POLITICAL GEOGRAPHIC IMPLICATIONS
OF TRANSNATIONAL RESOURCE MANAGEMENT

BY

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ABSTRACT

There is a growing concern among both scholars and laymen for the diminishing resources of the world. This thesis examines the political geographic implications of transnational resource management. The hypothesis is a dual one: firstly, that man's past and present uses of transnational resources have led, in some cases, to the necessity for international political control, and secondly, that problems related to transnational resource management have been, for the most part, ignored by political geographers, but should be the subject of future research.

The use of three transnational resources is reviewed: the blue whale, the North Pacific salmon, and the polar bear. Through an examination of the past uses of the blue whale, and the International Whaling Commission's lack of legislative powers, a case is built supporting the hypothesis. This case is further supported by the past uses of the North Pacific salmon, and the on-going dispute between the American and Japanese governments. Lastly, the Federal Provincial authority established to regulate the hunting of polar bear adds further support to the hypothesis.

A brief look back into the discipline establishes this thesis as part of the environmental concerns within geography, and the material presented in the text clearly shows the political
geographic implications of the problems of transnational resource management. The results of the inquiry would suggest that there is a need for further political geographic research on similar topics, and that man's past and present uses of transnational resources have, in fact, led to the necessity for international political control for these resources at least. There is, however, no claim made to the feasibility of such an international authority. The urgency for enforceable legislation is, nevertheless, clearly evident.
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INTRODUCTION

Concern for any species that is subjected to mass slaughter, and therefore virtual extinction, should be inherent in all people, academicians and laymen alike. It is becoming increasingly apparent, however, that the final decisions which will decide the fate of the world's living resources lie solely in the hands of politicians. As recently as February 1973, Canada's Federal Minister of the Environment, in his opening remarks to a technical conference on fisheries sponsored by the Food and Agriculture Organization of the U.N., repeatedly mentioned the responsibilities of the governments of the world in maintaining realistic harvest quotas for transnational marine resources.

The term 'transnational resource' implies mobility of a resource across politically defined space. Problems related to the regulation of such resources are well suited to the political geographer, as they involve boundary effects, migration over jurisdictional zones, and competing international economic concerns on policy making, all of which are themes common to the political geographer. There is, however, one inherent danger in such research, resulting from the biological component involved.

When discussing regulation of any living resources, there results by necessity the inclusion of a biological component such as population dynamics, migration patterns, and other facts relating to the general species ecosystem. The question which arises, then, is how far should one pursue that avenue of inquiry in order to satisfy the need for such data. There is no one answer to such a question,
and as a result some debate could arise regarding the extent of 'geography' involved in the work. For that reason, it is, perhaps, valuable to briefly examine some past environmental concerns within the discipline, concerns of which this thesis is a product.

The initial chapter of this thesis deals largely with a brief review of some of the environmental themes which have evolved through the discipline, and in that way will stress this thesis as a worthwhile geographic study. A study such as this is relatively new to political geography. Julian Minghi's work on the North Pacific Salmon was clearly the first work in political geography to explore the effects of resource mobility on the establishment of jurisdictional zones and national policy making, the same theme that is central to this thesis.

The international nature of the problems faced in this work suggests that field research is impractical, if not impossible, particularly in the constraints of a Master's thesis. For this reason, the most practical method of gathering the required data is through extensive library research. The International Commissions established to regulate the three transnational resources concerned in this thesis, the Blue Whale, the North Pacific Salmon, and the Polar Bear, have kept up-to-date and exhaustive records of the actions of their respective commissions. They do not, however, give any insight into the procedures involved in the establishment of legislation, nor do they give such information on the individual representatives to the commissions. In this respect, library research leaves many unanswered questions. In order to obtain answers to these questions, a survey of thirty-two commissioners from the respective commissions was conducted. The results are contained in Chapter Five, preceding a conclusion to the thesis.
ENVIRONMENTAL CONCERNS WITHIN GEOGRAPHY

There already exists a large literature on the geographers' concern with the environment, and a great deal of the literature lies well beyond the scope of this thesis. The main purpose of the following discussion of the environmental theme is, as mentioned in the Introduction, firstly to link this thesis with some of the themes that are discussed in the more prominent works on environmental questions, and secondly to shed some light on an area of research that deserves future consideration by political geographers.

