Association, for instance, carried slogans such as "Be a Sport – Don't be a Hog", "Obey the Fish and Game Laws", "No Forests – No Fish and Game".[79] The association also carried the conservation credo in public presentations. The High River Association for instance, hosted information nights featuring such speakers as Okotoks' Dave Blacklock. In 1925, the energetic conservationist presented a talk to High River anglers on "Fish and Fish Preservation." The talk was anecdotal but to the point:

> Right now gentlemen I cannot impress too strongly upon you, the guarding of your tributaries, both from cannibal fish and from the poachers.
>
> When we see the amounts of cars bearing men and women, old and young, coming from the cities with tents, frying pans, and fishing rods, to camp and fish along those streams, any one of us ought surely to be willing to become a member of a club whose main object is 'clean sport' and plenty of it.[80]

The Department quickly discovered, however, that associations could not effectively apprehend and prosecute law-breakers. While Norman

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[78]Desbarats to D.L. Redman, July 5, 1919, RG 23, Vol. 999; 721-4-37; NAC.

[79]File 16, RG 23, Vol 778; 718-11-1; NAC.

[80]From File 28, RG 23, Vol. 1002; 721-4-37; NAC.

Luxton of Banff's Protective Association, proposed making a Club Button deputizing "each and every member an Honorary Warden,"[81] the other members skirted the task of enforcement. In 1922, a Departmental official visited an SAAA meeting and pointed out that although a large number of honorary fishery guardians had been appointed at their request, there had been no report of illegal fishing "nor had there ever been any prosecutions."[82]

The issue proved to be a lingering sore point for officials who had no shortage of "crank letter-writers" informing them of local poaching, but no volunteer guardians willing to step in and make the necessary arrest. Part of the problem was the comical status volunteers often attained in communities which still lacking appreciation for conservation. One Calgary volunteer, who hid in bushes waiting to catch poachers, found himself ridiculed by a couple and even their child who informed him they had no fishing license and no intention to buy one. They laughed at him when he left.[83] Other volunteers simply evaded their responsibilities. Calgary Stampede promoter Guy Weadick, whose dude ranch on the Highwood attracted avid anglers, called the entire voluntary guardian system on the river an ineffective charade, with guardians who "really wanted to wear a badge more than their desire to enforce the law."[84]

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[81]W.L. Mitchell to Harken, March 2, 1930, RG 84, Vol. 70; R296, Part I; NAC.

[82]Davidson to Found, March 26, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[83]Kemish to department, Feb 26, 1921;RG 23, Vol. 999; 721-4-37, NAC.

[84]Weadick to Found, June 9, 1925, RG 23, Vol. 1001; 721-4-37; NAC.

Poor enforcement on the part of paid guardians heaped additional criticism on the Department.[85] More often Southern Alberta guardians made embarrassing arrests of children or starving town vagrants spearing coarse fish, rather than profiting poachers.[86]

Ironically, neither understaffed Departmental Guardians, nor badge-wearing Honorary Deputees made the majority of arrests, but rather Royal North West Mounted Police and Alberta Provincial Police officers. They were not even motivated by environmental concerns, for patrolling policemen soon learned they could supplement their income by arresting delinquent anglers. The "moieties" system inaugurated by the Department – awarding half a fine collected from a poacher to the person making the arrest – gave police enough incentive to check angling permits whenever they happened upon a fly-fisherman knee-deep in an Alberta stream.[87]

By the end of the 1920s, the Department of Marine and Fisheries gathered "expert" advice from the common citizen who was often a member of a fish protective association. Rather than turning to the widely-dispersed authorities on natural history, town planning, or hunting and fishing, the Department increasingly relied on the angling associations, who included in their membership some of the most influential figures in Southern Alberta. The association, in turn, changed its structure and mandates to fill the new

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[85]Davidson to Found, September 12, 1918; RG 23 Volume 733; 715-12-1; NAC.

[86]Sam Smith was ordered by Richardson to arrest two children who had snared a jackfish in town limits, inciting outcries from townspeople and stinging editorials in Calgary newspapers. Richardson to R.T. Rodd, May 14, 1928; RG 23 Volume 733; 715-12-1; NAC.

[87]See the Department's Prosecutions files RG 23; Volume 733, 715-12-1; NAC.

role expected of it. While the original AFGPA began its work as a lobbying force, by the end of the Great War, it and the many other fish protective associations had been embraced by the Department as voluntary extensions of their authority. Largely symbiotic in their relationships, the associations made "contracts" with the Department, promising information, services and law enforcers in exchange for fry allotments, and an influential voice in policy planning.

Not surprisingly, the type of data received from such organizations was tainted by the members' bias towards local concerns. The overseers consistently qualified the "information" supplied by High River as alarmist and exaggerated for the purposes of bolstering the Highwood fisheries. Moreover, the quality of information from anglers not formally trained in the sciences was often apparent to the Department. Forms sent to applicants for fry asked for the dimensions, locations, discharge, intake, temperature extremes and depth of lakes and streams for stocking – information often beyond the grasp of an angler.[88]

Perhaps what made the protective association a problematic "voice" for conservation matters, however, was not its members' ignorance or hyperbolic rhetoric in Departmental correspondence. Rather, the associations brought their own agendas to the government. Often their advice was laden with purposes other than the long-term conservation of cold water

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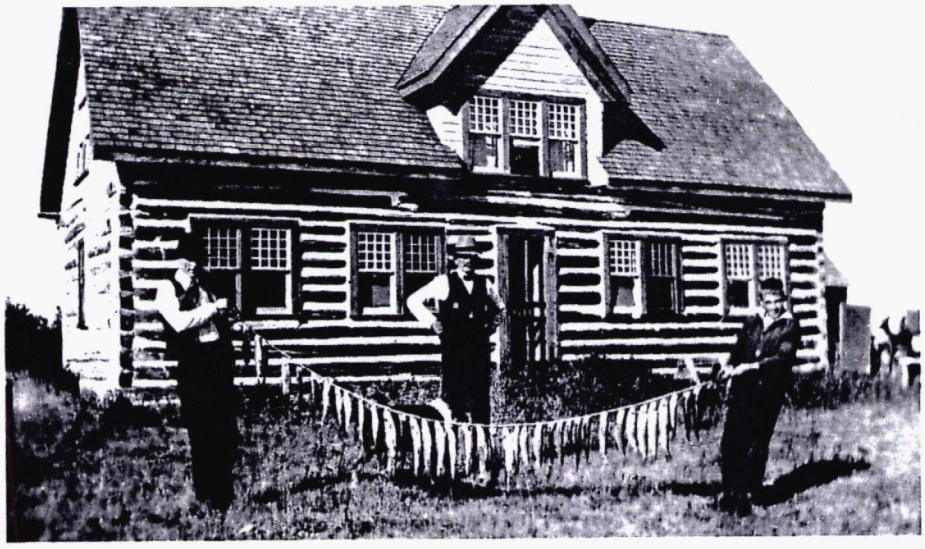
[88] The secretary of the Macleod Anglers' Association answered the Department's Application for Fry despite his obvious ignorance over the terms.The form asked, *Is Water Clear or Muddy?* The secretary answered, "Clear". *Is it suitable for drinking purposes?* - "Yes its [sic] fine." *What natural fish food does it contain?* - "All natural food usual in mountain water." *Is this food scanty or abundant?* - "Abundant." "Application For Fish", RG 23 - Vol. 777; 781-11-1, NAC.

fish. The Highwood River Fish Protective Association's advocacy of tributary closure best reveals this shortcoming.

1. Anglers at Lake Minniwanka, ca. 1893
Glenbow Archives NA-237-38

2. Members of Cartwright family angling on Highwood River, c. 1910
Glenbow Archives NA-5060-3

3. Stocking Highwood River Tributary c. 1930
Glenbow Archives NA-695-86



4. String of fish displayed at High River cabin c. 1920s
Glenbow Archives NA-2420-2

Chapter Three

High River and the Stream Closure Movement: A Study of Departmental and Protective Association Co-Operation

Between 1907 and 1930, members of Alberta fish and game protective associations played prominent roles as policy advisors to the Department of Marine and Fisheries. The Southern Alberta angler became the second expert "voice" on bag limits, fishing season dates, the phrasing of regulations, and on almost all issues of trout conservation. An immediate concern became tributary closure, one of the most radical conservation programs initiated by the Federal Government in Alberta. Local fishing associations invented, promoted and successfully administered this government program.

High River anglers first requested the closure of Highwood tributaries in 1920. Within three years, Department officials, largely due to angler lobbying, had closed every tributary of the Red Deer, Bow, Highwood, and Oldman, flowing out of the Rocky Mountains. Not until the late 1950s did the Provincial Government investigate the effects of tributary closure and finally abandon the policy which often was reintroduced on depleted streams.[1] The original implementation of stream closure provides yet

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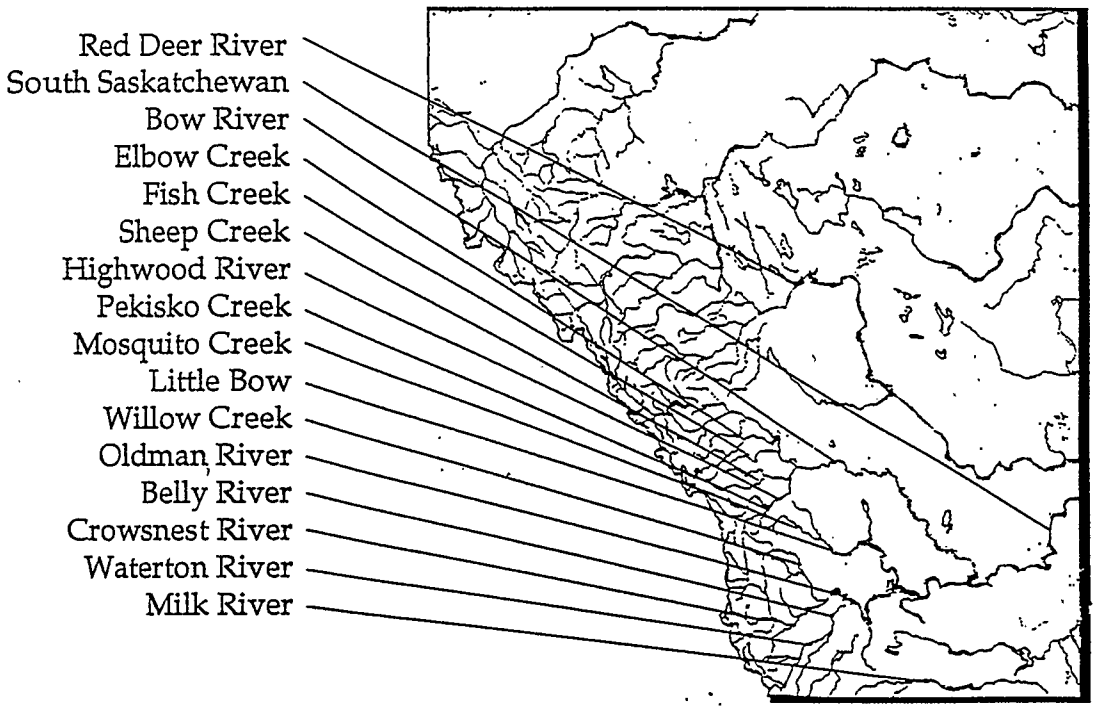
[1]In 1953, R.B. Miller, a University of Alberta zoologist found stream closure policy was based on a number of erroneous assumptions. Consequently, he advocated the abandonment of the policy. He also pointed out that fish and game associations still requested tributary closure as a conservation strategy. R.B. Miller, "The Regulation of Trout Fishing in Alberta", *The Canadian Fish Culturalist*, published by the Department of Fisheries, Ottawa, issue 14, October 1953, p.22.



