PRODUCTION AND MARKETING IN NOVA SCOTIA'S DRIED FISH TRADE 1850-1914

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PRODUCTION AND MARKETING IN NOVA SCOTIA's DRIED FISH TRADE 1850 - 1914

by

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A Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts

Department of History
Memorial University of Newfoundland
September 1980

St. John's Newfoundland

ABSTRACT

Between 1850 and 1914, the traditional elements of Nova Scotia's economy underwent a considerable realignment as the province industrialized. Exports of cod and its related species of groundfish, processed as dried fish, were an important aspect of this changing economy. Production was divided between boat and vessel fishermen with the latter enjoying greater individual productivity but necessarily producing a poorer cure. Both groups utilized handlines for catching groundfish but other species were also sought. Merchants provided necessary credit to the fishermen and exported their production. Halifax's superior commercial advantages resulted in its merchant community dominating Nova Scotia's dried fish exports and imports. The province's exporters emphasized the American and West Indies markets assuming an entrepot role in these trades. However, this strategy was vulnerable to both direct and indirect competition from other producers.

Within the dried fish trade, the last third of the nineteenth century was of pivotal importance. At the end of the prosperous Reciprocity era, production and marketing strategy emphasized the West Indies. Based on increasing numbers of fishermen and technological adaptations, the dried fish trade expanded in contrast to the province's general economic fortunes. This growth was halted by market depression in the mid-1880s and its failure to regain this growth after recovery underscored the West Indies vulnerability. Continued technological refinement in the vessel fishery and diversification in the inshore fishery prologged traditional marketing procedures. Increasing production and marketing problems into the twentieth century necessitated additional action, including government support. These responses preserved the province's traditional dried fish trade intact to the First World War but its inherant weaknesses were still unresolved.

ACKNOWLEDGEMENTS

Several people were of assistance to me in the preparation of this thesis, but none more so than my two supervisors, Professors K. Matthews and G. Panting of Memorial University. Professor Matthews helped me in the final selection of a topic and provided valuable guidance throughout most of my programme until his withdrawl due to illness. Professor Panting was of a great assistance in the final pulling together of the thesis. I am also indebted to Professor J. Tague, Department Head, for his forbearance of the delays entailed in finishing this degree part-time.

I am also grateful to Memorial University for the award of a graduate fellowship which enabled me to undertake this programme. Special thanks go to my wife, Debbie, who laboured in the arduous position of critic and typist and without whose determination I might never have finished.

Sandy Balcom,
Dartmouth, N.S.,
September 1, 1980.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES - CONTINUED

LIST OF TABLES - CONTINUED

INTRODUCTION

Between the time of Confederation and the beginning of the twentieth century, the economy of Nova Scotia underwent many important changes. This period began with the provincial economy firmly, and prosperously, tied to its traditional elements of wood, wind and water. Indeed, S. A. Saunders described the immediately preceding period of the Reciprocity Treaty with the United States, lasting from 1854 to 1866, as "the golden age in the economic history of the Maritimes."[1] By the turn of the century, this situation had been largely altered. The substantial growth of Canada's central and western regions was rapidly reducing Nova Scotia to a position on the nation's political, demographic and economic periphery.

In particular, both national and international developments proved disruptive to the province's traditional economy. For example, the introduction of the steam engine and the iron hulls into seaborne commerce militated against the province's merchant marine fleet of wooden sailing ships. The inception of the National Policy in 1879 encouraged Nova Scotia's entrepreneurs to diversify the provincial economy through a vigourous course of industrialization. Initially, this industrialization complemented the area's traditional West Indies trade through the establishment of sugar refineries. By 1900, however,

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1. S. A. Saunders, "The Maritime Provinces and the Reciprocity Treaty," in Historical Essays on the Atlantic Provinces, ed. G. A. Rawlyk (Toronto: McClelland and Stewart, 1971), p. 178

the fabrication of iron and steel products had assumed the most important role in Nova Scotia's economy and Montreal based entrepreneurs were gradually replacing local ones.[2]

During the heady days of mid-Victorian prosperity, the production and export of dried fish, ie. cod and its related species, played an important role in Nova Scotia's economy. In the quinquennium 1870-74, this single trade accounted for almost a third of the value of the province's total exports and constituted a major commodity in Nova Scotia's important West Indies trade.[3] While the production and export of dried fish lacked the "multiplier effect" of some secondary heavy industries, it was not without its economic links. The dried fish industry stimulated the provincial economy through shipbuilding, the outfitting and provisioning of fishing vessels, the preparation and packaging of the fish for export and the employment given the coastal and carrying trades.

Perhaps even more important than the stimulus it gave the local economy was the dried fish trade's role as a foreign currency earner. Nova Scotia depended on the export earnings of its primary industries to balance its expenditures on imported manufactures and foodstuffs. As Lieutenant-Governor Sir Gaspard LeMarchant succinctly described this economic strategy in 1853, Nova Scotia would always be able to afford its requirements as long as one barrel of mackerel

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2. See T. W. Acheson, "The National Policy and the Industrialization of the Maritimes, 1880-1910," Acadiensis, 1, (spring, 1972).

3. See Appendix A: Table1.

purchased two of flour.[4] While LeMarchant chose pickled mackerel to drive home his point, a quintal of dried cod would have been an even more common example. Obviously, the growth, stagnation or decline of such an important industry as the dried fish trade would have had far-reaching repercussions on the provincial economy as a whole.

In spite of the cod fishery's economic importance in the late nineteenth century, historians of Nova Scotia (and Canada) have generally neglected it. The two major published studies respectively treat Nova Scotia's involvement as part of an international and a national history of the cod fishery. Harold Innis' The Cod Fishery: The History of an International Economy was until recently out of print but remains the standard reference text.[5] The work itself is somewhat dated, as it first appeared in 1940 and the revisions for the 1954 edition consisted of some half dozen additional footnotes. Published in 1934, Ruth Grant's The Canadian Atlantic Fishery concentrates on the late nineteenth and early twentieth centuries, but in national framework.[6] Perhaps not surprisingly, this work began as a master's thesis under the direction of Harold Innis. Most historians treat the fishery not as an economic issue but as a political one. In this regard, the

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4. Sir Gaspard LeMarchant, "Report of His Excellency Sir Gaspard LeMarchant to His Grace, the Duke of Newcastle, on the condition and resources of Nova Scotia," The Nova Scotian Extra, February 14, 1854.

5. Harold Innis, The Cod Fisheries: The History of an International Economy, 2nd ed., rev. (Toronto: University of Toronto Press, 1954).

6. Ruth F. Grant, The Canadian Atlantic Fishery, (Toronto: Ryerson Press, 1934).

fishery is analyzed either as a bargaining lever to obtain reciprocity with the United States or as a source of conflict over American fishing rights in British North American waters.[7]

The historiographical paucity concerning the fisheries of this period extends to Nova Scotia's North American competitors. In the United States, the standard work is still Raymond McFarland's A History of the New England Fisheries, published in 1911.[8] Although the cod fishery is emphasized, this work also treats a number of other fisheries. As in Canada, most studies tend to be political in nature; nor has this trend shown much evidence of changing in more recent studies.[9] However, the United States is fortunate in having two governmental historical reviews of the fishing industry. These studies- Lorenzo Sabine's, Report of the Principal Fisheries of the American Seas (1853)[10] and G. B. Goode's The Fisheries and Fishery Industries of the United States (1884-87)[11] - serve as important bench marks in fisheries historiography.

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7. For example see the treatment of the fisheries in Robert Craig Brown, Canada's National Policy 1883-1900: A Study in Canadian-American Relations, (Princeton University Press, 1964).

8. Raymond McFarland, A History of the New England Fishery, (New York: University of Pennsylvania Press, 1911).

9. For example see Ronald Tallman, "Warships and Mackerel: The North Atlantic Fisheries Dispute 1870-1877," (Phd dissertation, University of Maine, 1971).

10. Lorenzo Sabine, Report on the Principal Fisheries of the American Seas, (Washington: Armstrong, 1853).

11. G. B. Goode, ed., The Fisheries and Fishery Industries of the United States, 7 vols., (Washington: Government Printing Office, 1884-1887).

The French cod fishery has been better and more recently served through the work of Charles de la Morandiere. His massive L'Histoire de la pêche française de la morue dans l'Amerique septrionale appeared in three volumes in 1962.[12] However, de la Morandiere is primarily concerned with the period prior to 1789 and only the final volume covers the later period. As might be expected, interest in the French fishery is principally focused upon the glories of the colonial period when France enjoyed considerable North American holdings. More recent scholarship such as Jean-Francois Briere's work on France's eighteenth century Newfoundland cod fishery, conforms to this pattern.[13]

Among North American fishing powers, only Newfoundland can be described as possessing more than the most rudimentary fishery historiography. Recent scholarship has examined the island's dried fish industry from its origins to the more immediate past. The work of two of these modern historians has dealt with the last third of the nineteenth century in some detail. Shannon Ryan, in his ground breaking study of the Newfoundland cod fishery during the nineteenth century, identified the patterns and problems of this fishery.[14] More recently, David Alexander has used sophisticated quantitative techniques and

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12. Charles de la Morandière, L'Histoire de la pêche française de la morue dans l'Amerique septrionale (Des Origines à 1789), 3 vol., (Paris: Maissonneuve et Larose, 1962).

13. Jean-Francois Brière, "Le trafic terre-neuvier malouin dans la premiere moitie du xviii^{e} siecle 1713-1755," Histoire sociale/ Social History, 21, (Novembre-November, 1978): 356-374.

14. Shannon Ryan, "The Newfoundland Cod Fishery in the Nineteenth Century," (Master's thesis, Memorial University of Newfoundland, 1971).

economic models to analyse further the island's cod fishery during the late nineteenth and early twentieth centuries.[15] In recognition of the utility of these studies and the paucity of such studies elsewhere, most comparisons for Nova Scotia will be restricted to Newfoundland.

Nova Scotia's performance within this international dried fish trade during the last third of the nineteenth century is the chief concern of this paper. Particular attention will be paid to determining the trends of this trade. However, accurate analysis of such trends necessitates an expansion of the period under consideration to ensure that this particular time frame is not merely part of a longer trend. The dates of the study have therefore been expanded to include 1850 and 1914. This expansion accomplishes more than verifying historical trends. The study now begins with the inception of Nova Scotia's economic "golden age" during the Reciprocity Treaty era and ends with the initial disarrangements of the First World War. These are important economic benchmarks for the province, but the periods 1850-1866 and 1903-1914 remain auxillary to this work's focal period of the last third of the nineteenth century.

The time extension required a statistical time series encompassing both the pre- and post-confederation periods. The decadal census returns were compatible in both periods but were judged too

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15. David Alexander, "Development and Dependence in Newfoundland 1880-1970" Acadiensis, 4, (autumn, 1974): 3-31 and "Newfoundland's Traditional Economy and Development to 1934," Acadiensis, 5, (spring, 1976): 56-79.

infrequent for accuracy; a problem compounded by the absence of fisheries data from the printed 1891 return. Another promising source, the Department of Marine and Fisheries statistics based on the annual reports of local fishery officers, were unavailable for the pre-confederation era. Even more serious, contemporaries accused this source of exaggerating production.[16] This left as the final time series, the annual export statistics produced initially by Nova Scotian customs officials and, after 1867, by Canadian ones. These figures were compiled from foreign clearance declarations and included the type and quantity of the good exported, an estimated valuation and its destination. As the goods received an estimated rather than an official value, approximate per unit prices could be determined.

This series was available in both periods but was not without problems, which varied in their degree of significance. Both the provincial and later the federal governments changed the beginning and ending dates of the fiscal years for which these export figures were collected. This resulted in the occasional year being lost from the time series.[17] Nova Scotia's switch from colonial to provincial status created further difficulties as exports to other Canadian provinces were no longer included in customs clearances. This made little

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16. United States, State Department, "Commerical Relations of the United States with Foreign Countries — Canada," U. S. Congress Serial Set, 49-2, House Executive Document, 171 pt. 1, p. 778 also Ibid. 50-1, House Executive Document 402, p.537.

17. See Appendix B.

difference to dried fish export totals as only minimal amounts were sent to these markets. However, a greater proportion of Nova Scotia's total exports went to these provinces and this had to be considered when comparing the two.

An increasing lack of detail was the greatest problem to be overcome with these returns. After the fiscal year ending June 30, 1889, detailed market breakdowns were no longer given for the provinces; and after June 30,1900, not even provincial totals were provided. Nova Scotia's domination of Canada's dried fish trade provided a reasonable solution. During the decade 1891-1900, Nova Scotia accounted for 81.7 per cent of Canada's dried fish export values with a standard deviation of 3.1; the same figures for export volumes were 83.0 per cent and 2.9 respectively. These decadal means for export values and volumes were then used to reduce the respective export figures for Canada during 1901-14 to the approximate levels for Nova Scotia.[18] The relatively small standard deviation ensured that the projected figures for Nova Scotia were reasonably accurate.

These projected and actual figures are utilized in Table 1.1 to determine cycles in gross export volumes and values and in per quintal values for Nova Scotia's dried fish trade between 1850 and 1914. David Alexander had used a similar methodology to determine cycles in Newfoundland's dried fish trade between 1815 and 1834. While Alexander used quinquennial means in his study, triennial means are utilized in Table 1.1 due to the shorter time period under consideration. It must be noted that this quantitative technique is considered too imprecise.

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18. See Appendix A, Table 1.

to ascribe exact year beginnings and endings to any cycles revealed.

Table 1.1: Triennial Averages and Variations in Nova Scotia's Dried Fish Gross Export Volumes, Per Quintal Export Values and Gross Export Values for Fiscal Years 1849-1914. (in dollars and quintals; $4.87 = 1 £ stg., qtl. = 112 lbs.

Period	Volumes (000 Quintals)			Per Quintal Values ($ per Quintal)			Gross Values (000 Dollars)		
	X	S	V	X	S	V	X	S	V
1849-51	267	15	6						
1852-54							886	55	6
1855-57							1,304	70	5
1858-60							1,435	129	9
1861-63	404	55	14	3.32	0.37	11	1,322	78	6
1864-66[a]	376	28	7	4.17	0.26	6	1,566	18	1
1867-69	430	44	10	3.49	0.57	16	1,444	93	6
1870-72	467	68	15	4.06	0.49	12	1,860	69	4
1873-75	552	41	7	4.05	0.55	14	2,210	145	7
1876-78	658	106	16	3.78	0.54	14	2,432	18	1
1879-81	721	34	5	3.62	0.28	8	2,601	118	4
1882-84	659	49	7	4.24	0.67	16	2,762	263	10
1885-87	663	47	7	3.14	0.53	17	2,083	362	17
1888-90	608	11	2	4.18	0.10	2	2,542	106	4
1891-93	607	16	3	4.34	0.14	3	2.633	149	6
1894-96	662	21	3	3.83	0.21	5	2,542	187	7
1897-99	639	21	3	3.80	0.23	6	2,426	176	7
1900-02	641	27	4	3.95	0.17	4	2,537	204	8
1903-05	500	22	4	5.02	0.55	11	2,504	258	10
1906-08[a]	516	56	11	5.08	0.34	7	2,602	108	4
1909-11	603	44	7	5.36	0.68	13	3,310	238	7
1912-14	589	27	5	6.05	0.06	1	3,565	138	4

Notes: X - Arithematic Mean
S - Standard Deviation
V - Coefficient of Variability (V = S/X ·100)
a - Calculated from two years only

Source: Calculated from Appendix A, Table 1.

As indicated by Table 1.1, there were a number of short cycles in Nova Scotia's dried fish trade between 1850 and 1914. In terms of gross values, exports remained relatively stable after an initial low in the early 1850s until the end of the 1860s. Incomplete data for gross volumes and per quintal values prohibited any comprehensive analysis for this era. The period between 1867-69 and 1882-84 was one of sustained growth marked by volatile prices and to a lesser extent by export volumes. The years 1885-87 to 1888-90 witnessed recession and recovery until 1900-02. Although gross export values remained relatively stable until 1906-08, both prices and volumes showed strong fluctuations during and after 1904-06. A period of growth is also seen during the years immediately preceding the First World War.

An important adjunct to the history of Nova Scotia's trade in dried fish is the development of that in fresh fish. This latter trade rose from a negligible and almost entirely domestic industry in the mid-Victorian era to one of considerable and international importance by the First World War. This growth is of considerable interest when one considers the complete subordination of dried to fresh fish in Nova Scotia today. However, even by the end of the period under consideration, the production and marketing of fresh fish was still regional in its effect. In this regard, the increase in fresh fish is treated like that in herring, mackerel or lobster, as an alternate opportunity for fishermen and merchants engaged in the dried fish trade.

The following discussion of Nova Scotia's dried fish industry will be structured into five sections. The first will examine the cod

fishery and its general relation to Nova Scotia. Thereafter, the dried fish trade will be reviewed chronologically according to cycles of growth, depression or stability. Although production will be examined, dried fish export values and volumes are used to determine these cycles. The second chapter deals with the first such cycle which is one of relative stability during the province's economic "golden age" under the Reciprocity treaty. Using this as a base period, the sustained growth experienced in the immediate post-Confederation era will be studied in the third chapter. The conduct of the trade at this time is crucial as exports almost double in value between 1867-69 and 1882-84. Equally important is the depression experienced in 1885-87 and a subsequent recovery and stability into the early years of the twentieth century. A final chapter will deal with the new directions taken in the cod fishery during the last third of the nineteenth century and the early years of the twentieth.

CHAPTER 1: NOVA SCOTIA AND THE COD FISHERY

To understand the development of Nova Scotia's dried fish trade, from the mid-nineteenth to the early twentieth century, one must first examine the province's participation in the cod fishery. Several species of groundfish were prepared and exported as dried fish but the cod was the most important and its migration largely determined the location and season of fishing. Once caught, differences and problems in preparation resulted in a variety of cures whose export destinations were determined by the individual market's preferences. The inshore and offshore modes of fishing were significant factors in establishing the quality of the final cure. These fisheries differed somewhat in their method of organization but both relied heavily on the credit system. The merchant firms which extended credit also superintended the marketing of fish in a competitive situation which not only pitted the province's outport firms against those of the metropolis but also country against country.

The fishes caught for preparation into dried fish were the cod and its related species of haddock, hake, pollack and cusk. Towards the turn of the twentieth century, an American determined the proportion of each species in the dried fish trade as cod 83 per cent; hake 10 per cent; haddock 3 per cent; pollack 3 per cent and cusk 1 per cent.[1] At times, the cod's domination of the dried fish trade was even

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1. C. H. Stevenson, "The Preservation of Fishery Products for Food," Bulletin of the United States Fish Commission xviii (1898) p. 389.

more complete in Nova Scotia. During the quinquennium 1860 - 64, cod accounted for 88.8 per cent of the province's total dried fish export volumes; while the other species, lumped together as "scale fish", comprised the remaining 11.2 per cent.[2] In 1871, on the other hand, scale fish accounted for 21.0 per cent of dried fish production and cod only 79.0 per cent.[3] While these scale fish were sometimes unintentionally caught by fishermen seeking the more prolific and valuable cod, they nevertheless had longstanding markets of their own. In July, 1737, Boston merchant Peter Faneuil ordered his Canso agent to purchase "a Good Quantity of Jamaica and Refuse Cod Pollack Hake and Haddock for may depend there will be Good money Gott by it."[4]

As the cod was pre-eminent in the dried fish trade, general discussion on the production of dried fish will be restricted to the cod. As a foodstuff, the cod enjoys several advantages.[5] Its flesh is rich in protein and is easily cooked and digested. When preserved through salting, it is an efficient means of replacing body salts lost through perspiration in tropical and sub-tropical climates. The exist-

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2. Calculated from Appendix A, Table 2.

3. Canada, Census of Canada 1870-71, (Ottawa: Taylor, 1875), pp. 260-9.

4. New England Historical and Genealogical Society, "Peter Faneuil Letter Book June 13, 1737 - April 25, 1739, "Peter Faneuil To Thomas Kilby, Boston, 15 July 1737 (o. s.).

5. See Albert C. Jensen, The Cod, (New York: Crowell, 1972), pp. 4, 51-65; and Roch Samson, "La peche a Grande-Grave au debut du xx^{e} siecle," Manuscript Report Number 249, (Parks Canada, 1977), pp. 21-2.

ence of an extensive and continued international cod fishery ensured that cod remained competitive in price with other protein foodstuffs. When dried and protected from excess humidity, salted cod could be stored for long periods of time and be easily transported. Dried salt cod also enjoyed a high ratio of edible foodstuff to stored commodity which made it a long time favourite with military commanders and ship captains. Religious observances gave it additional market appeal in countries with large Catholic populations. At the beginning of the sixteenth century there were 153 days of abstinence in a year when meat was forbidden but fish was permitted.[6]

Since cod had to be located prior to being caught, its habitat and movements were of great importance to fishermen. In the northeast Atlantic, this species ranges from the North American coast to the edge of the continental shelf; and from Hudson Strait, Davis Strait and West Greenland in the north to Cape Hatteras in the south. There appears to be little mixing of stocks over wide areas as cod in different regions exhibit variations in growth rates and in such characters as vertebral count.[7] Nevertheless, cod are subject to movement throughout all growth stages. Cod mature at about five pounds and reach an average maximum of twenty pounds; although there is at least one instance of a cod

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6. Samson, "La peche a Grande-Grave," p. 21.

7. A. H. Leim and W. B. Scott, Fishes of the Atlantic Coast of Canada, Bulletin No. 155 (Ottawa: Fisheries Research Board of Canada, 1966), pp. 194-198.

reaching two hundred pounds.[8] Fish are the most important food for mature cod with herring, capelin and mackerel figuring prominently. Sand lance are important to its diet on the offshore banks and the cod also feeds on molluscs including squid.

In present-day Canadian waters, there exist a number of distinct cod populations with characteristic movement patterns.[9] Labrador cod show both north and south coastwise migrations but do not move into the Gulf of St. Lawrence nor to the southern Grand Banks. In the Gulf of St. Lawrence two migrations are apparant. In the southwest, the cod hug the coast in spring, migrate to deep water in the summer; they then move southeastward out of the Gulf in the fall with a spring return to the coast. In the northwest, there is a similar movement out of the Gulf in the fall but with few fish going beyond the Strait of Belle Isle or Fortune and Placentia Bays. Mature cod on the Nova Scotia and St. Pierre banks have a general inshore movement in summer and an offshore one in winter. Although other factors such as the availability of capital and labour also influenced the level of fishing activity, the seasonal appearance and disappearance of the cod placed finite limits on the fishing seasons of specific areas.

Once caught, a number of factors affected the final cure of the catch. The best cured fish were those which were bled at the time of

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8. Jensen, The Cod, p. 31.

9. Leim and Scott, Fishes of the Atlantic Coast, pp. 196-197.

capture.[10] These fish were properly gutted and split with attention paid to the removal of the dark stomach membrane, ie., white naping as well as any blood spots. The fish were then lightly salted to retard decomposition of the fish through autolysis (self-digestion of the tissue by enzymes) and putrefaction (bacterial decomposition).[11] After the salt "struck" through the fish, they were piled to drain the pickle and also to make the surfaces smoother. Optimum conditions for drying fish are relative humidity of from 45 to 50 per cent and a temperature variation between 15.6° and 32.2° C.[12] This degree of humidity and temperature range was most likely to occur in the late spring, early summer and early fall.

The difficulties which attended the curing of good quality dried fish were legion.[13] Failure to bleed the fish and rough or excessive

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10. For more detailed accounts of fish drying see Atlantic Experimental Station for Fisheries (Halifax), "The Preparation of Dried Fish." Canadian Fisherman (December, 1925); Cooper, D.L., "Fish Drying," Progress Reports of Atlantic Coast Stations, 20 (August, 1937); Ruth F. Grant, The Canadian Atlantic Fishery (Toronto: Ryserson Press, 1934), pp. 72-4 and N. L. MacPherson, The Dried Codfish Industry (St. John's: Department of Natural Resources, 1935), pp. 16-43.

11. N. L. MacPherson, The Dried Codfish Industry, pp. 16-7.

12. E. P. Linton and A. L. Wood, "Drying of Heavily Salted Fish," Journal of the Fisheries Research Board of Canada, 6 (1942-46) pp. 389-90.

13. MacPherson, The Dried Codfish Industry, pp. 43-4.

handling encouraged bacterial decomposition. Improper splitting and failure to "whitenape" the fish resulted in a less attractive and therefore less valuable product. Insufficient salting failed to retard decomposition while excessive salting burned the fish. Mineral impurities in the salt imparted a bitter taste to the fish, delayed the penetration of the salt into the fish and drew moisture from the air to the finished product.[14] The presence of red haliophilic bacteria in solar salt caused "reddening" of the finished cure while the presence of brown mold eventually caused putrefactive decomposition.[15] If the fish were dried too slowly the fish become "slimy".[16] Slow drying conditions also resulted in "putty" fish in which decomposing "soft spots" developed in the thicker parts of the fish.[17] On hot days, the drying fish could become "sunburnt" in which the protein of the fish coagulated similar to the effect boiling has on the white of an egg. In general, it must be remembered

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14. Ernest Hess, "Studies on Salted Fish; viii, Effects of Various Salts on Preservation," Journal of the Fisheries Research Board of Canada, 6 (1942) and MacPherson, The Dried Codfish Industry, pp.24-5.

15. Ernest Hess and N. E. Gibbons, "Studies on Salted Fish; x, Effect of Disenfectives and Preservatives on Red Haliophelic Bacteria," Journal of the Fisheries Research Board of Canada, 6 (1942).

16. H. P. Dussault, "Bacteriology of Light Salted Fish: Sliming," Progress Reports of the Atlantic Coast Stations, 55 (March, 1953).

17. S. A. Beatty, "Putty Fish," Progress Reports of the Atlantic Coast Stations, 31 (February, 1942).

that curing salt fish was a highly skilled art and that any error in the dressing, salting or drying processes lessened the value of the finished product.

Another problem encountered in both the bank and Labrador fisheries was the heavy salting required to preserve the fish until they could be landed and dried. On arrival in port, the fishermen gave their fish, to "fish makers" who cured the catch. Although these experienced "fish makers" imparted a uniformity which would almost be impossible for the individual inshore fisherman to achieve, the methodology of the offshore fishery restricted the quality of the finished cure. Due to the necessary heavy salting, bank and Labrador fish retained a higher percentage of moisture than light salted fish. This resulted in these fisheries producing a soft cure. This heavily salted, soft cure had less market appeal and consequently was less valuable than light salted hard dried "shore" fish.[18]

Like other dried fish producers, Nova Scotia shipped to a variety of foreign markets. The most important of these markets might be grouped regionally as follows: Southern Europe, Central and South America, the United States and the West Indies. Although each area took a variety of cures, there was a dominant cure in each region. Traditionally, Southern Europe was the most valuable market with the preferred cure being light salted, hard dried and of good quality. The development of

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18. George W. B. Fraser, "The Canadian Atlantic Fisheries," (Master's thesis, Acadia University, 1950), p. 34.

South America, notably Brazil, led to a large and increasing market for dried fish. This region also favoured light salted with an emphasis on small fish dried quite hard. While the American market demanded a quality fish, a softer cure was popular. The West Indies were typically the poorest market with price rather than quality being the determining factor. Consequently, heavy salted, lightly dried fish was a common cure in West Indian markets.

Production of these various cures was affected by the different methodologies employed in Nova Scotia's inshore and offshore fisheries. As previously noted, the offshore fisheries necessitated a heavy salting of catch which resulted in a soft dried cure. In contrast, fish caught inshore required only a light salting prior to the drying process and a hard dried cure could be produced. This inshore fishery was divided into two branches which differed in the size of boat employed, the fishing grounds utilized and the amount of time spent on each fishing trip. Nevertheless, fishermen appear to have readily entered both branches of the inshore fishery with the particular choice depending on the individual's preference and the availability of fish.

The first branch was typified by two or sometimes three men fishing in a small boat within five miles of shore.[19] The boats thus employed had a keel of some fifteen feet and were often equipped with a

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19. John J. Cowie, "The Atlantic Provinces," in Canada and its Provinces: A History of the Canadian People and Their Institutions by One Hundred Associates, eds. Adam Shortt and Arthur G. Doughty, Authors Edition, (Toronto: University of Edinburgh Press, 1913), vol. xiv, p. 567.

mast which could be unstepped for fishing. Both the close proximity of their fishing grounds and the limited carrying capacity of their boats enabled these men to go fishing early in the morning and return late in the afternoon of the same day to dress and salt their catch. Cod and scale fish accounted for only part of these fishermen's activities as herring and mackerel were their principal catch. When fishing cod, handlines were used, while nets were employed for mackerel and herring. The variety of catch resulted in seasonal bursts of activity between April and November with June, July and August being the busiest months with some local variations.[20]

The other branch of the inshore fishery followed essentially the same procedures as the first but in a larger scale. This fishery was conducted in larger boats, fishing further from shore for longer periods of time. Whaleboats with a keel length of fifteen to twenty feet were commonly used as were small schooners.[21] The increased size of vessel required a slightly larger crew averaging two to four men in number. The larger boat size also enabled the men to fish at distances from five to twenty miles from shore. At the more moderate distances, fishing was still done on a daily basis but those fishing further offshore often returned the following evening or perhaps even several days later.[22]

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20. Thomas Knight, Shore and Deep Sea Fisheries of Nova Scotia, (Halifax: Queen's Printer, 1867), p. 39.

21. Ibid., p. 5.

22. Ibid.

In these latter instances, the fish would be dressed and salted prior to the return home. However long the trip, fishermen still used hand-lines for both cod and scale fish with the former requiring heavier lines than the latter.

A division existed between the producing and exporting sectors of the inshore fishery but this type of organization was not unique to Nova Scotia. The province's large number of harbours and the small capital investment required in fishing gear meant that access to the fishery resource was relatively unrestricted. Merchants readily extended credit to the fishermen for provisions against his next season's catch. The ease of entry into the inshore fishery consequently led to the adoption of an individualistic organization. The inshore fisherman cured his own fish before shipping it to the fish merchant who culled or graded the product and paid the current price for it. Fish cures therefore varied with the efforts and skill of the individual fisherman and the favourableness of the weather for drying fish. The exporter had only limited control over the quality, size and regularity of supply.

There were exceptions to this individualistic organization, however. The Jersey firms, which maintained large fishing stations on the Gaspe coast and New Brunswick's north shore, kept similar establishments in Cape Breton.[23] These firms maintained more of an employer/employee

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23. For a detailed description of the operations of one of these fishing stations see L. Z. Joncas, The Fisheries of Canada, (London: W. Clowes and Sons, 1883).

relationship with the fishermen and thus exerted greater control over production. The firms engaged in the inshore fishery from centralized bases which facilitated supervision of the catching and curing processes. The size of their operations gave them advantages of economies of scale in the production of higher quality cures which were unobtainable to individual fishermen. These measures enabled the Jersey firms to produce adequate supplies of superior cured fish for export to the better European and South American markets. In 1864, Arichat was Nova Scotia's only port which exported dried cod to Italy, Portugal and Brazil, while its exports to Spain almost equalled those of Halifax.[24] The Jersey firms maintained several large fishing stations at Arichat.

The small and irregular amounts of superior cures available to most exporters discouraged them from maintaining regular trade relations with the better markets. The experience of one merchant of a slightly earlier period illustrated the problems associated with a small scale of operation. In the late 1840's, John E. Fairbanks became interested in the potential of the fishery and established a small fishing station at Woodside (Dartmouth) for the production of a superior cure. Although

> those cured were of good quality, early in the market and sold well,.. the quantity was too small to make up a cargo, except for the West Indies, with other parcels.[25]

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24. Nova Scotia, Legislature, Journals and Proceedings of the House of Assembly for the province of Nova Scotia, 1866, app. 2, pp. 166-7.

25. M. H. Perley, Report of the Sea and River Fisheries of New Brunswick, 2nd ed., (Fredericton, n. p., 1852), app. 20, p. 218.

In three years operation, the returns from production covered the operating costs but failed to cover the depreciation on the capital investment. Fairbanks attributed this to the "want of exertion on the part of the crew, their insubordination, carelessness and improvidence."[26] The true cause was probably the small scale of operation as the limited quantity produced prevented Fairbanks from realizing a better price.

The bank fishery derived its name from the offshore banks which the fishermen utilized as their fishing grounds. From the beginning of April until approximately the tenth of June, the fishermen fished on the Western Banks.[27] These banks ran parallel to Nova Scotia's Atlantic coast and at distances of fifty to one hundred miles offshore. Bradelle and Orphan Banks in the Gulf of St. Lawrence formed an extension of this bank fishery. Nova Scotian fishermen commonly referred to these banks as the "North Bay". Fishermen usually resorted to North Bay in the latter part of June after fishing on the Western Banks and stayed until the end of August.