Environmental concerns within geography were present within the discipline well before the turn of this century. Alexander von Humboldt, who Richard Hartshore, among many others, considered to be one of the founders of modern geography, came from a geological training, and perhaps for this reason his early works were on essentially physical topics. It was in his later work that the ideas which Darwin later postulated on the origin of species are foreshadowed. There is some concern shown in the *Cosmos* for the evolution of species, and a suggestion that there might be truth to the idea of 'survival of the fittest', which was later to become widespread. Although some of von Humboldt's work was centred around particular regions, such as Central Asia, most of his endeavours were conducted at the global scale. Because of this scale, the types of questions that von Humboldt postulated - such as those of man as one closely related race, and the global classifications of plant distributions - were of enormous breadth and many still remain the subject of
biological, ecological, and geographic enquiry. Although geographers treat many of the questions von Humboldt raised, few contemporary works are conducted at his global scale. The larger scale regional or local studies have become more the norm for geographic research. This may prove to be an unfortunate development as geographers, particularly political geographers, are beginning to deal with problems of international conflict, once more turning towards a global scale.

It is difficult to comprehend research of international resource management, such as this thesis deals with, being conducted on anything but a global scale. Treatment of such problems through a holistic approach at a global scale, albeit from a slightly different viewpoint than von Humboldt, may prove in future research of this kind to be the best method of enquiry.

The environmental thread in the geographic weave was carried on into the writings of Carl Ritter and Friedrich Ratzel. Carl Ritter, who was writing in geography at the same time as von Humboldt, is commonly thought to have been influenced by von Humboldt, although Ritter's work shows greater concern for man than does von Humboldt's. Carl Ritter's research covered a wide field. There was a concern for natural science, and this was reflected in his systematic studies, wherein Ritter showed the importance of the earth's conditions to man.

Much like Carl Ritter, Friedrich Ratzel was also a student who was initially in natural science and found that, as a geographer, he could study the connection of man and physical environment. In his first conception of Anthropogeographie, Ratzel attempted to demonstrate human culture in terms of the natural conditions on the earth. Later,
Ratzel reversed this original position, placing greater emphasis on the natural conditions in terms of human culture. Many who followed Ratzel, however, maintained his original view. The result of this was an environmental theme that dominated, particularly when carried into American geography, for some time.

Ellen C. Semple, who had worked with Friedrich Ratzel, had a great impact on American geographical thinking. Having studied with Ratzel in Leipzig, Ellen Semple had become exposed to ideas presented in his Anthropogeographie, published in 1891. Ellen C. Semple's study of Influences of Geographic Environment came as a result of this exposure, and placed a great emphasis on a deterministic view of the environment's effects on man. It was Semple's view that the environment had acted upon man, and determined his activities and subsequently his behaviour. It was largely that belief that led to the environmental determinist view, which gained a strong foothold over geographical thinking, and research, particularly in America.

Ellsworth Huntington wrote of man and the environment, and in doing so gave evidence that human geography should be the study of the effects of man's interactions with his environment and subsequent behaviour on the earth. Ellsworth Huntington stressed the climatic factors and their effects on people, and later went on to suggest that those environmental factors were the major concern within human geography. Huntington suggested that the various characteristics of man, the nature of his distributions over the earth, and the extent and variety of his activities, should be the subject for geographic enquiry. He contended that because all man's activities occur in a
definite place with distinct surroundings it naturally followed that
the conditions of habitat or environment were vital, if not fundamental,
to the explanation of the distributions, activities and accomplishments
of man or society.6

Man's activities, and his very evolution, were at the time suggested to have been determined by the environment. In 1931, in an address to the British Association of Geographers, Halford Mackinder stipulated that the hydrological cycle was a major factor in man's development and activities on earth. To Mackinder, the very essence of life had been molded by the pressures of the changing environment, and of those environmental factors, the variation, amount and modes of water supply were fundamental.7

Hartshorne did not accept the environmental argument for geography because he felt that it did not clearly indicate a basis for the discipline, and he felt that the environmental argument was not a satisfactory basis for the future development of the discipline. To Hartshorne, geography, as anthropogeography, was merely a collection of relationships which could be classified into individual categories according to the natural factors. Hartshorne believed that there was no basis for a unified organization of many important relationships, and consequently the collections had no unity.8