Map 2: Southern Alberta Rivers and Streams

additional evidence of the close relationship established between the Department and Alberta anglers.

As an Alberta conservation strategy, stream closure had its origins in the High River during the First World War. The Highwood River and its extensive tributary system was an important concern for the community's ranchers and settlers and the town itself which depended on the main stream for transportation, logging, and irrigation works. The river flowed ice-cold out of the Rockies and wound through town on gravel floodplains. Almost annually, the river shifted course, making obsolete, or flushing away headgates. Every ten years the river usually flooded, gushing down main street and carrying away livestock, telephone poles and wooden sidewalks. Most High River settlers marked their life-stories by the river's highwater marks.[2]

The Highwood supplied the townspeople with water. By 1913, the town had connected its sewage works to the river, as well as built a water main beneath the community's main street.[3] The river abounded in Cut Throat, Bull Trout and Rocky Mountain Whitefish for anglers. Ranchers and settlers found their favorite fishing holes along the Highwood while children in town often chose to line the CPR trestle bridge with fishing poles in hand.[4]

By 1906, *High River Times* editor, Charles Clark believed the town would reach "metropolitan proportions" within a few years as settlers

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[2]George Colpitts, *History of the Highwood River,* (Calgary: Friends of the Highwood Conservation Association, 1990) p. 3.

[3]Report for the Town of High River, by Chipman & Power, Toronto & Winnipeg, 1912, 1913, 1914. Museum of the Highwood Archives.

[4]Herbert C. Sheppard, *Spitzee Days* (Calgary: McAra Press, 1971).

realized the vast potential of the area.[5] Other townspeople praised the abundant nearby natural resources whether coal, fishing, timber or water. The town's location, beauty and natural "treasures" placed it, according to many settlers, at "the very heart of sunny Alberta, if not the hub of the universe."[6]

Energized by such booster enthusiasm, High River anglers formed one of the most powerful, outspoken, and influential conservation groups in the province. R.A. Darker had unsuccessfully attempted to establish a High River branch of the Alberta Fish and Game Protective Association in 1909.[7] By World War I, however, the time had come. Community anglers noticed by 1916 significant fish depletions in the Highwood. They became vociferous advocates for strict regulations for the next decade. Telegrams and letters postmarked High River often landed on the desks of bewildered Ottawa bureaucrats. Ranchers, farmers, lawyers – and even bedridden convalescents at the High River hospital – voiced their disapproval of officials who foolishly tampered with "natural" law or implemented what were perceived as unsound conservation policies in the Highwood area.[8]

As an organized body, the Highwood River Angling Protective Association (HRAPA), founded in March, 1920, became a powerful voice in the Department of Marine and Fisheries. H.D. Elliot, its bank manager president (and one of the town's most skilled fly fishermen), eventually

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[5]*High River Times*, January 18, 1906.

[6]*High River Times*, February 8, 1908.

[7]*High River Times*, March 4, 1909.

[8]For samples of protest letters from High River citizens, see correspondence from April, 1922; RG 23, Vol. 999; 721-4-37, National Archives of Canada (In this chapter hereafter designated "NAC").

established links with American angling groups such as the powerful Isaac Walton League of America, whose national secretary, visited the Highwood river in the mid-1920s. H.J. Morlan called it one of the greatest trout streams of the world.[9] Through American protective association newsletters, Elliot kept abreast of U.S. conservation policies. Probably he learned of "natural hatcheries" from this source. One newsletter in Elliot's possession, published by the American Game Protective Association, carried a story describing the closed tributary system at work in Quebec's Rowley Hunting and Fishing Preserve. The story promoted the simplistic logic behind closed tributaries: "The little fish keep to the small waters; the big naturally drift to the larger," the writer reported. "Even in waters which are heavily fished a constant supply of new stock may be obtained by closing to all fishing the feeder streams."[10]

Such reports impressed Elliot and Frank Watt, the HRAPA's secretary. Watt, a construction worker from Guelph, Ontario, who had come to Alberta in the late 1890s, had helped build most of bridges and civic buildings along the Highwood.[11] He also served as a school trustee in the Big Hill district, and become a driving force in the building of community halls. An avid and diverse reader, Watt kept himself well-informed on national and local issues, conservation being one of them.[12]

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[9]Morlan to Watt, October 26, 1925, RG 23, Vol. 1002; 721-4-37; NAC.

[10]File 26, RG 23, Vol. 1001; 721-4-37; NAC.

[11]*Leaves From the Medicine Tree*, High River Pioneers' and Old Timers' Association, 1960, High River. p. 413.

[12]Ibid., p. 414.

The notion that "nursery" streams could sustain fish populations on main streams impressed both Watt and Elliot. While little scientific verification of the theory existed, the closed system idea allowed the High River anglers to simplify and conceptualize complex natural processes. The anglers found the closed system theory easy to understand: newly-hatched fry and small fish stayed in smaller streams and moved into larger streams only when they grew too large for their surroundings. After a few years, a fish naturally migrated to the large main stream where it rightfully became open game to anglers.

After World War One, the High River anglers lobbied for the closed tributary system on the Highwood. With stocking programs provided by the Banff hatchery (the topic of Chapter Four) Watt presented tributary closure as a natural solution to the growing problem of tourist anglers. To Department officials he wrote in the rhetoric of the American conservationists, that closed tributaries would "serve as more or less natural breeding places for trout who [sic] when they come to a certain size will probably go into the main stream and help to keep it stocked."[13] A perpetually-bountiful Highwood, able to survive the full impact of angling pressure would result, he stated.

High River anglers began the stream closure movement in 1919 by signing a petition stating that "for the preservation of good sport," the government should close the tributary system, "the natural breeding

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[13]Frank Watt to G.C. Coote, March 27, 1922; RG 23, Vol., 999; 721-4-37; NAC.

grounds", of the Highwood for two years.[14] The streams affected would be Sullivan, Flat, Willow, Cataract, Pekisko, and Stimson Creeks.

The idea of tributary closure was not new to the Department. In 1918 George Stanley, High River's M.P., had presented the concept to the Department's aquaculturalist who inspected the streams and agreed that it might be advisable.[15] With the High River petition, however, Superintendent of Fisheries George Davidson became interested in the strategy and thought it could be extended to all tributaries in the southern Foothills. He inspected the Highwood streams that year, and found them "important as spawning grounds and should be given every bit as much protection as [the main stream]."[16]

As a solution for fish depletion, the "natural hatchery" idea quickly spread throughout Foothills communities. By fall of that year, Fish Creek anglers demanded the closing of Bow and Elbow tributaries,[17] and Walter E. Robi, of the Calgary Angling Association (formed largely to pressure the government for stream closures) asked for the closures of the Fish, Bragg and all creeks that "flow into the Bow from the north."[18] By November 1920, R.A. Darker of the Southern Alberta Angling Association (SAAA) pushed for closure of all tributaries in Southern Alberta for two years.[19] Overwhelmed

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[14]Petition, 1919; RG 23, Vol. 999; 721-4-37; NAC.

[15]Stanley to Fisher, February 20, 1919; RG 23, Vol. 999; 721-4-37; NAC.

[16]Davidson to Found, May 13, 1919; RG 23, Vol. 999; 721-4-37; NAC.

[17]Langley report with petition, August 30, 1919; RG 23, Vol. 999; 721-4-37; NAC.

[18]Robi to Finlayson, July 1919; RG 23, Vol. 999; 721-4-37; NAC.

[19]Davidson to Found, November 24, 1919; RG 23, Vol. 999; 721-4-37; NAC.

by the huge outcry for the measure the Department acted in 1921, and closed virtually all foothills tributaries for a period of two years.

Anglers debated the two-year period of closure. The Highwood River Angling Protective Association took on the issue as its primary mandate and lobbied for the permanent closure of Highwood tributaries, or if that was impossible, at least until 1925.[20] By 1927, having had most nearby tributaries closed throughout the decade, the Coleman and Pincher Creek associations successfully closed feeder streams of the Old Man, Crow's Nest, and Waterton Rivers "indefinitely" – a massive watershed including eighteen significant streams.[21]

Tributary closure was one of the most radical conservation measures of the 1920s. For almost a decade, not a single fly was cast across popular fishing creeks such as Pekisko Creek that ran into the Highwood, or Old Man tributaries. Fishing was restricted to only the main channels of the Highwood, Bow, and Old Man rivers, where, as time bore out, fishery depletions tended to continue.

The motivations behind the stream closure movement, however, were complex. One of the reasons Elliot and Watt wanted stream closures can be found in the rail branchlines and – more significant – new road systems built in the southern portions of the province, and increasing access to remote reaches of river systems. The 2A Highway south from Calgary to the western reaches of the Highwood River increased the numbers

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[20]Robi to Finlayson, July 1919; RG 23, Vol. 999; 721-4-37; NAC.

[21]See correspondence and in particular, R.T. Rodd to Found March 16, 1926; RG 23, Vol. 1002; 721-4-37; NAC.

of anglers there.[22] More elaborate road systems were created throughout the first half of the 1920s, particularly the highway extensions into the Crow's Nest Pass in 1925.[23] Albertans rambled into remote and picturesque reaches of the province, and pulled out fishing rods stored under rumble seats whenever a promising stream appeared.[24]

Contemporaries viewed with great concern such fishing within spawning beds. High River's H.D. Elliot wrote the Department that "[o]wing to good roads ... and new bridges built by the Alberta government over Sullivan's Creek and Flat Creek, tourist traffic on the river was greater [in 1922] than in any previous year, and the river fished to a greater extent than ever before."[25] Frank Watt wrote the department that automobiles had allowed angling in remote reaches of the Highwood, "with the result that the trout are very scarce and very wary."[26]

High River was not the only Foothills community witnessing a rush of tourist anglers to remote areas of main streams. The Bow, Elbow, Bragg Creek, Old Man and Red Deer rivers and tributaries were favoured by tourist anglers, who quickly proved themselves nuisances to ranchers. Along Willow Creek, for instance, "hundreds" of Nanton, Stavely, Champion and

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[22]Department of the Interior, "Sectional Map Indicating Main Automobile Roads Between Canada and United States (Pacific Sheet)", 1928.

[23]See joining of the Coleman Rod and Gun Club with the Bellevue Club in 1925; RG 23, Vol. 1002; File 721-4-37; NAC.

[24]Stanley to Fisher, February 20, 1919; RG 23, Vol. 999; 721-4-37; NAC.

[25]Elliot to Deputy Minister, November 25, 1922; RG 23, Vol 777; 781-11-1; NAC.

[26]Frank Watt to G.C. Coote, March 27, 1922; RG 23, Vol. 999; 721-4-37; NAC.

Carmangay residents camped and fished, leaving gates open and rubbish strewn over the countryside.[27]

Not surprising, ranchers supported Watt and Elliot's proposed tributary closures. A Willow Creek rancher sought stream closure, not to protect fish, but rather to protect his ranch from campers.[28] Bragg Creek community members asked for "protective" tributary closures of the Elbow after Calgary anglers proved a nuisance on riverside property.[29] Near Pincher Creek, a Todd Creek "conservationist" wanted a stream closed which ran through his property to allow him to "have fishing for himself" and "to keep others out."[30] Along Highwood tributaries, cattlemen had to "put up broken fences, shut gates, catch and remove tin cans from the lower jaw and hoofs of cattle, due to careless campers."[31] As early as 1918 George Stanley pointed out that the river's tributaries were being camped by people from Calgary, Lethbridge, Vulcan, Okotoks and other towns, "endangering the fishery."[32]

The Highwood River came under considerable stress from anglers. As early as 1909 the *High River Times*[33] had promoted the new bag

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[27]R.T. Rodd to Found, November 20, 1926, RG 23, Vol. 1002; 721-4-37; NAC.