By the mid-nineteenth century, Nova Scotians still fished for cod on both the Western Banks and in North Bay by the traditional method of handlining from the vessel itself. Temporary dressing tables were set up on deck and the fish were split and cleaned prior to being salted

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26. Perley, Report of the Fisheries of New Brunswick, app. 20, p. 218.

27. Knight, Shore and Deep Sea Fisheries, p. 5 and Perley, Reports of the Fisheries of New Brunswick, app. 20, p. 217

down in bulk in the hold. Bait supply was a constant problem necessitating frequent trips inshore to acquire fresh supplies or the use of less desirable salted bait. John Fairbanks, writing at this time, complained that the bank fishermen wasted much time by returning home Saturday night.[28] These trips were undoubtedly occasioned by the need for fresh bait as another contemporary report noted American bank fishermen entered Nova Scotia harbours on Saturday night for this purpose.[29] The vessel's catch, however, would remain salted down in the hold until the vessel returned to its home port.

Like the bank fishery, the Labrador fishery received its name from the Labrador coast from Blanc Sablon to Cape Harrison. These fishing grounds were established as having a width of five miles running parallel the coast and an area of 1,900 square miles.[30] The usual season for Nova Scotian fishermen engaged in the Labrador fishery lasted from the middle of June until the latter part of August. The vessels employed in this fishery averaged fifty to sixty tons and each carried two or three whalers and a crew of eight to ten men depending on the vessel's size.

The fishing methodology employed by Nova Scotia's fishermen on the Labrador coast differed radically from that of the bank fishery. Nova

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28. Perley, Report of the Fisheries of New Brunswick, app. 20, p. 217.

29. Nova Scotia, Journals of the House of Assembly, 1851-52, app. 25, "Report of the Committee on Fisheries for 1851," p. 169.

30. G. B. Goode, ed., The Fisheries and Fishery Industries of the United States, (Washington: Government Printing Office, 1884), 1, section v: 135.

Scotian vessels anchored in some sheltered harbour when they arrived on the Labrador coast.[31] The vessel served as a base of operation, while the actual fishing was done from whaleboats with two men to each boat. These men handlined for cod within three to five miles of the coast. The fish were dressed on board the vessels and were salted down in the hold. While American and Newfoundland fishermen often dried their fish on the Labrador coast, Nova Scotian fishermen took their fish home in a green state to be dried there. Bait proved to be less of a problem for Labrador fishermen than for bank fishermen. Capelin abounded along the Labrador coast for most of the fishing season and herring arrived towards the end of it.

The risk of greater loss in the vessel fishery due to higher capital, labour and operating costs resulted in the adoption of a more elaborate system of shared risks. These higher capital and operating costs restricted access to the offshore fishery resources. The pattern of vessel ownership during this period eased the process of capital formation for entry into the vessel fishery. The ownership of a vessel was divided into sixty-four shares consequently several people could enter a partnership to acquire a vessel.[32] The common shipbuilding practices of the day also eased this process. Payment could be made in

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31. For a detailed description of such fishing operations on the Larbrador coast see Goode, The Fisheries ... of the United States, 1, section v: 138-145; Knight, Shore and Deep Sea Fisheries, chap. iv and Lorenzo Sabine, Report on the Principal Fisheries of the American Seas, (Washington: Armstrong, 1852), pp. 170-1.

32. Stanley T. Spicer, Masters of Sail: The Era Square-Rigged Vessels in the Maritime Provinces (Toronto: McGraw-Hill Ryerson, 1968), p. 153.

installments upon completion of certain stages of the vessel and the shipbuilder could sometimes be persuaded to take shares in the vessel in partial payment for his services.[33] These practices facilitated the entry into the fishery of persons with limited capital as well as sharing the risk of owning and operating a fishing vessel among several people.

The outfitting practices of the time also aimed at sharing the risk between the producer and the outfitter/exporter. There was a division between these two functions in the vessel fishery similar to that in the inshore fishery. Credit remained the typical link between the producer and the outfitter. Merchants in the dried fish trade commonly extended credit to the vessel owners for their seasonal outfits. This protected the merchants to some degree against losses during poor seasons, as the vessel owners assumed a debt if the vessel failed to pay for its outfits. The merchants did suffer a loss in profits from a diminished export trade if the season was a poor one. The division between producer and exporter lessened the control of the merchant over the quality and quantity of production but the credit link did ensure him of some continuity of supply. Nor was this division necessarily complete, some merchants owned and operated their own schooners while some vessel owners purchased their outfits without encurring credit obligations. The separation of the producer and outfitter/exporter held true for the majority of vessels during this period.

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33. Spicer, Masters of Sail, p. 153.

The concept of risk sharing also dominated the relations between the vessel's owners and its fisherman crew. By the 1850 s, the co-adventurer system had superceded the wage system which was reported to be in effect in the late 1830 s.[34] The passage of "an Act relating to the Deep Sea Fishery" in 1853 gave legal sanction to the co-adventurer system. This act required that a written agreement be entered with the crew before the fishing trip began. As part of this agreement, the act required the inclusion of a clause stating,

> that the fish, or the proceeds of such fishing voyage or voyages which may appertain to the crew of such vessel, shall be divided among them in proportion to the quantity or number of fish which they may have respectively have caught.[35]

The schedule of this agreement accompanying the act referred to the number of "shares" each fisherman received for his labour. While the vessel's owners were responsible for providing a properly maintained and equipped vessel, other charges relating directly to the fishing trip - principally provisions and bait - were purchased jointly by the owners and crew.[36] This minimized the operating costs to the owners and nullified the labour costs to them, which were important considerations in

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34. Nova Scotia, Journals of the House of Assembly, 1837, app. 75, "Report of the Committee on Fisheries for 1836", n. p.

35. Nova Scotia, Legislature, The Statutes of Nova Scotia, 1853, 16 Vic., Cap. 14, Sec. 1.

36. See accounts of the fishing schooner Druid for 1883 in Zwicker Collection, vol. 175, Public Archives of Nova Scotia (hereafter P.A.N.S.) also for the Water Witch in ibid., item 755.

the event of a poor season when returns failed to cover the outfitting costs. Although this system provided the fisherman with a better return during a good season, it provided him with no assurance of even a minimal return during a poor one.

While the division between producers and merchants broadened risk sharing, it favoured the concentration of export services in large metropolitan firms. Generally speaking, individual outports could support only a limited volume of trade. In outports where a single company, such as the Jersey firms, dominated production, the guarantee of a reasonable volume of supply and demand encouraged direct exports and imports. Elsewhere, the separation of production and marketing resulted in an outport's fishermen dealing with several merchants and in individual merchants dealing with numerous geographically scattered fishermen. The dispersed nature of their domestic trade encouraged merchants to concentrate their import/export functions in one port and to deal with their local customers through middlemen and the coastal trade. To take advantage of the larger volume of goods and the superior transportation links, merchants tended to gather in the larger metropolitan centres.

In Nova Scotia, Halifax companies dominated the province's dried fish trade to the virtual exclusion of outport firms. In 1860, Halifax accounted for almost four-fifths of the provinces total dried fish exports.[37] In Newfoundland, a similar pattern of concentration has been

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[37] Nova Scotia, Journals of the House of Assembly, 1861, app. 1, "Trade Returns for year ending 30 September, 1861," p.48.

discerned with regard to St. John's.[38] In part, Halifax owed its early emergence as Nova Scotia's principal entrepot to its fine harbour, its central location, military garrison and government presence. The capital received an additional boost through its initial position as the province's only legal port of entry. In January, 1841, a Lunenburg merchant blamed his town's slackness on its lack of free port status.[39] Even when this status was obtained, outport firms had to battle Halifax's established trade monopoly. Distance weakened the capital's commerical dominance; as did the development of the province's interior. The establishment of agricultural and lumbering hinterlands gave rise to local marketing centres. When provided with extensive local fisheries, outport firms actively competed with those of the metropolis.

The activities of these firms were shaped by the international and seasonal aspects of the dried fish trade. The conduct of international trade emphasized the role of established firms in marketing. Even when trade was conducted on a consignment basis, the arrangement for return cargoes was complicated by the lack of international communications and banking procedures. In such situations, the personal contacts and business reputations of established firms were important assets. However, the level of such business activity was tied to the production

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38. Shannon Ryan, "The Newfoundland Cod Fishery in the Nineteenth Century" (Master's thesis, Memorial University, 1971), pp. 51 and 58.

39. Zwicker Collection, vol. 756, p. 36, P.A.N.S., J. Zwicker to Rutchford and Brothers, Lunenburg, January 17, 1841.

cycle of dried fish. Each year, new stocks of fish appeared on the market early in the summer but the bulk of production was not ready until the late summer and early fall. This seasonal glut caused a general weakening of the market and induced many producers (and merchants) to hold back quantities of dried fish.[40] Such tactics moderated but could not eliminate seasonal gluts and shortages.

Peaks in seasonal production required merchants to maintain storage and transportation facilities beyond their requirements at other times of the year. In some instances, the use of rental units lessened the need for investment in these facilities. Otherwise, merchants sought out complementary business opportunities in order to maximize returns on capital investments such as vessels and warehouses. Since most exporting was done after the fishing season, fishing itself was a compatible activity for vessels. However, fishing vessels were too small for use in shipping to markets other than the relatively close American and West Indian markets. Firms with larger vessels for trading with more distant markets would be tempted to use these vessels in international carrying trades. Similarly, the need to buy and dispose of return cargoes involved dried fish merchants in a number of related ventures.

The marketplace in which Nova Scotian exporters dealt was an internationally competitive one. In addition to the North American producers previously mentioned, European nations such as Norway, Iceland, Britain and France also produced large quantities of dried and salted

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40. See, for example, The Maritime Merchant, November 2, 1926, p. 28.

fish. These countries not only supplied their domestic markets but were also able to export large quantities as well. In general, this international competition led to overproduction as producers attempted to expand their markets or even just tried to maintain their traditional ones against the onslaught of other exporters. These gluts were periodically worsened when natural factors resulted in several of the major producers having good seasons simultaneously. In these situations markets became particularly unstable as exporters attempted to dump unwanted stock. The traditionally poorer markets were vulnerable to flooding by high quality cures. The consumers benefited but only at the cost of their traditional suppliers who were unable to dump their lower quality cures elsewhere.

This examination of Nova Scotia's dried fish trade has uncovered a number of factors which will be considered in greater detail in the succeeding chapters. Although export rather than production figures are used to determine the cycles, the two are inherently linked. In dried fish production, cod emerges as the most important of several species of groundfish. Problems exist in the proper curing of these fish and these problems influence their final market destination. Major determinants of these cures are the inshore and offshore methods of fishing including those used in the Labrador fishery. These fisheries have an organization for production which emphasizes credit links between the fishermen and merchants. In turn, the merchants are concerned with the competition between outport and metropolitan firms in the marketing of fish. The markets themselves are unstable and the competition of different national producers is an important factor.

CHAPTER II: THE FISH TRADE IN THE "GOLDEN AGE" 1850 - 1866

When the general characteristics of Nova Scotia's dried fish trade are examined during the province's economic "golden age" of the Reciprocity Treaty era, a number of specific elements are revealed. This period, when the province's traditional economy was at its peak, acts as a base against which to measure the changes of the crucial post-Confederation era. Dried fish from both domestic and imported sources served as the pre-eminent export in an economy still not self-sufficient in foodstuffs. Despite problems in the inshore fishery, local production grew from an increase in the number of fishermen and from technological improvements. At the same time, secondary fisheries in herring and mackerel competed for the fishermen's attention. In comparison to outports such as Yarmouth and Arichat, Halifax maintained its dominance of the import and export trades. As a whole, Nova Scotia attained a respectable position in the international dried fish trade and performed important entrepot functions in the American and West Indian trades.

World economic conditions favoured Nova Scotia during the era of the Reciprocity Treaty from 1854 to 1866. Except for a sharp recession in 1857, these years were prosperous ones for the maritime provinces and have been referred to as the region's economic "golden age".[1] The

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[1] W. T. Easterbrook and H. G. T. Aitken, Canadian Economic History, (Toronto: MacMillan, 1956), p. 248.

expansion of international trade created an increased demand for shipping and the wooden sailing ship remained supreme for long voyages and bulky freights. Steamships were relatively restricted in their competition with sailing vessels and the maritime provinces did not reach the peak of their ship-building and ship-owning until 1874.[2] The Crimean War (1854-56) further stimulated this demand for shipping. The Reciprocity Treaty with the United States, from its ratification in 1854 until its abrogation in 1865, encouraged the exportation of Nova Scotia's fishery, agricultural, lumber and mineral products to the American market. Demand for these products increased in this market as a result of the American Civil War (1861-65). Nova Scotians also benefited from a consequent decreased competition from American maritime interests in ship-building, the carrying trades and the fisheries.[3] Windfall profits were available to Nova Scotians engaged in running the Federal blockade of the Confederate states. The colony also enjoyed an increased trade with the West Indies, although Canadian duties discriminated against Nova Scotia as an entrepot in Canadian - West Indies trade.[4]

By the early 1850s Nova Scotia achieved a relatively prosper-

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2. Frederick W. Wallace, Wooden Ships and Iron Men, (London: White Lion Publishers, 1973), p. 192.

3. S. A. Saunders, "The Maritime Provinces and the Reciprocity Treaty," in Historical Essays on the Atlantic Provinces, ed. G. A. Rawlyk (Toronto: McClelland and Stewart, 1971), p. 178.

4. Harold A. Innis, The Cod Fisheries: The History of an International Economy, 2nd ed., rev., (Toronto, University of Toronto Press, 1954), p. 344.

ous position and its immediate economic future looked bright. Sir Gaspard LeMarchant reported in October 1853 that the colony had completely recovered from its late depression caused by the potato blight and the recent "derangements" in the imperial commercial system.[5] He further noted that:

> All the great interests of the province exhibit revived activity. Its Staples, - Agricultural Produce, Fish, Coal, Gypsum, Cordwood, Lumber, and New Vessels - command high prices. The population are fully employed - and the Revenue, collected under a Tariff, the lowest on the continent, steadily increases - yielding not only all that is required to defruy (sic) the expenses of the Government, but a large surplus, for the protection of the Fisheries, the encouragement of Agriculture, the maintenance of Schools, and for internal improvements of various kinds.[6]

He also reported the colony to be in possession of a large and vigorous merchant marine. Between 1846 and 1852, the number of vessels registered in Nova Scotia had increased by 13.9 per cent to 2,943 and their tonnage by 34.0 per cent to 189,083 tons.[7] These vessels were employed not only in the colony's own fisheries and coasting and foreign trades, but also successfully competed in the carrying trades of other countries.

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5. Sir Gaspard LeMarchant was Lieutenant-Governor of Nova Scotia from August 5, 1852 to February 2, 1858.

6. Sir Gaspard LeMarchant, "Report of His Excellency Sir Gaspard LeMarchant to his Grace, the Duke of Newcastle, on the condition and resources of Nova Scotia", The Nova Scotian Extra, Feb. 14, 1854.

7. Ibid.

Nova Scotia relied heavily on foreign trade to maintain its prosperity. The colony's agricultural development lagged behind other sectors of the economy and Nova Scotia depended on external supplies of foodstuffs for some of its own requirements as well as those of its reexport trades with the West Indies and Newfoundland.[8] As Sir Gaspard LeMarchant noted, however, the colony would always be able to afford its requirements as long as one barrel of mackerel purchased two of flour.[9] This statement adroitly summarized the importance of export commodities to Nova Scotia's economy. In order to pay for its imports of provisions and British and American manufactures, the colony depended on the returns from its fish, lumber, coal and gypsum exports and the earnings of its shipping.

Dried fish was Nova Scotia's single most valuable export commodity throughout the Reciprocity era. It accounted for approximately twenty per cent of the colony's total exports during this period. This proportion steadily decreased, however, from 23.4 per cent in 1858 to 18.4 per cent in 1864.[10] A slight recovery appeared in the trade returns of 1865 and again in 1866, but as these figures for the latter year were for a nine month period and the recovery only minimal, no particular significance should be attached to it. The value of dried

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8. Easterbrook and Aitken, Canadian Economic History, p. 239.

9. LeMarchant, "Report on the conditions and resources of Nova Scotia".

10. See Appendix A, Table 3.

fish exports for 1868 was $1,400,000 representing 26.4 per cent of total exports. This increase was somewhat fictitious as Confederation resulted in the exclusion of inter-provincial trade from Nova Scotia's total export returns. In the pre-Confederation period, a larger percentage of Nova Scotia's total exports went to the other provinces than did its dried fish exports.

Relative stability characterized the gross value of total dried fish exports from Nova Scotia during the late 1850s and the 1860s. Precise dating of this period proved difficult but by 1856 the growth experienced in the early 1850s had begun to taper off, while 1868 marked the beginning of a new era of sustained growth.[11] Between these two dates, the colony's dried fish trade had a mean export of $1,400,000.[12] There were fluctuations in the dried fish trade during this period, however, a low export value of $1,200,000 in 1861 separated a peak of $1,600,000 in 1859 from another at the same level in 1865. The standard deviation from the mean for this period was $0.1 million, indicating a fair degree of annual fluctuation. Such fluctuations were typical of staple trades and the dried fish trade was particularly vulnerable as there was only limited control over domestic and international production. This resulted in markets being typically glutted or

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11. See Appendix A, Table 1.

12. Values have been converted to current Canadian dollars at the rate of $4.87 = £ stg.. At this time, Canadian and American currency were at par value. In calculating the mean, standard deviation and annual growth rate from Table 1, Appendix A, the partial fiscal year for 1866 was simply excluded.

undersupplied with consequent variations in price. In spite of these yearly fluctuations, the annual growth rate of dried fish export values was only 0.2 per cent during this period.

A somewhat similar pattern appeared in Nova Scotia's dried fish export volumes at this time. Statistics are incomplete for total dried fish export volumes during the early 1850s but reference to dried cod export volumes for the same period suggest a tapering off in growth by the mid-1850s.[13] The subsequent period of relative stability lasted approximately two years longer than the one for values as it was not until 1870 that export volumes began their next period of growth. The colony's dried fish trade had a mean export volume of 391,000 quintals between 1857 and 1865.[14] A standard deviation of 39,000 quintals from this mean indicated that export volumes, like values, experienced annual fluctuations. Nevertheless, this period emerged as one of relative stability as the annual growth rate for export volumes between these two dates was only 0.4 per cent.

Nova Scotia derived its exports of dried fish from foreign as well as domestic sources. The colony imported dried fish with an annual average value of $255,000 between 1857 and 1865, while it exported dried fish with a yearly average value of $1,416,000 during

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13. See Appendix A, Table 2.

14. In calculating the mean, standard deviation and annual growth rate, the partial fiscal year for 1866 and the missing figures for 1868 and 1869 were excluded.

the same time span.[15] Dried cod characteristically dominated this dried fish import trade. Scale fish formed only 1.4 per cent of the value of Nova Scotia's total dried fish imports between 1857 and 1862, when such imports were at their highest level. Of course inadequate record taking may have meant that imports of scale fish were included in the totals for dried cod. Newfoundland, Canada, St. Pierre and Miquelon were the major exporters of dried fish to Nova Scotia with Halifax being the greatest import centre. In addition to receiving direct imports, Nova Scotian merchants sent out vessels to trade with the fishermen of these producing areas, especially on the Gaspé and Labrador coasts. Dried fish served as both payment and return cargo in these instances.

Although these dried fish imports were entered for domestic consumption in the Trade Returns, the far greater part of them were undoubtedly reexported. Import per quintal values were usually lower than those for exports indicating that they could have been reexported at a profit. As shown in Table 2.1, per quintal import values exceeded those for exports only once during the years between 1856 and 1865. The absence of import duties on dried fish in the pre-Confederation era aided this reexport trade, although local fishermen occasionally complained about such competition. In 1860, for example, the inhabitants of Lunenburg County petitioned against the appearance of French, bounty

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15. Calculated from Appendix A, Tables 1 and 4.

promoted, dried cod in the Halifax market.[16]

Table 2.1: Per Quintal Values for Nova Scotia's Dried Cod and Dried Fish Imports and Exports for Various Years 1856 - 1865 (in current Canadian $)

Year	Dried Cod		Year	Dried Fish	
	Imports $	Exports $		Imports $	Exports $
1856	2.93	3.42	1863	3.15	3.71
1857	3.06	3.68	1864	2.90	3.91
1858	3.12	3.81	1865	3.44	4.44
1859	2.76	3.65			
1862	3.43	2.88			

Source: Appendix A, Tables 1 and 4.

Reexports composed a significant but declining proportion of Nova Scotia's dried fish trade throughout most of this period. If all dried fish imports were reexported, then such reexports would have formed 31.9 per cent of the value of the colony's total dried fish exports in 1858.[17] However, the value of Nova Scotia's dried fish imports annually declined by 18.4 per cent between 1858 and 1865.[18] As an example, the volume of imports from Newfoundland, decreased from 42,341 quintals in 1859 to 1,658 quintals in 1866.[19] A shrinkage in

16. "The Petition of the Undersigned Inhabitants of the County of Lunenburg", March 21, 1860 also one dated 1860; RG5 series "P", vol. 55, Public Archives of Nova Scotia, (hereafter P.A.N.S.).

17. Appendix A, Tables 1 and 4.

18. Appendix A, Table 4.

19. Shannon Ryan, "The Newfoundland Cod Fishery in the Nineteenth Century," (Master's thesis, Memorial University of Newfoundland, 1971), Table 50, p. 299.

per quintal values was not the reason for this decrease, as shown in Table 2.1. The more probable explanations were the replacement of imports by increasing domestic production or perhaps improved opportunities in Newfoundland's other markets. Export figures for Newfoundland indicated a recovery in that island's dried fish exports to Nova Scotia after the mid-1860s.[20] However, the absence of dried fish import figures for the post-Confederation years preclude any estimate of the size of this increase.

The growth in Nova Scotia's domestic dried fish production enabled its exporters to maintain the fairly stable level of exports in spite of the declining imports. Local production always accounted for the greater part of the colony's dried fish exports, even when imports were at their peak. In 1859, domestic production accounted for at least 95.1 per cent.[21] The census figures for Nova Scotia during this period substantiate this growth in domestic production. In 1851, Nova Scotia produced 196,434 quintals, by 1861, this volume increased to 396,425 quintals and to 481,350 quintals by 1871.[22] This dramatic growth was exaggerated as the figures for both 1851 and 1871 were outside the time frame under direct consideration. Moreover, production figures for the mid and late 1840s indicated that Nova Scotia's dried fish production was in a slump in 1851 thus weakening

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20. Ryan, "The Newfoundland Cod Fishery," Table 50, p. 299.

21. Calculated from Appendix A, Tables 1 and 4.

22. Canada, Census of Canada, 1871, (Ottawa:Taylor, 1873), 3:260-9 and 4: 239 and 356.

its use as a base year.[23] In spite of increased production, Nova Scotia's total dried fish trade did not realize any significant gains during this period.

The decennial returns of men employed in the fisheries revealed that Nova Scotia's increased dried fish production during the 1850s and 1860s resulted from a greater number of fishermen being employed.[24] Between 1851 and 1871, the number of inshore fishermen rose from 6,713 to 11,855. The offshore fishery witnessed similar expansion, from 3,681 men engaged to 5,633 but only in the decade from 1851 to 1861. During the second decade, the offshore fishery suffered a slight decline to 5,573 fishermen in 1871. Overall, the number of men reported employed in Nova Scotia's fishing industry increased 21.7 per cent between 1861 and 1871 matching an increase of 21.4 per cent in dried fish production. The returns for 1851 have been excluded from this calculation as the average catch appears to have been unusually low. This rise in the number of fishermen and the resulting increase in production was not surprising as almost every branch of Nova Scotia's economy was experiencing unprecedented prosperity during this period.

As Nova Scotia expanded its fishing effort, provincial entrepreneurs improved the quality and design of fishing vessels. In 1850

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23. Lorenzo Sabine, Report on the Principal Fisheries of the American Seas, (Washington: Armstrong, 1853), p. 67.

24. Calculations based on Appendix A, Tables 7 and 8.

one writer characterized provincial fishing vessels as being "neither so well constructed, fitted or found, as those of the Americans".[25] Three years later, a British naval officer on fisheries protection service agreed with this earlier assessment but noted there were some creditable exceptions particularly among the vessels from Lunenburg.[26] By 1857, improvements had become so general among the Lunenburg fleet that one Halifax newspaper boasted that with scarcely a single exception these vessels would "compare favourably with any similar class of craft in the world."[27] In this, the reporter was undoubtedly exaggerating as insufficient time had passed since the beginning of the decade to allow the replacement of the entire fishing fleet. Nonetheless, vessel improvements were obvious and indicated an increased capital investment in the fishery.

Efforts were also made during this period to improve fishing methods. At this time Nova Scotians fished for cod on both the Western Banks and in North Bay by handlining from the vessel itself. American fishermen adopted the practice of handlining from dories on the banks away from the mother vessel during the late 1850s.[28] Despite an absence of any supporting documentation, the regularity with which Nova Scotians adopted American technological improvements suggested

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25. M. H. Perley, Report of the Sea and River Fisheries of New Brunswick, 2nd ed., (Fredericton: n. p., 1852), app. 20, p. 217.

26. Nova Scotia, Legislature, Journal and Proceedings of the House of Assembly of Nova Scotia, 1853, app. 2, p.20, "Report on Fisheries."

27. The Nova Scotian, June 15, 1857.

28. G. Brown Goode, ed., The Fisheries and Fishery Industries of the United States, (Washington: Government Printing Office, 1867), 1, section v: 123.

that the colony's fishermen soon followed suit. Nova Scotians also attempted to overcome the supply problems for fresh bait while fishing on the banks. As noted earlier, bank fishermen wasted much time by returning to port on Saturday night, apparently in pursuit of bait. By the end of this period, these fishermen were reportedly obtaining their bait by setting nets on the banks at a distance not far from their vessel.[29]

It was also at this time that Nova Scotians began experimenting with trawls or "bultows" as they were called then. Unlike the hook and line which was equipped with one or two hooks, trawls had numerous hooks on short lines fastened at regular intervals along the trawl, just far enough apart to prevent tangling. The trawl-line was then set near the bottom by means of buoys, buoylines and anchors. The length of these trawls, and hence the total number of hooks, varied but frequently were very great. In 1867, French fishing vessels were reported using two lines each 3000 fathoms in length. These lines were set overnight and then hauled in the morning.[30] Naturally the trawl's greater number of hooks resulted in increased productivity compared to conventional handlining. On the other hand, trawls had a greater initial expense and were more expensive to maintain, particularly with regard to increased bait wastage.

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29. Thomas Knight, Shore and Deep Sea Fisheries, (Halifax: Queen's Printer, 1867), p.40.

30. Ibid., pp. 40-41.

It was uncertain just how common trawls became by the end of the 1860's. At the beginning of this period trawls were not used by provincial fishermen.[31] Thereafter, reports became confused as to the extent to which they were adopted. In 1860, the Acadian Recorder noted that trawling had been generally substituted for handlining and that the catch was accordingly more abundant.[32] Six years later, however, the Halifax Evening Express felt that most fishermen still used the hook and line, and advocated trawls. The example of British trawling on Dogger Bank was used to quiet conservationist fears of the new technique.[33] Thomas Knight in his review of Nova Scotia's fisheries published in 1867 reported handlining to be in general usage in the bank fishery but that trawling was gradually coming into use.[34] In spite of its greater acceptance among fishermen, trawling remained a centre of controversy.

Like the vessel fishermen, inshore fishermen during this period relied on a variety of catches to make their livelihood. In addition to cod, they fished for herring, mackerel and salmon which necessitated different outfits according to the type of fish. Contemporaries reported that the diligent and active could make a reason-

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31. Perley, Report of the Fisheries of New Brunswick, app. 20, p. 219.

32. Acadian Recorder, February 25, 1860.

33. The Halifax Evening Express, July 20, 1866.

34. Knight, Shore and Deep Sea Fisheries, p. 40.

able living but that many inshore fishermen divided their time between fishing and farming to the detriment of both.[35] Once a fisherman fell into debt he seldom escaped from it. Conditions were occasionally so bad that one Halifax paper carried an editorial in 1858 describing the wretched condition of the fishermen and their oppression by the merchants.[36] This situation was aggravated by occasional failures of the inshore fishery such as that in 1867 which forced many shore families to move to Halifax for relief.[37] Due to their limited area of operations, inshore fishermen were more vulnerable than vessel fishermen to aberrations in the traditional migratory patterns of fish.

The census returns for 1851, 1861 and 1871 provided a means of determining the geographic distribution of Nova Scotia's dried fish producers. Proximity to fish resources emerged as the major determinant in the distribution of this fish production. The six mainland Atlantic coast counties from Yarmouth in the south to Guysborough in the north and facing on the best fishing grounds accounted for 59.1, 66.9, and 68.6 per cent of Nova Scotia's total dried fish production in the respective census years of 1851, 1861 and 1871.[38] Similarly

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35. Perley, Report of the Fisheries of New Brunswick, app. 20 p. 217.

36. The Acadian Recorder, June 5, 1858.

37. The Halifax Reporter, November 21, 1867.

38. Appendix A, Table 5.

the four Cape Breton counties which either faced the Atlantic or Gulf of St. Lawrence fishing grounds respectively formed 33.4, 28.1 and 23.2 per cent of the provincial totals for the same years. Cape Breton's declining share resulted from a lagging growth rate rather than from a decrease in the quantity of fish cured. Production in the Northumberland Strait and Bay of Fundy counties was minimal at best. An exception was Digby County at the mouth of the Bay of Fundy which produced 5.5, 3.6 and 6.2 per cent of the respective provincial totals. The fishing grounds adjacent to this county more closely resembled those of the province's Atlantic coast than those of the Bay of Fundy and could support more intensive fishing.

Since both an inshore and an offshore fishery contributed to this production, it was important to determine the geographic distribution of these fisheries. The decennial returns of the numbers of fishing boats and vessels and the numbers of men fishing in each provided the logical means of determining this distribution. However, there were problems with their utilization. Between the censuses, the number of boats fluctuated considerably in some counties and sometimes even exceeded the number of men reportedly using them.[39] Similarly, the great fluctuations in the number of fishing vessels suggested a confusion in distinguishing fishing vessels from large fishing

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39. Compare Tables 6 and 7 in Appendix A.

boats or even from vessels employed in other trades.[40] Due to the seasonal nature of the fishery, it was likely that many part-time fishermen were listed under other occupations. In spite of these concerns, the number of boat and vessel fishermen were deemed a more accurate indicator of these fisheries' distribution than were the number of boats and vessels.

An analysis of these returns revealed the existence of two large dried fish producing regions, each emphasizing a different branch of the fishery. For the years 1851, 1861, and 1871, Halifax, Guysborough and the four Cape Breton counties accounted for 49.1, 46.9 and 41.9 per cent respectively of the provincial total, while the four counties on Nova Scotia's "South Shore" had very similar figures of 43.5, 48.1 and 49.9 per cent.[41] Considering their much longer coastline, it was not surprising to find that the six northern counties had 68.4, 56.0 and 63.9 per cent of the inshore fishermen listed in these censuses. Although the South Shore produced a similar amount of dried fish, the inshore fishermen from these counties numbered only 24.1, 30.4 and 21.6 per cent respectively of the provincial totals for those years.[42] The discrepancy between the proportion of inshore fishermen

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40. Compare Tables 6 and 8 in Appendix A.

41. Calculated from Appendix A, Table 5.

42. Calculated from Appendix A, Table 7.

in each region and the quantity of dried fish produced was resolved by the unequal distribution of the offshore fishery. The South Shore dominated this field with 56.0, 54.4 and 60.4 per cent of the province's vessel fishermen listed in the censuses conpared with the six northern counties that had only 36.7, 38.5 and 33.1 per cent of the respective totals.[43]

The Labrador fishery was an important branch of the province's vessel fishery. During this period, the methodology of this branch remained the same but this fishery expanded in other ways. Initially, the strip of Labrador coast utilized for fishing stretched from Blanc Sablon to Cape Harrison. During the latter part of this period, Newfoundland fishermen expanded their area of operations northwards from Cape Harrison to Cape Mugford.[44] Nova Scotian fishermen probably joined in this northern expansion if only in limited numbers. Outfits for the Labrador appear to have kept pace with the overall increase in the colony's vessel fishery. In 1857, The Nova Scotian reported that the outfits in Halifax bound for Labrador were numerous beyond precedent.[45] Similarly, the number of fishermen involved was reported to be "very large" during the 1862 season.[46] Unfortunately, the absence of figures for the geographic distribution of the vessel fishery prevented a finer delineation of this growth.

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43. Calculated from Appendix A, Table 8.