Hartshorne concludes that even where organized unity was demonstrated in the works of such people as Ellen Semple, organization may be seen more clearly in the light of other disciplines. To Hartshorne, the environmental arguments lay largely on the transitional zones between disciplines, rather than directly within geography. In
his view, the geography of the classical German geographers, such as Alexander von Humboldt and Carl Ritter, was not so deterministic and dealt more clearly with the character of place. This, in Hartshorne's view, provided a more viable foundation for geography. The result of Hartshorne's attack on the environmentalists was a definite change in the focus of geographical writing in American geography. Henceforth, the concepts of spatial variation and areal differentiation became a central theme. It also was at this time, largely due to the writing of Carl O. Sauer, that the term "culture" seemed to take a stronger hold on the thinking of many geographers. Carl Sauer rejected the idea that environmental response was dependent upon physical stimuli, but was instead based on acquired habit, which he called the culture of the group. The environmental response, then, according to Sauer, is a specific cultural option with regard to the particular habitat at any given time.

This view of man's actions on the natural landscape was not entirely the work of Carl Sauer. Harlan H. Barrows, in his Presidential Address to the Association of American Geographers in 1922, had argued that geography should be viewed in terms of man's actions on his environment rather than the reverse, and by doing so geography would have more unity. To Barrows, geography was "Human Ecology".

The environmental themes as stated by Sauer and others may be seen restated in much of the literature that is being written in geography today. Despite the great number of geographers that have moved to quantitative methods of geographical enquiry, which often
abstract space to the degree that there is no concern with any 'real' environment, there is a good deal of recent geographical work with a strong environmental flavour.

The environmental theme in geography today may be seen in a variety of approaches. In the introduction of S.R. Eyre and G.R. Jones to their book, the two authors argue the case of the environmental theme in geography, stating that a total concern with spatial distributions and areal differentiation is to place blinkers on geography. They argue that it is concern for the interactions between the environment and the human activities that leads to challenging geographic pursuits.

In Eyre's work on the vegetation of the South Pennine region, he deals with the distributions of different varieties of plants. Midway through the study, Eyre introduces what he terms the human factors, which trace the human activities that have occurred within his region. While this study may be seen to be on the verge of ecology, the work is distinctly geographical, in that Eyre has dealt with the character of the Pennine region, and is working at a larger scale that would not be suitable to the ecologist. Similarly, the comparatively small amount of work done by animal geographers has for the most part dealt with problems of animal distribution on a global or almost global scale.

As geography develops and becomes more and more subdivided into specialized sub-disciplines, the environmental concerns within the discipline appear independently within these sub-disciplines, each with a unique focus. The volume edited by Ian Burton and Robert
Kates within the realm of resource geography, contains a great deal of research that clearly reveals environmental concerns. Similarly, the work of Kenneth Watt has had an impact on geographers working within the scope of biogeography and resource management. Still another example of recent environmental concerns in geography lies in the perception and behavioural interests of David Lowenthal and Yi-Pu Tuan. In their work lie questions relating to man's perception of the nature of his environment, and his attitudes and behaviour toward that environment, and subsequently his action within it.

Through a brief summary of environmental themes within past geography, it is clearly evident that environmental problems have had an important role in the development of the discipline. It should not appear unusual, then, that current research in geography, particularly with the importance given to environmental problems today, should become more closely related to urgent environmental questions. In presenting this thesis, which has by the nature of the problem a large biological component, it is worth reflecting on past geographic research in order to place this research in the overall development of the discipline. For the same reason, it is worth reviewing some current concerns within political geography.

THE POLITICAL GEOGRAPHERS' CURRENT CONCERN FOR ENVIRONMENTAL THEMES

One of the most recent significant statements regarding the environmental theme in political geography is Part Five of The Structure of Political Geography. In the introduction to the papers which form that section of the volume, Kasperson and Minghi
trace the environmental thread more closely through political geography. The challenging theories of Arnold Toynbee and Karl Wittfogel are the two most influential to the political geographer. Toynbee's "Challenge-Response" thesis deals primarily with civilization's response to environmental stress, concluding that the more difficult environments allow for the growth of civilization. Wittfogel broke from the psychological approach that formed Toynbee's method of enquiry and pursued an "economic-political" mode of enquiry in his theory in "hydraulic civilization". In Oriental Despotism, political institutions played an important role in the functioning of the society, and bringing of social change.

Despite the lengthy debate in political geography which followed both Toynbee's and Wittfogel's work, there remained confusion regarding the clarification and conceptualization of environment and its impression upon politics. The typology that was set down by Harold and Margaret Sprout in Environmental Factors in the Study of International Politics went only part of the way to removing the confusion that surrounded the conceptualization of environment. The Sprouts' typology was comprised of environmental determinism, free will environmentalism, possibilism, cognitive behaviouralism and environmental probabilism, which was to be used as a stencil for all man-milieu relationships.