[28]R.T. Rodd to Found, July 21, 1926, RG 23, Vol. 1002; 721-4-37; NAC.

[29]Rodd to Found, December 20, 1926, RG 23, Vol. 1002; 721-4-37; NAC

[30]R.T. Rodd to Found, May 28, 1924; RG 23- Vol 777; 781-11-1; NAC.

[31]Dave B. Blacklock, in the Calgary Herald, Feb. 13, 1928; see clipping in file 21;RG 23, Vol. 1002; 721-4-37; NAC.

[32]Departmental memo, September 5, 1918; RG 23- Vol 777; 781-11-1; NAC.

[33]Charles Clarke, editor and town booster, had difficulty dealing with the conservation movement and the message it sent to potential settlers in the area. "Knocking the Highwood, its scenery, its aquarian potentialities and its resources, has sometimes been the practice of a few...," he wrote in 1921, amidst the crises in the Highwood's fisheries. *High River Times*, June 16, 1921.

limits and strictures on the sale of trout. "A true sportsman," the *Times* argued, "will not go out of his way to help in the destruction of what is a great asset to the country."[34] In 1920, the newspaper openly blamed Calgary anglers for the decided decrease in the "fishy tribe."[35]

In the urgency to identify the culprits the anglers compiled ambitious, if suspiciously exact, statistics. In 1926, High River sportsmen reported that probably 33 anglers from Okotoks, 181 from High River, 16 from Longview, and 73 from Black Diamond had fished the Highwood. The same sportsmen had counted, however, 1,968 anglers from Calgary. On a Sunday afternoon they also counted 300 cars of anglers passing the first rancher's gate some thirty kilometers west of High River, deep in tributary country. They claimed that all of these people were tourists who "visit our enticing pools and beautiful runs to be found along the course of the alluring Highwood River."[36]

Ever protective of their river, High River anglers showed little charity towards tourists suspected of injuring their sport fisheries. Visitors caught on closed waters were consistently given the highest fines in the province. Two anglers caught on Pekisko Creek – a closed tributary of the Highwood – were given $50 fines, and the following year four others were awarded the same judgement, the highest fines awarded in the province. Moreover, the High River Angling Protective Association (HRAPA)

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[34]*High River Times,* April 22, 1909.

[35]Ibid., August 26, 1920.

[36]Elliot to Found, Feb. 19, 1926, RG 23, Vol. 1002; 721-4-37; NAC These observations were confirmed by the Department's J.E. Martin, of the Banff Hatchery who estimated by the end of the decade that the Highwood was the most intensively fished stream in the district. J.E. Martin report, December 31, 1928, RG 23, Vol. 779; 718-11-1; NAC.

demanded $1000 fines for such an offence, (tin signs nailed onto nearby trees ominously announced "You're liable to a fine of $1,000 and imprisonment if apprehended fishing illegally. BEWARE").[37] Members became vocal watchdogs at poacher trials, insisting on high fines or waiving the fine if the visitor promised to leave the area and never come back.[38]

Calgary newspapers noticed the somewhat lynch-mob quality to the HRAPA whose members attended the trial in 1926 of two Calgary anglers found fishing Pekisko Creek. The HRAPA members unsuccessfully pressured the magistrate to award the offenders $1000 fines. "High River anglers," the *Calgary Herald* noted dryly, "are taking their fishing propensities seriously."[39]

The HRAPA fully participated with the Department in conservation regulation and enforcement. Such partnership was demonstrated by Watt's exhaustive "annual reports" sent to Ottawa each fall. They detailed the condition of the river, numbers of anglers, success of fish stocking programs, and problems the Department should act upon such as the growing menace of predatory "course" fish.[40]

Partnership was also demonstrated in some of the most sensational poacher trials in the province's history. Those had largely been orchestrated by the Calgary Fisheries Overseer, D.A. Richardson, who often

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[37]See Report of the Highwood River Angling Protective Association, 1924, File 26, RG 23, Vol. 1001; 721-4-37; NAC.

[38]61th Annual Report, Fisheries Branch, Department of Marine and Fisheries: 1927-28 (Ottawa: King's Printer, 1928)p. 185.

[39]See clipping, RG 23 Volume 733; 715-12-1, File 8; NAC.

[40]Elliot to Found, Feb. 19, 1926, RG 23, Vol. 1002; 721-4-37; NAC.

involved local anglers to convict poachers. In 1929, for instance, Highwood Guardian Sam Smith arrested two Turner Valley sportsmen who had rented a cabin near the Highwood for day-hunting trips. An over-the-limit cache of trout found in the cabin landed the two in a courtroom where both the Department and HRAPA conspired to prove them guilty. Sam Smith began by delivering his testimony. Overseer Richardson, who drove down to High River to join the proceedings, acted as court stenographer. A.A. Ballachey, by then president of the HRAPA and a prominent High River lawyer, represented the crown (free of charge). Meanwhile other High River anglers and townspeople crowded the courtroom for the four-hour trial. It became "the most important and impressive hearing that has occurred in my district," Richardson reported to his superiors. Even though he lost the case, Richardson said the public attention generated during the trial had helped the conservation cause. [41]

Richardson worked with other associations in much the same manner. In 1928 he rallied the Didsbury Fish and Game Protective Association to try four town youths suspected of having dynamited a trout stream. The local protective association rented a movie theatre for a capacity-audience trial, one which the Crown won. "The general public is now realizing that strict enforcement of the Regulations is necessary," Richardson wrote, "and that the public sentiment is against such offenses."[42]

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[41]See Correspondence between Richardson and R.T. Rodd, December, 1929 - January 1930; RG 23 Volume 733; 715-12-1; NAC.

[42]R.T. Rodd to Found, August 24, 1928; RG 23 Volume 733; 715-12-1; NAC.

The degree to which the "natural hatchery" policy of stream closure was popularized by xenophobia and distrust of tourist anglers remains unclear. The program's implementation, however, reveals how closely the fish protective associations worked as advisors to the Department on key conservation issues.

Interestingly, scientists such as E.E. Prince, the Department's fish specialist, did not endorse the policy of stream closure. Prince viewed nature through narrow, focussed inquiry which often concentrated upon a species' spawning and egg times, as he believed conservation policies were most effective if they acted in harmony with such natural cycles.[43] To Prince, anglers had to be constrained in the size of the fish they caught (size limits), and in time of the year in which they caught them (season dates). This was contrary to the philosophy of the stream closure movement which largely de-emphasized size and season date considerations while emphasizing *where* anglers were allowed to catch fish.

Ultimately, the way each group determined the value of a natural resource separated the angler from the scientist. Prince believed a fish's value increased when it neared spawning time. As Prince explained in a memo, a female (a few days before spawning) had greater value than the same female earlier in the season – much like a canvass had greater value when a painter had nearly finished it than when he first began.[44] To Prince, then, a conservation policy changed throughout the year and protected a fish

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[43]Prince stated that if fish are protected at spawning, "it is the most effective measure possible for the perpetuation of the fish supply." Edward E. Prince, "The Object of a Close Time for Fish", (Ottawa: 1899), p. lxxv. Canadian Institute for Historical Microreproductions (In this chapter hereafter referred to as "CIHM") No. 17035

[44]Ibid., p. lxxvi.

more if it was near spawning, less if it was not. Anglers, on the other hand, determined a fish's value according to its geographic location. Those fish closest to spawning beds high in tributary systems, received maximum protection from such anglers. Those in the main stream, however, became open game.[45]

Undoubtedly ranchers angered, or just bothered, by tourist anglers generated much of the popularity for stream closure. As the High River association explained, "the men living along those [closed] creek would feel more disposed to tell a fisherman to go elsewhere than they would to examine a creel [or] to check up on a man's catch if the creeks were open."[46] It was simply easier to *ban* anglers from areas than monitor the size and numbers of the fish they caught.

The Department's acquiescence to stream closure exhibits how close fishing associations – and in particular, powerful Calgary associations – were connected to decision-making. Anglers created and promoted the idea of tributary closure. When the Department finally closed all tributary streams in Southern Alberta, often it did not even know the names or existence of some of the streams it closed.[47] The final decisions were made within the Southern Alberta Angling Association executive, still under the presidency of R.A.

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[45]The views of both scientist and angler at this time indicates how little was known about stream ecology. Not until the 1950s were the ideas of scientists and anglers, embedded in tributary closure and stocked stream policies, radically overturned. This occurred when the Provincial Government funded the examination of fish living in tributaries and the success of stocking programs. R.B. Miller, "The Regulation of Trout Fishing in Alberta", *The Canadian Fish Culturalist*, published by the Department of Fisheries, Ottawa, issue 14, October 1953.

[46]High River Association to Cootes, April 18, 1922; RG 23, Vol. 999; 721-4-37; NAC.

[47]The first notices of closed streams in the *Canada Gazette*, misidentified most of them. See Douglas to Department, June, 1919; RG 23, Vol. 999; 721-4-37; NAC.

angry that Calgary anglers had meddled in their affairs and recommended closures of their streams.[49]

Clearly embarrassing to the Department was its closing of Red Deer River tributaries in 1920, further evidence that the SAAA had largely determined the policy's implementation. An irate Senator Michener, who owned a cabin near one of the closed streams, reminded officials that they had overlooked the fact that Red Deer tributaries were pike and pickerel streams, containing virtually no trout.[50] The area's inspector, George Davidson sheepishly admitted his error, explaining that he had asked the Southern Alberta Angler's Association members to "get into communication with as many fishermen residing outside Calgary as they could getting their opinions on the advisability of their desired action [closing Red Deer tributaries], pointing out to the Association that it would hardly be fair to make any recommendations of this nature to suit the wishes of fishermen who were residents of Calgary only...." Clearly, the SAAA had canvassed only a cursory number of anglers beyond city limits.

The government simplified the task of research by consulting such associations rather than independent anglers.[51] Bureaucrats could also fall back on the platitude that by consulting associations they were being more "democratic" than if they had sought information from fishermen "here and there" in the province.[52] The policy of allowing associations to decide

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[49]Gillespie to Hawkins, June 22, 1920; RG 23, Vol. 999; 721-4-37; NAC; Ebbert to Shaw, May 6, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[50]See correspondence between Davidson, Michener and Found in May, 1920; RG 23, Vol. 999; 721-4-37; NAC.

[51]Davidson to Found, Feb. 25, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[52]Davidson to Found, May 13, 1920, RG 23, Vol. 999; 721-4-37; NAC.

who were residents of Calgary only...." Clearly, the SAAA had canvassed only a cursory number of anglers beyond city limits.

The government simplified the task of research by consulting such associations rather than independent anglers.[51] Bureaucrats could also fall back on the platitude that by consulting associations they were being more "democratic" than if they had sought information from fishermen "here and there" in the province.[52] The policy of allowing associations to decide regulations, however, had one clear disadvantage. Associations throughout the province hardly shared the same vision of nature, or the proper approach to conservation. The issue of stream eugenics – the topic of Chapter Four – clearly caused a division among the associations. By 1922, Calgary anglers had largely tired of closed streams – possibly because they saw no immediate improvement in rivers, and partly because they missed fishing in their tributaries – and advocated opening Highwood streams to fishing.[53] High River anglers called such "selfish" sportsmen narrow-minded, and balked at their reopening.[54] While they succeeded in keeping Highwood tributaries closed, the Department by 1923 had thrown open many in the Foothills watershed, closing them whenever stream depletions became too great.

The issue of stream closure illuminated the philosophical - differences – and political infighting – between associations. This conflict clearly undermined the movement towards a powerful, province-wide

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[51]Davidson to Found, Feb. 25, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[52]Davidson to Found, May 13, 1920, RG 23, Vol. 999; 721-4-37; NAC.