44. Goode, The Fisheries ..., of the United States, 1, section v: 184.

45. The Nova Scotian, June 15, 1857.

46. The Halifax Evening Express, July 11, 1862.

The expansion of Nova Scotia's Labrador fleet during the late 1850s and early 1860s did not mean this fishery was without problems. Beginning in 1860, Nova Scotians complained of interference with their fishing on the Labrador coast by Newfoundlanders.[47] While the latter's hostility was especially directed against the use of seines for catching herring, Nova Scotians frequently fished both cod and herring and were forced to avoid some harbours.[48] The initial solution was the patrolling of the coast by a British naval vessel but this did not prove fully satisfactory in keeping the peace.[49] Finally in 1864, the Newfoundland government extended its customs service to the Labrador coast with the proceeds to support a judiciary there.[50] This brought as much protest from the Nova Scotians as did the original lawlessness.[51] Indeed, between the collection of these duties and a poor fishing season, a Liverpool paper felt the lack of success by the colony's fishermen and traders would "be seriously felt in Halifax for some time to come."[52]

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47. Nova Scotia, Journal of the House of Assembly, 1861, pp. 30, 32, 43 and 45.

48. "The Petition of we the Undersigned British Fishermen Belonging to Nova Scotia," September 12, 1860, RG5 series "P", vol. 18, 1861, P.A.N.S.

49. Nova Scotia, Journal of the House of Assembly, 1862, app. 50, p. 1, "Report of the Committee on Fisheries."

50. Ibid., 1865, app. 42, "Report of the Committee on Fisheries."

51. Ibid., 1864, pp. 27, 43 and 46.

52. Liverpool Transcript, November 17, 1864.

The bank and Labrador cod fisheries formed only a part of the fishing and merchantile interests of Nova Scotia's vessel owners. The spring herring fishery at the Magdalen Islands competed with early bank fishery. By the late 1850s, approximately twenty vessels annually sailed from Halifax to engage in this fishery. The blockade of the Confederate ports, the principal market for this herring, reduced this fishery to only a couple of vessels in the early 1860s.[53] The herring fisheries on the coast of Labrador and the west coast of Newfoundland in the fall were of far greater significance to Nova Scotians throughout this period. The hook and line mackerel fishery, like the Labrador and Newfoundland herring fisheries, also took place during the fall first in the Gulf of St. Lawrence and later on the Nova Scotia coast. The fisheries were easily combined with the cod fisheries as they occurred after the cod fishing season was largely over. Some of Nova Scotia's smaller schooners combined a trip to the North Bay cod fishery with employment in the coasting trades during the spring and fall.[54] Finally, the larger fishing schooners were used to carry the fish to the American and West Indian markets in the fall and winter.

During the 1850s and 60s, the mackerel fishery was the most important of the complementary branches in the vessel fishery. The

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53. The Halifax Evening Express, June 16, 1862.

54. Canada, Parliament, Sessional Papers, 1870, no. 11, p. 90.

fishermen used 'hook and line' to catch mackerel and this method was somewhat similar to handlining in the cod fishery.[55] The hook and line mackerel fishery was adopted by provincial fishermen about 1821 and was pursued for some years with great success, notably from some of the Bay of Fundy harbours.[56] A shift in mackerel migration patterns apparently led to its decline, but by the mid-1840s Nova Scotians were again entering this fishery; including a deep sea branch conducted off Sable Island.[57]

The growth in mackerel exports was little short of phenomenal during the late 1840s. In 1845, 49,552 barrels of mackerel were exported from Nova Scotia; in 1846 exports reached 81,958 barrels and 187,016 barrels in 1847. Mackerel exports declined for the next two years so that only 133,210 barrels were exported for 1849.[58] As shown in Table 2.2, mackerel export values declined from the late 1850s to the early 1860s followed by tremendous growth in 1863 and 1864. During those two years, mackerel exports were valued at just over $1 M annually, making them the most valuable fish exports after dried cod. By the end of the period, however, Nova Scotian papers were reporting scarcities of mackerel.[59]

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55. Sabine, Principal Fisheries of the American Seas, pp.180-4.

56. Nova Scotia, Journals of the House of Assembly, 1847, app. 75, p. 275, "Report of the Committee on Fisheries."

57. Ibid., 1846, app. 87, p. 253, "Report on the Committee on Fisheries."

58. Sabine, Principal Fisheries of the American Seas, p. 67.

59. The Halifax Evening Express, October 21, 1868 and November 6, 1868 also The Halifax Reporter, August 3, 1867.

Table 2.2: Mackerel and Dried Fish Export Values for Nova Scotia, 1856 - 1864.

Year	Mackerel $	Dried Fish $
1856	869,879	1,367,243
1857	571,124	1,339,479
1858	573,116	1,570,687
1859	533,154	1,474,452
1860	342,233	1,261,138
1861	486,094	1,357,253
1862	395,451	1,394,670
1863	1,078,256	1,583,638
1864	1,077,273	1,547,549

Source: Nova Scotia, Journals and Proceedings of the House of Assembly, 1856 - 1865, "Trade Returns."

The interrelationship between export volumes and per quintal values provided important insights into the character of the dried fish trade. While the trade experienced annual fluctuations due to the uncertainty of international supply and demand, prices and volumes also reacted to the local pressures of supply and demand. In 1862, for example, an exceptionally high volume of dried fish exports resulted in a lower per quintal value, while 1865, which witnessed the lowest level of exports for the entire period, also saw the highest per quintal values.[60] Other years obviously experienced the effect of international supply and demand. Dried fish export volumes were only 2.0 per cent greater in 1861 than in 1865 but per quintal values were 23.2 per cent lower.

The international competitiveness of this market places some

60. See Appendix A, Table 1.

importance on Nova Scotia's ranking as a major exporter. Between 1857 and 1865, the province had a mean export volume of 391,000 quintals annually.[61] In comparison, Newfoundland, which was the world's largest exporter of dried fish at this time, had an annual mean export volume of 947,562 quintals between 1856 and 1870.[62] The second largest exporter, Norway, had an annual mean export volume of 705,729 quintals between 1856 and 1865 and Norway's production of dried fish continued to rise throughout this period.[63] The French were also expanding their fishery at this time and exports of dry and green fish from St. Pierre and Miquelon increased from 204,110 quintals in 1850 to 908,302 quintals in 1886.[64] The United States, on the other hand, had an annual mean export volume of 192,221 quintals of domestically produced dried or smoked fish between 1856 and 1861 and an annual mean export volume of 37,539 quintals of foreign produced dried or smoked fish for the same period.[65] Nova Scotia's geographic position between these fish producing areas and the American and West Indies markets helped the colony in assuming an entrepot position in these trades. The colony's heavy involvement in the West Indies trade encouraged the use of its ports, especially Halifax, as assembly points for cargoes to

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61. Calculated from Appendix A, Table 1.

62. Ryan, "Newfoundland Cod Fishery in the Nineteenth Century," Table 31, p. 258.

63. Innis, The Cod Fisheries, p. 384.

64. Ibid., pp. 382-3.

65. Calculated from Appendix A, Table 10.

these markets.

Halifax appeared to have several advantages as a location for both an inshore and a vessel fishery. Its large sheltered harbour provided a safe base of operations adjacent the northern Western Banks favoured by the fishermen. The potential use of the shores of Bedford Basin as a drying area received contemporary recognition.[66] The city's population was Nova Scotia's potentially largest domestic market for fish. The Halifax mercantile community formed the financial, shipping and trading centre of the province. In spite of these advantages, the city had only a limited direct interest in dried fish production. Although the city accounted for approximately one in thirteen of the province's residents in 1861, it had only one in twenty-seven of the vessel fishermen, one in eighty-two of the inshore fishermen and one in thirty-four of the province's fishing vessels.[67]

This relative lack of direct participation in both the inshore and offshore fishery is largely explained by the illusory nature of the city's advantages. Competition from commercial and naval sources combined with the seasonal nature of dried fish production militated against the establishment of fishing stations on either the Halifax or Dartmouth sides of the harbour. The closer proximity of Chebucto Head and Eastern Passage to the inshore fishing grounds favoured the location of this fishery in those areas. The Halifax fish market,

66. Perley, Report on the Sea and River Fisheries, app. 20, p. 218.

67. Canada, Census of Canada, 1871, vol. iii, p. 356.

while large in comparison to Nova Scotia's other urban centres, was small in absolute terms and was easily supplied by the inshore fishermen of Chebucto Head.[68] More importantly, however, the city's merchants, who had the capital and experience to establish a bank fishery were not necessitated to do so. The individualistic organization of the fishery enabled these merchants to monopolize the lucrative outfitting and exporting trades without assuming the risks of the primary producer.

Although they largely avoided direct participation in dried fish production, the Halifax merchants played a prominent role in outfitting the province's fishing fleet. According to the census of 1851, the city and county of Halifax had a combined total of 96 fishing vessels while in 1861 the city alone had only 26 such vessels.[69] The controller of customs reported in 1853, that of 455 vessels clearing provincial ports for the fishing grounds, 149 cleared from the port of Halifax.[70] The port therefore serviced a far greater number of fishing vessels than were actually owned there. This pattern remained in force throughout this period. The Nova Scotian reported in 1857 that the number of vessels outfitting at Halifax for the Labrador fishery was increasing.[71] A comparison between the census figures of 1851 and 1861

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68. The Halifax Evening Express, February 10, 1862.

69. Canada, Census of Canada, 1871, vol. iii, pp. 238-9 and 356.

70. Nova Scotia, Legislature, Reports of the Committees of the Assembly of Nova Scotia on the Subject of the Deep Sea and River Fisheries of the Province, Halifax: 1854.

71. The Nova Scotian, June 15, 1857.

failed to reveal any indication of increased vessel ownership in Halifax. The reported increase in vessels resulted from larger numbers of outport vessels outfitting at Halifax.

As the province's commerical centre, Halifax possessed economies of scale in providing fishing supplies. Fishing vessels from nearby outports circumvented local merchants by dealing directly with Halifax importers. The majority of Lunenburg County fishing vessels, for example, purchased their outfits in Halifax during this period. Although this county reportedly had eighty-five vessels engaged in the fisheries in 1853, of these only twenty-three cleared for the fishing grounds from Lunenburg.[72] Distance considerably lessened Halifax's attractions as an outfitting centre. Yarmouth and Arichat which were considerably further removed from Halifax had the second and third largest number of clearances for the fishing grounds in 1853.[73]

The Halifax merchants exercised even greater control over the dried fish import and export trades than they had over the outfitting business. During 1863 and 1864, Halifax accounted for 94.1 per cent of Nova Scotia's dried fish import values and 71.5 per cent of its export values.[74] The advantages of operating in the province's financial, commerical and shipping centre enabled Halifax merchants to so mono-

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72. Halifax Daily Sun, February 25, 1854 and Nova Scotia, Reports of Committees on the Deep Sea and River Fisheries.

73. Ibid.

74. Calculated from exports and imports of dried cod and scale fish: Nova Scotia, Journals of the House of Assembly, 1864 and 1865, app., "Trade Returns".

polize the dried fish trade. The availability of capital facilitated the financing and insuring of their cargoes. The greater volume of shipping at Halifax gave merchants their greater options in shipping their cargoes. Halifax's entrepot position also gave it a decided advantage over the outports as an assembly point for assorted cargoes of fish, lumber and agricultural produce. West Indian merchants desired these assorted cargoes to avoid storing excessive amounts of one commodity and as a means of preventing market gluts.

Similar to the situation regarding outfitting, Halifax most successfully monopolized the fish trades of the outports nearest it. Exports of Lunenburg County fish reportedly added approximately $250,000 annually during the early 1850s to the capital's export trades.[75] Yarmouth, Arichat and Ragged Islands (Lockport) were the most successful outports in maintaining their own dried fish export trades during this period.[76] The presence of large shipping interests at Yarmouth and the backing of the large Jersey firms at Arichat minimized the advantages Halifax had over these outports. The scale of exports was still considerably smaller in these outports. Ragged Islands, for example, exported only 5.2, 6.5, 7.7 and 8.2 per cent of Nova Scotia's dried cod export values in the years 1855, 1859, 1862 and 1865 respectively.[77] As Halifax so effectively controlled the

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75. Halifax Daily Sun, February 25, 1854.

76. See Appendix A, Table 9.

77. Ibid.

much smaller dried fish import trade no detailed breakdown of it for the outports will be given.

Throughout this period, Nova Scotia's dried fish industry specialized in the production of cures for the West Indies markets. For example, in 1867 and 1868 four-fifths of the province's dried fish exports went to the West Indies, while only a small percentage went to the better markets of Europe and Brazil.[78] This export policy contrasted sharply with that of the neighbouring colony of Newfoundland. Newfoundland produced a more diversified product and competed in all the major dried fish markets. During this period, Newfoundland merchants were engaged in a vigourous struggle to retain their European markets in face of growing competition from Norwegian fish. Newfoundland's large exports of its better cures to European markets meant the poorer grades were frequently dumped on the West Indies market.

Like Newfoundland, most of the other large dried fish exporters favoured the better world markets over the West Indies. France, whose dried fish industry was expanding at this time through the encouragement of bounties, limited dried fish exports to the West Indies to their own tariff protected colonies.[79] Norway's expanding dried fish industry also only exported small quantities to the West Indies. By the end of this period, these exports amounted to only approximately

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78. Calculated from Appendix A, Table 10.

79. Innis, The Cod Fisheries, p. 383.

20,000 to 30,000 quintals annually shipped via the English ports of Grimsby and Hull to the Havanna market.[80] Great Britain sent only very small amounts of dried fish to the West Indies but a considerably greater volume of pickled fish.

The United States was the only dried fish exporter which placed an emphasis on the West Indies market similar to that of Nova Scotia. During 1849-50, the United States exported $365,349 worth of dried or smoked fish of which 83.0 per cent went to the West Indies.[81] The scale of these exports, especially volumes, were considerably smaller than those of Nova Scotia. The American cod fishery was principally concerned with the production of softer cures for domestic consumption, and exports were largely restricted to Haiti and Santa Domingo. In addition to their supplies of domestically produced dried fish, the Americans reexported quantities of foreign produced fish. These fish came from St. Pierre and Miquelon and from the British American provinces. Approximately 20,000 to 30,000 quintals of dried fish were imported annually from St. Pierre and Miquelon of which one-half to two-thirds were reexported.[82]

The British West Indies formed Nova Scotia's largest Caribbean market. As shown in Table 2.3, approximately half of Nova

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80. Province of Canada, Legislature, Sessional Papers, 1866, No. 43, "Report of the Commissioners from British North America, Appointed to Enquire into the Trades of the West Indies, Mexico, and Brazil."

81. Lorenzo Sabine, "The Fisheries of the American Seas," in Hunt's Merchants' Magazine and Commercial Review, 1852, 26: 291-2.

82. Correspondence Relative to Packing Fish in Bond, (Gloucester: Rogers, 1868), p. 10.

Scotia's total dried fish exports went to these markets. Low tariff levels facilitated the entry of dried fish into these markets. In 1866, for example, tariffs in the British West Indies varied from approximately five cents per hundred pounds in Barbados to forty-five in British Guiana.[83] These low tariff levels recognized the role of dried fish as a staple foodstuff in these markets. The relative unavailability of adequate cheap domestic sources of protein emphasized the importance of dried fish as a staple foodstuff, especially for the poorer classes. While tariffs were relatively low throughout the British West Indies, governmental necessity resulted in variations in the tariffs. Barbados, which had the highest population density and which served as a trade entrepot, had the lowest tariffs on dried fish. British Guiana on the other hand, which had the lowest population density and a developing economy had the highest tariffs.

Individual markets in the British West Indies demanded different cures resulting in a variety of exporters shipping to the region. Barbados, for instance, preferred a good quality, well dried cure. As a result, Newfoundland dried fish exports sold well in this market while Nova Scotian fish had little or no sale at all.[84] In other British West Indian markets, it was Nova Scotia which monopolized the dried fish trade. Jamaica was the province's best customer at the beginning of

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83. Province of Canada, Sessional Papers, 1866, No. 43, "Report of the Commissioners from British North America."

84. Ibid.

this period, taking 103,000 quintals from Halifax alone in 1851.[85] Similarly, Nova Scotia reportedly dominated Trinidad's dried fish trade toward the end of the period.[86]

Table 2.3: Nova Scotia's Exports of Dried Cod and Scale Fish by Value and Percentages for selected years 1856 - 1869

Year	Br. West Indies $ %	Br. North America $ %	United States $ %	Other $ %	Totals $
1855	549,925 (45.2)	66,232 (5.4)	107,368 (8.8)	494,180 (40.6)	1,217,705
1859	702,361 (51.0)	33,019 (2.4)	124,858 (9.1)	516,376 (37.5)	1,376,614
1862	651,811 (52.7)	65,146 (5.3)	68,019 (5.5)	451,975 (36.5)	1,236,951
1865	734,918 (47.5)	43,252 (2.8)	174,230 (11.3)	595,146 (38.4)	1,547,546
1868	634,965 (47.9)	8,487 (0.6)	178,897 (13.5)	503,675 (38.0)	1,326,024

Source: Nova Scotia, Journals of the House of Assembly, 1856, 1860, 1863 and 1866, app., "Trade Returns," and Canada, Parliament, Sessional Papers, 1870, no. 1, "Tables of Trade and Navigation."

The Spanish West Indies consisting of Cuba and Porto Rico formed Nova Scotia's second most valuable market. In 1865, the province exported $481,585 worth of dried fish to these islands amounting to some 80.9 per cent of the unidentified "other" column in Table2.3

85. Nova Scotia, Journals of the House of Assembly, 1851-52, app. 3, "Report of the Committee on Fisheries, 1851."

86. Province of Canada, Sessional Papers, 1866, No. 43, "Report of the Commissioners from British North America."

and 31.1 per cent of Nova Scotia's total exports.[87] Porto Rico was the more valuable of the two markets. In 1851, for example, dried fish exports to that market from Halifax amounted to 70,000 quintals while those to Cuba came to only 32,000 quintals.[88] In part this was explained by the higher import duties charged by Cuba. In 1866, Porto Rico charged fifty-six cents per hundred pounds while Cuba charged one dollar and four cents. Both were higher than corresponding tariffs in the British West Indies.[89]

The Spanish West Indies, like their British counterparts, were not homogenous markets in the quality of the cure demanded. The larger and more populous island of Cuba demanded two distinct types of cures. The eastern end of the island showed marked preferences for heavy salted soft cures while the western market centered at Havana also demanded a light salted hard dried cure. Nova Scotia's vessel fishery was oriented to the population of the heavy salted cure demanded in the Cuban market. The province's major competitor in the Havana market was Norwegian dried fish imported via the British ports of Grimsby and Hull.[90] The Nova Scotian cures, however, had an advantage in price over the Norwegian product. The Spanish West Indies

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87. Nova Scotia, Journals of the House of Assembly, 1866, No. 43, "Trade Returns."

88. Ibid., 1951-52, app. 13, "Report of the Committee on Fisheries, 1851."

89. Province of Canada, Sessional Papers, 1866, No. 43, "Report of the Commissioners from British North America."

90. Ibid.

also exhibited a stronger taste for scale fish than the British West Indies. During the fiscal year ending 30 September 1865, the Spanish West Indies took 16 per cent of the dried cod and 35 per cent of the scale fish; the respective totals for the British West Indies were 50 and 30 per cent.[91]

This review of Nova Scotia's dried fish trade has revealed a number of factors and situations which are examined for change in later chapters. Throughout the Reciprocity era, increases in the number of fishermen and technological adaptations resulted in a growing local production but declining reexports kept the province's total dried fish trade relatively stable. This local production was divided between an inshore fishery spread along the province's Atlantic coast and a vessel fishery concentrated on the South Shore. In both inshore and vessel fisheries, economically important secondary species such as mackerel competed with cod and scale fish for the fisherman's attention. Within the international dried fish trade, Nova Scotia ranked as an important exporter but pursued a somewhat unique export policy emphasizing the West Indies. In this trade, Halifax firms dominated the province's exports to the detriment of local outport firms.

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91. Knight, Shore and Deep Sea Fisheries, p. 44.

CHAPTER III: THE DEFINITIVE PERIOD, 1867-1884

In spite of the end of Reciprocity and an international depression, the production and exportation of Nova Scotia's dried fish expanded during the period from 1867 to the early 1880s. This period of growth became pivotal as internal and external factors forestalled further increases after the market recovered. This timespan remained linked to the earlier Reciprocity era by a number of continuing characteristics in the dried fish trade but new departures also became evident. In some instances, events are traced beyond this period's endpoint of the mid-1880s. In production, for example, experimentation with artifical dryers continued with some success into the 1890s. Similarly, technological innovations in fishing, which set the stage for Lunenburg's rise as premier fishing port, also extended into the same decade. In contrast, to these changes, traditional organization and methods were prolonged in the dried fish trade, especially in relation to the West Indies. This latter trade nevertheless forced several adjustments on Nova Scotia which continued beyond recession into the 1880s and 1890s. Although the trade in fresh groundfish had its beginning in the post-Confederation era, this trade is discussed in a final chapter on new departures where its influence can be developed more fully.

In analyzing Nova Scotia's increase in dried fish production between 1867 and 1884, two factors emerge as being of particular significance. Firstly, there was an increase in the number of inshore fishermen which almost exactly matched the increase in production. Be-

tween 1871 and 1881, dried fish production grew by 48.7 per cent while the number of inshore fishermen increased by 50.1 per cent.[1] Secondly, there was considerable growth in per unit productivity in the province's vessel fishery. For example, in 1853, fifteen Lunenburg county vessels engaged in combined bank and Labrador fishing operations had an average catch of 641 qtls.[2] In 1876, twenty Lunenburg vessels engaged in fishing on the Grand and Western Banks had an average per vessel catch of 1,339 qtls.[3] Unfortunately, the government practice of combining inshore and vessel production statistics prohibited an adequate assessment of the proportional catch of each branch.[4]

Growth in production and exports distinguished this period from the Reciprocity era which had experienced growth in production but stability in total dried fish exports. Precise dating of this growth era varied according to the unit measured. Gross export values grew with some annual fluctuations from $1.3M in 1869 to $3.0M in 1883. If gross volumes were used instead then this period was somewhat

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1. Canada, Census of Canada, 1870-71, (Ottawa: Taylor, 1873), 3: 260-9 and Canada, General Report of the Census of Canada, 1880-81, (Ottawa: MacLean, Roger and Co., 1885), 4: 104-5.

2. Halifax Daily Sun, February 25, 1854.

3. Lunenburg Progress, February 25, 1879.

4. Newspaper accounts, such as those noted above, provided production figures on relatively select numbers of vessels. In contrast both the census returns and the fishery officer reports included both part-time and a wide size range of fishing vessels. If one used the two to determine vessel fishery production, that production would undoubtedly be exaggerated.

shortened to include a low of 373,000 qtls. in 1871 and a peak of 748,000 qtls. one decade later.[5] Census returns for the same decade recorded an increase in domestic production from 481,000 qtls. to 716,000 qtls.[6] Interestingly enough, a comparison of the above figures for gross export volumes and domestic production revealed an excess of some 110,000 qtls. in production for the first date and a shortfall of some 30,000 qtls. for the second. Even if the gross exports for the first two years of each decade were averaged to more closely reflect the census years, these discrepancies were only marginally altered. Leaving this problem for later consideration, it sufficed that both statistical sources noted continued expansion into the early 1880s.

Within the dried fish trade, this period of growth ended in a sharp recession during the early 1880s.[7] Between 1882 and 1885, gross export values dropped 43.1 per cent to some $1.7 million. Gross export volumes also decreased from this peak in 1881 but severe fluctuations rendered this measure less useful. Indeed, 1882 - the banner year for export values - was a very poor one in items of volumes and only an inordinately high per quintal value of $5.06 made the year's exports the most valuable to date. The root cause for the trade's

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5. See Appendix A, Table 1.

6. Canada, Census of Canada 1870-71, 3: 260-9 and Canada, Census of Canada 1880-81, 4: 104-5

7. See Appendix A, Table 1.

sudden decline was a severe drop in per quintal values from $5.06 in 1882 to $2.80 in 1885. These values further dropped to $2.74 the following year but increased export volumes resulted in a 16.6 per cent recovery in gross values to $2.0 M.

Historians have traditionally represented this period as starting the decline of the maritime region's economic fortunes. Beginning with the abrogation of the Reciprocity Treaty in 1866, S. A. Saunders notes "every major development seemed to be to the comparative disadvantage of the Maritime provinces."[8] The opening of the Suez Canal in 1869 and the continued improvements in steam engines and iron and steel hulls weakened the position of the province's wooden sailing fleet. Other technological improvements in refrigeration methods favoured the meat trade over cured fish. In 1873, a long international depression began which had a limiting effect on the growth of international trade. The introduction of the National Policy in 1879 favoured the development of a protected industrialized national economy and the abandonment of free international trade.

In many ways, this assessment paints too black a picture of Nova Scotia's economic growth during the first decade and a half of Confederation. The abrogation of the Reciprocity Treaty was the most immediate and perhaps most misunderstood of the events heralding the province's economic decline. As W. L. Morton expressed it:

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[8] S. A. Saunders, "The Maritime Provinces and the Reciprocity Treaty" in Historical Essays on the Atlantic Provinces, ed. G. A. Rawlyk, (Toronto: McClelland and Stewart, 1967), p. 178.

> the end of Reciprocity was to Nova Scotia in 1866, particularly to the fishermen and the coal-miners who had sold their fish and coal in New England, what the end of the old Commerical Empire had been to the Montreal merchants in 1849.[9]

While the treaty's end caused some economic disruptions, these proved to be of a temporary nature in most instances. Indeed, fish exports had recovered so successfully from an initial decline that Nova Scotia's average fish exports to the United States for 1868 to 1873 were slightly higher than for the years 1862 to 1865.[10]

Although traditional sectors of the economy weakened during this period, economic decline did not occur immediately following Confederation. For instance, the peak year for ship-building in the Maritimes was 1874 and the performance of Nova Scotia's shipping led W. S. Wallace to describe the 1870s as the "palmy Seventies."[11] Nova Scotia's dried fish trade was not alone in prospering at this time. Newfoundland's cod fishery flourished between 1855 and the mid-1880s with its crisis coming in the late 1880s and 1890s.[12]

Given the comparative ease of emigrating from Nova Scotia to more prosperous areas of the continent, population growth acted as

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9. W. L. Morton, The Kingdom of Canada: A General History from Earliest Times, (Indianapolis: Bobbs-Merrill, 1963), p. 331.

10. Saunders, "The Maritime Provinces and the Reciprocity Treaty," p. 175.

11. W. S. Wallace, Wooden Ships and Iron Men, (London: White Lion Publishers, 1973), p. 192.

12. D. Alexander, "Newfoundland's Traditional Economy and Development to 1934," Acadiensis, 5, (spring, 1976) : 60-3.

a useful determinent of economic strength. During the 1850s and 1860s, Nova Scotia's population growth was 19.5 and 17.2 per cent respectively.[13] This compared favourably with the 14 per cent taken as the minimum decadal growth needed to retain natural increase.[14] With a decadal growth of only 13.6 per cent, the 1870s were obviously less prosperous than the two preceding decades. Nevertheless, this growth was still considerably higher than the population increases of only 2.2 and 2.0 per cent recorded for the 1880s and 1890s respectively.[15] The 1870s witnessed a weakening in Nova Scotia's economy, but real economic crisis did not come until the 1880s and 1890s.

As indicated by slowing population growth, Nova Scotia's economy as a whole performed less favourably during the 1870s than in the two preceding decades. In contrast, dried fish production increased 48.7 per cent between the census returns for 1871 and 1881. The grouping of census districts in the 1881 returns prevents a breakdown of fishing districts similar to that done in the previous chapter. However, aggregates provided in these census groupings suggested that there had been no significant shift from the province's major producing region. The Atlantic coast remained the largest producer with a total of 611,116 quintals or 85.4 per cent of total production. The

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13. A. A. Brookes, "Out-Migration from the Maritime Provinces, 1860 - 1900: Some Preliminary Considerations," Acadiensis, 5, (spring, 1976), Table 2, p. 32.

14. Ibid., p. 31.

15. Ibid.

Bay of Fundy and Gulf Shore districts had less inpressive records of 79,541 and 25,124 quintals respectively accounting for 11.1 and 3.5 per cent of the provincial totals.[16]

The overall distribution of dried fish production remained largely unchanged between 1871 and 1881 but significant changes occurred in dried scale fish production. In 1871, scale fish accounted for 21.0 per cent of Nova Scotia's total dried fish output. Ten years later, this proportion had dropped marginally to 18.0 per cent. This overall decrease concealed a geographic redistribution of dried scale fish production. Hant's, King's, Annapolis and Digby counties produced 17,088 quintals of dried scale fish in 1871 amounting to 16.9 per cent of the province's total output. A decade later, the Bay of Fundy district tripled production to 51,341 quintals or 39.9 per cent of the provincial total. This growth resulted from both a general increase in the factors of production employed and a greater specialization in dried scale fish production. Scale fish accounted for 46.7 per cent of the total dried fish output of the four Fundy counties in 1871. This proportion jumped to 64.5 per cent for the Bay of Fundy district a decade later.[17] Existing statistics do not distinguish the individual species responsible for this increase but district fishermen most likely concentrated their efforts on hake found in the Bay of Fundy and pollack near its mouth.[18]

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16. Canada, Census of Canada 1880-81, 4:104-5.

17. Calculated from Canada, Census of Canada 1870-71, 3: 260-9 and Canada, Census of Canada 1880-81, 4: 104-5.

18. A. H. Leim and W. B. Scott, Fishes of the Atlantic Coast of Canada, Bulletin No. 155, (Ottawa: Fisheries Research Board of Canada, 1966), pp. 207 and 213.

This increase in the production of dried scale fish in the Bay of Fundy inshore fishery mirrored a general increase in the number of inshore fishermen. In 1871, there were 11,851 inshore fishermen but by 1881 this number had increased 17,782.[19] This represented an increase of 50.1 per cent compared to an increase of 48.7 per cent in total dried fish production. However, the inshore fishery remained dependent on a variety of catches and was frequently combined with other occupations. In Lunenburg county in 1869, for example, the combined catch of the inshore and bank cod fisheries (but excluding that of Labrador and North Bay) was 9,610 qtls. In comparison, the catch for inshore herring fishing was 11,404 barrels and that of the inshore mackerel fishery was 2,901 barrels. Reference to partial valuations of this catch suggests in this instance herring and mackerel were twice as valuable as cod to inshore fishermen.[20] Inadequate statistics prohibit any province - wide generalizations regarding productivity in the inshore fisheries.

There was one easily identifiable source of productivity change in the inshore fishery which most likely attracted many individuals into that fishery. Attempts to can lobsters had occurred in the province as early as the 1840s, but the industry did not experience any real growth until the years following 1870.[21] Indeed, the indus-

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19. Canada, Census of Canada 1870-71, 3: 260-9 and Canada, Census of Canada 1880-81, 4: 104-5.

20. M. B. DesBrisay, History of the County of Lunenburg, (Halifax: James Bowes & Sons, 1870), pp. 171-4

21. Richard H. Williams, Historical Account of the Lobster Canning Industry, (Ottawa: King's Printer, 1925), pp. 6-10.

try's growth was so rapid that the census returns for 1871 did not even list lobster production. In contrast, the returns for 1881 recorded 3,841,476 pounds of canned lobster or an average of 216 pounds per inshore fisherman. This average production varied from less than a pound each for Bay of Fundy fisherman to over 379 pounds per Gulf Shore fisherman.[22] In addition, large amounts of fresh lobster were exported to the American market. It has been argued that the first attempt to export live lobsters came in 1872 when four barrels were shipped from Clark's Harbour, Shelburne county to Boston.[23] During the years 1884-7, Yarmouth exported an annual average of 12,282 barrels of fresh lobsters worth $7,600.[24] This growing lobster trade competed directly with the cod fishery for the inshore fisherman's time and undoubtedly lowered individual productivity in the inshore cod fishery.

In contrast to the cod fishery where even inshore most of the catch was taken outside the three mile limit, most mackerel were caught by both boats and vessels inside this limit. The operation of American mackerel vessels on Nova Scotia's coast fell within first provincial and later Canadian jurisdiction. Competition between the two groups of fishermen inevitably led to political confrontation between the two nations. Throughout most of the 1850s and 1860s, the

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22. Canada, Census of Canada 1880-81, 4: 104-5.

23. Williams, Lobster Canning Industry, p. 15.

24. United States, State Department, "Commercial Relations of the United States with Foreign Countries, 1887 Canada," 50th Congress 1st session, House Executive Document 402, pp. 558-9, in U. S. Congress Serial Set, (New York: Reader Microprint Corportation).