In their more recent work, the Sprouts have dealt specifically with the environmental theme, as it affects international politics and foreign policy. In The Ecological Perspective, the Sprouts trace the environmental determinist theme through time, and bring to light many aspects of what might be termed modern day environmental/political
determinists. Toward a Politics of the Planet Earth goes even further, as the book is essentially devoted to the presentation of concepts and postulates that taken together provide a mode and style of thought about foreign policies toward the maintenance of the environment, both social and physical.

The work which Derwent Whittlesey put forward as early as 1935 has shown to be closer to the general trend that most political geographers have taken regarding problems that relate to an environmental-political theme. Whittlesey maintained in "The Impress of Effective Central Authority upon the Landscape" that political activities in fact had a significant impress on the landscape. The landscape is altered, according to Whittlesey, by actions taken by central authority to maintain security, administrate its territory, and govern economic flow. Whittlesey gives examples of the motives that drive the central authority to alter landscape. It is interesting to note that all the examples of alterations to the landscape in Whittlesey's work may be clearly seen as result of political action. It should be noted, nevertheless, far greater ramifications to the landscape may exist that are, in fact, not so clearly tied to political action, and yet are undoubtedly a direct result of government policy.

This could lead into the debate that ensued after the publication of The Nature of Geography over the use of the term "landscape". The political geographer has, for the most part, not become part of that debate. The political geographer's reluctance to engage in that debate may well be the reason for the political geographer's lack of concern beyond the permanent themes within his sub-discipline. There
lies a vast area within the realm of environmental management that deals with such problems as conflict over jurisdictional zones and territorial management to which political geographers are well suited, but to which they have not, in the past, given attention.

Roger Kasperson and Julian Minghi point out in the introduction to Part Five of *The Structure of Political Geography* that despite the work of people such as Harlan Barrows, Charles Colby, and Gilbert F. White, who have had great impact upon the formation of governmental policy, this realm of research seems to have been overlooked by most political geographers.

"Curiously enough, however, political geographers have demonstrated very little interest in an area for which they are academically well-equipped and in which geography boasts a distinguished heritage. Despite recognition ... as one of the major problem areas in Geography ... environmental management seldom receives the attention it merits. While geography has certainly contributed extensively to policy and political issues surrounding natural resource use, the contributions have come from a group of geographers - such as White, Burton, Kates, Lucas and Sewell - who have had an unusually strong policy orientation. By comparison, research by scholars who consider themselves political geographers has been scanty at best. Young geographers might do well to explore the political dimensions of resource management." 25

While it is important that the place which this thesis has in the field of geography be demonstrated, it is not sufficient to assume that research toward themes, such as the theme which shall be developed in this work, should proceed purely for the sake of broadening the horizons of the political geographer. It is, rather, in the application of the results from academic enquiry toward the solution of real world problems that the greatest value of political geography may be
found. Through impartial academic work, the problems of conflicting values at the international level may be seen more clearly, and exposition of these conflicting values may lead to greater understanding and political co-operation.

THE AIM OF THE THESIS

In "The Conflict of Salmon Fishing in the North Pacific", Julian Minghi clearly demonstrates the conflicting values held by the countries concerned regarding their rights to Pacific salmon. Through the development of the article, Minghi shows the political complications which can arise from biased and inaccurate resource information and nationalistic management proposals. Minghi has shown the value of research by political geographers on the question of man's use of his environment generally, and, more specifically, the value of research on man's use of transnational resources.

Governments have proven ability to develop the land within their own jurisdiction, but what of control over transnational resources, resources over which they do not have sole jurisdiction? What nation has the right to develop these resources, and by what methods? In an attempt to answer these and other questions, and to propose some form of regulation, joint commissions have been established to act on behalf of their governments. Among the results of these commissions have been recommendations to the individual governments regarding resource management. In most cases, some form of multilateral agreement is adopted and this leads to political action taken by all sides. The failure of the system lies with the commissions' lack of political authority. That is to say, the commissions may not enforce legislation.
which is binding to all parties concerned. The political authority comes from the independent governments of the concerned countries in the issue. This thesis directs itself to the problem of the commissions' lack of political authority to regulate the taking of mobile resources that move across politically defined space, or areas of implied political jurisdiction.