[53]See Cameron to Department, April 1, 1922; RG 23, Vol. 999; 721-4-37; NAC. Also, "Resolutions by the Calgary Anglers Association", January 24, 1921; RG 23, Vol. 999; 721-4-37; NAC.

[54]Watt to Coote, March 27, 1922; RG 23, Vol. 999; 721-4-37; NAC.

protective association. Not until 1928 was it possible for delegates from twenty-two local organizations to meet in Calgary to form the present-day Alberta Fish and Game Association which soon had thirty-eight locals firmly under its control.[55] Before that, the issue of stream closure and strategies in stream eugenics separated conservation movements.

The stream closure issue demonstrated how close the Southern Alberta Angling Association and other important associations such as at High River, worked with bureaucratic policy-makers. Progressive Conservation in Canada did involve the consultation of experts in deciding policies, but those experts were not exclusively "scientists". The implementation of tributary closure, for instance, has to be assessed as it was: a non-scientific attempt at conservation. Certainly Edward Prince did little to encourage the policy, or investigate its scientific credibility. Progressive Conservation drew from both the perspectives of common citizens and scientists. On the issue of the Banff hatchery, the views of these two "experts" were once more joined in the attempt to make Alberta streams superabundant.

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[55]Margaret Lewis, *To Conserve a Heritage,* (Calgary: The Alberta Fish and Game Association, 1979), pp. 5-6.

Chapter Four
The "Angler's Best Friend": The Banff Hatchery and the Ethics of Conservation

The construction of the Banff hatchery in the shadow of the Banff Springs Hotel in 1913 crowned Progressive Conservation efforts in the Alberta Foothills. Inside the rectangular, one-storey building, four wooden troughs were suspended three feet from the floor. Water tapped from the townsite's water main gurgled over wooden shutters slowly agitating eggs which, once hatched, were placed in brooding ponds where fry grew before the eyes of tourists. The atmosphere was clinical, controlled, and inspired by the ideal of Progressive Conservation. Indeed, the capacity of the hatchery was enthusiastically publicized as about 2,000,000 fry per year.[1]

The hatchery's location far from foothills streams, roundly criticized as impractical by many administrators,[2] was a logical extension of the Progressive Conservation ethic in Western Canada. Banff officials wished to have the hatchery as prominent as possible. Their message to tourists was clear: Humans were scientifically "keeping up" to the demand for sport fish.[3]

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[1]For descriptions of the Banff hatchery see memo, September 1913; RG 23, Vol. 395, File 3737 Part I; National Archives of Canada (In this chapter hereafter designated "NAC") Also, see Forty-seventh Annual Report of the Department of Marine and Fisheries for the year 1913-14 - Fisheries. Sessional Paper No. 39, (Ottawa: King's Printer, 1914) p. 316.

[2]Findlayson Reports to Department, May, 1913; RG 23 Vol. 395, File 3737, Part I; NAC. Because of Banff park's location, fry had to be taken by train to Calgary and redirected up or down the Calgary-Edmonton Railway to distribution sites – a costly and tedious procedure for hatchery staff. RT Rodd to JA Rodd, September 23, 1920; RG 23- Vol 777; 781-11-1; NAC.

[3]In the context of lake fishing in Manitoba, where commercial ventures threatened by 1909 to deplete whitefish, a fisherman appealed to the government for ten hatcheries on Lake Winnipeg. "There are scientific ways of using the hatcheries the way they should be ... to

The hatchery was stopping "waste" in nature by helping fry "fight their own battles" in hostile stream environments.[4] Furthermore, the hatchery would transform even the best Alberta streams into teaming trout beds.[5]

This chapter examines the development and associated philosophy of aquaculture in Alberta. Anglers attempting to make streams abundant and scientists working to make them "efficient" radically altered existing ecosystems while promoting new ideals in nature – a new ideal created by both science and the common citizen in the era of Progressive Conservation.

Although the Banff hatchery was not built until 1913,[6] hatcheries were an integral component of Progressive programs in eastern Canada before the turn of the century.[7] In Alberta, the leader of the Alberta

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keep up with the supply." he wrote. Joseph Sigurdson to Department, RG 23, Vol. 365, File 3216, Part I; NAC.

[4]Edward E. Prince, "Methods of Coarse Fish Extermination", Report II, *Thirty-Seventh Annual Report of the Department of Marine and Fisheries for the year 1904*, Sessional Papers No. 22, (Ottawa: King's Printer, 1905) p. xxi.; "What Fish Culture Means" was one of the first Press Bulletins issued by the Fisheries Branch in June, 1920. See Press/ Publicity Files, June 20, 1920 bulletin, RG 23 Vol. 1558; 775-9-2; NAC.

[5]"Banff Fish Hatchery: Angler's Best Friend", *Calgary Herald*, June 18, 1925.

[6]The same year, another hatchery was built on W.H. Cohen's Belgian Horse Ranch near Calgary. Findlayson's Report to department, May 7, 1913; RG 23 Vol. 395 File 3737 Part I; NAC.

[7]Samuel Wilmot, a fishery officer in Upper Canada began fish ponds experiments in 1865 and within a year of Confederation, Wilmot's Newcastle hatchery was incorporated into the Department of Marine and Fisheries as a distinct aquaculture program, unlike in the U.S. where federal programs did not exist until 1871. By 1886, Wilmot had created twelve hatcheries operating Canada placed in British Columbia (1), Nova Scotia (2), Prince Edward Island (1), New Brunswick (2), Quebec (4) and Ontario (3). - May, 1887, Samuel Wilmot Files 1822 - 1899; Interim Access, Royal Ontario Museum Archives. For a history of aquaculture in Canada, see E.E. Prince, "Fish Culture in Canada," from Transactions of the Ottawa Literary and Scientific Society, Read March 23, 1900; See *Report of the Department of Marine and*

Fisheries Commission of 1910/ 11 recommended the building of a provincial hatchery as a necessary extension of local regulations.[8]

Anglers were already enthusiastic proponents of the project, arguing that stream superabundance could only be achieved with fry produced in a western hatchery. Regulations such as season dates, bag and size limits could create a safe and "efficient" environment for preferred species, but only a hatchery could keep Alberta streams filled with trout. Most anglers were influenced by their experience in the United States where fisheries strategies included, first, a nearby hatchery producing "gamier" trout and, second, extermination programs ridding waters of nuisance varieties. To sportsmen, the vision of an abundant trout population unhindered by coarse rivals such as ling, suckers and pike beckoned behind the hatchery concept.[9]

The Banff hatchery, however, despite the hopes and philosophies it represented quickly disappointed both anglers and government officials alike when it opened in 1913. The facility hardly met production capacity during the first five years of operation, especially when the European war cut back funding for staff and supplies.[10] A more fundamental problem resided in the hatchery's incompatibility with the

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Fisheries for the year ending 30th June, 1869, Sessional Paper No. 11, (Ottawa: King's Printer, 1870), p. 50.

[8]For an idea of the many letters reaching the Department see May 1911 file; RG 23 Vol. 395 File 3737 Part I; NAC.

[9]E.S. Leonard spoke to Edmonton anglers about the success of artificial hatcheries in 1920. Alberta Fish and Game Association Files, Minutes from March 3 and March 26, 1920; Acc. 87.3271/2; Alberta Provincial Archives.

[10]The hatcheries output dropped to 404,000 in 1918. See Fifty-second Annual Report of the Fisheries Branch, Department of the Naval Service for the year 1918, (Ottawa: King's Printer, 1920) p. 14.

western environment. Rock blasting at Banff killed the hatchery's entire first crop of eggs in 1913.[11] The task of collecting cut throat eggs – the trout native to the area and most preferred by the Department – proved a frustrating assignment to fisheries staff whose nets washed away in spring flushes on the Bow River at Jumping Pond and elsewhere on Foothills streams.[12] By 1915, the egg-collecting staff had to work on Boom Lake in Kananaskis where they obtained a meagre 112,000 cut throat eggs. They joined the eggs and the milt of male fish on location, carried them in pails seven miles, and finally shipped them by rail back to Banff.[13] The hatchery staff, and particularly J.A. Rodd, Superintendent of Fish Culture, realized that if the hatchery produced only native cut throat, the Department could hope to produce – at best – only 120,000 fry a year from its Western hatchery.

A curious dilemma now arose for Departmental staff. Bouyed by public enthusiasm, the Department had opened a new hatchery but it had no way to stock it with eggs. To bolster production, the Department of Marine and Fisheries hurriedly tied the facility to the massive egg facilities at Port Arthur, Ontario. Of four Eastern Canadian hatcheries handling almost a billion trout eggs a year, the Port Arthur hatchery received about twelve million from the Great Lakes area. These were "eyed" at that location, a term referring to the fertilization of an egg which leaves a dark black spot in the middle of the egg. A portion of these eyed eggs, sometimes about 500,000,

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[11]Report for the years 1913-14; p. 310.

[12]Ibid.

[13]49th Annual Report for the Fisheries Branch, 1914-15, p. 313.

were then sent to Banff for hatching.[14] With collection of native fish eggs failing, the Department redeemed the reputation of Banff hatchery by producing Great Lakes salmon trout, Atlantic salmon, and lake herring until the 1920s.[15] Distribution sites included Lake Louise, Moraine, Minnewanka and other Jasper and Banff Lakes.[16]

Lake stocking, however, was not the program of choice for Alberta administrators, nor local anglers who had lobbied for the hatchery's construction in response to river depletions. Banff National Park officials pressed for greater stream trout output also. By the turn of the century, the U.S. Fish Commission had poured millions of brook, rainbow and black spotted trout fry into streams in parks such as Yellowstone. Concerned Canadian officials feared now that the Americans would attract tourists away from Banff.[17] From 1904 to 1908, Banff officials tried to follow suit by stocking within Park boundaries, but the meagre numbers of fry and fingerling barely surviving the train ride west hardly sufficed.[18]

Massive, almost fantastic, transplanting schemes followed in 1906 and 1907. Those years, the Department converted rail cars into giant, rolling aquariums swimming with thousands of small-mouthed black bass. About 5,000 fish miraculously survived the journey from Ontario, although inclement weather almost froze the car's contents on both occasions. The fish

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[14]49th Annual Report of the Fisheries Branch, 1915-16; pp. 373-374.

[15]51st Annual Report of the Fisheries Branch, 1917; p. 21.

[16]48th Annual Report for the Fisheries Branch, 1914-15, p. 340.

[17]Whyte to Beatty, 1906, RG 23, Vol. 337, 2939; Reel T-4023; NAC.

[18]Whyte to Beatty, 1906, RG 23, Vol. 337, 2939; Reel T-4023; NAC.

jiggled in milk pails in Calgary-Edmonton railway cars to Sylvan, Buffalo, Pine, Lacombe, Gull and Cooking Lakes.[19] Although black bass were caught in Alberta lakes such as Sylvan for almost a decade, the Department had learned an "object lesson as to the trouble and expense of transporting these fish."[20]

Failed transplanting schemes placed the Banff hatchery under significant pressure to increase production, especially after the First World War when stream depletions became most apparent. By that time, the Department was overwhelmed by letters from farmers, ranchers, and one-room school teachers asking for fry to stock lakes, streams, backyard sloughs and salty cattle baths.[21] Even the owner of a Medicine Hat hotel with an eye for the publicity potential, requested fry for a pond where he hoped to stage a "fish show."[22] Beyond these impossible requests, the Department faced the demands of fish protective associations working on the Highwood, Bow, Oldman and Red Deer rivers.[23]

Further pressure came in more subtle, if not embarrassing forms. Banff officials learned in 1920 that the U.S. Department of Fisheries had stocked the headwaters of the Belly River after Canadian anglers had

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[19]J.A. Rodd to Hoyes Lloyd, January 17, 1923; RG 23- Vol 777; 781-11-1; NAC.