Reciprocity Treaty resolved this problem by granting American fishermen access to provincial waters in return for trade concessions.[25] This treaty's abrogation in 1866 revived the problem which was heightened by the failure of Canada's system for licensing American fishermen. The signing of the Treaty of Washington in 1871 again provided access to provincial waters for American fishermen to commence in 1873. As the terms of this treaty were less generous to Canada than those of the Reciprocity Treaty, the Halifax Commission was established to determine the amount of compensation to be paid by the United States for the use of Canada's fisheries.

It was ironic that technological changes in the American vessel mackerel fishery undercut the value of this settlement to the United States.[26] The use of ice as a preservative on fishing vessels favoured expansion in the fresh mackerel trade and encouraged the exploitation of mackerel stocks closer to the American market. The adoption of purse seines led to the rapid development of the southern spring mackerel fishery in place of that in Canadian waters. During the 1880s, the former fishery averaged 276 vessels annually while the latter averaged only 37. The spring mackerel fishery grew so large that the American market was frequently glutted and this fishery was

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25. See Donald C. Masters, The Reciprocity Treaty of 1854: Its History, Its Relation to British Colonial and Foreign Policy and to the Development of Canadian Fiscal Autonomy, (Toronto: McClelland and Stewart, 1963).

26. Raymond McFarland, A History of the New England Fisheries, (New York: University of Pennsylvania, 1911), pp. 260-275.

blamed for the dissipation of mackerel stocks.

Nova Scotia's mackerel fishery conducted by vessels, also encountered difficulties at this time. Like the Americans, Nova Scotians experimented with seining but uncertain catches caused many vessels to abandon the mackerel fishery for other employment. Testifying before the Halifax Commission, one Lunenburg fisherman claimed that some fifteen years before thirty or forty Lunenburg county vessels had secured good fares in the mackerel fishery. These vessels were less successful after American fishermen had gained access to Nova Scotia's inshore waters.[27] The glutting of the American market and possible disruption of mackerel stocks were more probable reasons for the decline of the vessel mackerel fishery.

Like the vessel mackerel fishery, Nova Scotia's Labrador fishery also declined in importance during this period. Fluctuations in both the volume and landed value of the catch during the late 1860s and early 1870s encouraged Lunenburg county fishermen to experiment with new catching methods in an effort to revitalize this fishery.[28] These fishermen initially used seines - presumably the purse seines then popular in New England. Purse seines proved successful but were considered destructive to the fishery as they caught both large and

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[27] United States, Documents and Proceedings of the Halifax Commission, 1877 under the Treaty of Washington of May 8, 1871, (Washington: U. S. Government Printing Office, 1877 - 78), p. 1259.

[28] M. B. Des Brisay, History of the County of Lunenburg, 3rd ed., (Bridgewater: Bridgewater Bulletin Ltd., 1967), pp. 467-8.

small fish and were thought to disperse the schools of fish.[29] Lunenburg fishermen also tried traps which were nets arranged with four sides, gateways and a bottom which was raised when a school of fish had entered the trap. Traps proved initially successful but were reportedly abandoned after several years because the fish refused to school.[30] More probable explanations were the initial cost and the difficulty of securing suitable seasonal locations at such a distance.

In addition to experiments in the Labrador fishery, Lunenburg fishermen also tried trawling or longlining. As noted in the preceding chapter, Nova Scotians were familiar with the technique of longlining during the 1860s but there was controversy over how widely it was practiced. Its popularization among Lunenburg county fishermen during the 1870s was to make that town the preeminent fishing port in Nova Scotia. Longlines were reportedly first made in Lunenburg in 1869 and as Labrador whalers proved unsatisfactory for using them, the Gloucester flat-bottomed dory was adopted the following year.[31] In 1873, five Lunenburg vessels fitted out for longlining on the Western Banks near Sable Island.[32] Although only one of the five surmounted a discouraging start and made a successful voyage, its example induced

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29. United States, Documents and Proceedings of the Halifax Commission, p. 1206.

30. Des Brisay, History of the County of Lunenburg, 3rd ed., p. 468.

31. The Halifax Chronicle, January 1, 1930, p. 24.

32. DesBrisay, History of the County of Lunenburg, p. 468.

other imitators. The new technology spread rapidly and by 1877 thirty to forty vessels were reported longlining out of Lunenburg county.[33]

Decline in traditional fishing areas led to the introduction of longlining but its success was assured by improvements in its operation. Initially, longlines were used by "hauling and setting" in which the longline was set close to and parallel the bottom with a buoyed and anchored guideline at each end. After the fish had been given sufficient time to strike, the longline was hauled into the boat, the catch removed and the hooks rebaited prior to the longline being set again. The development of "underrunning" the longline enabled tending to be done while the longline remained set. In this procedure, the tending dory worked its way down the line with only the immediate section being worked raised out of the water. The longline was thus stripped of its catch, rebaited and reset almost immediately with greater efficiency. Lunenburgers later attributed this development to a local fishing captain.[34] Whatever its origins, this practice was utilized on board Lunenburg schooners by 1883.[35]

Both inshore and offshore fishermen used longlines but it was more closely associated with the latter fishery. Vessel fishermen, discouraged by fluctuations in the Labrador fishery, reequipped

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33. United States, Documents and Proceedings of the Halifax Commission, p. 1255.

34. W. A. Letson, Lunenburg by the Sea, (Lunenburg: Lunenburg Argus, 1896(?)), p. 20.

35. "Journal of Cephas Pearl," MG7, vol. 14A, Public Archives of Nova Scotia, (hereafter P.A.N.S.).

their vessels for longlining on the offshore banks. Initially these fishermen patterned their movements on the traditional migrations of the bank handliners. In 1877, longline bank fishermen were reported making two voyages.[36] The first made in the spring and early summer was to the Western Banks on the Scotian shelf and occasionally even to the Grand Bank. The second trip made in the latter part of summer was to the Gulf of St. Lawrence. Some particularly hardworking vessels were able to make three voyages within the season. By the early 1880s, Nova Scotian vessels were shifting their second trip from the Gulf of St. Lawrence to the Grand Banks.[37] The combination of a spring voyage to the Western Banks and a summer one to the Grand Banks remained standard until the demise of Nova Scotia's bank longlining fleet during the Great Depression. Of course, some vessels continued to use the fishing grounds of the Labrador coast and the Gulf of St. Lawrence.

Both the technology and the fishing grounds used increased the problems of bait supply for bank longliners. In the Labrador fishery, capelin or herring were available along the coast for use as bait throughout the fishing season. The Magdalen Islands provided a similar baiting centre for fishermen operating in the Gulf of St. Lawrence. Until squid appeared on the banks in the latter part of the season, there was no immediate source of bait for bank fishermen.

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36. United States, Documents and Proceedings of the Halifax Commission, p. 836.

37. "Journal of Cephas Pearl," P.A.N.S.

This lack of local bait supply was compounded in the case of long-liners by their greater consumption of bait compared to handliners. Each handline fisherman used at most only a couple of baited hooks at a time and bait wastage was minimal. Each longline, on the other hand, contained hundreds of baited hooks in use at the same time, and wastage was greater due to bait loss and spoilage.[38]

Bank longliners responded to these problems by bringing either salted bait or fresh bait packed in ice with them. Salted bait kept better but proved less effective in catching fish. In 1877, a bank fisherman reported catching a hundred quintals a day using fresh bait but only a tenth of that with salted bait. In addition, when his vessel was successful with fresh bait, nearby vessels using salted bait caught nothing and had to try elsewhere.[39] The relatively short lifespan of fresh bait packed in ice necessitated bank fishing vessels to make frequent trips inshore to obtain bait. While the time between a vessel's departure and its arrival home might last between one and a half and two and a half months, this voyage was broken by several short trips to the Nova Scotia or Newfoundland coasts to purchase bait. Fishing crews took advantage of these opportunities to regain their "land legs" and to attend local dances.[40] To captains and owners,

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38. F. W. Wallace, Roving Fisherman: An Autobiography Recounting Personal Experiences in the Commercial Fishing Fleets and Fishing Industry of Canada and the United States, (Gardenvale, Quebec: Canadian Fisherman, 1955), p.40.

39. United States, Documents and Proceedings of the Halifax Commission, p. 1201.

40. "Journal of Cephas Pearl," P.A.N.S.

these baiting trips were an expensive and time-consuming necessity but the alternatives of salted bait or catching their own were frequently less viable.

The expansion of the bank longline fishery increased the demand for drying processors separate from the fishermen themselves. Unlike the inshore fishery where almost every fisherman salted and dried his own catch, bank fishermen had little opportunity to dry their own catch. This was particularly the case with the first trip's catch, which had been barely landed when the vessel was refitted and dispatched on her second trip. Even if the fishermen had the opportunity as after the second trip, few fishermen were likely to possess the necessary land or flakes to undertake the task themselves. Instead recourse was made to individuals who were prepared to dry large quantities of fish. These "fish makers" as they were called dried the split and salted fish in return for a percentage of the catch.[41] Occasionally, complaints were directed against some of the practices of these fish makers. One Halifax magazine complained that water used to wash the salt cod was not changed often enough; as the water was later used to fertilize the garden.[42] While the wash water might not always have been changed often enough, its suggested usage was unlikely because the extremely high salt content would have made it an almost useless fertilizer.

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41. Ruth F. Grant, Canadian Atlantic Fisheries, (Toronto: Ryerson Press, 1934), pp. 71-72.

42. The Maritime Merchant, September 2, 1897 also November 25,1897.

The vagaries of the weather also had debilitating effects on dried and drying cod and spurred experimentation with artificial dryers and alternate methods of preparation. In June 1886, a large portion of the recent receipts of dried fish at Halifax had rapidly depreciated due to severe rains followed by intense heat.[43] While this particular example referred to fish already dried, unfavourable weather also deteriorated fish during the drying process. To overcome these problems, three conditions had to be considered: relative humidity, temperature and air velocity. Scientific experimentation during the 1940s set optimum conditions for drying salt cod at a relative humidity of from 45 to 50 per cent, a dry bulb temperature variation between 15.6 and 32.2° C (60 to 90° F) and an air velocity of 100 cm. per second (200 ft. per minute).[44] It was doubtful if the early inventors had this exact criteria in mind but the general conditions for drying were certainly well known.

An alternate method in the production and marketing of dried fish during this period came with the development and popularization of "boneless" fish. The initial development of boneless fish occurred in the United States but Nova Scotians soon became directly involved. In August and September of 1868, the Halifax Evening Express reported

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43. The Critic, June 11, 1886, p. 9.

44. E. P. Linton and A. L. Wood, "Drying of Heavily Salted Fish," Journal of the Fisheries Research Board of Canada, 6, (1942-46), pp. 389-90.

with interest the production of "dessicated" cod. Salted cod was skinned, separated from the bone and was torn into fibres and packed in boxes as if it were confectionary. A Philadelphia plant was reported turning out three tons daily with plans to double production. The Cape Ann Advertiser felt Gloucester deserved to be the centre of this new industry but the Express held the same sentiments for Halifax.[46] In spite of its initial promise, "dessicated" fish proved expensive and lacked preservative qualities.[47]

Within months, a competitor, appeared which quickly eclipsed the market interest in "dessicated" fish. Unlike the earlier product, "boneless" fish was not ground but instead the salted fish after being skinned and boned was cut into narrow strips and packed in boxes. Its inventor, Elishas Crowell of New York received a patent in December 1868. Three other patents were issued for variations of this process in 1869 and others were reportedly using similar processes without patents.[48] Initially poorer grades of fish were used but market demand led to improved quality. In 1875, Gloucester alone put up 500,000 lbs. of boneless cod but real growth did not occur until Crowell's patent rights were rescinded. Producers paid Crowell royalties at first but dissatisfaction over favouritism led several

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47. C. A. Stevenson, "Preservation of Fishery Products for Food," Bulletin of the United States Fish Commission, 18, (1898), p. 399.

48. Ibid., pp. 401-402.

Boston dealers to contest successfully his rights. Almost immediately, the industry experienced tremendous growth and in 1879 Gloucester had prepared approximately 12,000,000 lbs. of boneless fish and other New England towns some 6,000,000 pounds.[49]

By the end of this period, Nova Scotians had followed New England's lead and were producing boneless fish for local consumption and for export to the United States and Upper Canada. In 1885, the American consul at Halifax reported that Yarmouth, Digby and Halifax fish dealers were shipping specially prepared boneless codfish to the western States.[50] In 1886, The Critic of Halifax noted that the market for boneless fish was expanding yearly and it would soon be in as much demand throughout Canada as it was in Halifax. The boneless codfish put up by F. W. Hart of Halifax in packages of 5, 10, 20 and 35 lbs. each was considered one of the largest exports of fish to the "Upper Provinces."[51] Exports were not restricted solely to the finished product. By the mid-1880s, Yarmouth was shipping "lightly dried" cod to American dealers for final preparation into boneless fish. The cod sold to these dealers was thickly salted, lightly dried and put up in barrels. These fish were so lightly dried that the American consul

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49. Stevenson, "Preparation of Fishery Products for Food," p. 402.

50. United States, "United States Consular Report, Halifax 1885," 49th Congress, 1st Session, House Executive Document No. 253, p. 632.

51. The Critic, April 30, 1886 and May 7, 1886.

at Yarmouth stated they might be better termed "wet salted" or "pickled."[52]

Experimentation was also undertaken to develop an economically feasible artificial dryer for salted fish. One of the earliest drying processes was one developed in New England in 1877 by a Mr. Alden for producing "evaporated fish".[53] In this process, the fish were cooked in a tight container by steam to separate the flesh from the bones and the flesh was then put in a tiered chamber. Hot air was forced into the bottom of the chamber and as the fish dried, it was placed on higher tiers. This method proved unsuccessful and Mr. Alden introduced a modified version in 1880.[54] This process used an evaporation pan heated by steam and equipped with revolving blades. The blades disintegrated the skinned and boned fish and the water vapour was drawn off by means of a fan or vacuum chamber. As temperatures as high as 32° C (90° F) partially cook cod in a very short time, Alden's method probably cooked as well as dried the fish. By May 1880, Alden had successfully produced "evaporated" halibut as well as cod and the anticipated retail price of both articles was estimated at fifty cents a pound.[55] A plant was established in Gloucester in 1881 but was unable to compete with the expanding "boneless"

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52. United States, "Commercial Relations - Canada, 1887," 50th Congress 1st Session, House Executive Document, No, 402, p. 562.

53. Stevenson, "Preparation of Fishery Products for Food," p. 420.

54. Ibid.

55. Bulletin of the United States Fish Commission, vol. iv., 1884, p. 404.

cod trade and was closed.[56]

At the same time Alden was refining his process, Canadian inventors were also tackling the problem of artificial drying. In 1879, J. M. Reid designed a process similar to that of Alden in which pickled fish were dried in a tight container by means of compressed heated air.[57] No practical application of this method appears to have been made. In December, 1881, some unidentified Halifax residents received an American patent for a drying process using forced air.[58] In this operation, two apartments with floors left partly open for ventilation were equipped with flakes. When the outside air was dry, steam powered fans or blowers drew the air inside and forced it over the fish. When conditions were humid, the outer vents were closed and the inside air was circulated through an overhead room fitted with blocks of ice to cool the air. The air was recirculated through the drying rooms to preserve the fish through cooling. The method offered a partial solution to the problem of high humidity. This process was put in operation in Gloucester in 1883 but costs proved high and it was abandoned.

Improvements and adaptations continued to be made after the mid-1880s with regard to both the bank fishery and artificial dryers. During the late 1880s and 1890s, bank fishing practices

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56. Stevenson, "The Preparation of Fishery Products," p. 421.

57. Ibid.

58. Ibid.

largely followed those procedures established during the 1870s. Generally speaking the vessels made two trips - a spring one lasting from the beginning of April to the end of May and a summer one lasting from the beginning of June until the end of September.[59] The first trip was usually made to the Western Banks off Nova Scotia or perhaps to the banks in the Gulf of St. Lawrence. Initially, the second trip had been made to the same areas but by this period the Grand Banks were the favoured destination for the summer voyage.[60] Once on the banks, the vessels followed when weather permitted a daily ritual of setting and tending trawls and the splitting and salting down of the day's catch. The need to renew supplies of fresh bait caused the vessels to break their voyages every two to three weeks. Favoured baiting areas for banking vessels included the Magdalen Islands and the coasts of Newfoundland and Nova Scotia.

As an alternate technique to longlining, some bank vessels continued to follow the traditional method of handlining. Originally, handlining had been done from the deck of the vessel itself but by this time period handline fishermen used dories. Unlike the longline fishermen who used a double dory, handliners used smaller individual dories.[61] In relation to vessel size, handliners usually

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59. The Nova Scotian and Weekly Chronicle, May 15, 1903.

60. Lunenburg Progress, April 25,1888.

61. Canadian Fisherman, May 15, 1925.

carried a slightly larger crew than did the longliners carrying perhaps fifteen to twenty-one dories. Longliners averaged a total crew of seventeen utilizing six or seven double dories.[62] Although handliners were usually slightly less productive than longliners, they had a major advantage in that they used less bait.

The experimentation with different methods for the artificial drying of salted fish continued into the early 1890s before a commercially viable system was devised. In 1890, Cathcart Thompson of Halifax developed an experimental process using absorbent pads and press piling. After a week to ten days of repeated repilings, the resultant cure was suitable for the home or West Indies market.[63] The Department of Marine and Fisheries was sufficiently impressed to appropriate $500.00 in 1891 to undertake practical tests of Thompson's system.[64] The following year, Thompson improved his method by making light wooden frames and using more absorbent material. After piling, a screw or lever was used to apply pressure. With these improvements, green salted fish lost 36 per cent weight in moisture after 312 hours.[65] It was estimated that a 30 per cent loss would preserve the fish until favourable outside drying conditions appeared. At that

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62. Lunenburg Progress, April 25, 1888.

63. Stevenson, "The Preparation of Fishery Products for Food," p. 420.

64. Canada, Parliament, Sessional Papers, 1892, no. 11, "Report of the Department of Marine and Fisheries, 1891."

65. Ibid., 1893, no. 11, "Report of the Department of Marine and Fisheries, 1892."

time, between eight and forty-eight hours of good sun would finish the cure depending on which market it was to be shipped. Although no commercial use seems to have been made of the process, it sought to avoid the problems of other dryers with temperature and air flow control through the use of press piling.

The development of a commercially viable artificial dryer finally came with the introduction of the Whitman dryer in the early 1890s.[66] Thomas S. Whitman patented his method in Canada on May 10, 1892 and in the United States on February 13, 1894. His process used a combination of press piling, heat and forced air to dry the fish. Although successful, the provisions for controlling relative humidity were primitive and the temperatures used were dangerously high for a quality product. Whitman, himself, established the first practical application of his process in a building in Annapolis, Nova Scotia.[67] In four years of operation it produced between 10,000 and 15,000 quintals for the West Indies and Central and South American markets. The following drying times and costs were estimated to be incurred for the different markets: two days at a cost of thirty to thirty-five cents per quintal for the West Indies, two and a half at forty to forty-five

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66. Stevenson, "Preparation of Fishery Products," pp. 422-3

67. Ibid., pp. 423-4 and A.L. Wood, "The Drying of Salt Fish," quoted in Charles L. Cutting, Fish Saving: A History of Fish Processing from Ancient to Modern Times, (New York: Philosophical Library, 1956), p. 178.

cents for Central America and Northern Brazil, and three days at forty-five to fifty cents for Southern Brazil. The subsequent popularity of this dryer indicated that these costs enabled a reasonable profit to be made.

Beginning in the mid-1890s, the success of Whitman's dryer inspired major North American fishing companies to adopt his model.[68] In 1895, Thomas Whitman opened another drying plant this time at Halifax, and the following year George E. Boak & Co. (also of Halifax) erected a small Whitman dryer. At approximately the same time, both Bowring Bros. and Job Bros. each established similar facilities at St. John's, Newfoundland. Additionally, a large Whitman dryer was constructed at Pespibeac, Quebec, for Charles Robin, Collas & Co. Ltd. In 1897, Whitman erected a large dryer at St. Pierre for Beaust & fils of Granville, France and shortly thereafter he established a dryer for John Pew and Son at Gloucester, Massachusetts. Within a few short years, Whitman dryers were not only used by all the North American fishing countries but by the best known fishing companies.

Whitman dryers continued to be constructed following the turn of the century. One of the most notable was erected in 1905 at Lunenburg for Zwicker and Co. This dryer was reported in 1917 to be the largest in Canada outside Halifax.[69] It contained 572 flakes,

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68. Stevenson, "Preparation of Fishery Products," p. 423.

69. Canadian Fisherman, June, 1917, p. 226.

each ten feet long and it was capable of drying 300 quintals a day. In one year alone, 17,000 quintals were dried between the fall and the following spring. This dryer was used in part to give sun dried fish a harder cure in order to compete more successfully with foreign suppliers. Zwicker and Co. found it necessary to remove an additional fourteen per cent of moisture from the fall drying but only four or five per cent from the summer drying.

In the marketing of this dried fish, a number of ports across the province acted as export centres. Halifax's dominance of this export function during the Reciprocity era was clearly demonstrated in the preceding chapter.[70] As shown in Table 3.1, export figures exist to continue this analysis of metropolitan dominance into the current period but the Halifax export returns are given only for the West Indies. Even when limited to the West Indies, this interpretation remains viable due to the great importance of this regional market to the province's dried fish trade. A comparison of the last columns in Table 3.1 indicates that the West Indies accounted for an average of 78.1 per cent of Nova Scotia's total dried fish trade during the years 1877 - 1886 inclusive. To comply with the usage of the times, British, French and Dutch Guiana are included in this regional market; although, only the first was a significant or even continuous market for Nova Scotia. The export figures for Lunenburg and Yarmouth are for dried fish exports to all markets and may in the case of exports

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70. see above pp. 55-8.

to the United States from Yarmouth lead to a slight exaggeration of their importance. However, as most of the exports to the United States were probably reexported to the West Indies, the returns for these towns can be reasonably compared to Halifax's.

Table 3.1: Dried Fish Exports to the West Indies from Halifax, Yarmouth, Lunenburg and Nova Scotia for Selected Years 1877 - 1886 (qtl. = 112 lbs.)

Year	Halifax 000 qtl.	Yarmouth[a] 000 qtl.	Lunenburg[a] 000 qtl.	Nova Scotia Exports to West Indies 000 qtl.	Nova Scotia Total 000 qtl.
1877	289[b]		67	500	595
1878	293[b]		81	558	627
1879	336		93	653	742
1880	378			550	748
1881	276		125	492	673
1882	261		103	419	591
1883	250			513	683
1884		97		497	703
1885	257	112		428	607
1886	260	93		524	723

Notes: a - includes exports to the United States
b - uncertain if fish shipped to Cuba via New York included

Sources: Halifax and Lunenburg - unidentified newspaper clippings contained in "Export Clearance of Fish 1878 - 1882" and "Export of Fish etc. 1882 - 1885," Zwicker Collection, P.A.N.S..
Yarmouth - United States, "Commercial Relations," House Executive Document 402, 50th Congress, 1st Session, p. 558.
Nova Scotia - Appendix A, Table 1.

For Nova Scotia's dried fish trade, the period from the late 1860s to the early 1880s was one of tremendous growth. However, the volume of exports through Halifax failed to keep pace with this growth and the capital's position as a dried fish exporting centre

weakened relative to other provincial ports. During the Reciprocity era, Halifax merchants had enjoyed a near monopoly position in their export relations with provincial fishermen. In fact during the mid-1860s, Halifax accounted for over seventy per cent of Nova Scotia's dried fish exports.[71] As can be seen in Table 3.1, Halifax's position in the important West Indies market had weakened in the later period. The city remained the province's largest dried fish exporter but by the early 1880s its share of the market had fallen to just over fifty per cent.

As in the preceding period, distance from the metropolitan centre remained a crucial determinant for the level of dried fish exports from the province's outports. During the Reciprocity era, Yarmouth had undergone considerable growth as an exporting centre for southern Nova Scotia. In 1856, this town had accounted for only 2.2 per cent of the province's total dried fish exports but a decade later this proportion had increased to 13.3 per cent.[72] Incomplete statistics make it impossible to determine Yarmouth's progress during the 1870s but as shown in Table 3.1 by the mid-1880s the town was at a level similar to that of 1865. These figures, perhaps inaccurately, imply a diminished growth rate for exports during the 1870s.

While export growth appears to have tapered off in Yarmouth, this was not the case in some other outports, most notably Lunenburg.

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71. Calculated from Appendix A, Table 9.

72. Ibid.

In the early 1850s, the mercantile aspects of Lunenburg's cod fisheries were almost entirely monopolized by Halifax merchants. The establishment, during the next two decades, of firms interested in the cod fishery slowly changed the situation. Initially, the export efforts of these firms were quite modest reaching only just over one per cent of the province's total exports by 1866. The adoption of dory bank longlining in the early 1870s provided the opportunity for spectacular growth of exports by these firms. As illustrated by Table 3.1, Lunenburg firms exported approximately one sixth of Nova Scotia's dried fish in the early 1880s. Indeed, one Luhenburg firm, James Eisenhauer and Company, was the province's largest dried fish exporter in 1881 and 1882 with totals of 58,000 and 50,000 quintals for these years.[73]

Like other nineteenth century businesses, the firms engaged in Nova Scotia's dried fish trade were private in nature being family firms or partnerships or combinations of the two. The creation and dissolution of partnerships and the admission of junior family members led to the disappearance of old firms and the creation of new ones.[74] It was not unusual for a mer-

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73. See Appendix A, Table 12.

74. See histories of West Indies trade companies in Halifax and Its Business: Containing Historical Sketch and Description of the City and its Institutions, (Halifax: G. A. White, 1876) and Our Dominion: Mercantile and Manufacturing Interests Historical and Commercial Sketches of Halifax and Environs, (Toronto: Historical Publishing Company of Canada, 1887).

chant to gain experience as a junior partner in one firm before leaving to start his own company. One such case was that of Lewis Anderson of Lunenburg. In 1862, Lewis Anderson joined James Eisenhauer and Company as a silent partner but by 1865 business pressures required him to take an active role in the firm. In 1872, Anderson and Eisenhauer's bookkeeper, James R. Rudolf, left the firm to form Lewis Anderson and Co.[75] This new company went on to become one of Lunenburg's three large fish exporting firms during the 1870s and 1880s.[76]

Over the course of several decades, a merchant house sometimes evolved so drastically that its earlier relation to the original firm was no longer apparant. This was the case with the business descendants of the West India trading branch of Esson and Company. John Esson established this company in 1850 as an offshoot of his earlier wholesale grocery business.[77] Robert Boak later managed the company which was then known as Esson, Boak and Co., but still with John Esson as senior partner.[78] John Esson retired from the firm prior to his death in 1863 and John Taylor entered as a partner, with the company being renamed Boak and Taylor. In 1864, this partnership dissolved with John Taylor entering his own business until he was joined in 1872 by W. A. Conrad and George R. Taylor.[79] The firm, now called

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75. H. W. Hewitt, "History of the Town of Lunenburg," (typescript, n. d.), P.A.N.S., p. 74.

76. See Appendix A, Table 12.

77. Our Dominion, p. 85.

78. Ibid., p. 102.

79. Halifax and Its Business, p. 164.

John Taylor and Co., continued to be known as such for over a decade after Mr. Taylor's retirement in 1879.[80] Similarly, Robert Boak also continued in business being joined in 1871 by his namesake under the name of Robert Boak and Son. The father retired in 1875 and a younger son, John A., entered the firm which retained its former name.[81] In both cases, the earlier links with Esson and Co. had all but disappeared.

In both the capital and the outports, the number of firms engaged in the West Indies trade was relatively small during this period.[82] There were usually less than a dozen Halifax firms with annual exports of over 10,000 quintals of dried fish. In Lunenburg, there were only three such firms. The lack of appropriate statistics makes it impossible to determine the number of companies in Yarmouth. In addition, the capital boasted some half dozen firms with significant exports under the 10,000 quintal limit. In 1881, the major Halifax firms accounted for 91.5 per cent of the city's total dried fish exports and 51.2 per cent of the province's exports to the West Indies. Within the half dozen or so largest firms, there was no single dominant firm, although three or four remained in contention for that title.

Business practices continued to match the traditional or-

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80. See Appendix A, Table 12.

81. Halifax and Its Business, pp. 162-3.

82. See Appendix A, Table 12.

ganization of the exporting firms themselves. For the West Indies, exports of dried cod were still predominately shipped in relatively small lots aboard sailing vessels carrying mixed cargoes of dried and pickled fish, root vegetables and lumber products.[83] These shipments were sent on consignment to particular West Indian firms or on speculation alone. The irregular nature of these shipments, both from Nova Scotia and elsewhere, meant that some West Indian markets might be glutted while others were bare. As payment frequently took the form of sugar, salt and other Caribbean products, the province's dried fish exporters tended to become involved in all aspects of the West Indies trade. Regularization of this trade awaited the further expansion of telegraph lines for quick communication and of steamship lines for regular efficient transportation. Without these developments, exports by preordered lots were impossible and the problems of consignment shipments continued.

There were mixed reactions to the quality of the sailing vessel, these firms traditionally utilized to ship goods to the West Indies. In 1876, the new British Consul at St. Thomas wryly noted that:

> My first impressions of these Nova Scotian craft are anything but favourable; legislation, it is to be hoped, is fast reaching them from the mother country, and judging from what passes in my office, I should say, is not coming to them

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83. See entries in "Export Clearance of Fish 1878 - 1882," Zwicker Collection, P.A. N. S.

> a moment too soon ... The institution of official logs, notes of wages, certificates of discharge and other wholesome measures, working effectually in the old country ships, are known to few whether masters or men, and most of the former are uncertificated.[84]

He qualified these remarks by adding that in his short experience he found the masters deserving of their reputation for honesty and seamanship. In his estimation, the problems lay in the choice of crews without proof of ability or conduct and with the insuring of poorly manned, ill-equipped, low classed vessels. The British Consul on the neighbouring island of Porto Rico also deplored in 1876 the general deterioration in the quality of the crews, but remarked that those on Canadian vessels were superior to their British counterparts.[85]

The lack of direct steamship connections between Nova Scotia and the West Indies was a major hindrance to the development of a more regularized trade. Throughout this period, the only direct link between Halifax and the West Indies was the Royal Mail Steamers of the Cunard line. The routes, scheduling, and limited cargo capacity of these vessels meant that they supplemented rather than challenged the consignment services offered by the sailing vessels. Even these limited steam services ended in 1886 when the British government refused

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84. Great Britain, Parliament, Sessional Papers, 1877, no. 83, p. 474, "Commercial Reports, St. Thomas, 1876."

85. Ibid., p. 754, "Commercial Reports, Porto Rico, 1876."

to renew the annual contract.[86] Of greater significance was the competition given by American steamship lines operating out of Boston and New York, especially those with destinations in Cuba. American merchants shipped Nova Scotian dried fish in bond to Cuba on a regular basis, enabling Cuban merchants to avoid maintaining expensive inventories. The advantages of these steamship services led the American Consul at Halifax to report in 1885, that many anticipated the demise of the province's fish trade to the West Indies because of them.[87] In this report he was premature as Nova Scotian sailing vessels continued to trade with the West Indies until well into the twentieth century.

As noted earlier, the West Indies was Nova Scotia's largest regional market. While geographically separate from this market, the British, French and Dutch Guianas have been included in it because of their close association with it in terms of product demanded and market transportation. Of these three additions, only British Guiana proved to be a market of any significance or continuity. Between 1868 and 1886, the West Indies took an average of 81.7 per cent of Nova Scotia's total dried fish export volumes.[88] The province's exports constituted a dominant and increasing proportion of Canada's dried fish export to the Caribbean during this period. Between the quinquennia 1868 - 72 and 1881 - 85, Nova Scotia's share of the nation's export

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86. United States, House Executive Document No. 253, 49th Congress, 1st Session, Vol. 34, p. 816, "Commercial Relations, Bermuda, 1886."

87. Ibid., p. 629, "Commercial Relations, Halifax, 1885."

88. Calculated from Appendix A, Tables 1 and 13.

volume increased from 95.9 to 98.0 per cent.[89] Within the region, the British West Indies including British Guiana was the most important market followed closely at times by the Spanish West Indies. The French West Indies trailed a distant third. Other markets such as Haiti and the Danish and Dutch West Indies were of miniminal or even sporadic importance to the province's exporters.

The British West Indies had long been Nova Scotia's most valuable market for dried fish. In some years of the 1860s, exports to this market had accounted for just over half of the total earnings of the province's dried fish trade. As time progressed, this market became less valuable to Nova Scotian merchants in spite of increased levels of exports. During 1868 - 72, the British West Indies took 50.9 per cent of Nova Scotia's total dried fish export values but this proportion had decreased to 39.6 per cent by 1881 - 85.[90]

During the early 1870s, export volumes and values to this market jumped considerably over the level of the 1860s. Indeed by 1874 export values to this market had already reached the million dollar mark.[91] They stayed near that value with annual fluctuations (occasionally severe) until the mid-1880s. At that time, the market underwent a short but severe depression triggered by a crisis in the all important sugar industry. Nova Scotia's exports to that market

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89. Calculated from Appendix A, Table 13.