In order to prove the hypothesis that man's past and present uses of resources have led, in some cases, to the urgent need for international political regulation, it will be necessary to review how commissions have attempted to resolve problems of transnational resource management in the past, to determine what changes they are making at present, and to analyse their intentions for future development. If the hypothesis is correct, it should be supported by such an examination, as difficulties encountered by the commissions should be made evident and a case for the hypothesis as a solution to those difficulties be put forward. As this work deals with a number of unknown factors, such as government acceptance of the commissions' recommendations, that may be affected by any number of political forces at work within a country, it is not advantageous to attempt to present the thesis in a quantitative manner. Conclusions from such a method would require a rigid approach to a problem that demands a holistic approach, and will inevitably result in conclusions which may appear probabilistic in nature. Through a sound examination of the performance of past and present commissions, exposition of the value of this thesis to political geography, and as a solution to the problems of international transnational resource management, may be achieved. Through such
enquiry at a global scale, allowance may be made for many of the variables that affect international co-operation in the field of transnational resource management. While this may lead to the inclusion of some generalities and probabilistic statements, it should in no way detract from the value of the thesis.

Hence, as mentioned in the introduction, three transnational resources, and their respective international organizations, will be examined; the whaling industry, the Pacific salmon, and the polar bear. The first chapter will deal initially with an examination of the whaling industry and the effects of the International Whaling Commission on the general harvest of whales since its establishment in 1946. The major concentration will be on Antarctic whaling, the blue whale in particular, although it will be necessary to examine some of the statistics of past whaling activities in the North Atlantic and the North Pacific oceans. The necessity for review of the latter two areas of whaling lies in the fact that they were areas of active whaling prior to the Antarctic whaling industry, and both foreshadowed the pending doom of a once-plentiful Antarctic resource. Despite the knowledge of the severe depletion of whale stocks, and consequently the establishment of an International Whaling Commission, the Commission could not stop the continued exploitation of Antarctic whales which has resulted in the virtual extinction of many species. The reason for the International Whaling Commission's failure to manage successfully the whaling industry will be one of the central themes of the thesis.

The second part of the following chapter will deal with conflict over the Pacific salmon, a long standing conflict resulting from
international economic competition for a transnational resource within an area of undefined political jurisdiction. The problem of national rights to salmon fishing is made complex by the life cycle of the salmon. Salmon spawn in fresh water before moving out to the open sea. This has allowed countries to stake claim to the salmon which spawned within their territorial bounds, but soon move out of their area of jurisdiction. On the high seas, the difficulty arises in determining which salmon are American spawned and which are Asian spawned, despite evidence of biological differences.

What is important to this thesis is the fact that the International North Pacific Fisheries Commission (I.N.P.F.C.) has been powerless to legislate a just settlement to the dispute. The regulatory terms of the I.N.P.F.C. have been inflexible, with the result that regulations governing international salmon fishing rights remain disputed and consequently not conducive to permanent international agreement.

The third chapter will deal with the movement of polar bear over international and national boundaries, and the resulting problems of international and national management. Until quite recently there has been very little research on the polar bear. Perhaps as a consequence of this lack of research there has been little awareness, until recently, of the number of polar bears. The first international concern was demonstrated by the meeting of polar bear specialists at Fairbanks, Alaska, in 1965. The resulting report recognized problems which faced those who were trying to establish policy for the management of the species. The polar bears' wandering habits made it difficult for single nations to institute legislation actively which
would protect the polar bears as they cross political boundaries.

The very nature of the environment makes any form of enforcement exceptionally difficult, and added to that problem is the constitutional right of the natives who have had a 'traditional' right to hunt the polar bear, because polar bears are thought to be part of their natural heritage. Many Eskimo, who may not have had the need to hunt polar bears, may be induced to do so by the financial returns that the pelts bring.

Polar bears are a transnational resource, whose future is in doubt. Increasing extraction of northern natural resources in Canada, and Alaska, undoubtedly will have a great effect on the northern environment. This development, coupled with the recognized problems of the necessity for polar bear management, as set down by polar bear specialists in Fairbanks and later in the meeting of the International Union for Conservation of Nature and Natural Resources (I.U.C.N.), in Morges, Switzerland,\(^\text{29}\) has brought about far-reaching national legislative controls for polar bear management. Based on material to be presented in the following chapters, the thesis will attempt to illustrate the necessity for international political control.