[20]Young to Prince, October 1902 letter, RG 23, Vol. 337, 2939; Reel T-4023; NAC.

[21]Desbarats to Eye Hill school teacher, April 9, 1918; RG 23- Vol 777; 781-11-1; NAC.

[22]Fleming to Harkin, March 18, 1921; RG 23- Vol 777; 781-11-1; NAC.

[23]See the Highwood River Angling Protective Association demands for 1.5 million cut throat fry – an impossible request in light of Banff's production capacity. Lane to Department, April 16, 1919; RG 23- Vol 777; 781-11-1; NAC. The group also threatened to buy exotic trout from Oregon fish farmers if the Department did not supply them with sizeable quantities of fry. Watt to J.A. Rodd, October 28, 1919; RG 23- Vol 777; 781-11-1; NAC.

requested their help.[24] By 1922, the U.S. Bureau of Fisheries donated further shipments. An American official wrote to his Canadian counterparts, "we are joining hands with you in planting along the world's greatest border line these evidences of our mutual good sportsmanship."[25]

In the face of continued stocking pressure, embarrassing American charity, and a clear indication that coldwater streams were rapidly depleting, the Department systemized its allotment scheme. With few numbers of fry to distribute, Banff hatchery officials developed a "zoning" concept much in keeping with single crop farming in Western Canada.[26] Fish culturists likened their work to the western farmer's: they grew one strong strain of fish in the greatest quantity to meet the needs of the greatest number of consumers.[27] J.A. Rodd, the aquaculturalist for the Department, explained that "fish culture or aquiculture in its relation to water is somewhat similar to agriculture in its relation to land." Farmers avoided introducing root crops in grain or grazing districts, Rodd explained, and the "aquaculturalist" knew that as some soils prove best for certain crops, "so are certain types of water best adapted for certain species of fish...."[28]

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[24]The U.S. Department of Fisheries donated 400,000 Rainbow in 1920. L.A. Ferguson to E.G. Langley, July 3, 1920; RG 23- Vol 777; 781-11-1; NAC. The fry died in transportation due to overheating. R.T. Rodd to J.A. Rodd, Sept 5, 1920; RG 23- Vol 777; 781-11-1; NAC.

[25]U.S. Bureau of Fisheries letter to the Department, April 25, 1922; RG 23- Vol 777; 781-11-1; NAC.

[26]See V.C. Fowke's *The National Policy and the Wheat Economy*, p. 282.

[27]The methodology of fish culture work was likened to the farmer's in "Fish Hatcheries and Fish Food", *Conservation*, Vol. II, No. 6, July 1913, p. 1.

[28]J.A. Rodd to Gillespie, November 14, 1928, RG 23, Vol. 779; 718-11-1; NAC.

By the end of the 1920s, then, Banff's hatchery officials encouraged only one "crop" species per watershed in the Alberta Foothills. Although the policy was ill-defined in the first half of the decade, by 1925 rivers north of Red Deer were stocked strictly with Rainbow. In the South Saskatchewan, where fall-spawners such as Dolly Varden resided, brown trout were added from Eastern Canadian stock. Loch Leven, a robust Scottish trout of massive girth, was added to Red Deer Tributaries and the few numbers of cut throat available were stocked in Banff.[29] From Calgary to the border, rivers were stocked with rainbow with the exceptions of a few streams in the southern Foothills where cut throat was released.[30]

Banff officials hoped that such allocations could be concerted with selective breeding and extermination schemes, and the lingering philosophies of Natural History. As historian Lynn Barber points out, an implicit utilitarian mandate was associated with 19th Century naturalists, that "everything in nature was created for man's convenience." Nature was to serve humans, and naturalists often set for themselves the task of determining "whether particular organisms could be considered 'good' or 'not good'."[31] Natural Historians were by no means passive observers and mosquito-netted collectors: they were actively assessing God's creation. John Macoun had already sought the "good" elements of nature for Canadian

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[29] *Calgary Herald*, November 24, 1928, RG 23, Vol. 779; 718-11-1; NAC.

[30] Found to Webster, April 16, 1928, RG 23 Vol. 778; 718-11-1; NAC.

[31] Lynn Barber, *The Heyday of Natural History: 1820- 1870,* (London: Jonathan Cape, 1980) p. 74 - 79.

western development by the turn of the century.[32] In Alberta , the provincially-funded Alberta Natural History Society likewise focussed research on pests, weeds and vegetation – issues which had implications for the province's agricultural success.[33] Indeed, as the society's president stated in 1908, the group's duty was to disseminate its research to farmers so they could "distinguish friend from foe and thus save the one and destroy the other."[34]

The notion of "good" and "not good", "friend", and "foe", was quite transferable to the the ideas promoted in eugenics theory.[35] Scientists embarking on the new era of conservation embraced a combination of Natural History and eugenics. A Department inspector travelling through Kananaskis, for instance, cited Spray Lakes as a future site of cut throat egg production because bull trout, Rocky Mountain whitefish and suckers ranged throughout its waters. He explained that when the cut throat had enemies, it grew to "perfection and is a fighting fish of the first water."[36]

The direction for both Departmental scientists (such as Prince), and Alberta fishing associations, became to create aquatic environments

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[32]See W.A. Waiser, *The Field Naturalist: John Macoun, the Geological Survey, and Natural Science*, (Toronto: University of Toronto Press, 1989).

[33]See Annual Report of the Alberta Natural History Society, 1915, in Annual Report of the Department of Agriculture of the Province of Alberta, 1915, (Edmonton: King's Printer, 1916), p. 307.

[34]Annual Report of the Alberta Natural History Society, 1908, in Annual Report of the Department of Agriculture of the Province of Alberta, 1908, (Edmonton: King's Printer, 1909) p. 247.

[35]See Angus McLaren, *Our Own Master Race: Eugenics in Canada: 1885 - 1945*, Toronto: McClelland & Stewart Inc., 1990.

[36]Report of fishery inspector to Department, September 3, 1913; RG 23 Vol. 395 File 3737 Part I; NAC.

which best challenged the most preferred species of trout. They also sought to promote competitive environments described by Darwin in order to bolster a fish's superior characteristics. The Banff hatchery, even if it supplied only a meagre amount of "superior" trout, could serve a vital role in making streams "better". Eventually the boney pike or impalpable sucker could be supplanted by healthier, larger and gamier trout. The specialized scientist such as Prince in fact had a methodology most suitable to such eugenics. By focusing on species, rather than ecological relationships, Prince believed in actively encouraging "good" species and discouraging – even exterminating – "evil" or "degenerate" species within the Canadian wilds.[37]

Prince, and Alberta anglers used a host of criteria to determine whether a species was "good" or "evil" including its utility, fight, aesthetics, and, possibly, its conformation to common Edwardian virtues. The resulting hierarchy of fish species developed almost immediately after Western Canadian settlement. Initially, newcomers to Canada's West tended to idealize the varieties of sport fish they had left in Ontario, the New England States, and – less often, Europe – and attempted to transplant them in the west at the expense of local varieties. In 1903, CPR employees brought the first shipment of speckled trout by train from Lake Nipigon in Ontario and planted them in the Bow River at Banff. "By far the best fish in these

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[37]Edward E. Prince is a good representative of the specialized mind for the period. See Edward E. Prince, "The Object of a Close Time for Fish," Canadian Institute for Historical Microreproductions (In this chapter hereafter designated CIHM) No. 17035, University of Calgary Library, (Ottawa: King's Printer, 1899(?) p. lxxviii. Edward E. Prince, "Methods of Coarse Fish Exterminations", Special Report II, *Thirty-seventh Annual Report of the Department of Marine and Fisheries - Fisheries, for the year 1904*, (Ottawa: King's Printer, 1905). Edward E. Prince, "Fish Culture in Canada", from *Transactions of the Ottawa Literary and Scientific Society*, read March 23, 1900, p. 178.

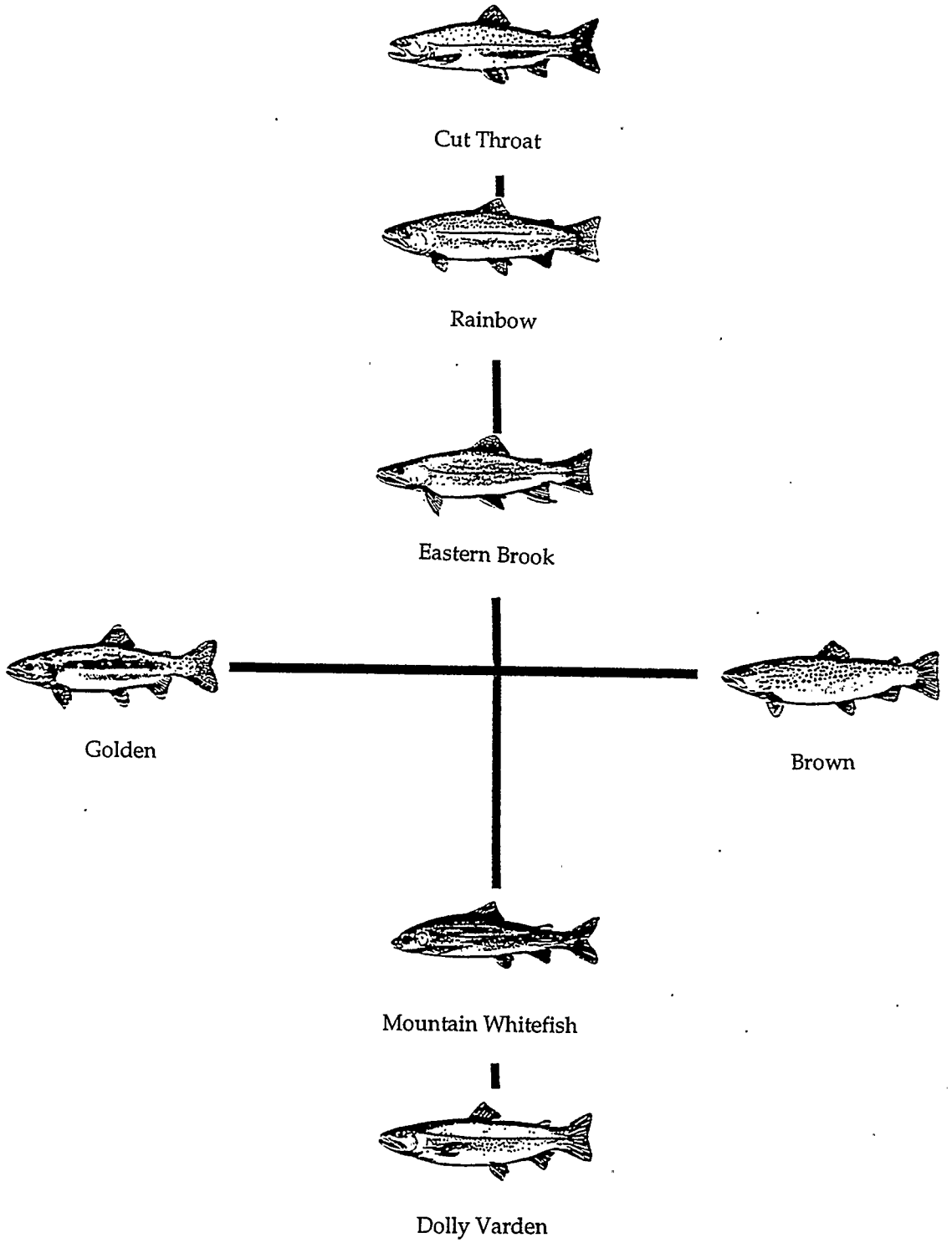

Figure 2: Preferred Sporting Fish Species in Alberta, 1902 - 1930

waters," one angler said, "being much handsomer and gamier than any native trout."[38] Between 1904 and 1908 more shipments of brook trout from Lake Nipigon and speckled trout from Osceola, Wisconsin reached Banff waters.[39]

Original setters to the region, however, were less inclined to favour arbitrarily an eastern species over a native one. According to a CPR consultant at Banff, advising the company about preferred sport fishes available at the park, the rainbow trout (probably from the Athabaska region) ranked highest in form, size, colour, flavour and "gaminess." Next came the smaller brook trout from eastern Canada. The consultant then preferred the Rocky Mountain brook trout, probably originating on the western side of the Rockies. The fish ranking lowest on the hierarchy was the native bull trout, "an awkward country cousin ... of insipid flesh."[40]

Fish were ranked according to a number of factors. Aesthetically-pleasing species ranked higher than ugly ones. Edibility was also important to early fish conservationists. As Edward Prince observed, tourists and "inferior anglers" enjoyed catching the bull trout because of their size, "but as a food and in other respects it is not at all esteemed."[41] "Gaminess", Prince maintained, was one of the greatest determinate factors – how well a fish fought against an angler's line. Within the Social Darwinian milieux of this

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[38]William Mather (Angler) to J.B. Harkin, November 15, 1913, RG 84, Vol. 70; U3-1-1 Part I.