90. Calculated from Appendix A, Tables 1 and 14.

91. See Appendix A, Table 14.

had actually been in some turmoil since the end of the 1870s. Between 1879 and 1882, the province's export volumes to the British West Indies had been dropping by approximately 30,000 quintals a year but increases in per quintal values had kept export values near their old levels. In 1883, export volumes had recovered by some 45,000 quintals but per quintal values had dropped. These values continued to drop until they bottomed two years later, at which time, export values were 43.4 per cent lower than in 1882.[92]

Although Nova Scotian and Canadian customs placed the British West Indies, into a single category, they were similar only in their status as British colonies. Even then, the colonies were able to set their own tariffs. Many countries used tariff levels to limit dried fish imports in favour of other foodstuffs or the products of a particular nationality. Since dried fish was a staple foodstuff in the British West Indies, tariffs were not used in this discriminatory fashion. There were nevertheless differences in the tariff levels of the various colonies. As in the Reciprocity era, Barbados continued to maintain the lowest tariffs and Jamaica the highest. In 1885, these customs duties were $0.05 and $0.95 per quintal respectively for the two islands.[93] These tariffs continued to be among the lowest Nova Scotian exporters encountered in their international markets.

The individual colonies varied in both their market size

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92. Calculated from Appendix A, Table 14.

93. See Appendix A, Table 15.

and preference. As shown in Table 3.2, there were considerable differences in market size among the different colonies. Barbados, Jamaica, British Guiana and Trinidad including Tobago were the largest individual markets. Grenada, St. Lucia and St. Vincent which comprised the Windward Islands, were almost equal in size and varied between 9,000 and 12,000 quintals each. The more numerous Leeward Islands of Antigua, Saint Christopher (St. Kitts), Nevis, Montserrat and Dominica were more diverse in their individual market size. The smallest - Nevis - had annual average imports of around 1,000 quintals while the two largest - Antigua and St. Kitts - approximated the individual Leeward Islands in size.

Table 3.2: Total Dried Fish Import Volumes for Jamaica, Barbados, the Windward Islands, the Leeward Islands, Trinidad and Tobago, British Guiana for 1871, 1876, 1881 and 1886 in quintals. (qtl. = 112 lbs.)

Colony	1871 000 qtl.	1876 000 qtl.	1881 000 qtl.	1886 000 qtl.
Jamaica	79	90	86	105
Barbados	87	79	103	109
Windward Islands	30	25	32	36
Leeward Islands	23	22	33	33
Trinidad and Tobago	46	47	62	86
British Guiana	73	98	77	101
Total	335	361	394	470

Source: Appendix A, Table 16.

Both Newfoundland and Nova Scotia were major exporters of dried fish to British possessions in the Caribbean. Unfortunately,

import statistics for these possessions do not differentiate between those two suppliers merely lumping then together along with the dribble of exports from elsewhere in Canada as coming from British North America. Literary evidence indicates that Nova Scotian and Newfoundland exports did not have a proportional share of all the import markets. In 1866, Jamaica, Trinidad, British Guiana were all reported to favour Nova Scotian imports; an assessment with which J. T. Wylde concurred in 1887.[94] Barbados, on the other hand, preferred the well dried cures, characteristic of Newfoundland and the Nova Scotian product found little sale there. No preferences have been uncovered for the Windward and Leeward Islands but Barbados reexported considerable quantities of dried fish, presumably of Newfoundland origin, to these markets.[95]

The Spanish West Indies closely followed the British West Indies as Nova Scotia's most important Caribbean market. These islands accounted for 29.2 per cent of the province's total dried fish export volumes between 1868 and 1885.[96] Unlike the British West Indies which had stabilized after the early 1870s, Nova Scotia's exports to the Spanish West Indies continued to grow until the beginning of the 1880s. Export volumes and values were almost twice as much in the

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94. Canada, Sessional Papers, 1887, No. 43, p. 8, "Report of the Trade Relations Between Canada and the West Indies."

95. See for example, Great Britain, Sessional Papers, 1874, No. LXX, p. 712, "Colonial Possessions, Statistical Tables - Barbados."

96. Calculations based on Appendix A, Tables 1 and 18.

triennium 1878-80 as they had been in 1868-70. As in the British West Indies, the province's exports to the Spanish Islands encountered rapid volume decreases after 1879 but the decreases in this market were more severe. In 1880 and 1881 export volumes decreased by over 30,000 quintals from the preceding years but in 1882 they plummeted an additional 75,000 quintals. While the recovery in 1883 at over 60,000 quintals was larger than in the British market, so were the subsequent per quintal value drops in the mid-1880s. In addition to the general disruption of the cane sugar industry, the Spanish Islands also had to cope with the abolition of slavery in 1886.[97]

Table 3.3: Export Volumes of Dried Fish from Halifax to Cuba and Porto Rico and from Nova Scotia to the Spanish West Indies 1877 - 1886 in quintals (qtl. = 112 lbs.)

Year	Halifax		Nova Scotia
	Cuba 000 qtl.	Porto Rico 000 qtl.	Total 000 qtl.
1877	58	94	178
1878	45	112	212
1879	77	127	275
1880	80	120	243
1881			206
1882	86	93	131 (sic)
1883	58	78	192
1884			191
1885			159
1886	72	86	230

Notes: Halifax figures are for calendar years;
Nova Scotia figures are for fiscal years beginning July 1.

Sources: Halifax - Unidentified newspaper clippings contained in "Export Clearance of Fish 1878 - 1882" and "Export of Fish etc. 1882 - 1885," Zwicker Collection, P.A.N.S.
Nova Scotia - Appendix A, Table 18.

Analysis of Nova Scotia's dried fish trade with the Spanish West Indies is hindered by the lack of reliable import or export statistics. Canadian export figures give total exports to the Spanish Islands but do not distinguish shipments destined for Cuba from those to Porto Rico. Fortunately, such export figures exist for shipments out of Halifax during the 1870s and 1880s. As shown in Table 3.3, exports from Halifax accounted for approximately three quarters to four fifths of the province's export totals to these markets. Particularly in the late 1870s, the Porto Rican market was the more valuable of the two with exports to it averaging over 110,000 quintals annually for the years 1877 - 1880. Exports to Cuba for the same years averaged only 65,000 quintals per year. The Porto Rican market, however, appears to have been more severely affected during the export decreases of the 1880s and the gap between the two markets narrowed considerably.

Some insight into the Cuban market is provided by import statistics quoted in the annual report of the British Consul in Havana. Spanish authorities used differential tariffs to encourage shipment of goods to Cuba in Spanish bottoms. The high tariffs eliminated non-Spanish vessels from carrying "costly" (ie. manufactured) items into Cuba but they also led to widespread smuggling. The British Consul felt that actual imports and exports exceeded the published returns by 50 per cent.[98] It is unknown how closely this would have affected dried

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98. Great Britain, Sessional Papers, 1887, No. LXXXVI, p. 61, "Commercial Reports, Cuba, 1886."

fish which did not bear the brunt of the differential tariffs. It is interesting to note that the British Consul in Trinidad de Cuba attributed "legerdemain practices in the customs house at Havana" for enabling goods entered there to sell in his posting at 13 per cent less than direct imports even with coastal freight charges.[99]

The import returns at Havana for 1868 - 1888 show that dried fish came from three sources: British North America, the United States and Norway.[100] Dried fish imports from the United States were considered to originate in British North America and to be merely taking advantage of the superior steam lines between the American ports and Cuba.[101] Norwegian codfish was imported into Havana via the English ports of Grimsby, Hull and Liverpool in either English or Spanish vessels.[102] Up to 1875, the returns distinguished between direct imports from British North America and those coming from the United States. Between 1868 and 1874 imports from British North America grew each year, increasing from an initial level of 12,355 quintals to one of 63,416. During most of these years, imports from the United States showed little growth until 1874 when they reached 10,237 quintals and 1875 when they increased to 18,760 quintals. Norwegian imports also

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99. Great Britain, Sessional Papers, 1878, No. LXXV, p. 329, "Commercial Reports, Cuba, 1877."

100. See Appendix A, Table 19.

101. Great Britain, Sessional Papers, 1890. No. LXXVII, p. 36, "Commercial Reports, Cuba, 1888."

102. Ibid., 1887, No. LXXXVI, p. 66, "Commercial Reports, Cuba, 1885."

grew and in 1875 were slightly higher than those from British North America.

After 1875, the United States and British North America imports were listed together. These American imports continued at approximately the same level until 1881, after which they declined sharply, reaching a low of 13,652 quintals in 1885. Norwegian fish experienced a similar pattern but with a more moderate rate of decline. Unfortunately, these figures vary considerably from returns for imports into Havana 1882 - 1884 reported by J. T. Wylde in 1887.[103] Wylde's figures showed "English" (ie British North American) dried fish imports declining from 77,108 drums in 1882 to 53,533 in 1886. Norwegian fish suffered a proportionally greater decline from 52,345 to 35,286 drums. The figures for Norwegian cod resembled those reported by the British Consul but those for English dried fish were at complete variance. Evidence in Wylde's report suggests that his report of a proportionally greater Norwegian decline may have been more accurate. Norwegian fish was consistently given a higher per quintal value than the British North American product. According to Wylde, falling sugar prices forced Cubans to replace Norwegian fish with cheaper supplies.

The French Islands of Martinique and Guadeloupe ranked after the British and Spanish West Indies as a market for Nova Scotian dried fish. Between 1868 and 1885, these islands took an average of

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103. Canada, Sessional Papers, 1887, No. 43, p. 6, "Report of the Trade Relations Between Canada and the West Indies."

6.7 per cent of the province's total dried fish export volume. Interestingly enough Nova Scotia accounted for all of Canada's exports to that market with Yarmouth supplying the bulk of these exports. During the mid-1880s, the only years when such detail is available, Yarmouth shipped 91.3 per cent of the province's dried fish exports to the French West Indies.[104] In this, Yarmouth merchants were responding to particular market demands in the French West Indies. Martinique demanded the better grades of lightly salted, large shore codfish. Yarmouth area inshore fishermen prepared such a product from fish caught at distances from five to twenty miles from shore.[105]

Like Nova Scotia's other Caribbean markets, the French West Indies were an expanding market during the 1870s and the early 1880s. After this date, however, there was a sharp decline in per quintal values and export volumes. The province exported an average of 34,000 quintals annually to this market during the quinquennium 1869 - 1873 and increased this to an average of 47,000 quintals in the following quinquennium.[106] After the early 1880s the per quintal values of Yarmouth exports dropped from $4.29 in 1884 to $3.15 in 1885 and to $2.13 in 1886 with export volumes matching this drop,[107]

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104. Calculated from Appendix A, Table 20 and United States House Executive Document 402, 50th Congress, 1st Session, p. 558, "Commercial Relations, Canada, 1887."

105. United States, House Executive Document 402, 50th Congress, 1st Session, p. 558, "Commercial Relations, Canada, 1887."

106. Calculated from Appendix A, Table 20.

107. United States, House Executive Document 402, 50th Congress, 1st Session, pp. 558-9, "Commercial Relations, Canada, 1887."

Indeed export volumes dropped so sharply that exports to the French West Indies that had accounted for 8.3 per cent of the province's total dried fish exports in 1874 - 1878 fell to only 2.9 per cent of this total for 1884 - 1888.

The magnitude of this decline was so great that other factors besides the sugar crisis appear to have influenced Nova Scotia's exports to this market. It seems probable that Nova Scotia may have succumbed to increased competition from Newfoundland and French sources during the straitened market situation. A later report noted that most of the "foreign" cod imported into Martinique prior to 1892 came from Newfoundland.[108] At the same time cod exports from St. Pierre and Miquelon increased from 374,017 quintals in 1881 to 908,300 quintals in 1886.[109] While a dearth of statistics make increased Newfoundland and French competition conjectural, it should be noted that unlike other Caribbean markets, the crisis of the mid-1880s was to prove to be permanent for Nova Scotia with regard to the French West Indies.

Nova Scotia's only significant market outside the West Indies was the United States. Between 1868 and 1885, the American market took 14.5 per cent of the province's total dried fish exports. During this period, the United States increased its proportion of the province's dried fish exports from 7.8 per cent in 1868 - 1872 to 24.7

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108. Great Britian, Parliament, Sessional Papers, 1897, No. XC, p. 458, "Commercial Reports, Martinique, 1895."

109. Shannon Ryan, "The Newfoundland Cod Fishery in the Nineteenth Century," (Master's thesis, Memorial University of Newfoundland, 1971), p. 150.

per cent in 1880 - 1884.[110] Overall Nova Scotia accounted for 90.0 per cent of Canada's dried fish export volume to the United States prior to 1890. The volume of Canadian dried fish exports increased moderately during the 1870s and then jumped by 177.9 per cent between 1874 - 1878 and 1879 - 1884.

Most of Canada's dried fish exports to the United States would appear to have been reexported to the West Indies. Although a demand existed in the United States for the better Nova Scotian cures, this probably formed a small percentage of the province's exports. One Halifax dealer estimated in 1882 that of the dried fish exported from that port to the United States, only 3,916 quintals valued at $19,850 were actually consumed there.[111] Similarly, the reported expansion of Nova Scotia's American markets westward to Chicago during the early 1880s probably included only a minimal amount of dried fish.[112] By using the American ports to reexport Nova Scotian fish to the Caribbean markets, shippers were merely taking advantage of the numerous and frequent steam transportation links with the West Indies.[113]

Although American reexports of Nova Scotian fish were presumably shipped in bond as in the Reciprocity era, tariffs appear to

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110. Calculated from Appendix A, Tables 1 and 21.

111. United States, House Executive Document No. 196, pt. 2, 48th Congress, 1st Session, p. 189, "Commercial Relations, Canada, 1882."

112. Canada, Parliament, Journals of the House of Commons, 1883, Appendix IV, p. 8, "Report of the Select Committee on Inter-Provincial Trade."

113. See above pp. 96 - 97.

have played an important role in determining the level of Nova Scotian exports to the United States. The province's exports to this market greatly increased following the removal in 1873 of import duties, as a result of the Treaty of Washington. Similarly these exports suffered a decline with the reimposition of protective tariffs in 1885 following the abrogation of this treaty. It must also be remembered that these tariff changes also coincided with expansion and contraction in the West Indies market. During the 1870s several important markets in the West Indies were expanding, while the decline after 1885 coincided with loss of purchasing power attributed to the crisis in the sugar industry.

Although this period was one of considerable expansion for the province's traditional dried fish trade, some problems were encountered and these continued into the 1890's. In the West Indies, Nova Scotia also faced increased competition from Newfoundland. Newfoundland fishermen traditionally emphasized the production of the better cures demanded in the European markets but also sent a considerable volume to the West Indies, especially when difficulties were encountered in Europe. Beginning in the early 1890s, Newfoundland began expanding into British West Indies markets traditionally reserved for Nova Scotia. For example, in 1892, the Canadian Commercial Agent in Jamaica reported that Newfoundland had been endeavouring to secure a share of that market for the last two years.[113] As shown in Table 3.4, Newfoundland's

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113. Canada, Sessional Papers, 1893, No. 2E, pp. 90 1, "Commercial Reports - Jamaica."

share of the British West Indies market increased from 22.1 per cent in 1887 - 89 to 26.3 per cent in 1890 - 92, while Nova Scotia's decreased from 69.1 to 57.2 per cent respectively. Nova Scotia was able to regain and retain an almost two-thirds share of the market during the next two triennia, but Newfoundland was able to recover from an initial decline in the mid-1890s to end the decade with just over a quarter of the market.

Table 3.4: Exports from Canada and Newfoundland to the British West Indies and Total Imports into the British West Indies 1887 - 1898 (in quintals)

Year	Canada 000 qtls.	Newfoundland 000 qtls.	British West Indies 000 qtls.
1887-89	265	90	411
1890-92	217	100	383
1893-95	272	80	391
1896-98	244	106	400

Source: Appendix A, Table 22.

This competition had to consider the continuing characteristics of these markets. In 1892, the traditional supply preferences of the individual British West Indies were noted as follows: - Halifax was reported "having had the monopoly for years" in Jamaica; in Trinidad, Canada reportedly had had "a practical monopoly ... for many years"; and in British Guiana the demand was "being fully met by supplies from the lower provinces, especially Nova Scotia."[114] In contrast, "fish of all sorts (was) imported Principally from Newfoundland" in Barbados.[116]

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114. Canada, Sessional Papers, 1893, No. 2E, "Commercial Reports," pp. 83, 90 and 112.

115. Ibid., p. 76.

These references agreed with similar ones noted by commercial reports in 1866 and 1887.[116] The stability of these supply relationships were undoubtedly explained as a combination of market tastes in cures and traditional commerical links.

As in previous years, tariffs remained a reasonably low obstacle to trade in these markets. Indeed, in the major markets of Jamaica, Barbados, Trinidad and British Guiana import duties on dried fish had remained fairly low, and amazingly stable, throughout the last third of the nineteenth century. In 1895, they ranged from a high of $0.95 per quintal in Jamaica to a low of $0.25 per quintal in Barbados.[117] These duties amounted to only 19.4 and 6.4 per cent of the respective per quintal values that those markets placed on their dried fish exports in the triennia 1894 - 96.[118] These colonies maintained such proportionally low tariff levels due to their need to import foodstuffs particularly proteins. Jamaica with its greater potential for self-sufficiency kept higher tariff levels than Barbados which was dependent on imported foodstuffs.

Until the mid-1880s, Nova Scotia enjoyed expansion in both the production and market sectors of its dried fish trade. Increases

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116. Province of Canada, Legislature, Sessional Papers, 1866, No. 43, "Report of the Commissioners from British North America, Appointed to Enquire into the Trades of the West Indies, Mexico and Brazil." and Canada, Sessional Papers, 1887, No. 43, "Report of the Trade Relations Between Canada and the West Indies."

117. Appendix A, Table 15.

118. Calculated from Appendix A, Tables 15, 16, and 17.

in production resulted from both an increasing number of inshore fishermen and technological adaptation in the vessel fishery. This latter adaptation prefaced Lunenburg's rise as the province's pre-eminent fishing port. This rise resulted in that town's merchants successfully competing with those of Halifax in the export trade. This competition largely took place within the framework of traditional markets and marketing practices. In addition to technological changes in the vessel fishery other new departures and concerns were met. The development and popularization of "boneless" cod and experimentation with artifical dryers marked two changes in the processing of dried fish. In addition, increased competition from Newfoundland underscored the vulnerable nature of the West Indies market. After the mid- 1880s, Nova Scotia's West Indian markets recovered from their depression but additional changes were to be encountered.

CHAPTER IV: FROM CRISIS TO STABILITY 1886 - 1914

Although Nova Scotia's dried fish trade recovered from its depression of the mid-1880s some fundamental problems remained. In dealing with these, this chapter adopts a more extensive chronology but continues the discussion of this trade emphasizing key factors. During this timespan, the province's economy underwent a realignment with heavy industry securing a greater investment than the fishery. Within the fishery, dried fish production and marketing stabilized by 1900 and began to decline after 1903 - 05. Contributing to this decline, there was a decrease in the number of fishermen reflecting generally poor population growth and the attractions of alternate employment. In the inshore fishery, fishermen continued to diversify with lobster and cod in competition, while vessel fishermen specialized in cod production and the bank fishery. In marketing, the British West Indies remained the most valuable of a generally declining regional market. Improved steamer connections led a movement in favour of pre-ordered over consignment shipments. While American competition became evident in the Spanish West Indies after 1892, the United States remained the province's best market outside the Caribbean. In spite of general stability throughout most of this period, the dried fish trade was moving to a point of crisis because of cumulative changes requiring new responses.

During the last two decades of the nineteenth century, Nova

Scotia's economy underwent a realignment in which industrialism played an important role. The province's industrial growth following the introduction of the National Policy was greater than that of the other provinces in eastern Canada. This industrial development

> was characterized by a significant transfer of capital and human resources from the traditional staples into a new manufacturing base which was emerging in response to federal tariff policies.[1]

In monetary terms alone, the capital invested in Nova Scotia's industrial establishments increased from $10.2M in 1881, to $19.7M in 1891 and reached $34.6M in 1901. The capital invested in the province's fisheries grew more slowly, increasing from $2.9M in 1881 to $3.2M in 1891 and reaching only $3.3M in 1901.[2] The level of investment in the fisheries remained low in part because of the industry's heavy reliance on credit. It is significant that the comparative inactivity in capital investment in the fisheries coincided with the beginning of industrialism in the province. It must also be noted that many of these initial attempts by Nova Scotian entrepreneurs to industrialize ended in failure for a variety of reasons.[3] In spite of this poor record, the province's entrepreneurs obviously considered industrialism as an at-

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1. T. W. Acheson, "The National Policy and the Industrialization of the Maritimes, 1880 - 1910," Acadiensis, 1, (spring, 1972) : 3.

2. Canada, Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy of Canada, (Ottawa: n. p., 1934), pp. 52, 71 -2, The capital investment in the fisheries included "the value of vessels, boats, nets, traps, piers, and wharves, etc. also of fish canning and curing establishments and working capital."

3. Acheson, "The National Policy and the Industrialization of the Maritimes," pp. 27 -8.

tractive alternative to investment in the fisheries.

The changes in respective rankings of Nova Scotia's major industries in terms of values of production indicated the fundamental realignment in the province's economy.[4] In both 1871 and 1881, fish canning and curing ranked second below lumbering and ahead of ship and boat building in terms of value of production. Lumbering still had the most valuable production in 1891 but sugar refining had replaced fish canning and curing for the second spot; this latter industry dropped to third with ship and boat building going to fourth. In 1901, however, smelting followed by iron and steel products had the most valuable productions; fish canning and curing retained its position as third while lumbering and sugar refining dropped to fourth and fifth spots respectively. The emergence of sugar refining, smelting and iron and steel products, as major industries was important as they indicated the province's growing industrialism at the expense of more traditional elements in its economy.

In contrast to the growth experienced in the province's industrialization, stability characterized the dried fish trade during the period extending into the early 1900s. Of course, as the preceding era of growth had ended in a sharp recession, the immediate problem facing Nova Scotia's exporters was that of market recovery. In spite of predictions that the province's fish trade would be lost to

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4. Canada, Dominion Bureau of Statistics, The Maritime Provinces Since Confederation: A Statistical Study of their Social and Economic Condition During the Past Sixty Years, (Ottawa: King's Printer, 1927.), p. 77.

the superior transportation facilities of the United States, the value of Nova Scotia's dried fish exports quickly recovered to their former levels. In the triennium 1881- 83, the province's dried fish export values hit a maximum annual average of $2,852,000. The following triennium of 1884- 86 marked the lowest average with annual export values of $2,025,000 or a decrease of 30.0 per cent. The very next triennium witnessed a recovery to annual export values of $2,537,000. Although export values between 1887 and 1902 achieved the peak level of 1882 - 84, they maintained an annual average of $2,538,000 with only minimal annual fluctuations.[5] Export volumes for the same period averaged 633,000 quintals per year with an annual fluctuation of ± 4.0 per cent.

Census records, while inadequate for fisheries during this period, also indicated stability; at least in terms of the domestic production of dried cod. It perhaps reflected a central Canadian bias that fisheries data was not included in the published census returns for 1891. Their omission necessitates using only the 1881 and 1901 returns when discussing the 1880s and 1890s and thereby making any conclusions more tentative. Nevertheless, these returns provide some indication of the happenings in Nova Scotia's dried fish production. In 1881, 587,203 quintals of dried cod were produced in comparison to 570,673 quintals in 1901.[6] Thus far the stability of the period appears to be confirmed but problems arise when attention is focused on the

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5. Calculated from Appendix A, Table 1.

6. Canada, General Report of the Census of Canada 1880-81, (Ottawa: MacLean, Roger and Co., 1885), 4:104-5 and Canada, Census of Canada 1901, (Ottawa: S. E. Dawson, 1904), 2:414-420.

returns for dried scale fish. In 1881, 128,578 quintals of haddock, hake and pollack were dried but the same totals for 1901 amounted to some 250,619 quintals - an increase of almost 100 per cent. In earlier censuses, scale fish had hovered around 20 per cent of the total dried fish production but by the 1901 figures this proportion had jumped to 30.5 per cent. The magnitude of this increase suggests either an error in compilation or a considerable change in fishing practices. Unfortunately, a lack of detail prohibits determining between the two.

Although Nova Scotia's dried fish trade recovered from the recession of the mid-1880s and remained stable into the early years of the twentieth century, it failed to keep pace with other sectors of the Nova Scotian economy. As seen in Table 4.1, the dried fish trade's share of Nova Scotia's total foreign exports continued to decline, during the 1880s and 1890s. In the post-Confederation era, the province's dried fish exports enjoyed their greatest importance during the expansive 1870s. In the quinquennium 1875- 79, such exports had accounted for 34.2 per cent of Nova Scotia's total foreign exports. This proportion declined to 26.3 per cent in 1885 - 89 and 22.2 per cent in 1895 - 99. The dried fish trade was maintaining its own in absolute terms but was decreasing in importance in relative terms.

The early years of the twentieth century up to the First World War witnessed increased instability in Nova Scotia's dried fish trade. Beginning in the triennium 1903- 05, Canada's exports underwent a series of severe annual fluctuations in volumes and per quin-

tal values. Problems initially affected the level of production but increased per quintal prices in the later years succeeded in making this period the most valuable ever. Nevertheless, many of the problems encountered at this time were to return more drastically after the First World War. The unique market situation this war created makes a natural conclusion to this examination of Nova Scotia's traditional dried fish trade.

Table 4.1: Quinquennial Averages in Dry Salted Fish and Total Exports by Value for Nova Scotia for fiscal years ending June 30, 1870/74 - 1895/99 in dollars ($4.87 = 1 £ stg.)

Date	(1) Dry Salted Fish Exports 000 $	(2) Total Exports 000 $	(3) (1) as % (2)
1870/74	1,836	6,101	30.1
1875/79	2,377	6,943	34.2
1880/84	2,733	8,557	31.2
1885/89	2,211	8,411	26.3
1890/94	2,422	9,721	24.9
1895/99	2,346	10,547	22.2

Source: Canada, Parliament, Sessional Papers, 1870 - 1900, "Tables of Trade and Navigation for 1869 - 1898."

After 1900, Canadian customs returns contain considerably less detail concerning Nova Scotia's dried fish trade. In that year, the returns cease to provide even provincial totals of dried fish exports let alone individual market breakdowns. In the introduction, a projection was made of Nova Scotia's exports based on the province's share of national dried fish export values and volumes during the 1890s. As these proportions were 81.7 per cent for export values with

a standard deviation of 3.1 and volumes followed closely at 83.0 per cent and 2.9 per cent respectively, some confidence was given to the projections.[7] As Nova Scotia traditionally accounted for some four-fifths of the nation's total dried fish trade, the Canadian experience can be taken as a reasonable reflection of what happened to Nova Scotia. However, as this period encompassed some dramatic changes, these projections will not be used to examine the occurrences in individual markets.

Canadian customs figures reveal the decade between 1903 and 1913 to be one of decreased export volumes but one of increased export values. Between those dates, the annual mean of Canada's dried fish export volumes was 676,000 quintals or a decrease of 12.2 per cent from the similar mean for the period 1886 - 1902. In contrast, the annual mean for export values was 3,664,000 amounting to an increase of 18.8 per cent over the preceding period, in spite of the smaller quantity exported. The use of decennial means masks the magnitude of the changes which become apparant if shorter periods are examined. For example, in the years 1903 - 06, the annual mean for export volumes was 23.4 per cent below that of the preceding period while export values were only 0.4 per cent below. In contrast during 1908 - 13, the annual means were 4.5 per cent below for export volumes and 31.8 per cent above for export values.[8]

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7. See above, p. 9.

8. Calculated from Appendix A, Table 1.

The decline in dried fish production was reflected by a decrease in the number of fishermen which mirrored in part a generally poor population growth rate. Between 1871 and 1881, the province's population grew by 13.6 per cent, but by only 2.2 and 2.0 per cent respectively in the last two decades of the nineteenth century.[9] It has been estimated that Nova Scotia suffered net migration losses of 43,000 people, aged 10 and over, during 1881 - 91 and 40,000 in 1891 - 1901.[10] The net migration loss for 1881 - 91 represented a loss of 9.8 per cent of Nova Scotia's total population in 1881 while that of 1891 - 1901 was 8.9 per cent of the population in 1891. Although Nova Scotia showed modest population gains for both decades, the net migration losses depicted a weakening of the provincial economy relative to the real or anticipated economic opportunities elsewhere.

In terms of fishermen employed, the fisheries did not even keep pace with the minimal growth experienced by the population as a whole. Between 1881 and 1901 the province's population had grown by 4.3 per cent. During the same time span the number of fishermen on vessels and boats declined from 24,636 to 21,002 or a decrease of 14.8 per cent. The returns also noticed a 2.8 per cent decrease in the production of dried cod.[11] The province's dried fish trade, though not in

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9. Dominion Bureau of Statistics, The Maritime Provinces in Their Relation to the National Economy, p. 10.

10. Kari Levitt, Population Movements in the Atlantic Provinces, (Halifax: Atlantic Provinces Economic Council, 1960), app., Table 1, p. 3.

11. Canada, Census of Canada 1880 - 1881, 4: 104-5 and Canada, Census of Canada 1901, 2: 414-20.

decline during the 1890s, did not achieve the levels of the early 1880s. These years had also seen a peak in the Newfoundland cod fishery which declined sharply during the late 1880s and the 1890s. Between 1880 - 1884, and 1895 - 1899 export prices in the island's fish trade fell around 32 per cent, export volumes fell 20 per cent and gross earnings fell 36 per cent.[12] In Nova Scotia the change from these years was not so pronounced with the respective decreases being 5.8, 5.4 and 9.6 per cent.[13] Moreover with its more diversified economy, Nova Scotia was better able than Newfoundland to withstand absolute decline in the dried fish trade.

The decreased export volumes of the pre World War One era indicates that Nova Scotia's dry fishery had encountered problems in productivity. This put the dried fish industry somewhat at a variance with the province's economy as a whole. A moderately increased population growth indicated a somewhat improved economic situation. Between 1901 and 1911, the province's population grew by 7.1 per cent which was considerably better than the 2.0 per cent growth experienced during the 1890s.[14] It was still less than the 14 per cent taken as the minimal decadal growth needed to retain natural increase. In absolute terms, the estimated net migration loss for 1901 - 11 was only

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12. David Alexander, "A New Newfoundland: The Traditional Economy and Development to 1934," Acadiensis, 5, (spring, 1976) : 62.

13. Calculated from Appendix A, Table 1.

14. Kari Levitt, Population Movements in the Atlantic Provinces, app., Table 1, p.1.

marginally better than the 32,000 suffered in the preceding decade but was much better in relative terms.[15]

Part of the net migration loss came as a result of migration of fishermen to the fishing fleets of New England. Indeed, by the turn of the century, it was asserted that half of the cod fishing fleet in Gloucester was Nova Scotian in origin. While it was recognized that the emigrants had moved to better themselves, their loss was felt in the province's fishing industry.[16] The extensive fresh fishery in the United States offered greater opportunity for year round employment, with some fishermen working eleven and even twelve months of the year. In Nova Scotia, the smaller size of the fresh fish market meant that such opportunities were considerably less and most provincial bank fishermen worked only slightly more than four months of the year fishing.[17] As earnings were commensurate with the amount of time fishing, fishermen in the United States were materially better off.

At the same time, Nova Scotia's fishing industry faced labour competition from other sectors of the provincial economy. The new iron works at Sydney created a large demand for workers and many fishermen were among the labourers who answered that call. Not only did Nova Scotian fishermen go there but so did fishermen from Newfoundland, so that bank fishing vessels going to that island for crews found

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15. Kari Levitt, Population Movements in the Atlantic Provinces, app., Table III, p. 3.

16. R. R. McLeod, Markland or Nova Scotia, (Toronto: J. L. Nichols Co., 1902), p. 281.

17. Maritime Merchant, October 22, 1903, p. 21.

little relief from the labour shortage.[18] This shortage gave rise to unscrupulous practices among fishing captains who sought to fill their crews with fishermen lured from other vessels. The labour shortage in the fishery appears to have been most severe during the first decade of the 1900s.