This thesis should serve a dual function, firstly to prove the hypothesis that man's past and present uses of transnational resources have led, in some cases, to the urgent need for international political regulation, and secondly to effectively introduce the problems of transnational resource management as an important part of political geography. The fulfilment of that function will be brought about by an examination of what has occurred with the whale, what is occurring
with the Pacific salmon, and an examination of current reports from the members of the I.U.C.N. who are making recommendations to concerned governments on methods of polar bear management.

The preceding would afford a close look at three marine based resources, all with a high degree of mobility across political boundaries or jurisdictional zones. Essentially, the problem is one of a man-environment theme, and involves the complex issues of competing international economic concerns on national policy making. These problems are compounded by the mobility of such resources, thus requiring international co-operation in order to effectively regulate transnational resources.
CHAPTER 1

FOOTNOTES:


9. Ibid., p. 125.


13. Ibid., P. 145.


CHAPTER II

THE BLUE WHALE AND PACIFIC SALMON

This chapter will examine the effects of two International Commissions on the regulation of two transnational marine resources. A discussion on the International Whaling Commission's (I.W.C.) actions in the past forty years regarding the blue whale will be presented first, in an attempt to examine the political geographic ramifications of the species' movement throughout the Antarctic. Following this is a discussion on the conflict over the use of the North Pacific salmon, and the International North Pacific Fishing Commission's (I.N.P.F.C.) role in trying to settle that dispute.

The Blue Whale

The blue whale's annual migration from the northern latitudes to the Antarctic occurs because of a dramatic increase in the amount of Krill (Euphasia Superba, a large planktonic animal) during the summer months of December, January and February. Krill is the exclusive food for the blue whale, and responds to the increased light hours and the heat during the southern summer. It is commonly believed that the blue whale leaves the Antarctic during the southern winter months in order to protect the young. Blue whales travel within family groups, and therefore will move together, and, as the young lack large amounts of blubber, they do not possess the same tolerance for cold as the adults of the species. (See map 2-1 for Antarctic palagic areas.) The consequence of this migration has been the increase in all areas around continental Antarctic in the number of blue whales, and baleen
-20-
whales generally, during the southern winter months.

The Antarctic is a truly international area. Although the continent of Antarctica is divided into sectors, (see map 2-1), these are not areas of defined political jurisdiction, but rather areas designated in order to facilitate orderly scientific research. The areas as they appear on the map are:-

(1) Falkland Islands Dependencies (British)
(2) Queen Maud Land (Norwegian)
(3) Wilkies Land (Australian)
(4) Adelie Land (French)
(5) Ross Dependency (No single national interest)
(6) J.W. Ellsworth Land (No single national interest)

The political geographer's concern with the migratory pattern and consequent harvest of blue whales lies in the national policy that is established to govern whaling activities over a defined area. The action of whalers, or salmon fishermen, or in fact polar bear hunters within a defined area, can be controlled only to the extent to which their individual governments choose. For this reason it is perhaps valuable to examine the national policies of the whaling countries and their effect on the harvest of the blue whale.

To examine the national policies of all the whaling nations would be a worthwhile but very extensive and difficult task, as it would require the gathering of certain confidential national documents, requiring extensive travel and search through the national archives of the states in question. Because this is not possible for the author, this thesis will examine the national whaling policies of only two of the nations involved in the killing of whales; Japan and Norway. A tremendous amount of research has been carried out on these two nations by George Small, and therefore the task of compiling the basic inform-
ation required for a political geographic analysis of the management of the blue whales, is greatly simplified.

Two National Whaling Policies

The first concern for the world's whale stocks was not so much a result of the diminishing stocks of whales, but rather because of the economic uncertainty of some countries brought about by the increasing sophistication of whaling techniques. It should not be implied, however, that there had been no examples of diminished numbers of whales, for indeed there had. By the early Eighteenth Century, the Right whale, hunted in the North Atlantic by the British, was commercially extinct as a result of over-hunting. Similarly, the California Grey whale, a very slow-swimming whale that migrates from the Arctic waters south to the warmer waters of Southern California for mating, was subjected to massive slaughter, and was twice thought to be extinct until a federal law was passed in the U.S. in 1936 forbidding the killing of grey whales. 7

The invention of the harpoon gun, and the stern slipway for factory ships, made whaling a far easier profession for those who had use of the gun, and undoubtedly had a great effect on the numbers of whales taken each year. The first call for international whaling controls came from the League of Nations in 1927. While international controls did not result from these meetings, they prompted independent government action in the area of whaling control. In 1929, the Norwegian parliament passed an act regulating the killing of baleen whales. The act gave the national government complete power to govern the activities of their whalers on the high seas. This bill is of
major significance if we analyse the catches of blue whales by both
the Norwegians and Japanese. (See Table No.2-1.) After two years,
when full enforcement took effect, there was a dramatic decrease in
the harvest of whales by the Norwegians, particularly in terms of
their blue whale catch. The Japanese, who did not enforce any
restrictions, increased both their overall total and blue whale catch,
although at this time the Japanese catch was not of major significance.