[39]In 1904, 506 Brook Trout from Nipigon Lake, ON; 1905, 500 Brook Trout; 1906, 2040 Speckled Trout and 900 Large Trout from from Osceola, Wis., 1907, 4000 Trout Fry from Wis.; 1908, 750 2-year-olds, and 10,000 Trout fingerling from Wis. Whyte to Beatty, 1906, RG 23, Vol. 337, 2939; Reel T-4023; NAC.

[40]Witcher's Report to White, December 31, 1886; RG 84, Vol. 70, U3-1-1 Part I; NAC.

[41]Memo by E.E. Prince, June 26, 1924, RG 23, Vol. 1001; 721-4-37; NAC.

period, the bull trout's listless characteristics and failure to resist capture actively made it a pitiful creature, one hardly worthy of Departmental protection.

More noble species such as the cut throat, described by the Department's chief inspector as "the better class of fish,"[42] fought well against a line and worthily competed in a stream environment. Moreover, it manifested the strength of Edwardian moral fibre. Early anglers and Departmental officials almost unanimously placed the cut throat in the highest position on the species hierarchy, partly because of its ancestry linked to the pacific salmon – the "king of game fishes."[43] The Alberta Fish Commission of 1910/ 11 decided that the "Red-Throat", or cut throat, merited chief protection in Foothills regulations.[44] "It is as graceful in form and in its silvery hues as it is bold and strenuous in game qualities," the commissioners' report read.[45] Dr. Sisley, one of the Commission's co-writers, published an article for the *Canadian Alpine Journal*, describing the fish "beautiful ... [i]t rises readily to the artificial fly and when caught puts up a very gamey fight."[46]

The cut throat gained esteem in other ways. The disappointing numbers of cut throat produced at Banff hatchery – rarely did the facility

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[42]Desbarats Letter, April 9, 1918, RG 23; Vol. 777, 781-11-1; NAC.

[43]For an excellent contemporary view of Trout species on the eastern slope, see Fishing Commission 1910-11 Report, pp 35-36; RG 23, Vol. 366, File 3216 Part III; NAC.

[44]EE Prince Memo to department, February 26, 1917; RG 23, Vol. 999; 721-4-37; NAC.

[45]Fishing Commission 1910-11 Report, p. 36; RG 23, Vol. 366, File 3216 Part III; NAC.

[46]Euston Sisley, "Fish of the Eastern Slopes of the Rockies", *Canadian Alpine Journal*, (Winnipeg: Alpine Club of Canada, 1911) 3, pp. 114 - 115.

hatch any more than 500,000 cut throat eggs[47] – seemed to give the species even greater worth in anglers' minds. Particularly along the Highwood River, the myth of the "disappearing cut throat" took root in civic minds. By the 1920s, High River anglers were adamant that the original "fishy tribe" had been fished to depletion in the 1880s and 90s and coarser and "less noble" varieties had since made their way into their stream and tributaries. Suckers and bull trout, Rocky Mountain whitefish and even perch denigrated the Highwood, a river once thriving with cut throat. What infuriated anglers further was that coarser species ate the eggs of surviving cut throat, ensuring a continued depletion. When anglers almost unanimously agreed that the Highwood was "one of the greatest countries in which the Lord has ever allowed a man to cast a hook," their pining for the nearly exterminated cut throat led to outrage, even vendetta, against "coarser" species.[48]

The clear preference given to one species over another is displayed in Departmental memos and reports. According to the Alberta Fishing Commission of 1910/ 11, the cut throat was a "bold fighter" which "will give more sport than a salvelinus (a bull trout) of five times the size."[49] The cut throat also conformed to standards of Edwardian morality, especially within the thorny issue of cannibalism. Strictly insectivorous, the cut throat rated far more virtuous than the bull trout, a "cannibal" which the commissioners wrote, was "voracious, feeding greedily on its own and other species, and usually skulk[ing] at the bottom of pools or behind a stone ready

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[47]Desbarats to Tweedie, April 24, 1919; RG 23- Vol 777; 781-11-1; NAC.

[48]Dave Blacklock's speech to High River Fish and Game Protective Association, 1925; File 28, RG 23, Vol. 1002; 721-4-37; NAC.

[49]Alberta Fishing Commission 1910-11 Report, p. 37; RG 23, Vol. 366, File 3216 Part III; NAC.

to pounce upon any passing fish."[50] Obvious lack of sexual self-control lent more criticism to coarser fish. As Prince stated in an article entitled "Methods of Coarse Fish Extermination", inferior fish increased in streams faster than superior fish because of their "prolific character."[51] He had earlier criticized the German carp because he thought it spawned more than twice a year.[52]

The outrage directed towards inferior, interloping trout motivated radical stream eugenic policies throughout the southern portions of the Rocky Mountains. In High River, anglers formed the Highwood River Angling Protective Association primarily to encourage cut throat restoration in the Highwood[53] and by 1922 (after three years of mostly failed fry plantings and tributary closures) the group became more radical, advocating extermination of fish harming their cut throat stock. Noticing bull trout as far up the river as the Forest Reserve and Suckers in almost every pool up to 35 miles west of the town,[54] anglers asked the government for permission to wage all-out war on the pest and other coarser varieties. Conservative approaches included requests for late fishing seasons which would cut into

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[50]Ibid., p. 42.

[51]Edward Prince, "Methods of Coarse Fish Extermination", *Thirty-seventh Annual Report of the Department of Marine and Fisheries for the Year 1904*, Sessional Paper no. 22, (Ottawa: King's Printer, 1905), p. xxi.

[52]Edward E. Prince, "The Place of Carp in Fish-Culture", Special Reports No. 3, Supplement to the 29th annual Report of the Department of marine and Fisheries - Fisheries, for the year 1896, (Ottawa: Government Printing Bureau, 1897), p.30

[53]The Association to the Minister, April 8, 1922; RG 23, Vol. 999; 721-4-37; NAC.

[54]See Report of the Highwood River Angling Protective Association, 1924, File 26, RG 23, Vol. 1001; 721-4-37; NAC.

the bull trout's fall spawning times. Similarly, children and fishermen alike were encouraged to kill pike in or out of season on sight . "[T]hey are deadly to the cut throat, our sporting fish," a member explained to the government.[55]

Only fishery officers and staff could attempt to exterminate fish. Officers dynamited pools where suckers dominated, or weeded out pike during low water level times.[56] Consistent with its policy of preventing settlers from taking the law into their own hands, the Federal government refused to give anglers the right to weed coarse varieties from their rivers – except during regular fishing seasons when it allowed generous bag limits were allowed to encourage stock depletions. On trout streams (generally flowing south of Edmonton in the foothills) the government granted larger bag limits on pike within angling seasons. On streams where there was no trout, grayling or Rocky Mountain whitefish – and hence, no official "sport" fishing – there remained no restrictions on angling throughout the 1920s.[57]

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[55]See the case brought against two High River children who snared a "Trout Killer" pike out of season and encouraged afterwards by the Angling Association. The Department defended the charges it brought against the youths, stating that it was permissible for any angler "to assist in removing coarse fish from the ... Highwood [during] the open season," but not during off-season. See files from May, 1928, File 10; RG 23 Volume 733; 715-12-1; NAC.

[56]R.T. Rodd to J.A. Rodd, Dec 18, 1922; RG 23- Vol 777; 781-11-1. Sam Smith on Pekisko and Sullivan Creeks in 1930 had taken advantage of extremely low river levels to remove 144 suckers and 10 Dolly Varden. R.T. Rodd to Found, February 24, 1930, RG 23, Vol. 779; 718-11-1; NAC.

[57]On streams such as the Red Deer and the North Saskatchewan, the Department had to restrain anglers who wanted to war against coarser varieties as "only Dolly Varden trout and Rocky Mountain Whitefish, Pike, and Suckers and Ling are found." R.T. Rodd to Found, June 6, 1924, RG 23, Vol. 1001; 721-4-37; NAC.

The simple policy of exterminating "bad" fish and stocking "good" was complicated by another issue. What species should the Banff hatchery propagate? Realizing that cut throat was a difficult, if not impossible, trout to propagate in large numbers, anglers lobbied for the introduction of exotic varieties of similar (if not larger) sizes, and providing the same sport as the cut throat. By 1920 anglers had became again interested in Eastern Canadian Speckled and Nipissing trout. Others wanted larger European varieties bred, such as the ponderously large Loch Leven trout or Austrian varieties. Lethbridge anglers, for instance, wanted steelhead, Loch Leven, and German brown trout for local waters.[58]

The extensive introduction of Eastern Canadian and European varieties proved complicated because of their spawning in fall. Generally, the Department stopped fishing on streams when the preferred species was spawning. The Foothills angling seasons had generally fallen after the spring spawning of native trout. Brown and Nipissing trout, however, with fall-spawning periods required a season beginning earlier in the year and ending before spawning began. Since few anglers wanted a radically -shortened angling season protecting both fall and spring spawning, the government would have to sacrifice native varieties to protect stocked exotic species. That policy suited sportspeople. Most of them had already stocked exotic bird species and largely given up on native species. R.A. Darker and other Calgary hunters, most notably Austin B. de Winter, the Alberta Fish and Game Protective Association's secretary, believed they had the sobering

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[58]Harris to Rodd, May 13, 1926; File 16; RG 23, Vol 778; 718-11-1; NAC.

responsibility of "civilizing" nature.[59] The goal of the Alberta Fish and Game Protective Association was not only the protection of game, "but also to assist in bringing in new species which will flourish in this country," as the *Herald* reported. The group had introduced Hungarian partridge in 1907 and later the Pin Tailed Grouse, birds "which accompany Civilization," the newspaper stated, while the native prairie chicken predictively "reced[ed] before Civilization."[60]

There was no question in most angler minds whether they were upsetting natural "balances". Rather, most fish and game associations which advocated the introduction of Eastern Canadian or European trout to foothills streams had already introduced Hungarian and chukar partridges, Chinese pheasant, and golden and pure Mongolian partridges to prairie landscapes. Most of these had arrived in crates from distributors in Washington and Oregon States.[61] Dr. J.J. Gillespie, for instance, fish conservation leader in Pincher Creek, coordinated the massive introductions in 1928-29 of Hungarian partridge and Chinese ringneck liberation along the Oldman River.[62]

Clearly, what motivated sportsmen and government officials alike was the ideal of "progress." A progressing society required planned, rational interactions with nature. Hatcheries, exotic fish introductions,

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[59]R.A. Darker, "Grouse in Alberta", *Rod and Gun in Canada*, June 1909 Vol XI, No. 1. pp. 23-25.