In addition to labour shortages, dried fish production suffered in the inshore fishery from competition from other species. With emphasis placed on herring, mackerel and scale fish as well as cod, Nova Scotia always had a more varied inshore fishery than Newfoundland. During this period, the lobster fishery increased to the point where its production rivaled that of cod. As noted in the preceding chapter, the lobster fishery did not experience any real growth until the late 1860s. By 1881, the production of canned lobster reached 3,841,476 pounds or 216 pounds per inshore fisherman.[19] By 1901, there were 246 lobster canneries with a production of 6,031,459 pounds or an average of 395 pounds per inshore fisherman.[20] In addition, the fresh lobster trade had grown from negligible status in 1881 to 140,410 cwt. in 1901. Indeed, Ruth Grant asserted that in real terms the value of the lobster fishery exceeded that of the cod fishery by 1901.[21]

Unlike the cod fishery the lobster fishery was essentially an inshore pursuit. In 1901, the province's lobster production came

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18. Maritime Merchant, March 9, 1905, p. 62.

19. Canada, Census of Canada 1880 - 81, 4: 104-5.

20. Canada, Census of Canada 1901, 2: 414-20.

21. Ruth Grant, The Canadian Atlantic Fishery, (Toronto: Ryerson Press, 1934), p. 28.

from 632,344 traps but unlike the 1881 census there was no indication of the relative success these traps enjoyed in the different provincial waters. The breakdown is important as the lobster fishery varied in terms of both average catch and price received throughout the province. In 1898, for example:

> in some localities the fishermen receive 80 cents per hundred lobsters by count ... in Western Nova Scotia the fishermen get as high as $20 to $30 per hundred.[22]

The price discrepancies were largely accounted for by the comparative advantage these western Nova Scotian fishermen had in transporting their catch to New England markets. Even where fishermen adopted improved fishing gear such as trap nets, the catch still included species other than cod. For example, the trap fishermen of Middle-Head, Ingonish, landed 600 quintals of pollack from their trap on August 1, 1904.[23] Innovations such as motorized boats were adopted but increased efficiency was sought for a variety of species.

Following the turn of the century, lobsters continued to rival cod and its related species for the fishermen's attention. Between 1901 and 1911, the value of preserved lobsters declined slightly from $1,344,145 to $1,168,826 but this was more than made up by the growth in the fresh lobster trade from $799,137 to $1,103,057. However, this optimistic picture of growth did not transfer itself to

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22. Canada, Lobster Trade Commission, Report of the Canadian Lobster Commission, 1898, (Ottawa: Queen's Printer, 1899), p. 39.

23. Canada, Sesseional Papers, 1905, No. 22, p. 337, "Report of the Department of Marine and Fisheries."

the volume of production and indeed production was on the decline. In the fresh lobster trade, production diminished from 140,410 cwt. in 1901 to 93,871 in 1911.[24] A change in measure makes it impossible to check the decline in canned lobster production. An increase in the number of lobster traps from 632,344 to 720,571 suggests that a greater effort was required by fishermen to meet ever diminished yields.[25] For inshore fishermen engaged in lobster fishing, this would mean even less time available during the fishing season in which to catch cod.

While Nova Scotia's inshore fishermen followed a policy of catch diversification, the offshore fishermen concentrated their efforts on cod and its related species. During the Reciprocity era, vessel fishermen had frequently combined a cod fishing trip to the Labrador coast or Gulf of St. Lawrence with a later mackerel fishing trip.[26] This practice began to die out with the introduction of the purse seine and the southern mackerel fishery.[27] The adoption of longlining and subsequent lengthening of the summer trip to the banks made reequipping for a fall mackerel trip increasingly less viable. From the lack of contemporary references, the combined pursuit of cod and mackerel

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24. Canada, Census of Canada, 1901, 2: 414 and Canada, Census of Canada, 1911, (Ottawa: J. DeL. Tache, 1915), 5: 36 and 38.

25. Canada, Census of Canada, 1901, 2: 412 and Canada, Census of Canada, 1911, 5: 34.

26. Halifax Daily Sun, February 25, 1854.

27. Harold Innis, The Cod Fisheries: The History of an International Economy, 2nd ed., (Toronto: University of Toronto Press, 1954), pp. 371-2.

in the vessel fishery was little practiced during the 1890s and may indeed have disappeared completely.

The concentration in the vessel fishery on cod and scale fish was accompanied by an increased specialization in the longline bank fishery. The number of vessels utilizing only the Labrador coast or the Gulf of St. Lawrence continued to decrease relative to the number of bank fishing vessels. Many of these latter vessels made an annual trip to the banks in the Gulf of St. Lawrence but these grounds formed only one of a number of offshore banks so utilized during the course of the fishing season. In 1899, Lunenburg had 152 vessels engaged in the cod fishery. Of these only 7 utilized the Labrador coast and 11 the Gulf of St. Lawrence or North Bay as it was called. The remaining vessels used the offshore banks.[28]

The procedures in exporting this production underwent change as the expansion of scheduled steamer service with the West Indies encouraged exports through preordered lots rather than consignment shipments. Steamers were able to offer effective competition on their prescribed routes to the province's fleet of sailing "fish carriers." This once again encouraged the centralization of fish exporting services in the steam line terminal of Halifax. The outport firms which had expanded their direct exports during the production increases of the 1870s were now faced with revitalized transportation links in

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[28] Canada, Sessional Papers, 1901, No. 22, pp. 82-83, "Report of the Department of Marine and Fisheries."

Halifax. Those outports without their own steamer connections, such as those Yarmouth had to the United States, attempted to link up with existing routes. During the winter of 1904, the Lunenburg Board of Trade tried unsuccessfully to have steamers travelling between Halifax and the West Indies stop there.[29] This failure was made doubly aggavating the following year when Halifax merchants were able to outbid local ones during a poor season and gain control of over half the Lunenburg catch.[30] It is uncertain to what extent superior transportation facilities had in enabling the metropolitan merchants to offer the higher prices.

As the centre for the province's steamer connections, Halifax regained some of its lost dominance as a dried fish exporting centre at this time. As shown in Table 2.2, with exception of an unrealistically low export reported in 1896, Halifax's dried fish exports had grown both absolutely and relatively between the late 1880s and the late 1890s. It should be noted that Halifax's export figures were available for only its West Indies markets while those of Nova Scotia were only for its total exports. Had the figures been available, Halifax would have been several percentiles greater in its dominance of the province's total dried fish trade. By literary accounts, Halifax's importance as a marketing centre increased in the years following the

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29. Canada, Parliament, Sessional Papers, No. 22, 1906, p. 336, "Report of the Department of Marine and Fisheries, 1905."

30. Ibid.

turn of the century. In 1905, Halifax's improved transportation facilities were reported favouring the capital over the outports as a distributing point.[31]

Table 4.2: Exports of Dried Fish to the West Indies from Halifax and Total Dried Fish Exports for Nova Scotia 1887 - 1899 (in quintals).

Date	(1) Halifax 000 qtls.	(2) Nova Scotia 000 qtls.	(3) (1) as % (2)
1887	240	660	36.3
1888	251	616	40.7
1889	258	592	43.6
1890	242	616	39.3
1891	248	616	40.3
1892	263	584	45.0
1893	301	621	48.5
1894	354	686	51.6
1895	341	636	53.4
1896	214	665	32.2
1897	309	654	47.2
1898	301	609	49.4

Source: Halifax - Halifax Board of Trade, Annual Report of the Board of Trade Halifax, N.S. for the Years 1899, (Halifax: John Bowes, 1900), p. 19.
Nova Scotia - Appendix A, Table 1.

The transition from receiving shipments on a consignment to a preordered basis did not effect all markets equally at this period. In 1886, a change was already noted in the business practices of the Cuban and Jamaican markets. Dealers were reported taking advantage of regular steamer service to preorder fish rather than wait for

31. Maritime Merchant, April 20, 1905, pp. 62 - 4.

consignment shipments.[32] Although consignment orders by sailing ships continued in most markets well into the twentieth century, a 1901 review of marketing practices showed this method to be under pressure. Business in the Mediterranean was reported done on an order basis as well as in southern and northern Brazil. In the West Indies, Porto Rico, Barbados and Trinidad adhered to the consignment business. The Italian market was considered one of the best for straight orders.[33]

The West Indies remained the largest regional market for both Halifax and Nova Scotia. During the decade 1877 - 1886, the West Indies had accounted for 78.1 per cent of the province's total dried fish exports. Unfortunately, Canadian customs figures failed to distinguish Nova Scotia's individual markets after 1890 or even provide the province's total exports after 1900. A review of these figures did not give any indication that the importance of the West Indies had diminished markedly after 1889. Nova Scotia's share of Canada's total dried fish export values amounted to 80.8 per cent during the 1890s which compared favourably to its proportion of 78.3 per cent during the 1880s.[34] The province had monopolized Canada's dried fish trade to the West Indies exporting 96.0 per cent of the national total to that market during 1885 - 89. This market took 32.0 per cent of Canada's dried fish ex-

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32. The Critic, June 11, 1886, p.9.

33. Maritime Merchant, January 3, 1901.

34. Calculated from Appendix A, Tables 1 and 13.

port volumes in the 1890s which was similar to its share of 32.7 per cent in the 1880s.[35] The stability shown in these figures underlines the continued importance of the West Indies market.

Throughout this period, the British West Indies was Canada's (and by extension Nova Scotia's) most valuable market in the Caribbean region. Between 1886 and 1902 Canada shipped an annual average of 250,000 quintals of dried fish to the British West Indies or 52.2 per cent of its total exports to the Caribbean region.[36] In terms of export values, these shipments averaged $1,013,000 or 54.0 per cent of the regional total.[37] A more detailed look at this period reveals differing cycles between export volumes and values. Export volumes followed a cyclical pattern with above average years in 1886 - 88 and 1893 - 97 inclusive being followed by below average years in 1889 - 92 and 1898 - 1902. When viewing export values, a different pattern emerged. Up to 1895, three out of the ten years under consideration had below average values and two of these also had below average volumes. From 1896 to 1902, all years had below average export values.

The expansion of steamship lines and the shipment of ordered lots to the West Indies continued during the first decade and a half of the twentieth century and was helped on occasion by legislation. More than most markets, Porto Rico had clung to consignment shipments despite the introduction of steamer service. The introduction of

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35. Calculated from Appendix A, Tables 1 and 13.

36. Calculated from Appendix A, Table 14.

37. Calculated from Appendix A, Table 14.

American navigation laws in 1901 militated against continued use of Nova Scotian vessels, as these vessels were unable to continue their former custom of sailing directly from that island to an American port. As the decade progressed, Porto Rico imported more and more of its needs through American steamer connections and in ordered lots.[38] This experience was reported elsewhere in the West Indies though in less dramatic fashion and to the detriment of Nova Scotia's smaller outports. These outports lacking steamer connections themselves were forced to export through Halifax. In 1882, Lunenburg had exported approximately one quarter of the province's dried fish shipments to the West Indies but forty years later such shipments went through the capital.[39]

Market occurrances in the British West Indies during the 1890s foretold some of the difficulties Nova Scotia's dried fish trade was to encounter in the future. Unlike Newfoundland, Nova Scotia's production was based substantially on the bank fishery which produced a reasonably good cure but one with limited international demand. During the 1870s, the province increased both its bank fishery and its exports to the West Indies. In contrast to other Caribbean markets, the British West Indies maintained reasonably accurate import statistics. Some problems exist with their use as some colonies, notably Barbados,

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38. Great Britain, Sessional Papers, 1905, No. CXIX, p. 713, "Commercial Relations - Porto Rico, 1904."

39. See above, Table 3.1, p. 90 and Canada, "The Royal Commission to Investigate the Fisheries of the Maritime Provinces and the Magdalen Islands," (typescript, 1928), vol. 8 in MG 6, "F" Series, vol. 4, P.A.N.S., pp. 2839-40.

reexported dried fish and Trinidad did not differentiate between dried fish and other fish imports after 1884. Nevertheless, adding the import statistics for the different colonies provides a fairly good indication of total consumption in the British West Indies.

Consumption in this market showed some growth between 1890 and 1898 but remained below the level of the late 1880s. In 1887 - 89, the British West Indies imported an average of 411,000 qtls. This dropped during the early 1890s but had recovered to 400,000 qtls. by 1896 - 98. This lack of growth in one of Nova Scotia's major markets did bode well for sustaining growth in its dried fish trade.

As a result of increased competition in the West Indies market,[41] Nova Scotian exporters called for improvements in processing the catch in the vessel fishery so that the resulting cure would have more market appeal. To circumvent the need for heavy salting, it was recommended that fishing vessels make shorter trips and produce a slack salted cure.[42] However, unless markedly higher prices were realized by the fishermen for such a cure, the fishermen preferred to maximize the time fishing and minimize that spent in transit between port and fishing grounds. In addition, exporters recommended the use of Cadiz salt in place of that from Turk's Island as the former left no deposit.[43] Turk's Island salt made a convenient return cargo for vessels engaged

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41. See above pp. 109-10.

42. Maritime Merchant, May 25, 1908.

43. Ibid.

in the West Indies trade - especially for vessels restricted in their ability to obtain return cargoes in Porto Rico. As Nova Scotia had little direct trade with Spain, Cadiz salt would have had to be especially imported bearing full freight charges.

Efforts to impove the bank fishery product came as a result of the market vulnerability of this cure. Unlike other fishing powers which produced for the better world markets or for bounty and tariff protected ones, Nova Scotia specialized in the production of heavy salted lightly dried cures for the West Indies market. In normal times, this strategy worked well as these markets offered a fair if somewhat lower than average price. In addition, merchants were able to purchase return cargoes of Caribbean products for the domestic or American market. This trade was well suited to Nova Scotia with its dependence on the bank fishery which had limited ability to produce superior cures. Moreover, the bank fishing vessels themselves could be engaged in the West Indies trade after the fishing season. The weakness of this marketing policy came on two fronts. In times of turmoil in the better markets, fishing powers dumped their product on the West Indies market; an action which Nova Scotia was unable to emulate elsewhere. Secondly, the improvement of steam transportation encouraged the abandonment of consignment orders through sailing vessels. This lessened the opportunity for Nova Scotia's fishing vessels to make off season earnings thereby indirectly increasing fishing costs.

Prior to the First World War, Nova Scotia exporters received several indications of the West Indies availability to other competitors. In the long term, Nova Scotia had always faced competition in the better Caribbean markets. Newfoundland, for example, had long monopolized the Barbados market which demanded a light salted cure.[44] Similarly, Nova Scotia had supplied large shore fish to the French West Indies until a protective tariff and bounties on French fish excluded them from this market.[45] Norwegian fish had been on the Havana market since the Reciprocity era but began making further inroads on this market and in southern Brazil in the early twentieth century. The war halted this process as Norway turned to fill European markets but this was only a war-time respite.[46]

More alarming to Nova Scotians than this long term competition was the tendency of producers to dump fish in the West Indies when they had an abundant fishery or when they encountered competition or internal disorder in their own traditional markets. In 1905, Gloucester interests heavily competed with Nova Scotians for the Porto Rican and Cuban markets. This competition resulted from an abundant fishery that year and from Pacific coast fish competing successfully against New England fish in the mid-West States.[47] Similarly, early in

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44. Canada, Sessional Papers, 1893, No. 2E, p. 76, "Commercial Reports - Barbados."

45. Great Britain, Sessional Papers, 1907, No. CXI, p. 806, "Commercial Reports - Martinique."

46. Canadian Fisherman, January, 1917, p. 17.

47. Maritime Merchant, August 24, 1905, p. 72.

1908, the French began shipping fish to the Oporto market for the first time in several years and glutted the market. This action in turn forced Newfoundland shippers to that market to offer their fish elsewhere including the Halifax market for shipment to the West Indies.[48] By April 1908, so many shippers were dumping in markets that not only the Mediterranean markets were reported poor but so were those of northern Brazil, Cuba, Porto Rico and the British Islands.[49] In 1911, the Oporto market again reported dull but this time it stemmed from the unsettled condition of Portugal politically.[50] Once again, Newfoundland shippers would be forced to find other markets.

In spite of the inherent problems with the West Indies markets, Nova Scotians continued to ship there with some degree of success into the early years of the twentieth century. However, these shipments met increasing difficulties as time passed. After 1892, increased American competition became evident in the Spanish West Indies with the Spanish-American war causing some temporary readjustments. In the French West Indies, tariffs played a considerable role in eventually excluding Canadian imports from that market. In spite of increased American competition in the West Indies, largely through reexports of Canadian and Newfoundland fish, the United States remained Nova Scotia's most important dried fish market outside the Caribbean.

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48. Maritime Merchant, January 9, 1908, p. 70 and Ibid., February 20, 1908, p. 74.

49. Ibid., April 2, 1908, p. 27.

50. Ibid., April 27, 1911, p. 34.

The Spanish West Indies followed the British colonies as Canada's largest market in the Caribbean region. Between 1886 and 1902, the Spanish colonies of Cuba and Porto Rico took an annual average of 211,000 quintals or 43.9 per cent of Canada's total exports to the region. The returns of these annual exports amounted to $809,000 or 43.1 per cent of the total making this market marginally less profitable in per quintal values than the British colonies.[51] Canadian custom figures do not differentiate between Porto Rico and Cuba until 1899. Although Cuba was the larger and more populous island, Porto Rico was the more important market for Canada. During the triennium 1900 - 02, Porto Rico took 54.1 per cent of Canada's export volumes to the two islands but accounted for 57.9 per cent of the export values.[52] However, this triennium immediately followed the Spanish American War and its aftermath may not have affected the two markets.

Although, the customs figures collected under the Spanish regime in Cuba were criticized at the time for inaccuracy, they nevertheless provide some indication of market patterns. The British Consul at Havana ceased to report customs figures in 1888 but his counterpart in Santiago de Cuba began to report them that year and continued to do so until 1896. His figures confirm a much later report dividing Cuba into two market regions; one at Havana demanding quality cures and including a marked Norwegian presence, and another one in Santiago de

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51. Calculated from Appendix A, Tables 18 and 23.

52. Calculated from Appendix A, Table 23.

Cuba stressing price rather than quality and showing a marked preference for Canadian fish.[53] In Havana, Norwegian fish typically accounted for a third if not more of the market. In Santiago de Cuba, such fish made up only 3.5 per cent of the reported imports during 1892 - 96.[54] Sharp annual fluctuations and incomplete statistics make trends difficult to determine, but after 1892, direct imports from British North America declined in favour of those from the United States. It was generally conceded that these "American" imports should more properly be titled as reexports from Nova Scotia and Newfoundland.[55]

The British Consul at Porto Rico also reported customs figures at this time. Beginning in 1885 and continuing until 1894, he provided the total volume of fish exports and with some omissions their country of origin. Unfortunately, only a standard rate of £ 10 per metric ton (1,000 kilos) was used for per unit values. Imports from Canada completely dominated this market, accounting for 87.0 per cent of Porto Rico's total imports between 1885 and 1894.[56] Unlike Cuba, there was no decrease in imports from Canada during the early 1890s in favour of those from the United States. The American share of the Porto Rican market remained consistent at 10.4 per cent for each of the two triennia 1889 - 91 and 1892 - 94.

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53. Canadian Fisherman, October, 1940, p. 12.

54. See Appendix A, Table 24.

55. Great Britain, Sessional Papers, 1890 - 91, No. LXXXVII, p. 752, "Commercial Reports - Cuba."

56. See Appendix A, Table 25.

Canadian imports of fish into Cuba and Porto Rico received some advantages and some disadvantages from tariff adjustments. On April 26, 1886, Great Britain and Spain signed a treaty at Madrid, under which Canada obtained most-favoured-nation status in the Spanish Antilles.[57] By this treaty, tariff rates against Canadian dried fish dropped some 25 per cent in both islands. This was of some advantage in the Cuban market where Canadian fish had already been paying a lesser duty at $1.13 per 100 lbs. than Norwegian fish at $2.14.[58] On June 30, 1892, Spain renounced this treaty in favour of a special convention signed with the United States. By this Reciprocity Treaty, American fish paid no duty while Canadian fish continued to pay the reduced charge. In Cuba, this amounted to $0.82 per 100 lbs. and encouraged shipment of Canadian fish through American ports until the convention ended the last of September, 1894.[59] In Porto Rico, where import duty was only $0.45 per 100 lbs. and business firmly tied to consignment, Canadian fish did not make this transportation shift.

A major market disruption occurred with the outbreak of the Spanish American War in 1898. In addition to the dangers of actual fighting, the resulting American victory left Cuba and more particular-

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57. Canada, Sessional Papers, 1893, No. 2E, p. vii, "Commercial Reports."

58. Canada, Sessional Papers, 1887, No. 43, pp. 19, 25 and 26 "Report of the Trade Relations between Canada and the West Indies," and Great Britain, Sessional Papers, 1896, No. LXXXVIII, p. 499, "Commercial Reports - Cuba."

59. Great Britain, Sessional Papers, 1896, No. LXXXVIII, p. 499, "Commercial Reports - Cuba."

ly Porto Rico closely linked to the United States. In Porto Rico, the full Dingley tariff applied to all foreign importations, while, American imports paid only 15 per cent of it until 1901 when they entered free.[60] Nova Scotian vessels had been formerly in the habit of freighting homeward via the United States as Canada had only a limited market for Porto Rican produce.[61] Nova Scotians soon adapted their carrying trades to changed conditions by diminishing importations in favour of indirect shipments via New York steamers.[62] In spite of a tariff of $0.84 per quintal, Nova Scotian fish were able to retain this market against American imports.[63]

Unlike the situation in other Caribbean markets, Nova Scotia did not recover its former level of exports to the French West Indies following the market crisis of the mid-1880s. Prior to this crisis, these islands had been a minor but nonetheless significant market for the province. During the quinquennium 1874 - 78, they had taken an annual average of 47,000 quintals or 8.3 per cent of the province's total dried fish exports but by 1884 - 88, these figures had dropped to

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60. Great Britain, Sessional Papers, 1901, No. LXXXV, p. 570, "Commercial Reports - Porto Rico."

61. Ibid., p. 571.

62. Great Britain, Sessional Papers, 1905, No. XCI, p. 570, "Commercial Reports - Porto Rico."

63. Maritime Merchant, September 26, 1901, p. 44.

18,000 quintals and 2.9 per cent respectively.[64] While other markets recovered after these dates, the French West Indies did not and indeed the annual exports continued to drop. As Nova Scotia had supplied all of Canada's dried fish exports to the French West Indies prior to 1889 it is reasonable to assume that the Canadian exports recorded after 1890 were from that province. The record of these exports was far from distinguished, as the annual export fell to 8,000 quintals for the years 1887 - 91 and to 7,000 quintals for the years 1892 - 96, almost ceasing altogether after 1896.[65]

The sugar crisis of the mid-1880s and increased international competition may have accounted for Nova Scotia's decline in this market but its near total demise can be attributed to a protective tariff. Prior to its introduction, in 1892, Martinique imported an annual average of 26,933 quintals of French origin and 26,783 quintals of foreign (chiefly Newfoundland) origin.[66] The tariff's effect was to drive foreign cod from the market. In 1891, Canadian exports of dried cod to the French West Indies had attained a level of 16,000 quintals; the following year it was 4,000 quintals and the year after that it was only 395 quintals.[67] Thereafter, exports remained low with one

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64. Calculated from Appendix A, Tables 1 and 20.

65. Calculated from Appendix A, Table 20.

66. Great Britain, Sessional Papers, 1907, No. CXI, p. 806, "Commercial Reports, Martinique."

67. See Appendix A, Table 20.

unusually large shipment of 29,000 quintals in 1896.

The situation in Martinique also showed the dangers to a colonial economy of an imperially imposed tariff. In 1895, a large decrease was noticed in the importation of French products from the preceding year. In cod, which instituted the chief food article, there was a decrease in volume imports from 60,180 quintals to 41,746 quintals or a 30.6 per cent decrease.[68] This diminunition was not specifically linked to the 1892 tariff but later problems with prices were. In 1907, it was reported that up to 1900 there had been no increase in the retail price which varied from $4.26 to $5.64 cwt. Since then the price had risen to first $6.94 and then to $7.91 per cwt. and in December 1907 it had ranged from $9.98 to $10.88 per cwt. While the fishing seasons of 1903 - 06 were admitted to be poor, it was generally considered in the colony that the high prices resulted from the tariff excluding foreign fish. The situation was worsened by the fact that French fish had to be conveyed in French shipping to qualify for the bounty of $1,97 per cwt. Most of the imports came via France and the single steamship line between France and Martinique was considered to take advantage of its near monopoly position with its freight charges.[69] Several modifications to the tariff rate on food items were proposed by the Conseil General in 1907 but these had to be ratified by the Conseil

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68. Great Britain, Sessional Papers, 1897, No. XC, p. 458, "Commercial Reports, Martinique."

69. Great Britain, Sessional Papers, 1907, No. CXI, p. 806, "Commercial Reports, Martinique."

d' Etat.[70]

Nova Scotia also remained active in the important American market. Between 1886 and 1902, the market took an annual average of 142,000 quintals of dried fish worth $529,000. These totals amounted to 18.4 and 17.2 per cent respectively of Canada's total dried fish export volumes and values. Like the Caribbean region, Nova Scotia dominated the country's dried fish trade to the United States but its monopoly was not quite as complete as in the former market. Between 1886 and 1889, the province's share of Canadian exports came to 91.8 per cent of the volumes and 94.7 per cent of the values.[71] This was somewhat unusual as the province's dried fish exports were typically a little less valuable than the exports from other provinces.

Both Ruth Grant and Harold Innis ascribed shifts in export levels to the American market to changes in the tariff structure.[72] Export levels during the 1890s both support and refute this contention. Export volumes to the United States dropped by 19.0 per cent following the introduction of the McKinley Tariff in 1891. These exports quickly recovered in the next two years to above the mean volume for this period. Then between 1894 and 1897, mean export volumes were 25.8 per cent below the average for the period with the worst year in 1895 being 37.6 per cent below this mean. The Dingley Tariff introduced in

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70. Great Britain, Sessional Papers, 1907, No. CXI, p. 805, "Commercial Reports, Martinique."

71. Calculated from Appendix A, Table 21.

72. Grant, Canadian Atlantic Fishery, p. 20 and Innis, The Cod Fisheries, p. 425.

1897 could only explain the poor showing of the last year, and offered no explanation at all for the worst year of 1895. Moreover, although the provisions of the Dingley Tariff remained in force, the years 1898 and 1902 were all above average years.[73]

It is unlikely that American domestic demand kept Canadian imports high despite tariff changes. At this time, American dried fish production was falling and the domestic market favoured fresh over dried fish. As early as 1881, it was estimated that 30,000,000 lbs. of fresh fish passed through Boston to towns as far west as Chicago.[74] It is also true that quantities of dried fish were shipped from Nova Scotia for use in the "boneless" fish trade. However, it seems likely that reexports to the West Indies accounted for much of the strong American demand in spite of tariff barriers. In 1899, Halifax alone exported 103,420 quintals of dried fish to Boston and New York.[75] It is uncertain how much of that was destined for reexport to the West Indies, particularly Cuba. Certainly such shipments would explain the increased demand in the years following the Dingley Tariff. These years also followed the Spanish American War in which the United States gained a comparative advantage in the shipment of goods to Porto Rico.

At the close of the pre-First World War era, Nova Scotia's

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73. Calculated from Appendix A, Table 21.

74. Great Britain, Sessional Papers, 1882, No. LXX, P. 351, "Commercial Reports - Boston, 1881."

75. Halifax Board of Trade, Annual Report of the Board of Trade Halifax, N. S. for the Year 1899, (Halifax: John Bowes, 1900), p. 19.

traditional dried fish trade was encountering difficulties. This trade had recovered from its depression in the mid-1880s but had failed to recover its former growth rate. Moreover, the stability which had characterized it during the 1890s had disappeared following the early years of the twentieth century. Production and exports began to decline after 1904 - 06 with this decline related to a decrease in the number of fishermen. The New England fishery and new industrial developments drew men from the fishery while industrialism successfully competed with it for capital. In the Caribbean, demand in the important British West Indies market had stabilized and the province encountered increased competition both here and in the Spanish West Indies. The United States, which remained Nova Scotia's most important market outside the Caribbean, also remained relatively stable with some fluctuations. Many of these problems were long standing and new responses were in the making.

CHAPTER V: NEW DIRECTIONS, 1867 - 1913

Between 1867 and 1913, new departures were taken in technology and government action to counter problems in Nova Scotia's dried fish trade. Perhaps the most important of these departures was the development of the fresh fish trade. Although the marketing of fresh groundfish eventually superceded that of dry, this industry was in its formative stages with a still localized impact prior to 1914. As such, it is treated, albeit in greater detail, like the mackerel and lobster fisheries as an alternate opportunity for the province's dry fishermen. Improvements in the technology of both transportation to market and production were prerequisites for the growth of the fresh fishery. In the dry fishery, the supply of fresh bait remained a problem for bank longliners and eventually involved government support. Government support also rose in the distribution of the production bounties based on the Halifax Award and in the maintenance of the steamer connections between Nova Scotia and the West Indies. By the twentieth century, the Canadian government was engaged in attempts to secure protected markets in the West Indies.

Before the end of the nineteenth century, sales of fresh groundfish were of relatively minor importance in terms of total production. Halifax remained the major provincial market but this outlet was too small to provide more than a living for its local inshore fishermen. This left the export markets of the United States and central

Canada but transportation time emerged as a crucial factor. Until railways linked Nova Scotia with these markets, fresh fish exports had to be transported by sailing ship or steamer. In addition, the fish had to be shipped in ice prior to the development of artificial refrigeration. Ice preserved the fish well but only for a limited time, particularly in the spring and summer.

Because of the transportation costs of these early shipments, exports tended to be of the more expensive varieties such as halibut and salmon rather than of cheaper cod. As early as the mid-1840s, agents operated seasonally at the Gold, LaHave and Port Medway rivers, purchasing salmon, packing them in ice and despatching them to the American market. At the same time, steamer connection between Halifax and Boston ensured a steady trade.[1] Such exports by steamer out of Halifax continued throughout this period. In June, 1868, for example, large quantities of halibut as well as salmon were shipped packed in ice from Halifax to Boston and Montreal.[2] In exporting to the American market, Yarmouth took advantage of its close proximity and acted as a shipping centre for south-western Nova Scotia.[3]

In addition to steamer connections, Nova Scotia's fresh fish

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1. Nova Scotia, Legislature, Journals and Proceedings of the House of Assembly for Nova Scotia, 1846, app. 87, p. 255, "Report of the Committee on Fisheries."

2. The Halifax Evening Express, June 19, 1868.

3. United States, Congress, House Executive Document, No. 402, 50th Congress, 1st Session, p. 556, "Commercial Relations, Canada," in U. S. Congress Serial Set, (New York: Readex Microprint Corporation).

trade depended on the development of speedy rail transportation but such development was slow. It was not until 1876 that the circuitous Intercolonial Railroad linked Halifax to Montreal. In the United States, an important technological benchmark came with the first transcontinental shipment of fresh fish in 1884, but the freight rate was so high further shipments were postponed until a rate reduction in 1890.[4] A similar situation curtailed the fresh fish trade between the Maritimes and Quebec and Ontario. In 1886, it was noted that freight trains were too slow for distant markets, while the rate for express shipments from Saint John to Toronto was more than the original value of the fish.[5] At the same time, south-western Nova Scotia continued to export fresh to the Boston market by steamer. This reciprocal exchange of fresh fish was encouraged by an American tariff on fish "not fresh."[6]

By the turn of the twentieth century, the fresh fish trade was assuming significant proportions and its growth rate was faster than that of the dry fishery. Between 1901 and 1911, values for fresh fish increased from $1,964,533 to $2,870,039, while that of canned and cured fish grew from $5,298,138 to $7,249,204 for respective increases of 46.1 and 36.8 per cent.[7] For inshore fishermen, the fresh fishery offered

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4. C. H. Stevenson, "Preservation of Fishery Products for Food," Bulletin of the United States Fish Commission, 18, (1898) p. 399.

5. The Critic, March 19, 1886.

6. United States, House Executive Document, No. 402, 50th Congress, 1st Session, p. 556, "Commercial Relations, Canada."

7. Canada, Census of Canada, 1901, (Ottawa, S. E. Dawson, 1904) 2: 412-13 and Canada, Census of Canada, 1911, (Ottawa: J. DeL. Tache, 1915), 5:X.

an alternative to the production of dried fish. For vessel fishermen, the fresh fishery supplemented the dry fishery as the vessels engaged in it only after the dried fish production season. The small size of the fresh fishery meant only a limited number of dry fishing vessels could engage in it. In 1908, the fresh fishing fleet out of Halifax numbered 13 vessels while there were more than 100 vessels in Lunenburg's salt banking fleet alone.[8] Even in the early steam trawlers, the initial employment was in the salt fishery in summer and the fresh fishery in winter.[9]

The stature which the fresh fish trade enjoyed in the early 1900s had its basis in technological improvements which enabled it to undergo serious growth in the 1890s. During the preceding period, costly and slow transportation had severely restricted Nova Scotia's export of fresh fish. Gradual improvement in these areas enabled the fresh fish market to establish itself as a viable if minor alternative to the dried fish. In 1890, the county of Digby shipped 200,000 lbs. of Finnan Haddie (haddock), but by 1900 these shipments had grown to 2,200,000 pounds. Similarly, the fresh fish exports from Canso grew from 162 tons in 1891, to 970 tons in 1895 and to 1,450 tons in 1900.[10] In both cases, this growth can largely be explained by improvements in trans-

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8. Maritime Merchant, November 12, 1908, p. 26.