The 1929 Act had, however, even more far reaching implications
than might first be realized. For example, the Act required government
inspectors to be present on board Norwegian factory ships to prevent in­
fractions of the new law, and catch journals were to be kept. Perhaps
the most important accomplishment, however, is the fact that the Act
established the Hvalrad, or whaling, Council to act as an advisor to
the Norwegian government in all matters pertaining to whale and whaling
control, both on a national and international level. In a fashion some­
what similar to the I.N.P.F.C. and the I.U.C.N., to be discussed later,
the Hvalrad started as a group of biologists concerned for the proper
regulation of the whaling industry and also for the exchange of
scientific data. It was some time later than the governments of
whaling nations, and finally business interests, entered the organiza­

In 1934, there was an amendment to the Act that prevented the
killing of blue whales with a body length less than sixty-five feet.
This was an increase of five feet over the previous legislation of 1929,
that allowed any whale sixty feet or more to be taken. In 1935,
## Diagram 2-1 - Comparison of Norwegian and Japanese Blue Whale Catch for Selected Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Blue Catch</th>
<th>Total World %</th>
<th>Blue Catch World %</th>
<th>Total Blue Whales Killed</th>
<th>Total World %</th>
<th>Total Whales Taken</th>
<th>Total World %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1928-29</td>
<td>10,181</td>
<td>74.5</td>
<td>36.4</td>
<td>1.1</td>
<td>14,996</td>
<td>53.7</td>
<td>1,463</td>
</tr>
<tr>
<td>1931-32</td>
<td>61</td>
<td>9.1</td>
<td>4.7</td>
<td>2.5</td>
<td>797</td>
<td>62.2</td>
<td>1,036</td>
</tr>
<tr>
<td>1934-35</td>
<td>8,039</td>
<td>47.7</td>
<td>20.4</td>
<td>8.7</td>
<td>16,939</td>
<td>43.1</td>
<td>2,000</td>
</tr>
<tr>
<td>1937-38</td>
<td>4,985</td>
<td>33.3</td>
<td>10.8</td>
<td>16.0</td>
<td>14,960</td>
<td>32.4</td>
<td>5,582</td>
</tr>
<tr>
<td>1940-41</td>
<td>4,096</td>
<td>21.8</td>
<td>4.7</td>
<td>3,280</td>
<td>4,362</td>
<td>18.8</td>
<td>12,920</td>
</tr>
<tr>
<td>1950-51</td>
<td>3,145</td>
<td>43.2</td>
<td>5.6</td>
<td>318</td>
<td>18,024</td>
<td>32.3</td>
<td>5,043</td>
</tr>
<tr>
<td>1952-53</td>
<td>11,076</td>
<td>25.5</td>
<td>2.4</td>
<td>652</td>
<td>11,620</td>
<td>26.6</td>
<td>5,397</td>
</tr>
<tr>
<td>1957-58</td>
<td>587</td>
<td>34.7</td>
<td>1.4</td>
<td>656</td>
<td>13,289</td>
<td>33.7</td>
<td>11,763</td>
</tr>
<tr>
<td>1960-61</td>
<td>138</td>
<td>6.9</td>
<td>0.2</td>
<td>1,217</td>
<td>12,829</td>
<td>19.4</td>
<td>19,891</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>29,308</strong></td>
<td><strong>-</strong></td>
<td><strong>8,700</strong></td>
<td><strong>-</strong></td>
<td><strong>98,816</strong></td>
<td><strong>-</strong></td>
<td><strong>85,185</strong></td>
</tr>
</tbody>
</table>

further revision to the 1929 bill was passed, whereby Norwegian nationals were no longer permitted to work on board any vessel of another country's registry if that country did not have similar whaling restrictions to Norway. By the same token, the exporting of whaling equipment was controlled.  