[60]*Calgary Daily Herald*, April 14, 1927.

[61]File 13, Austin de Winter Files; Glenbow Museum Archives [In this chapter hereafter referred to GA]. Moreover, exotic introductions had been supported by the Alberta Government's Chief Game Warden, Benjamin Lawton, who gave sweeping freedoms to hunters to exterminate native birds threatening introduced species. File 12, Austin de Winter Files; GA.

[62]See files pertaining to this introduction, Austin de Winter Files; GA.

pheasantries and extermination policies were necessary policies in the face of advancing civilization.[63]

The Department of Marine and Fisheries did, though, have some reservations about exotic introductions, mostly because its scientist, Edward Prince, strongly opposed them. In Departmental memos and printed reports, Prince cited American streams as examples of what ill-effects awaited the country following such a policy.[64] U.S. streams and lakes were overrun by larger Eastern and European varieties, Prince stated, including black bass, yellow perch, and a host of exotic trout including brown, albino, spotted and black varieties.[65] German immigrants had transplanted carp into American waters, Prince said, "a positive curse and injury if introduced [in Canadian waters]."[66] Prince also opposed the larger and faster Loch Leven which would probably overrun Canadians streams by out-eating, out-running and over-powering native trout varieties.[67]

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[63]Gordon Hewitt, the Dominion's entomologist concurred with this idea and proposed even more interaction. Hewitt envisioned an insect hatchery constructed next to Banff's fish hatchery producing insects beneficial to Alberta's agriculture. C. Gordon Hewitt, "Fish Hatcheries and Fish Food", *Conservation,* Vol. II, No. 6, July 1913, p.1.

[64]Black Bass breeders were located in Carolina R.I., Lomira, Wis, Point Reyes Station, Cal, and Milawakee, Wis.; J.A. Rodd to Hoyes Lloyd, January 17, 1923; RG 23- Vol 777; 781-11-1; NAC. Other private companies existed in Colorado, and Washington states, providing wide varieties of Brook, Brown, Albino, Black and Spotted Trout. Found to Ibbitson, June 25, 1925; RG 23, Vol 778; 718-11-1; NAC.

[65]Desbarats to Beatty, Jan. 9, 1908, RG 23, Vol. 337, 2939; Reel T-4023; NAC.

[66]Edward E. Prince, "The Place of Carp in Fish-Culture", Special Report III, Annual Report of the Department of Marine and Fisheries - Fisheries - For the Year 1896 p. 29.

[67]Prince even resisted the pressure of other governments who sought to introduce their "superior" varieties into depleted Canadian streams. German and Japanese governments were increasingly promoting indigenous "higher race" fish – ironic within the 1930's emphasis on eugenics in Germany. The German government recommended the Bream to Canadians, which

Prince's view of nature probably explains his resistance towards exotic introductions. "Nature", Prince believed, worked in an year-long cyclical time frame, one proceeding according to "natural laws" which scientists had to better understand if effective regulations could be created.[68] In this respect, natural species had value above exotic ones, if only for the fact that they originated in local environments. It should be noted that some Alberta anglers shared this philosophy. High River anglers, ever fearful of exotic European species cannibalizing their cut throat, fought Calgary anglers from introducing eastern Canadian species in the Bow believing that "when we start to interfere with what nature has done we are at sea."[69] For some anglers and bureaucratic scientists, humans should study nature to find the laws determining its harmony, and create regulations and fry planting programs in accordance with them.

The idea of natural law promoted by Prince was possibly a vestige of William Paley's idea of Natural Theology. Early in the 19th century, Paley had motivated thousands of natural historians to comb through forest and field to collect natural objects and allow themselves to be awe-struck by

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although a fish not explicitly of "aryan" superiority, was a sport fish which quickly became too large for the biggest Canadian pike or pickerel. Found to Keir, June 8, 1923; RG 23- Vol 777; 781-11-1; NAC. Also, Friedrichs to the Department of Agriculture, March 3, 1929; RG 23 Vol. 776; 718-1-17; NAC. The Japanese promoted the Ayu to Canadians. See Biological Board to Found, November 26, 1928; RG 23 Vol. 776; 718-1-17; NAC.

[68]The notion of natural design and enacted laws "in harmony with nature" was promoted by William Carmichael McIntosh, (Prince's mentor at St. Andrews) at a Scottish fisheries commission in 1893. See Report of the Select Committee on Sea Fisheries, June 6, 1893, *British Parliamentary Papers- Sea Fisheries 1893-94*, Vol. XV No. 377, (London: King's Printer, 1894) p. 172. Also, see Edward E. Prince, "The Place of Carp in Fish-Culture", Special Reports No. 3, Supplement to the 29th annual Report of the Department of marine and Fisheries - Fisheries, for the year 1896, (Ottawa: Government Printing Bureau, 1897), p.30.

[69]High River group letter to R.A. Darker, July 11, 1919; RG 23- Vol 777; 781-11-1; NAC.

the "Design" of God within nature.[70] The pursuit of discovery, then, was one preoccupied by the search for God's natural laws. Post-Darwinian conservation revitalized the search for natural laws. Samuel Wilmot, the Department's first hatchery expert, popularized the concept of natural law in the 1880s, advocating "wise and discriminating enactments ... made to assist the laws of nature."[71] Scientists such as Edward Prince continued the same philosophy, maintaining that Nature required specialized, microscopic study at biological stations or field research to understand laws, laws which should frame conservation policies.[72]

A confrontation between naturalists promoting native species and sportsmen promoting exotic introductions never occurred. What diffused the issue was the successful introduction of rainbow to most streams in Southern Alberta, a compromise between the scientist's view of nature, and the angler's.

The rainbow trout, traditionally believed to have been brought from the Athabaska region[73], most likely was imported from the United States.[74] Indeed, desperate for trout eggs for its hatchery, the Department of

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[70]A.B. McKillop, *A Disciplined Intelligence: Critical Inquiry and Canadian Thought in the Victorian Era*, (Montreal: McGill - Queen's University Press, 1979), pp. 24 - 72.

[71]Annual Report of the Department of Marine and Fisheries for the year 1868. Sessional Papers No. 12, Vol. II, No. 4: 1869, p. 90.

[72]Prince argued for the public funding of Marine Scientific Stations in 1894 because individual efforts of naturalists "could never lend to the rapid accumulation of facts necessary." Such research had direct "practical ends" in fisheries questions. See Edward E. Prince, "A Marine Scientific Station for Canada", Special Reports II, 1894 Department of Marine and Fisheries, CIHM C3496 No. 24787., pp. 3- 8.

[73]Fishing Commission 1910-11 Report, p. 38; RG 23, Vol. 366, File 3216 Part III; NAC.

[74]David DePape interview, Sam Livingston Hatchery, Calgary, March, 1992.

Marine and Fisheries began purchasing huge quantities of rainbow in 1919, 1920 and 1921 from Montana to form a self-sustaining stock. That stock eventually transformed into rainbow streams much of the foothills watersheds from Calgary to the border.[75] The rainbow matched the cut throat aesthetically and fought almost as well against an angler's line. It was also a spring-spawner, allowing it to cohabit streams with natural varieties such as the cut throat. In 1919, the *Calgary Herald* reported the first of the hatchery's rainbow in the Bow and asked anglers not to capture them until they had fully grown. "[T]hey will reproduce," the paper advised, "and will provide a fighting demon of a game fish."[76]

Begrudgingly, High River anglers accepted the rainbow trout as the next best alternative to the cut throat. By 1919, they adopted the general strategy of protecting the "natural" spawning beds of the cut throat, while assisting hatchery staff plant the rainbow fry. That season, High River association members volunteered cars and labor to drive some 50,000 fry to spots on the Middle Fork of Highwood, the first trout introductions on that river.

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[75]From Memo on Hatchery Production; RG 23- Vol 777; 781-11-1, File 8; NAC.

[76]The paper confused a nipigon trout for a rainbow. *Calgary Herald*, April 4, 1919.

The progression of planting schemes, and the rapid dominance of the Rainbow in Alberta streams, can be seen in Banff hatcheries' first river production quotas[77]:

Year	Atlantic salmon	Ouananiche	Cut Throat	Rainbow
1918	64,220	28,300	84,500	--------
1919	154,574	----------	48,395	166,575
1920	----------	----------	278,760	607,760

The Progressive Conservation movement, tied intricately to prevailing sporting standards and some of the moral codes of its community, functioned within an hierarchy of fish and game in Southern Alberta. Specialized scientists helped label species as "good" or "not good" and both the Department of Marine and Fisheries and the province's Department of Agriculture developed policies to promote the "good", and eliminate the "bad" within Alberta's wilds. The cut throat trout, gaining the greatest preference within the Department and among anglers, gained the greatest protection in the government's conservation regulations.

Species designations, though, did little to clarify or even simplify the work of government bureaucrats. Alberta's chief game warden Benjamin Lawton, for instance, "waged war on magpies, crows and other birds and beasts of destruction"[78] but protected Chinese and Hungarian game birds,

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[77]From Memo on Hatchery Production; RG 23- Vol 777; 781-11-1, File 8; NAC.

[78]Winter to Lawton, February 22, 1918; Winter Files; GA.

indigenous insectivores and song varieties.[79] The question of utility was deceivingly complex, and programs encouraging some species while discouraging others were hardly simple to devise.

The Edwardian concept of eugenics, however, pervaded much of conservation policies of the Fisheries Departments and in particular its bureaucratic scientists. While not party to exotic introductions, Edward Prince nevertheless endorsed the policy of encouraging preferred species and discouraging "coarse" varieties within Alberta streams. Dominated by Darwinian dynamics, Prince searched for natural law, superior species and conservation policies that helped create environments both challenging and encouraging the dominance of fish such as the cut throat.

In this endeavor, Prince's methodology helped significantly. The specialized mind largely ignored ecological relationships while clinically observing the "particular" within nature. Species most profitable or attractive to society gained favor and research energy: scientists studied the eggs, food and environmental dangers of preferred species and worked for their dominance in Alberta streams. The hatcheries program at Banff, was central to such a scheme.

The Banff hatchery also reflected the ambitions of anglers intent on creating superabundant Alberta streams. Having gained a significant voice in conservation planning, sports people envisioned streams brimful of "civilized" varieties of trout, whether they were German breems, Japanese ayu, or Ontario nipising trout. To sportsmen, settlement necessitated that interaction.

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[79]Winter to Lawton, February 22, 1918; Winter Files; GA.

The Department of Marine and Fisheries, however, joined the advice of scientists with the lobbying of anglers – a compromise clearly displayed in rainbow trout being stocked in most Alberta waters. This was the essence of the application of Progressive Conservation in the fisheries of Southern Alberta, a compromise of opinion, and, more fundamentally, a blending together of two visions of nature.

Conclusion

This study has attempted to draw into clearer light the role of the "expert" in determining Progressive Conservation policies in Western Canada. Different from American conservation planners, the Department of Marine and Fisheries tended to consult two individuals while developing Alberta regulations. One was the specialized scientist such as Edward Prince, the Department's fisheries expert and commissioner, who found a prominent place in fisheries inquiries and investigations of Alberta lakes and streams. The other was the "common citizen": the local angler, amateur naturalist or town builder who provided an intuitive, not specialized view of nature. By the 1920s, the common citizen perspective was derived almost exclusively from meeting minutes, memos and petitions penned by angling protective association members from Southern Alberta. Historians can better understand Alberta fish conservation, whether bag limits, close seasons, tributary closure, hatchery production and stream eugenics, by appreciating the interaction of specialist and citizen in bureaucratic planning.