9. Canadian Fisherman, October, 1918, p. 1039.

10. Nova Scotia, Journals of the House of Assembly, 1901, app. 19, p. 2, "Report of the Committee on Fisheries."

portation facilities. In turn, the location of these facilities determined the location of the fresh fish industry. The fresh fish trade was reported in 1905 to be handled almost exclusively by Halifax and Canso with the latter utilizing the Intercolonial Railroad terminal at Mulgrave. Halifax firms sent car lots of Atlantic groundfish to Winnipeg and even as far west as Calgary but their major markets were Ontario and Quebec. Total shipments of fresh groundfish from the province were estimated at 10,000,000 lbs. for 1904.[11]

The cost of rail transportation and the difficulties of preserving the fish enroute were two of the major problems encountered by the province's fresh fish exporters. During the industry's early days, express rates from Halifax or Mulgrave to Montreal were $2.50 per 100 lbs. gross which was equal to approximately $4.00 per 100 lbs. net weight of fish. By 1901, this express rate had been reduced to $1.50 per 100 lbs. net weight of fish with a resulting increase in scale of shipments.[12] Dealers at that time were still unhappy with the Intercolonial's rate policy as it severely discriminated against dealers shipping less than a full car load of 20,000 lbs. The rates (presumably freight) for a 100 lbs. shipped in a full car load lot from Halifax to Montreal was $0.26, to Toronto it was $0.32 and to Chicago it

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11. Maritime Merchant, January 12, 1905, p. 62.

12. Ibid., April 25, 1901, p. 44.

was $0.60. The respective rates per 100 lbs. not shipped in a car load lot were $0.35, $0.46 and $0.85 or increases of 34.6, 37.5 and 41.7 per cent respectively.[13]

Efforts were also made to overcome the problems of preserving the fresh fish trade enroute. By 1901, the Intercolonial had alleviated some of the past problems by establishing a daily through freight train from Mulgrave and Halifax to Montreal. The Mulgrave train connected with the one from Halifax in Truro and arrived at Montreal in a total time span of some 61 hours. Although this represented a great improvement, it was felt immense advantages would be gained to the fresh fish trade if the trip could be reduced to 50 or 55 hours and close connections made at Montreal for Toronto. At the same time, criticism was made of the refrigerator cars used on this line but this problem was to be remedied shortly with arrival of new cars.[14] In fact, new refrigerator cars do not appear to have been instituted until two years later. Thereafter, fresh fish were shipped iced in ordinary cars in winter and in new refrigerator cars in summer.[15]

Given the limited seaboard terminals of the Intercolonial, supplementary means of transportation had to be developed to link the production and rail centres. Coastal steamers with special holds for

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13. Nova Scotia, Journals of the House of Assembly, 1901, app. 19, p. 4, "Report of the Committee on Fisheries."

14. Ibid., pp. 3-4.

15. Maritime Merchant, January 12, 1905, p. 62.

carrying fresh fish were seen as the means of connecting these centres. For example, Canso's growth as a fresh fish centre was attributable partly to its natural advantages but in an even greater sense to the establishment of daily steamer communication with the rail terminal at Mulgrave.[16] In 1901, the steamer John L. Cann was making a triangular trip daily between Arichat, Canso and Mulgrave but the need was seen for yet another steamer linking Arichat, Petit de Grat with Mulgrave during the fishing season.[17] By 1903, the existence of a double subsidy for coastal steamers collecting and freighting fresh fish was creating a considerable demand for this class of vessel.[18] Naturally, concerns were raised over the means of best preserving the fresh fish on these steamers with several prominant Nova Scotians supporting packing in ice over artificial refrigeration.[19]

Fresh fish dealers encountered seasonal differences in their source of supply. During the summer, they made daily purchases of fish directly from the local inshore fishermen. This method of business was considered beneficial to the fisherman as he received his returns immediately instead of having to wait as long as several months as was often the case in the dry fishery. In addition, the fisherman realized

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16. Nova Scotia, Journals of the House of Assembly, 1901, app. p. 2, "Report of the Committee on Fisheries."

17. Maritime Merchant, October 24, 1901, p. 27.

18. Ibid., March 26, 1903, p. 66.

19. Ibid., April 9, 1903, p. 30; also Ibid., April 23, 1903, p. 28.

a higher price for his catch if he was able to sell it fresh.[20] During the fall and winter, some of the bank salt fishing vessels went fresh fishing preserving their catch in ice. Small boats supplemented this effort when weather and other conditions proved favourable. In 1905, the regular Halifax winter fleet consisted of fifteen vessels averaging crews of twelve men each. These vessels fished at distances of 14 to 20 miles from land using longlines to catch cod and haddock.[21] On occasion these vessels did quite well, with a schooner in 1903 landing 170,000 lbs. from a ten day trip to the western banks for a return of $1,300.[22]

The inshore fishery in particular was considered insufficient for providing a constant supply of fresh fish, so experiments were made during this period with steam trawlers. These vessels towed baglike nets arranged as beams or otter trawls to catch their fish. A. N. Whitman and Son of Canso introducted the first wooden steam trawler, the Active, to Nova Scotia in 1897. Unfortunately, this vessel was of an obsolete type and the experiment did not prove successful.[23] Its failure did not discourage other imitators and in 1903 two steam trawlers operated out of Yarmouth and other South Shore ports.[24] In 1908,

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20. Nova Scotia, Journals of the House of Assembly, 1901, app. 19, p. 4, "Report of the Committee on Fisheries."

21. Maritime Merchant, January 12, 1905, p. 62.

22. Ibid., November 12, 1908, p. 26.

23. Canadian Fisherman, October 1918, p. 1039.

24. Maritime Merchant, November 15, 1903, p. 32 also Ibid., January 11, 1905.

A. N. Whitman purchased the steel steam trawler Wren with the idea of using her for salt fishing in summer and for fresh fishing in winter, when the catch could be preserved more easily in transit to market.[25] This trawler proved more successful than the Active but steam trawling received an important boost with the arrival of the Grimsley steel trawler Cambodia in 1911. This vessel was almost twice the size of the Wren and was the first up-to-date trawler to fish the province's waters. Its success led three English trawlers to operate out of Nova Scotia ports in 1912 and the province's adoption of steam trawling was well under way.

Within the province's traditional dry fishery, the procurement of adequate supplies of bait continued to be a problem particularly for fishermen engaged in bank longlining. For those fishermen operating on the Grand Banks, Newfoundland was the most convenient place to purchase bait. During the early 1890's, the province's fishermen found themselves faced with legal restrictions on their purchase of bait in this market. In 1890, all foreign fishing vessels were required to obtain bait licences at a fee of one dollar for every registered ton of vessel size. The licence authorized bait purchases to a maximum of one barrel per ton but would be valid for only three weeks. On June 20, 1890 the fee was changed to one dollar a barrel to a maximum of forty barrels.[26] Nova Scotian fishermen visited Newfoundland three to five

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25. Maritime Merchant, July 9, 1908, p. 30.

26. Canada, Parliament, Sessional Papers, 1892, no. 11.

times a year for bait and the financial burden was considerable.[27] In retaliation, Canada raised discriminatory tariffs against Newfoundland. Finally, in 1892, a compromise was reached between the two governments giving Canadian fishermen free access to Newfoundland bait in return for the removal of the discriminatory tariffs.[28]

Problems with bait were not limited strictly to questions of political access to suppliers. During the late 1890s, and on into the twentieth century, concern was expressed over the "non-progression" of the Atlantic Canadian fisheries.[29] In Nova Scotia, the situation was considered so serious that in 1898 the legislature for the first time since Confederation appointed a select committee on fisheries. This committee was charged with considering the state of the fisheries in general and the potential usage of cold storage in particular. The committee determined that irregular bait supplies occasioned considerable loss to fishermen and recommended the establishment of six or eight large refrigerators at convenient ports of call for bank fishermen and about fifty smaller ones for the inshore fishermen.[30] The committee again reported the following year but in keeping with the

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27. Innis, The Cod Fisheries, pp. 450-51.

28. Ibid., pp. 452-53.

29. Canada, Sessional Papers, 1911, no. 22, pp. lxxii - lxxx, "Report of the Department of Marine and Fisheries."

30. Nova Scotia, Journals of the House of Assembly, 1899, app. 22, "Report of the Committee on Fisheries."

federal responsibility for fisheries it restricted its actions to recommendations to the federal authority.

The federal government was able to take more direct action to remedy the situation. In 1899, $25,000 was appropriated to be granted to associations of fishermen for the purpose of building and equipping cold storage houses on approved plans. Associations which qualified received grants totalling half the construction cost. In 1900, the first two freezers were built under this arrangement.[31] In addition to these government sponsored freezers, a number of units were also put up by private individuals. The 1901 census noted 38 bait freezers valued at $9,118 and 34 commercial freezers and cold storage houses valued at $28,155 serving the province's fishing industry.[32] The government subsidized programme continued and by 1906 there were 29 bait freezers built and operating with varying degrees of success.[33]

In spite of the growth of bait cold storage facilities fishermen continued to have difficulty in securing adequate supplies of fresh bait. Restrictive measures by Newfoundland encouraged American fishermen to purchase more of their bait in Nova Scotia. This increased demand was blamed in 1905 for raising a vessel's average bait bill from $300 to $800 per year.[34] Moreover, difficulties were encountered in

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31. Canada, Sessional Papers, 1904, No.22, pp. 263-4, "Report of the Department of Marine and Fisheries."

32. Canada, Census of Canada, 1901. 2: 412-3.

33. Canada, Sessional Papers, 1906-7, No. 22, p. 280, "Report of the Department of Marine and Fisheries."

34. Maritime Merchant, May 18, 1905, p. 62.

securing the necessary supplies and it was felt in 1908 that scarcity of bait had been responsible for the poor fishing seasons since 1906.[35] The construction of publicly and privately owned cold storage facilities both for the fresh fish trade and bait regulation had done much to overcome the worst of this problem. However, those facilities constructed with federal funds had the reputation of insufficient management due to political influence.[36] In part, the increased cost of bait must have reflected the cost of these facilities as well as increased demand.

The most widespread government assistance to the fisheries during this period had its origins in the 1870s. The Treaty of Washington granted reciprocal free access to the inshore fisheries of the United States and British North America. Due to the greater value of the latter's fishery, the Halifax Commission was established to determine a compensatory award to the British provinces. Canada's share was $4½M which was invested with an annual return of some $160,000 to be used for fisheries development. Beginning in 1882, the Canadian government offered a bounty to any vessel engaged in the fishery for at least three months of the year with payments of between one and two dollars a ton up to a maximum of eighty tons.[37] The bounty was also available to

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35. Maritime Merchant, August 6, 1908, p. 25.

36. Ibid.

37. Canada, Parliament, Statutes of Canada, 1882, 45 Vic, c. 18, "An Act to Encourage the Development of the Sea Fisheries and Building of Fishing Vessels."

boat fishermen but its impact was greater on the larger vessels.

The introduction of the bounty encouraged an increase in both the number of vessels employed in the fishery and in their average size. The year following its introduction saw the number of fishing schooners increase by 143,[38] but much of that dramatic increase proved temporary. The increasing scale of payments encouraged fishermen to build vessels to the maximum allowance of eighty tons and even beyond it. However, a further regulation requiring captains of vessels of 100 tons and over to hold a master's certificate ensured that many fishing vessels had an upper size limit, at least on the registry form, of 99 tons.[39] Bounty payments were also made for the number of fishermen employed on the vessels for three months. An amendment in 1896 encouraged larger crews by increasing the payment for crew members and reducing that of tonnage. At the same time, provision was made for the crew's bounty to be paid directly to the fishermen and not to be divided between owners and crew as previously done.[40] Individual payments were small, however, averaging between $3.00 and $7.40 for each vessel fisherman per year during this period.

In addition to subsidizing fisheries production, the Canadian government also became involved in subsidizing transportation to

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38. Grant, The Canadian Atlantic Fishery, (Toronto: Ryerson, 1934), p. 19.

39. H. W. Hewitt, "Lunenburg," The Suburban, (?), 1907.

40. Canada, Sessional Papers, 1910, No. 22, pp.8-9, "Report of the Department of Marine and Fisheries."

market. Given the generally low tariffs prevailing in the West Indies, Canadian (and Nova Scotian) efforts to improve trade conditions centred on developing better tranportation systems rather than on obtaining preferential tariff treatment.[41] The need for such improvement was readily apparant, particularly in view of the superior services available in American ports. In 1886, Halifax had lost its only regularly scheduled steam service to the West Indies with the discontinuation of that route by the Royal Mail Steamers of the Cunard Line. That same year, New York had eleven steamship lines, with 32 steamships aggregating some 40,000 tons, engaged in the West Indies trade.[42] During the latter half of the nineteenth century, Canadian trade delegations to the West Indies repeatedly recommended the establishment of a regular steamship service between Nova Scotia and the West Indies. The report of John T. Wylde is of particular interest in this connection. In the early months of 1887, Mr. Wylde visited both foreign and British possessions in the Caribbean in preparation of a report on Canada's trade with that region. Throughout his report of this mission, Mr. Wylde not only called for improved steam communication but pointed out the superior state of such services in the United States.[43]

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41. C. Bruce Fergusson, "The West Indies and the Atlantic Provinces: Background to the Present Relationship," in The West Indies and the Atlantic Provinces of Canada, (Halifax, Institute of Public Affairs, Dalhousie University, 1966), pp. 30-1.

42. Canada, Sessional Papers, 1887, No. 43, app.A, "Report of the Trade Relations Between Canada and the West Indies."

43. Ibid.

In view of the need for such services and perhaps spurred by Wylde's report, the Canadian government began subsidizing steamship service between Atlantic Canada and the Caribbean in December, 1889. By 1893, the Furness Line was receiving subsidies to maintain three different routes.[44] One route was for one steamer making monthly trips from Halifax to Cuba and return, calling at Havana and Matanzo. A second was for one steamer making monthly trips from Halifax to Jamaica and return, calling at Bermuda and Turk's Island. The third route involved two steamers making a total of sixteen trips from St. John to Demerara and return. These vessels called at Halifax on the outward voyage, and at Bermuda, St. Thomas, St. Kitts, Antiqua, Guadeloupe, Dominica, Martinique, St. Lucia, Barbados and Trinidad, both going and returning. Steamship services continued to improve and in 1905 for example the liner Boston, the newest addition to the Halifax and West Indies Steamship Company, began making a fortnightly connection between Canada and Jamaica. The Maritime Merchant observed with some satisfaction that its addition increased "the opportunties for shipment of Canadian products by steamers owned and managed by Canadians."[45]

In securing dried fish markets, Nova Scotian merchants seldom had the benefit of preferred status conferred by commercial treaties. In many markets, tariffs were not trade inhibitors because of dried

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44. Canada, Sessional Papers, No. 2E, 1893, p. xv., "Commercial Relations."

45. Maritime Merchant, October 5, 1905, p. 21.

fish's importance as a staple foodstuff but in other markets they were a factor. Occasionally, the province's exporters suffered from discrimnatory tariffs such as those imposed in 1892 in the French West Indies.[46] On the other hand, Nova Scotians gained an unexpected advantage in the Spanish West Indies through as Anglo-Spanish commercial treaty signed in 1886.[47] The only market Nova Scotian exporters consistently lobbied for free access to was the American one. While such access was gained through the Reciprocity Treaty and the Treaty of Washington, free trade in fish products was only a part of the larger issue of American fishing rights in Canadian waters. Generally speaking, the Canadian government appears to have regarded trade preferences for dried fish as secondary to those for other items. When Canadian commercial agents were established in the early 1890's in the West Indies to report on trade conditions, the bulk of their reports concerned manufactured and agricultural rather than fishery products.[48]

As the West Indies market became increasingly unstable in the years prior to World War One, Canada took a more active position to try and retain its dominant position in the West Indies market. Previous policy had emphasized improved steamer links with its markets and this strategy was continued. Pickford and Black which already maintained

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46. See above pp. 139-41.

47. Canada, Sessional Papers, 1893, No. 2E, p. vii, "Commercial Relations."

48. Ibid.

steamship connections between Halifax and Saint John to Bermuda, the West Indies and Demerara, also to Jamaica, via Turk's Island and Santiago, received an annual government subsidy of $200,000 to improve their service.[49] In addition, Canada attempted to secure protected markets through trade agreements. In 1912, Canada and the British West Indies reached a ten year reciprocal trade agreement. Canada extended a preference of twenty per cent on sugar and gave preferences to other agricultural products of the participating islands and in return, obtained a general preference of twenty per cent on a selected list of exports.[50] Although this agreement had limited long term effects, it demonstrated Canada's efforts to deal with changing market situations.

By the beginning of the First World War, a number of new departures had become evident with regard to Nova Scotia's fish trade. The development of the province's fresh fish trade marked a departure from the traditional dry fishery and a response to changing market tastes. Although firmly entrenched by the early 1900s, it nevertheless remained only a localized competitor to dry production. Government assistance to the fishery was also well established by this time. This assistance came in two forms: subsidies to production and marketing and agreements with other nations. The longstanding bait problem received

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49. M. J. Patton, "Shipping and Canals" in Canada and Its Provinces: A History of the Canadian People and their Institutions by One Hundred Associates, eds. Adam Shortt and Arthur G. Doughty, Authors Edition, (Toronto: University of Edinburgh Press, 1913), 10: 616.

50. D. B. Estabrook, "Maritime-West Indian Relations," (Master's thesis, Mount Allison University, 1946), p. 21.

help in both forms with the government subsidizing bait freezers and negotiating freer access to Newfoundland bait supplies. Marketing received help in the form of subsidized steamer connections and the negotiation of commercial treaties. In general, problems in the dry fishery resulted in the adoption of relatively successful new responses.

CONCLUSION

Between 1850 to 1914, Nova Scotia went from an economy tied to its traditional elements of wood, wind and water to one fixed in the modern industrial age. The significance of this shift emphasizes the need to examine traditional aspects of this economy during the transitional period of the late nineteenth century. Dried fish production was the most valuable element of the province's important fisheries sector. Indeed, during the years immediately following Confederation, dried fish exports accounted for approximately one quarter of the province's total export values. When Nova Scotia's dried fish exports are examined a number of cycles are revealed. Firstly, between the mid-1850s and the late 1860s, there was a period of relative stability corresponding to the province's economic "golden age" during the Reciprocity era. Secondly, from the late 1860s to the early 1880s there was a period of sustained growth ending in a market recession during the mid-1880s. The late 1880s witnessed a market recovery followed by stability into the early 1900s. After this date, the province's dried fish trade became increasingly unstable. The final third of the nineteenth century was of particular importance for the dried fish trade; first because of its surprising growth in the post-Confederation years and then for its failure to regain this growth after a market recession.

Although export rather than production figures were used to determine trends, the two aspects were inherently linked. Cod was the most important of several species of groundfish which were caught and processed as dried fish. In Nova Scotia, production was divided between a boat and vessel fishery. Boat fishermen had relatively easy access to inshore fishery resources and the catch's short salting time produced a quality cure. However, inshore fishermen also depended on other species such as herring and mackerel. Vessel fishermen enjoyed greater individual productivity but encountered greater costs and the necessary heavier salting of the catch resulted in a lower quality. Secondary fisheries, such as herring and mackerel complemented participation in the cod fishery. Unlike inshore fishermen, vessel fishermen went to distant fishing grounds on the Labrador coast, Gulf of St. Lawrence and the Western and Grand Banks with inadequate supplies of fresh bait posing difficulties in these latter areas. Both groups used handlines for catching cod and took advantage of credit and shared risks to ease entry into the fishery.

In addition to production concerns, the dried fish trade was affected by marketing practices and conditions. Only a few of the merchant firms extending credit to the fishermen actively engaged in production themselves. These largely family firms or partnerships engaged in export activities in outports around the province but Halifax's superior advantages secured it the bulk of the trade. The poor commu-

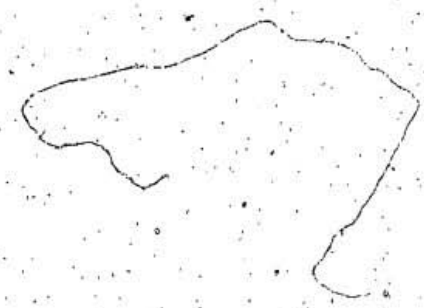
nication and transportation of the time favoured consignment rather than pre-ordered shipments with resulting market instability. International competition did nothing to help this situation. The major dried fish markets were in Europe, South America, the West Indies and the United States. Nova Scotians favoured the two latter because of the ability to secure return cargoes and to assume an entrepot position in these trades. The product of Nova Scotia's bank fishery also more readily suited the demands of these markets than of Europe and Brazil. The province received direct competition in these markets from its fellow North American producers of Newfoundland, France and the United States. Nova Scotia also experiences indirect competition from European producers such as Norway. Shortages or gluts in production had a chain reaction on the state of supply in distant markets.

The performance of Nova Scotia's dried fish trade during the Reciprocity era acts as a base against which to measure the important changes of the post-Confederation period. The years of the Reciprocity Treaty from 1854 to 1866 are generally considered as Nova Scotia's economic "golden age". A definite period of stability in both dried fish export volumes and values coincided with this era. In spite of its prosperity, the province was still not agriculturally self-sufficient and depended on exports to pay for imported foodstuffs as well as manufactured items. Dried fish was an important export amounting to one fifth of the province's total. Reexports of imported fish were initially important to this trade but declined to insignificance by the time of Confederation. Growth in domestic production matched this decline so that total

exports remained stable.

A number of factors influenced the practices and general level of dried fish production during this period. Growth in domestic production reflected increases in the number of fishermen. In addition, there was some experimentation with longlining which may have raised individual productivity, but there was some question over how widely this practice was adopted. In the inshore fishery, fishermen were scattered along the province's coast but the majority were found along its Atlantic coast adjacent to the best fishing grounds. The vessel fishermen were more concentrated with a sizable proportion found on the South Shore. In both fisheries, there was a strong dependence on herring and mackerel to round out seasonal earnings. Aside from some seasonal fluctuations, the major problem Nova Scotia fishermen encountered was in disputes with Newfoundlanders on the Labrador coast in the early 1860s. The extension of Newfoundland's judiciary to the coast provided a solution if one not totally satisfactory to Nova Scotian fishing interests.

In terms of marketing, Nova Scotia followed a somewhat unique strategy. Although it exported less than half the amount of front ranking Newfoundland, Nova Scotia's emphasis of the West Indies market made it a leading exporter. In this strategy, the province was followed by the United States and then in a smaller scale. In both the reexporting of dried fish and of West Indian and American products, Nova Scotia assumed a limited entrepot role between these markets and more northerly



fish producers. Halifax adopted a similar role with respect to the province's outports. Despite grants of port of entry status, Halifax monopolized well over two thirds of the province's dried fish export trade and over nine-tenths of its import trade.

Between 1867 and 1884, Nova Scotia's dried fish trade enjoyed sustained growth despite the end of reciprocity and an international depression. Unlike the preceding period, growth in domestic production was translated into increased dried fish exports. Production growth came from an increased number of inshore fishermen and the adoption of longlines in the vessel fishery. This technological adoption encouraged the abandonment of the failing Labrador fishery and the specialization in the bank fishery. Refinements in bank longlining continued to be made into the 1890s. Inshore fishermen made little use of the new technology but did diversify their activities through expansion in lobster production. Improvements were also made at this time in the processing of fish. The development and popularization of "boneless" cod introduced a new market for a good quality of soft cure. Experimentation with artificial dryers also continued into the 1890s and obtained some success with the introduction of the Whitman dryer. The successful technological adaptations in the vessel fishery gave rise to Lunenburg as the province's premier fishing port.

Expansion in the fish production and exports resulted in only minimal changes in marketing. Lunenburg's rise as a fishing port

enabled that town's merchants to successfully compete with those of Halifax in the export trade. By the early 1880s, Lunenburg exported over one fifth of the provincial total and had the distinction of having the single largest fish exporting company. The dominance of Halifax merchants had slipped but the city still exported over half the province's dried fish. Within this trade, traditional methods of shipping on consignment still continued, particularly in the West Indies market. Similarly, merchants maintained their traditional organization emphasizing family firms and partnerships. The major problem encountered was a sharp recession in the West Indies markets during the mid-1880s. Although this market recovered, increasing competition from Newfoundland and stable market demand pointed to future difficulties.

By the early years of the twentieth century, Nova Scotia's dried fish trade was in some difficulty. Although exports had recovered from the market recession of the mid-1880s, the trade did not regain its former growth rate. Indeed, even the stability which had lasted through the 1890s gave way to a decline in production and exports after the early 1900s. Decreasing production resulted from a decline in the number of fishermen which reflected generally poor population growth and the attractions of alternate employment. Industrialism had brought about a realignment of the province's economy and successfully competed with the fishery for both capital and labour. In addition, employment opportunities elsewhere on the continent, such as

the New England fishing fleet, also attracted men from the fishery. The vessel fishermen continued their specialization in bank longlining to the exclusion of their former interest in other species such as mackerel. In contrast, inshore fishermen favoured diversification with lobster, herring and mackerel both competing and supplementing earnings from groundfish.

Although several traditional elements maintained their significance, dried fish marketing also encountered problems. The West Indies remained Nova Scotia's most important market with the British West Indies as its most valuable group within it but both these markets were in decline. Marketing practices were also changing as the greater use of steamers resulted in pre-ordered shipments replacing consignment lots. Despite traditionally low tariffs in this region, Nova Scotian exports were excluded from the French West Indies during this period by tariff barriers. Moreover, the problems of a generally declining market demand were intensified by increased Newfoundland competition as that island met greater pressure in its European markets. Nova Scotians also encountered increasing competition from American exporters in the Spanish West Indies during the 1890s but were able to maintain their dominant position. The United States remained the province's largest market outside the Caribbean and was more stable than duty changes would have suggested. Nevertheless, these problems were lonstanding ones and new responses were needed.

The most radical response to market changes constituted a departure from the dry fishery. The development of Nova Scotia's fresh fish trade created an alternative to dry production which eventually superceded it. At this time, however, the fresh fish trade offered no more than localized competition to dry production and, in some instances, complemented it. In this regard, the fresh fishery was similar to that of mackerel and herring. The growth in fresh fish depended on improvements in market transportation and production technology. In the mid-nineteenth century, the province's fresh fish trade constituted no more than a few steamer shipments of the finer grades of fish to New England and Montreal. By 1910, value of fresh fish was over one third that of the dried product and included considerable quantities of groundfish. Improvements in rail transportation accounted for much of the expanded market. While inshore fishermen near transportation terminals had to decide between fresh or dry fishing, vessel fishermen could only participate after dry fishing when cooler weather permitted their necessarily longer trips.

Government interest in fishery development also marked new directions in the dried fish trade. This interest materialized in the form of subsidies for production and marketing and in settlements in those areas with other countries. The problem of securing adequate supplies of fresh bait necessitated government action on both accounts. Bait shortages affected both inshore and offshore fishermen but posed a

particular problem for the latter. During the early 1890s, the Canadian government had to negotiate continued access for these fishermen to Newfoundland bait supplies. To regulate further bait supplies, the government subsidized the construction of bait cod storage facilities. Similarly, the federal government initiated in 1882 the distribution of annual bounties based on the Halifax Award to both inshore and offshore fishermen. Marketing difficulties in the West Indies received attention through the subsidization of steamer connections. Continued problems in this market resulted in the successful negotiation of a commercial treaty with the British West Indies in 1912. This effort to obtain a protected market marked a considerable departure from earlier laissez-faire attitudes.

The last third of the nineteenth century was a pivotal period in Nova Scotia's important dried fish trade. The prosperous Reciprocity era had left this trade with a production and marketing strategy geared to the West Indies market. From Confederation until a market recession in the mid-1880s, this trade enjoyed an expansion, based on increased numbers of fishermen and technological adaptation, which was at variance to the difficulties encountered by other traditional elements of the province's economy. The failure to regain this growth after market recovery underscored the vulnerability of the province's marketing strategy. Refinement of bank longlining in the vessel fishery helped prolong this strategy. However, increasing production and marketing

problems encountered in the twentieth century necessitated further buttressing of this trade. Although these efforts succeeded in maintaining Nova Scotia's dried fish trade intact and along its traditional lines, its fundamental vulnerability was not resolved.

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APPENDIX A, TABLE 1

Export Volumes and Values of Dried Fish from Nova Scotia and Canada, 1849 - 1914 (in dollars and quintals; $4.87 = 1 £ stg., qtl. =112 lbs.)

Date	Nova Scotia			Canada	
	000 qtl.	000 $	$/qtl.	000 qtl.	000 $
1849	245				
1850	277				
1851	278				
1852		839			
1853	288	856	2.97		
1854		965			
1855		1,206			
1856		1,367			
1857	375	1,339	3.57		
1858	417	1,571	3.76		
1859		1,474			
1860		1,261			
1861	355	1,213	3.41		
1862	481	1,357	2.82		
1863	375	1,395	3.72		
1864	405	1,584	3.91		
1865	348	1,548	4.44		
1866					
1867	434	1,455	3.56		
1868	481	1,326	2.76		
1869	374	1,553	4.15		
1870	373	1,763	4.73		
1871	529	1,904	3.60	694	2,594
1872	498	1,913	3.84	677	2,664
1873	606	2,041	3.37	782	2,657
1874	543	2,193	4.04	659	2,698
1875	507	2,395	4.73	629	2,977
1876	573	2,445	4.27	735	3,251
1877	595	2,406	4.04	775	3,190
1878	627	2,445	3.03	807	3,195
1879	742	2,707	3.65	941	3,567
1880	748	2,435	3.26	947	3,176
1881	673	2,661	3.95	872	3,387
1882	591	2,988	5.06	729	3,669
1883	683	2,907	4.26	851	3,740
1884	703	2,395	3.41	848	3,053
1885	607	1,699	2.80	762	2,387

APPENDIX A, TABLE 1 - CONTINUED

Date	Nova Scotia			Canada	
	000 qtl.	000 $	$/qtl.	000 qtl.	000 $
1886	723	1,982	2.74	867	2,605
1887	660	2,568	3.89	799	3,154
1888	616	2,645	4.29	733	3,176
1889	592	2,397	4.04	734	3,050
1890	616	2,585	4.20	768	3,268
1891	616	2,759	4.48	750	3,365
1892	584	2,424	4.15	739	3,124
1893	621	2,717	4.38	774	3,407
1894	686	2,803	4.08	833	3,462
1895	636	2,452	3.85	785	3,150
1896	665	2,371	3.57	786	2,883
1897	654	2,270	3.47	761	2,700
1898	609	2,380	3.91	697	2,737
1899	655	2,627	4.01	750	3,041
1900	609	2,258	3.71	734	2,763
1901	638	2,614	4.10	768	3,200
1902	676	2,740	4.05	815	3,353
1903	523	2,257	4.32	630	2,763
1904	471	2,395	5.08	568	2,931
1905	505	2,861	5.66	609	3,501
1906	460	2,494	5.42	555	3,053
1907					
1908	572	2,711	4.74	690	3,318
1909	662	2,978	4.49	798	3,645
1910	650	3,527	5.43	783	4,317
1911	556	3,424	6.16	700	4,192
1912	591	3,541	5.99	712	4,334
1913	622	3,744	6.02	750	4,583
1914	555	3,409	6.14	669	4,173

Notes: 1849 - 56, for calendar years;
1857 - 65, for fiscal years beginning October 1;
1867 - 1901, for fiscal years beginning July 1;
1908 - 1914, for fiscal years beginning April 1.

Sources: Nova Scotia, Legislature, Journals and Proceedings of the House of Assembly of Nova Scotia, "Report of the Committee on Fisheries, 1849 - 1851;" Ibid. "Trade Returns, 1852 - 1865" and Canada, Parliament, Sessional Papers, "Tables of Trade and Navigation, 1867 - 1914."

APPENDIX A, TABLE 2

Export Volumes and Values of Dried Cod and Scale Fish for Nova Scotia, 1850 - 1865 ($4.87 = 1 £ stg., 1qtl. = 112 lbs.)