The Scottish tradition helped shape this approach. The Department of Marine and Fisheries gathered information about nature in Scottish-style commissions. It hired scientists from the research stations at St. Andrews, and consulted the many Scottish amateur conservationists and naturalists residing in Alberta. Scottish intellectual models, and most basically, the Common Sense philosophical school possibly influenced Canadian bureaucrats to consult both scientist and common citizen. The Common Sense philosophy harboured a distrust of specialized academics, a

belief that the common citizen had an intuitive philosophical knowledge equally as valid as the trained scholar. Common Sense philosophers also had a fear of theory which ventured too far into "speculative extremes."[1]

Distrust of the specialist was possibly expressed elsewhere in Canadian society. Historian Donald Worster has pointed out the social backlash against experimental, specialized science at the end of the 19th century that took shape in an arcadian, "back to nature" movements in Britain and the United States. The first "ecological" advocates tended to be arcadian in direction. They sought to present a more holistic view of nature, as well as an appreciation of the subtle relationships between organisms. Such relationships, according to arcadians, were invisible to the eyes of the physicist or chemist.[2] The Department of Marine and Fisheries' tradition of balancing the views of specialists with the broader, intuitive views of common citizens might indicate that arcadianism – and possibly early ecological theory – made a significant impact on government planning.[3]

More research is required to explain why ecological views were rarely expressed in federal and provincial conservation policies in the prairie

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[1]A. B. McKillop, *A Disciplined Intelligence: Critical Inquiry and Canadian Thought in the Victorian Era,* (Montreal: McGill-Queen's University Press, 1979) pp. 26-28. The Scottish school system, which was more broadly philosophical rather than specialized, possibly affected such immigrants. George E. Davie points out that Scottish scientists, "although devoted to observation and experiment, nevertheless were much more philosophically sophisticated about their subject than their English colleagues." *The Democratic Intellect: Scotland and Her Universities in the Nineteenth Century,* (Edinburgh: The University Press, 1961) p.20.

[2]Donald Worster, *Nature's Economy: A History of Ecological Ideas,* (Cambridge: Cambridge University Press, 1977), pp. 3 - 25.

[3]Worster's history of ecological ideas should be placed in the context of Anna Bramwell's work. Bramwell connects the early ecological movement to European, and particularly, German intellectuals such as Ernst Haeckel. For Haekel's work on Holism, see Anna Bramwell, *Ecology in the 20th Century: A History,* New Haven: Yale University Press, 1989), pp. 39 - 63.

provinces until the mid-1950s.[4] One explanation is found in the profitability of the specialist's work. Edward Prince, for instance, became adept at dissecting preferred species aboard experimental marine stations or under the roofs of university laboratories. Examined within the specialist's narrow view, species were more easily defined as "good" or "not good", the former being encouraged, the latter being discouraged either in extermination policies or poorly-serving regulations. Such perspectives triumphed in providing bureaucrats with easily defined goals and simplified views of complex natural processes. Such narrow views failed in a more fundamental way, however. By disregarding larger ecological relationships, and following assumptions rather than deduced phenomena,[5] scientists were not aware of the long-term effects and the extent of the impact of regulations and recommendations.

Further research should also explore the role of common citizens in conservation. The Department of Marine and Fisheries, for instance, sought the citizen's perspective to gather a wider, Natural Historical perspective of nature to balance the views of the specialist. There is little evidence, however, to support the notion that anglers such as R.A. Darker provided any more "ecological" or balanced views of nature than did the specialized scientist. Anglers, gathered in protective associations, provided biased, politicized opinions that tended to protect their sport rather preserve species or stream ecosystems.

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[4]R.B. Miller, "The Regulation of Trout Fishing in Alberta", *The Canadian Fish Culturalist*, published by the Department of Fisheries, Ottawa, issue 14, October 1953, pp.20 - 23.

[5]Recent historiography examining societal assumptions and popular mores and their influence upon scientific work can place such individuals as Edward Prince into more broader, meaningful contexts. See George Levine, *Darwin and the Novelists: Patters of Science in Victorian Fiction*, (Chicago: The University of Chicago Press, 1988) pp. 2-7. Also, Peter J. Bowler, *The Non-Darwinian Revolution: Reinterpreting a Historical Myth*, (Baltimore: The Johns Hopkins University Press, 1988) pp. 4-5.

Little remains of the original Progressive policies in Alberta. Alberta's Fish and Wildlife Division, for instance, rarely plants fry in streams as was common practice before the 1950s.[6] Likewise, provincial administrators no longer introduce exotic species to rivers and lakes. Policies such as tributary closure have been abandoned and regulations have become far more complex, shaped to fit the requirements of each watershed rather than the entire province's lakes and streams.[7] Also, a type of ecological model (with the purpose of supplying fish for tourist anglers) shapes most of Alberta's conservation strategies. No longer are species ranked so arbitrarily in hierarchies. Ironically, the bull trout, long discriminated against in regulations, now finds itself listed as an endangered species in Alberta.[8]

Perhaps the greatest departure from the Progressive era, however, has been the abandonment of the citizen's perspective. Specialists (and sometimes politically-charged lobby groups) now determine fisheries planning. Flannel-jacketed sportsmen now rallying together in sport associations have neither the power nor the social function that their counterparts enjoyed in the 1920s.

Further research should address the Progressive Conservation era, its characteristics and long-term impact on Canadians. Historians might find that while governments no longer search for two experts in policy-

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[6]See "Alberta Fish Culture Program and Facilities" 1992 information sheet produced at Livingston Hatchery, Calgary. Additional information about present fish management was provided by David K. DePape, Assistant Superintendent, Sam Livingston Fish Hatchery, March, 1992.

[7]See 1992 Fish Management Area Map, Alberta Fish and Wildlife, (Edmonton: Land Information Services Division, Alberta Forestry, Lands & Wildlife, 1992).

[8]Ibid., An excellent perspective on ecological models shaping the decisions of conservationists can be found in Joseph S. Nelson & Martin J. Paetz, *The Fishes of Alberta*, 2nd Edition, (Calgary & Edmonton: The University Presses of Alberta and Calgary, 1992).

creation, and that while many of the turn-of-the-century conservationists' policies have been abandoned, important similaries can be found in "Neo" conservation. For instance, the shift from Maximum-Sustained-Yield Models in the early 1950s, to present-day Maximum-Net-Economic-Yield models might indicate that fisheries management has become far more efficient. Ecological modelling has become standard. The growth of "sustainable development" in the corporate sector indicates that Canadian, and Albertan business communities consider many new factors, including environmental integrity, when developing programs.[9] Despite such apparent gains, ecologists continue to severely critique society.[10] Historians such as John Wadland have attacked the underlying philosophy of centralized, capitalist (and hence, environmentally-exploitive) societies, and any conservation policies they might pursue.[11]

Historians can learn much from the study of early twentieth century conservationists. By analyzing how humans have historically assessed their surroundings, researchers might shed more light on the directions, and possibilities of present-day environmentalism.

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[9]Gilles Rhéaume, "An Interview with Ken McCready, President & CEO, TransAlta Utilities", *Canadian Business Review*, Spring, 1993, p. 6. Also, Maurice Strong, "The First Earth Summit", in Advertising Supplement "Saving the Planet", *BusinessWeek*, December 30, 1991, p.85.

[10]Bramwell, p. 6.

[11]Criticism over present-day conservation strategies and their apparent connection with capitalist systems have led many environmentalists to revive radical political stances, such as Kruputkin anarchism and "disnationalism". John Henry Wadland, *Ernest Thompson Seton: Man in Nature and the Progressive Era 1880-1915*, (New York: Arno Press, 1978) pp. 16 - 41.

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Appendix

The following list of Fish and Game Protective Associations in Alberta was generated from correspondence files of the Department of Marine and Fisheries. An asterisk appearing behind the year indicates the association's first reference in Departmental files. All other dates indicate years of inception. Associations outside of Alberta listed here were cooperating with Alberta associations during this time period.

Alberta Fish and Game Protective Association, (1907) Calgary; R.A. Darker President; 1908, Arthur G. Wolley Dod, President of Calgary chapter. By 1927, called Alberta Fish and Game Protective and Conservation Association. This was reorganized into the Alberta Fish and Game Association in 1928; Charles A. Hayden, President.

Banff Fish and Game Protective Association, (1925*), W.L. Mitchell, secretary.

B.C. Forest and Stream Club (1901), Vancouver, A.F. Beasley, honorary secretary.

Bellevue Fish and Game Protective Association, James Fisher, Secretary. (1925*)

Calgary Anglers Association, (1920) David Keir, Secretary-Treasurer; independent of SAAA.

Calgary Rod and Gun Club; (November, 1904*) W. H. Heald, president.

Camrose Fish and Game Association (1928*).

Cardston Rod and Gun Club, (1927) Sec-Treas. S. Baxter.

Central Saskatchewan Game Protection Association, (1923) Saskatoon, D. Stewart, pres.; F.A. Blain, V.P.; Rupert W. Neil, Secretary-Treasure.

Clairsholm District Angling Club, (1921*) D.A. Anderson, secretary-treasurer.

Clairsholm Fish and Game Protective League, (1926).

Coleman Rod and Gun Club, (1925).

Craik Game Protective Association, Frank Parks, President, (1924).

Cragmyle Fish and Game Association, (1928*).

Cypress Hills Angling and Protective Association, B.S. Walters, sec-treasurer (1927)

Didsbury Fish and Game Association (1928*)

Drumheller Fish and Game Association, (1928) W. Guterson, vice- president.

Edson Fish and Game Protective Association, (1930).

Foothills Angling Association, (1921) Nanton, W.C. Ebbert, President.

Hanna Fish and Game Association (1928*)

Killam Rod and Gun Club (1928*)

Lethbridge Rod and Gun Club, 1922.

Luscar Fish and Game Protective Association, (1928) John Richmond, President.

Macleod Angling Association, (1921) R.A. Hamilton, secretary.

Medicine Hat Fish and Game Association (1928*).

Northern Alberta Fish and Game Protective League, (March,1920) Edmonton, Walter Holmes, Secretary.

Nordegg and District Fish and Game Protective League, A. Topley, sec. treasurer, (1929)

Pincher Creek Anglers' Association, J.J. Gillespie, secretary, formed 1920.

Revelstoke District Fish and Game Protective Asocation, (1906), John H. Jackson, Hon. Secretary.

Rocky Mountain House Rod and Gun Club, Secretary G. Candy, 1922

Saskatchewan Game Protective Association, Regina, W.R. Motherwell, pres. 1924; A.E. Etter, sec.-treasurer.

Saunders Fish and Game Protective League, (1930) A.E. Williams, sec.-treas.

Sheep Creek Branch of the Alberta Fish and Game Club, (1925*) Dave Blacklock, secretary.

Southern Alberta Angling Association (June, 1919) (also known as Calgary Fishing Society and Southern Alberta Game Fishermen's Association) Walter E. Robi, secretary. R.A. Darker, President.

Stavely Fishing Club, (1919) E.C. Webster, President.

Coleman Angling Association, (1918) William Rees. Formed.

Highwood River Angling & Protective Association, (March 1920) (By 1926 High River Fish and Game Protective Association) Frank Watt, Secretary. H.D. Elliot, president, 1922. A.M. [A.A.?] Ballachey president, 1928.

Quebec Association for the Protection of Fish and Game, Mr. Brodeur, Secretary, (1908)

Vancouver Island Fish and Game Club, (1906) J. Musgrave, Hon. Secretary.

N.B. In 1928, the Department of Marine and Fisheries listed the following towns having fish and game protective associations (apart from Alberta Fish and Game Protective Association chapters): **Midnapore, Claresholm, Delia, Drumheller, Carstairs, Carbon, Hillcrest, Strathmore, Cadogan, Jasper, Vulcan, Stavely, Bassano, Brooks, Carsland, Nordegg, Bentley, Lacombe, Castor, Saunders.**