Year	Cod			Scale		
	000 qtl.	000 $	$/qtl.	000 qtl.	000 $	$/qtl.
1850						
1851						
1852	317	794	2.51		45	
1853	250	774	3.10	38	82	2.13
1854	318	950	2.98		14	
1855	336	1,087	3.23		119	
1856	356	1,218	3.42		150	
1857	332	1,223	3.69	43	117	2.73
1858	393	1,497	3.81	24	74	3.09
1859	377	1,377	3.65		98	
1860		1,168			93	
1861		1,098			114	
1862	428	1,235	2.88	52	122	2.32
1863	310	1,245	4.01	65	149	2.30
1864	341	1,375	4.03	65	209	3.22
1865	302	1,352	4.48	47	195	4.19

Notes: 1852 - 1856, for calendar years;
1857 - 1865, for fiscal years beginning October 1.

Source: Nova Scotia, Journals of the House of Assembly, "Trade Returns, 1852 - 1865."

APPENDIX A, TABLE 3

Dry Salted Fish and Total Exports by Value for Nova Scotia 1856 - 1868 (in dollars; $4.87 = £ stg.).

Year	(1) Dry Salted Fish Exports 000 $	(2) Total Exports 000 $	(1) as % (2)
1856	1,367	6,686	20.4
1857	1,339	6,157	21.8
1858	1,571	6,710	23.4
1859	1,474	6,447	22.9
1860	1,261	5,624	22.4
1861	1,213	5,500	22.0
1862	1,357	6,376	21.3
1863	1,395	6,986	20.0
1864	1,584	8,601	18.4
1865	1,548	7,834	19.8
1866			
1867	1,455		
1868	1,326	5,032	26.4

Notes: 1856, for calendar year;
1857 - 65, for fiscal year beginning October 1;
1867 - 68, for fiscal year beginning July 1.

Source: same as Appendix A, Table 1.

APPENDIX A, TABLE 4

Imports of Dried Cod and Dried Scale Fish into Nova Scotia in dollars and quintals 1852 - 1865 ($4.87 = 1 £ stg.; qtl. = 112 lbs.)

Year	Cod		Scale	Total Dried
	000 qtl.	000 $	000 $	000 $
1852		221	51	272
1853	103	252	21	273
1854	94	281	40	321
1855	119	327	15	342
1856	111	326	7	333
1857	143	439	3	442
1858	158	493	3	496
1859	100	276	1	277
1860		270	12	282
1861		214	6	220
1862	73	249	2	251
1863	52			164
1864	29			84
1865	22			76

Notes: 1852 - 56, for calander year,
1857 - 65, for fiscal year beginning October 1.
1863 - 65 figures in dried cod volume column represent total dried fish volumes.

Source: same as for Appendix A, Table 1.

APPENDIX A, TABLE 5

Quantity of Dried Fish Cured in Nova Scotia 1851, 1861, 1871 in Quintals (qtls = 112 lbs.)

County	1851		1861		1871	
	qtl.	%	qtl.	%	qtl.	%
Hants	87	0.0	23	0.0	106	0.0
King's	994	0.5	1,088	0.3	1,082	0.2
Annapolis	602	0.3	2,324	0.6	5,458	1.1
Digby	10,901	5.5	14,114	3.6	29,906	6.2
Yarmouth	20,270	10.3	38,553	9.7	114,705	23.8
Shelburne	35,417	18.0	61,375	15.5	59,640	12.4
Queen's	8,998	4.5	25,110	6.3	10,546	2.3
Lunenburg	21,057	10.7	65,791	16.6	55,040	11.4
Halifax	14,684	7.5	44,645	11.3	59,292	12.3
Guysborough	15,834	8.1	29,734	7.5	30,749	6.4
Antigonish	1,033	0.5	1,382	0.3	1,819	0.4
Pictou	34	0.0	757	0.2	465	0.1
Colchester	229	0.1	56	0.0	126	0.0
Cumberland	680	0.3	260	0.1	540	0.1
Inverness	11,901	6.1	23,366	5.9	24,720	5.1
Victoria	21,458	10.9	7,513	1.9	18,465	3.8
Cape Breton			26,429	6.7	27,395	5.7
Richmond	32,255	16.4	53,905	13.6	41,296	8.5
Totals	196,434	99.7	396,425	100.1	481,350	99.9

Source: Canada, Census of Canada 1870-71, (Ottawa: Taylor, 1875), 3: 260-9 and 4: 238-9 and 356.

APPENDIX A, TABLE 6

Number of Boats and Vessels Employed in Nova Scotia's Fisheries in 1851, 1861 and 1871

County	No. of Boats			No. of Vessels		
	1851	1861	1871	1851	1861	1871
Hants	8	81	61		1	1
King's	32	50	76	7	6	6
Annapolis	62	184	142	6	3	5
Digby	82	295	349	34	56	38
Yarmouth	49	266	235	71	83	182
Shelburne	419	780	664	109	96	77
Queen's	119	278	163	27	55	17
Lunenburg	458	969	652	186	158	89
Halifax	1,437	1,932	1,793	96	175	125
Guysborough	833	1,080	1,593	71	85	49
Antigonish	180	213	317	6	3	4
Pictou	6	81	101		2	1
Colchester	28	118	118	2		7
Cumberland	25	89	53	3	4	
Inverness	247	424	492	74	38	20
Victoria		413	417		3	6
Cape Breton	654	679	553	21	23	10
Richmond	532	884	759	99	109	85
Nova Scotia	5,161	8,816	7,950	812	900	722

Source: same as Appendix A, Table 5.

APPENDIX A, TABLE 7

Number of Men Engaged in Boats in Nova Scotia's Fisheries during 1851, 1861 and 1871

County	1851		1861		1871	
	#	%	#	%	#	%
Hants	11	0.2	75	0.9	96	0.8
King's	45	0.7	43	0.5	104	0.9
Annapolis	86	1.3	102	1.2	218	1.8
Digby	112	1.7	405	4.7	557	4.7
Yarmouth	76	1.1	236	2.7	465	3.9
Shelburne	679	10.1	963	11.1	976	8.2
Queen's	229	3.4	382	3.9	238	2.0
Lunenburg	640	9.5	1,107	12.7	888	7.5
Halifax	1,054	15.7	1,479	17.0	2,060	17.4
Guysborough	1,005	15.0	631	7.3	1,593	13.4
Antigonish	153	2.3	280	3.2	275	2.3
Pictou	13	0.2	17	0.2	155	1.3
Colchester	50	0.7	163	1.9	175	1.5
Cumberland	23	0.3	85	1.0	128	1.1
Inverness	379	5.6	716	8.2	1,075	9.1
Victoria			320	3.7	724	6.1
Cape Breton	1,298	19.3	598	6.9	906	7.6
Richmond	860	12.8	1,120	12.9	1,222	10.3
	6,713	99.9	8,689	100.0	11,851*	99.9

Notes: * as shown in original

Source: same as Appendix A, Table 5.

APPENDIX A, TABLE 8

Number of Men Engaged in Vessels in Nova Scotia's Fisheries during 1851, 1861 and 1871

County	1851		1861		1871	
	#	%	#	%	#	%
Hants			4	0.1	2	0.0
King's	38	1.0	28	0.5	18	0.3
Annapolis	19	0.5	9	0.2	20	0.4
Digby	109	4.6	302	5.4	251	4.5
Yarmouth	477	13.0	615	10.9	1,691	30.3
Shelburne	614	18.7	617	11.0	600	10.7
Queen's	228	6.2	452	8.0	137	2.5
Lunenburg	659	17.9	1,380	24.5	943	16.9
Halifax	258	6.9	887	15.7	689	12.4
Guysborough	289	7.9	340	6.0	369	6.6
Antigonish	26	0.7	17	1.3	55	1.0
Pictou			17	0.3	5	0.1
Colchester	6	0.2			14	0.3
Cumberland	18	0.5	13	0.2		
Inverness	264	7.2	218	3.8	132	2.1
Victoria			13	0.2	34	0.6
Cape Breton	83	2.3	137	2.4	65	1.2
Richmond	456	12.4	587	10.4	549	9.9
	3,681	100.0	5,633	100.9	5,578 *	99.8

Notes: * as shown in original

Source: same as Appendix A, Table5.

APPENDIX A, TABLE 9

Dried Cod Export Values for Nova Scotia Ports Shipping a Minimum of $5,000 during Selected Years 1856 - 65, ($4.87 = 1 L stg.)

Year	1856	1859	1862	1865
Arichat	72,704	30,204	43,256	53,270
Barrington	24,233	24,219	8,432	38,461
Cape Canso	6,662	2,850	1,219	1,334
Halifax	942,545	1,099,111	948,846	885,535
Liverpool	17,313	21,355	25,877	23,950
Lunenburg	351	-	2,779	16,028
Port Medway	502	2,198	402	5,750
Pubnico	8,844	1,933	1,280	-
Ragged Islands	63,841	89,363	95,015	111,530
Shelburne	-	13,183	215	536
Thorne's Cove	336	244	-	5,040?
Westport	30,394	33,334	8,272	18,082
Weymouth	7,807	142	-	1,519
Yarmouth	26,760	50,732	89,516	179,445
Others	15,413	7,746	10,148	11,780
Totals	1,217,705	1,376,614	1,235,257	1,352,260

Notes: 1856, for Calendar year;
1859, 1862, 1865 for fiscal year beginning October 1.

Source: Nova Scotia; Journals of the House of Assembly, "Trade Returns 1856, 1859, 1862, and 1865."

APPENDIX A, TABLE 10

Exports of Domestically and Foreign Produced Dried or Smoked Fish by Volume for the United States 1856 - 1861 in quintals, (qtl. = 112 lbs.)

Year	Domestically Produced Qtl.	Foreign Produced Qtl.
1856	168,971	42,985
1857	174,765	44,405
1858	161,289	31,390
1859	209,350	32,844
1860	219,628	40,143
1861	219,324	33,453

Source: United States, Secretary of Treasury, "Report of the Secretary Transmitting a Report from the Register of the Treasury of Commerce and Navigation of the United States" for 1856 - 1861, U. S. Congress Serial Set.

APPENDIX A, TABLE 11

Exports of Dried Fish by Value to Selected Markets from Nova Scotia for Selected Years 1863 - 68 in dollars ($4.87 = £ stg.)

Markets	1863 000 $	1864 000 $	1865 000 $	1867 000 $	1868 000 $
British West Indies	710	807	734	758	653
Foreign West Indies	485				
Spanish		287	482	425	359
French		135	9	55	57
Danish		5	12	14	11
Dutch					7
United States	68	201	174	149	179
Italy	17	18	28	12	7
Spain	12	9	10	6	14
Portugal	8	9	10	8	7
Madeira	1	-	9	3	3
Jersey	9	12	5	12	10

Notes: 1863 - 65, for fiscal year beginning October 1;
1867 - 68, for fiscal year beginning July 1.

Sources: Nova Scotia, Journals of the House of Assembly, 1864 - 66, "Trade Returns," and Canada, Sessional Papers, 1868 - 69, "Tables of Trade and Navigation."

APPENDIX A, TABLE 12

Export Volumes of Dried Fish to the West Indies and Brazil by Halifax and Lunenburg Firms Exporting at least 10,000 qtls., during selected years 1877 - 1890 (qtl. = 112 lbs.)

Company	1877 000 qtl.	1879 000 qtl.	1881 000 qtl.	1883 000 qtl.	1886 000 qtl.	1890 000 qtl.
Halifax:						
James Butler & Co.	38.4	38.5	41.0	33.5	19.5	11.5
J. T. & A. W. West	36.9	42.8	33.2	34.5	35.1	9.3
Bremner & Hart	28.4	35.3	19.0	36.0	-	-
R. Boak & Son	26.6	27.9	-	-	-	-
Daniel Cronan	25.5	26.4	37.2	26.5	41.2	41.0
John Taylor & Co.	23.4	12.8	15.1	17.6	17.7	12.2
A. G. Jones & Co.	20.3	34.8	30.9	27.1	31.0	46.7
Levi Hart	19.8	21.4	12.6	7.8	-	23.9
J. S. Cochran & Co.	16.2	46.5	35.5	-	-	-
G. P. Mitchell & Sons	12.5	11.9	10.7	5.3	6.5	11.0
R. I. Hart & Co.	5.2	23.3	16.8	19.2	35.0	18.7
S. Cunard & Co.	-	-	-	11.0	3.4	-
J. F. Phelan	-	-	-	14.1	8.5	3.6
E. Morrison & Co.	-	-	-	3.0	9.6	10.4
Geo. E. Boak & Co.	-	-	-	2.0	10.0	10.2
A. N. Whitman	-	-	-	-	8.7	10.1
Sundries	35.9	19.6	23.4	12.2	34.5	32.8
Lunenburg:						
James Eisenhauer	33.7	44.2	57.6	-	-	-
Lewis Anderson	20.4	26.6	37.5	-	-	-
Zwicker & Co.	12.9	22.3	30.1	-	-	-

Source: Unidentified newspaper clippings in "Export Clearance of Fish 1878 - 1882" and "Export of Fish etc. 1882 - 1885," Zwicker Collection, Public Archives of Nova Scotia.

APPENDIX A, TABLE 13

Dried Fish Export Volumes and Values from Nova Scotia to the West Indies 1867 - 1913 in quintals and dollars (qtl. = 112 lbs.) and ($4.87 = 1 £ stg.)

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1867	378	1,258		
1868	420	1,097	430	1,133
1869	327	1,363	334	1,387
1870	336	1,600	347	1,640
1871	501	1,801	534	1,923
1872	439	1,702	465	1,811
1873	532	1,825	561	1,955
1874	493	2,003	502	2,038
1875	450	2,170	462	2,221
1876	502	2,167	530	2,288
1877	500	2,042	528	2,155
1878	558	2,202	575	2,261
1879	653	2,445	669	2,465
1880	550	1,937	574	1,994
1881	492	2,023	504	2,066
1882	419	2,221	425	2,243
1883	513	2,196	522	2,235
1884	497	1,705	507	1,747
1885	428	1,219	438	1,254
1886	524	1,451	543	1,461
1887	498	1,997	507	2,027
1888	479	2,079	484	2,100
1889	449	1,853	459	1,884
1890			485	2,013
1891			506	2,257
1892			456	1,897
1893			478	2,114
1894			560	2,310
1895			531	2,025
1896			529	1,869
1897			507	1,735
1898			423	1,629
1899			436	1,687
1900			396	1,446
1901			407	1,665
1902			442	1,748
1903			341	1,503

APPENDIX A, TABLE 13 - CONTINUED

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1904			304	1,570
1905			343	1,936
1906			280	1,499
1907				
1908			394	1,860
1909			428	1,885
1910			398	2,212
1911			353	2,286
1912			377	2,082
1913			320	1,989

Notes: 1867 - 1906, for fiscal year beginning July 1;
1908 - 1914, for fiscal year beginning April 1;
West Indies includes all Caribbean Islands and the British, Dutch and French Guianas.

Source: Same as for Appendix A, Table 1.

APPENDIX A, TABLE 14

Dried Fish Export Volumes and Values from Nova Scotia to the British West Indies including British Guiana 1867 - 1913 in quintals and dollars (qtl. = 112 lbs.) and ($4.87 = 1 £ stg.)

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1867	239	759		
1868	293	653	302	689
1869	200	807	206	831
1870	189	934	201	973
1871	322	969	350	1,075
1872	243	940	264	1,030
1873	316	929	344	1,354
1874	295	1,071	304	1,106
1875	232	1,135	243	1,186
1876	279	1,185	305	1,302
1877	258	1,078	286	1,191
1878	288	1,169	303	1,225
1879	317	1,204	331	1,260
1880	282	1,006	306	1,059
1881	250	1,062	259	1,096
1882	222	1,207	227	1,227
1883	257	1,123	263	1,154
1884	262	931	272	975
1885	240	683	250	714
1886	275	767	294	777
1887	262	1,072	271	1,100
1888	280	1,233	286	1,253
1889	228	953	237	985
1890			214	1,003
1891			209	1,320
1892			229	950
1893			258	1,129
1894			284	1,174
1895			274	1,091
1896			254	890
1897			254	871
1898			225	829
1899			245	978
1900			242	918
1901			236	967
1902			243	982
1903			183	808

APPENDIX A, TABLE 14 - CONTINUED

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1904			164	855
1905			189	1,069
1906			158	842
1907			214	1,056
1908				
1909			238	1,040
1910			237	1,263
1911			180	1,160
1912			175	1,042
1913			152	922

Notes: 1867 - 1906, for fiscal year beginning July 1;
1908 - 1914, for fiscal year beginning April 1.

Source: Same as for Appendix A, Table 1.

APPENDIX A, TABLE 15

Import Duties on Dried Salt Fish in Barbados, Grenada, British Guiana and Jamaica in dollars per quintal for selected years 1870 - 1895 ($4.87 = £ stg.) and (qtl. = 112 lbs.)

Year	Barbados $/qtl.	Grenada $/qtl.	British Guiana $/qtl.	Jamaica $/qtl.
1870	0.04	0.27	0,51	0.95
1875	0.04	0.27	0.51	0.95
1880	0.05	0.27	0.51	0.95
1885	0.05	0.27	0.51	0.95
1890	0.05	0.27	0.51	0.95
1895	0.25	0.27	0.51	0.95

Source: Great Britain, Parliament, Sessional Papers, "Colonial Possessions, Statistical Tables."

APPENDIX A, TABLE 16

Total Import Volumes of Dried Fish into Various British West Indian Markets 1868 - 1898 (in cwt.)

Date	Jamaica	Barbados	Windward Islands	Leeward Islands	Trinidad & Tobago	British Guiana	Total
	000 cwt.	000 cwt.	000 cwt.	000 cwt.	000 cwt.	000 cwt.	000 cwt.
1868	73	116	28	29	51	82	379
1869	73	88		25	45	76	
1870	66	76		26	47	77	
1871	79	87	28	23	46	73	335
1872	88	99	28	29	46	93	382
1873	91	84	32	25	51	87	371
1874	103	104	30	23	52	90	402
1875	83	91	30	21	42	70	337
1876	90	79	25	22	47	98	361
1877	90	93	30	26	58	96	394
1878	100	88	30	32	59	73	383
1879	98	91	33	32		82	
1880	103	104	40	34	67	72	421
1881	86	103	32	33	62	77	394
1882	78	79	29	26	60	74	346
1883	78	69	34	26	55	71	333
1884	92	97	35	32	77	76	407
1885	107	90	34	30	77	75	413
1886	105	109	36	33	86	101	470
1887	106	95	30	32	65	80	408
1888	106	85	26	24		72	
1889	115	96	27	30	64	81	413
1890	115	98	30	23	61	72	398
1891	118	81	25	23	55	73	375
1892	117	77	26	29	58	70	376

APPENDIX A, TABLE 16 - CONTINUED

Date	Jamaica	Barbados	Windward Islands	Leeward Islands	Trinidad & Tobago	British Guiana	Total
	000 cwt.	000 cwt.	000 cwt.	000 cwt.	000 cwt.	000 cwt.	000 cwt.
1893	121	84	27	26	71	66	395
1894	130	77	25	24	62	72	390
1895	130	78	27	24	59	69	387
1896	128	88	29	26	78	70	418
1897	119	83	29	24	72	66	393
1898	122	79	31	20	74	64	389

Notes: Windward Islands include Grenada, St. Lucia and St. Vincent.
Leeward Islands include Antigua, St. Christopher, Nevis, Montserrat and Dominica.
Trinidad and Tobago include all fish imports after 1885.

Source: Great Britain, Parliament, Sessional Papers, 1870 - 1900, "Colonial Possessions, Statistical Tables."

APPENDIX A, TABLE 17

Total Import Values of Preserved Fish into the Various British West Indian Markets 1868 - 1898 in dollars ($4.87 = £ stg.).

Date	Jamaica	Barbados	Windward Islands	Leeward Islands	Trinidad & Tobago	British Guiana	Total
	000 $	000 $	000 $	000 $	000 $	000 $	000 $
1868	458	340	100	117	199	284	1,498
1869	306	256	107	108	194	310	1,281
1870	389	221		115	217	369	
1871	467	254	83	110	211	364	1,489
1872	467	290	121	139	201	413	1,631
1873	497	245	153	111	236	352	1,594
1874	604	304	155	103	260	392	1,818
1875	493	266	164	106	196	286	1,511
1876	539	229	148	112	318	389	1,735
1877	491	271	136	126	348	438	1,810
1878	599	259	150	153	285	310	1,756
1879	563	265	142	105	313	350	1,738
1880	512	302	156	136	285	272	1,663
1881	439	302	115	129	280	265	1,530
1882	439	230	153	112	274	362	1,570
1883	530	203	182	119	293	491	1,818
1884	594	283	143	138	328	289	1,775
1885	612	262	121	114	298	252	1,659
1886	547	318	96	116	276	280	1,633
1887	514	276	109	114	264	248	1,525
1888	493	247	120	103	332	289	1,584
1889	578	281	118	118	304	303	1,702
1890	597	286	144	101	311	332	1,771

APPENDIX A, TABLE 17 - CONTINUED

Date	Jamaica	Barbados	Windward Islands	Leeward Islands	Trinidad & Tobago	British Guiana	Total
	000 $	000 $	000 $	000 $	000 $	000 $	000 $
1891	606	238	129	100	271	318	1,662
1892	638	225	116	111	294	290	1,674
1893	659	321	130	122	341	303	1,876
1894	658	279	109	114	351	309	1,820
1895	640	285	103	110	292	258	1,688
1896	594	384	110	114	303	265	1,770
1897	566	366	111	93	285	228	1,649
1898	584	346	123	86	325	206	1,670

Notes: Windward Islands include Grenada, St. Lucia and St. Vincent.
Leeward Islands include Antiqua, St. Christopher, Nervis, Montserrat and Dominica.
Trinidad and Tobago include all fish imports after 1885.

Source: Same as Appendix A, Table 16.

APPENDIX A, TABLE 18

Dried Fish Export Volumes and Values for Nova Scotia and Canada to the Spanish West Indies 1867 - 1898 in dollars and quintals (qtl. = 112 lbs.) and ($4.87 = 1 £ stg.)

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1867	116	425		
1868	105	359	105	359
1869	101	444	101	444
1870	113	528	113	528
1871	143	679	143	679
1872	156	619	158	632
1873	152	632	152	632
1874	126	617	126	617
1875	152	730	152	730
1876	184	806	186	811
1877	178	720	178	720
1878	212	825	213	829
1879	275	982	276	986
1880	243	847	245	851
1881	206	819	209	829
1882	131	689	131	689
1883	192	792	193	797
1884	191	624	191	624
1885	159	452	160	457
1886	230	628	230	628
1887	221	865	222	861
1888	186	800	186	800
1889	211	860	213	866
1890			257	956
1891			274	1,179
1892			216	900
1893			214	959
1894			245	1,002
1895			197	704
1896			242	858
1897			240	819
1898			191	769

Notes: 1867 - 1898 for fiscal year beginning July 1.

Source: Same as for Appendix A, Table 1.

APPENDIX A, TABLE 19

Imports of Dried Fish into the Havana market from British North America, the United States and Norway (via England) 1868 - 88 in quintals (qtl. = 100 lbs.)

Year	North America		Europe	Total
	British North America qtls.	United States qtls.	Norway qtls.	qtls.
1868	12,355	7,074	43,021	62,450
1869	20,506	3,806	33,188	57,500
1870	25,572	7,323	53,445	86,340
1871	42,267	7,925	42,665	84,857
1872	42,516	7,091	48,412	89,019
1873	52,155	4,134	65,634	124,923
1874	63,416	10,237	66,273	139,926
1875	56,280	18,760	68,896	143,932
1876		46,204	144,204 (sic)	
1877		303,645 (sic)	49,863	
1878		56,017	56,567	
1879		72,146	62,542	
1880		66,122	58,965	
1881		80,168	57,198	
1882		56,334	56,491	
1883		34,566	45,681	
1884		23,034	38,252	
1885		13,652	33,043	
1886		19,611	39,964	
1887		26,287	33,237	
1888		21,300	29,739	

Note: Tables not given after 1875.

Source: Great Britain, Parliament, Sessional Papers, 1869 - 1889, "Commercial Reports, Cuba."

APPENDIX A, TABLE 20

Dried Fish Export Volumes and Values for Nova Scotia and Canada to the French West Indies 1867 - 1896 in quintals and dollars (qtl. = 112 lbs.) and ($4.87 = 1 £ stg.)

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1867	18	55		
1868	16	57	16	57
1869	25	99	25	99
1870	28	102	28	102
1871	30	123	30	123
1872	36	123	36	123
1873	52	208	52	208
1874	50	210	50	210
1875	50	219	50	219
1876	29	120	29	120
1877	55	204	55	204
1878	52	171	52	171
1879	50	181	50	181
1880	17	60	17	60
1881	29	116	29	116
1882	58	285	58	285
1883	59	257	59	257
1884	36	119	36	119
1885	25	73	25	73
1886	17	47	17	47
1887	11	46	11	46
1888	4	15	4	15
1889				
1890			8	30
1891			17	71
1892			4	14
1893			0.4	2
1894			0.5	2
1895			29	112
1896			1	4

Notes: 1867 - 1896 for fiscal year beginning July 1.

Source: Same as for Appendix A, Table 1.

APPENDIX A, TABLE 21

Dried Fish Export Volumes and Values for Nova Scotia and Canada to the United States 1867 - 1913 in quintals and dollars (qtl. = 112 lbs.) and ($4.87 = 1 £ stg.)

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1867	42	149		
1868	46	179	46	181
1869	35	149	35	150
1870	29	115	29	117
1871	19	71	20	74
1872	44	159	47	167
1873	59	156	69	174
1874	42	158	44	165
1875	36	137	42	152
1876	49	190	52	199
1877	67	229	86	277
1878	52	176	68	193
1879	62	196	86	239
1880	185	451	203	482
1881	151	517	173	566
1882	159	698	175	758
1883	159	663	173	712
1884	184	615	196	642
1885	142	369	154	408
1886	154	391	162	405
1887	142	499	157	531
1888	111	451	122	475
1889	127	496	142	529
1890			147	607
1891			119	513
1892			149	581
1893			153	608
1894			119	442
1895			88	341
1896			106	391
1897			106	363
1898			146	551
1899			161	652
1900			184	670
1901			185	738
1902			159	600
1903			148	624

APPENDIX A, TABLE 21 - CONTINUED

Date	Nova Scotia		Canada	
	000 qtl.	000 $	000 qtl.	000 $
1904			121	593
1905			89	495
1906			53	296
1907				
1908			89	425
1909			91	433
1910			95	511
1911			97	603
1912			129	787
1913			199	1,135

Notes: 1867 - 1906, for fiscal year beginning July 1;
1908 - 1914, for fiscal year beginning April 1.

Source: Same as Appendix A, Table 1.

APPENDIX A, TABLE 22

Export Volumes to the British West Indies from Nova Scotia, Canada and Newfoundland 1870 - 1898 in quintals (qtl. = 112 lbs.)

Date	Nova Scotia 000 qtls.	Canada 000 qtls.	Newfoundland 000 qtls.
1870	189	201	86
1871	322	350	78
1872	243	264	92
1873	316	344	81
1874	295	304	106
1875	232	243	83
1876	279	305	64
1877	258	286	75
1878	288	303	57
1879	317	331	67
1880	282	306	83
1881	250	259	96
1882	222	227	67
1883	257	263	85
1884	262	272	89
1885	240	250	83
1886	275	294	103
1887	262	271	82
1888	280	286	77
1889	228	237	112
1890		214	107
1891		209	101
1892		229	93
1893		258	71
1894		284	74
1895		274	94
1896		254	112
1897		254	98
1898		225	107

Notes: 1870 - 98 for Nova Scotia and Canada are for fiscal years beginning July 1.

Source: Nova Scotia and Canada - Appendix A, Table 14
Newfoundland - Shannon Ryan, "The Newfoundland Cod Fishery in the Nineteenth Century," (Master's thesis, Memorial University of Newfoundland, 1971), Table 31, pp. 258 - 260.

APPENDIX A, TABLE 23

Dried Fish Export Volumes and Values from Canada to Cuba and Porto Rico 1899 - 1913 in quintals and Dollars (qtl. 112 lbs.) and ($4.82 = £ stg.)

Date	Cuba		Porto Rico	
	000 qtl.	000 $	000 qtl.	000 $
1899	95	338	90	348
1900	79	228	61	246
1901	58	223	96	406
1902	79	298	99	380
1903	72	277	68	333
1904	65	308	61	337
1905	72	395	70	417
1906	59	311	51	282
1907				
1908	68	336	94	396
1909	72	340	101	440
1910	68	408	74	427
1911	64	419	94	618
1912	64	411	91	558
1913	78	481	76	512

Notes: 1899 - 1906, for fiscal years beginning July 1;
1908 - 1914, for fiscal years beginning April 1.

Source: Same as Appendix A, Table 1.

APPENDIX A, TABLE 24

Imports of Dried Fish into the Santiago de Cuba Market from British North America, the United States and Great Britain 1888 - 96 in quintals (qtl. = 100 lbs.)

Year	B. N. America qtl.	United States qtl.	Great Britain qtl.	Unidentified qtl.	Total qtl.
1888				29,741	29,741
1889				23,529	23,529
1890	10,806			11,696	22;502
1891	8,022			11,286	19,308
1892	22,322	1,536	719		24,577
1893	10,464	18,312	894		29,670
1894	7,086	22,344	500		29,920
1895	2,737	15,260	825		18,822
1896		15,544	1,493		17,037

Source: Great Britain, Parliament, Sessional Papers, 1889 - 1897, "Commercial Reports, Cuba."

APPENDIX A, TABLE 25

Imports of Dried Fish into Porto Rico from Canada, the United States and the Danish West Indies, 1885 - 94 in metric tons (ton = 1,000 kilos.)

Year	Canada	United States	Danish West Indies	Others & Unidentified	Total
	tons	tons	tons	tons	tons
1885	8,758				9,863
1886	9,458				10,157
1887	7,320				7,690
1888	4,760		1,467		6,720
1889	6,318	2,229	276		8,825
1890	9,326	498	144		10,970
1891	7,764	148			7,912
1892	8,428	1,385		195	10,008
1893	9,316	356		170	9,842
1894	9,890	1,522		91	11,503

Source: Great Britain, Parliament, Sessioanl Papers, 1887 - 1894, "Commercial Reports - Porto Rico."

APPENDIX B, EXPORT FIGURES AND FISCAL YEARS

The export figures to Nova Scotia and Canada used in the preceding tables were collected from export clearances by first provincial and then federal customs authorities. Between 1849 and 1913, a number of different fiscal years were used in the compilation of these statistics.[1] The dried fish export figures for 1849 - 51 were provided by Nova Scotia's Collector of Customs but were included in the annual reports of the Committee on Fisheries. These annual returns were for the calendar year. From 1852 until 1866, the provincial customs authorities included these figures in their annual report of the "Trade Returns". These statistics closely followed the calendar year, although the end reporting date was sometimes December 31 and sometimes January 25.

The first major change came in 1857 with the adoption of a fiscal year beginning 1 October. The first annual report under the new system came with the returns for the year ending September 30, 1858. The export figures for the first nine months of 1857 were never published. Although the bulk of this first reported fiscal year fell in 1858, the production and marketing cycles of the dry fishery meant the most of the fish marketed were caught in the 1857 season. In Nova Scotia, the fishing season of a particular year began in the early spring and continued

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1. See Nova Scotia, Legislature, Journals and Proceedings of the House of Assembly of the Province of Nova Scotia, "Report of the Committee on Fisheries for 1849 - 51;" Ibid., "Trade Returns" for 1852-66; and Canada, Parliament, Sessional Papers, "Tables of Trade and Navigation" for 1867 - 1914.

into the late fall. The dried fish came on the market in mid-summer and continued until late spring or early summer of the following year. A very sizable proportion was marketed in the quarter beginning October 1, so that any fiscal year containing that quarter and either the one preceding or following it accounted for the bulk of that season's catch. In consequence, the fiscal year ending September 30, 1858, appears in the preceding tables as 1857.

With Confederation, customs (and the compilation of annual export returns) shifted from a provincial to a federal responsibility. Accompanying this change in responsibility, there was a change in the fiscal year. The provincial fiscal year beginning October 1 was replaced by a federal one beginning July 1. The overlapping on the quarter beginning July 1 resulted in a final pre-Confederation fiscal year of only nine months. This truncated year was not used in the export tables to avoid confusion. Using similar logic to that above, the fiscal year ending June 30, 1868 appears in the export tables as 1867.

The Canadian government continued to use the fiscal year beginning on July 1 until 1908 when the starting date was changed to April 1. As happened before, the last quarter of the previous fiscal year beginning on April 1 was now recorded in the new fiscal year. This again resulted in a truncated fiscal year for 1907 which was not utilized in the tables. This again reflected the marketing

of the catch of its starting year but it now coincided with the bulk of that calendar year. In summary, there were three changes from the calendar year between 1849 and 1913 but only the last two resulted in years missing from the record.