As in all cases where there is a need for international management of a resource, there is the need for enforcement of the established laws. Such enforcement is often costly to the government, and this case was no exception. In order to meet the costs of enforcement and also to subsidize the Hvalrad, a tax was levied against barrels of whale oil. This tax varied, but was enforced in some form until 1952. It may well have been the beginning of the demise of the great Norwegian whaling fleets of the early Twentieth Century. It is estimated that by 1952, Norwegian whaling companies had a total loss in potential earnings of 244,000,000, N. Kroner, ($34,366,000). Once again, the significance of that statement lies in the fact that the Japanese had no restrictions of this kind to hinder their whaling activities.

International agreement came in 1935, in the form of the Convention for the Regulation of Whaling, which was broadened in 1937 to include specific agreements. (See Appendix I.) This will be discussed under the heading International Whaling Commission. It is useful to note here, however, that Germany and Japan were not part of the 1935 Agreement, but by 1937 Germany had bowed to the pressure of contiguous European states and consented to join. Nazi Germany was at that time building a very powerful whaling fleet, and that increase in size affected Norwegian national policy as they were determined not to
allow dominance by the Nazi and also the Japanese whaling fleets that were emerging at that time.

Concern over the rapid increase of the German and Japanese whaling efforts prompted the Norwegian government in 1939 to ban the sale of whaling vessels abroad. As may be seen from the tables 2-1 on page 23, Japan's increased catch of blue whales in the 1937-38 season jumped from 147 to 2,397, and their total intake of all whales had more than doubled. This trend continued in 1940-41, and the total Japanese whale catch rose to 12,920 whales, approximately three times the Norwegian total.\textsuperscript{11}

In 1955, Norway argued for the protection of blue whales, as there was increasing evidence that the number of blue whales was diminishing. The sub-group that was particularly in question was the blue whales that migrated north-south from the Northern Atlantic. All countries within the Commission agreed to the protection, with the exception of Denmark and Iceland who refused to be bound by the Agreement. By 1959, the Norwegian government had agreed to abide by quotas of whales established through negotiations within the I.W.C.\textsuperscript{12}

In comparison to the Norwegian whaling fleets of the early Twentieth Century, the Japanese fleets did not appear prominently. Expansion of the Japanese whaling fleets began in the early 1930's, when the Japanese government boosted their industry with the construction of six floating factory ships. These ships were put into service from 1935-1939, and their effect on the Japanese catch is reflected in the steady increase in the figures shown in Table 2-1.

In terms of a national policy against whaling, the Japanese have
been very slow in accepting or even considering international margins for whale intake. There is little doubt that the Japanese national policy at the time of the formation of the I.W.C. was toward military expansion and the acquisition of territory throughout their sphere of influence. This, in part, may well have added to the intensive whaling that was carried on just prior to the Second World War, because much of the input into the whaling industry came from the Manchurian Heavy Industry Corporation, a military organization that required both foreign income and food.  

The Japanese government had, however, instituted a licensing policy in 1933. This required all whalers to be licensed by the national government. In 1936, the law was revised, and only those whalers operating away from the Japanese islands were required to apply for a license. There appeared, however, little discretion shown for whale numbers as far as the allocating of licenses was concerned. During the 1940-41 season, the last prewar season, the Japanese and the German fleets had maintained tremendously high catch levels of blue whales, and despite international warning, did nothing to stop the granting of licenses.

The Japanese continued virtually unrestricted whaling until 1965, when the size of the fleets began to decrease proportionately with the decrease of blue and other whales. In June 1967, the Japanese realized the critical shortage of blue whales, and finally the national government agreed to prohibit its whalers from killing the blue whale. In October and November of the same year, however, the Japanese national government granted licenses to take whales off the coast of Chile, with
no restrictions on the killing of blue whales whatsoever.\textsuperscript{14}  

At the present time, very few blue whales are being taken, simply because very few remain. The aspect of these facts that is of interest to the political geographer, and consequently to this thesis, is the inability of the I.W.C. to enforce any legislation that would supercede that of the national governments concerned. Quite clearly, the mobility of the resource, and its transnational nature, had made an extraterritorial government a necessity. By the same token, however, it had created areas where whaling was done annually that had become, in effect, jurisdictional zones that national governments felt were within their legislative realm. The I.W.C.'s lack of international political control led to continued Japanese whaling, despite critically low harvest figures. In order to see this more clearly, it is necessary to examine the International Whaling Commission and its role in the control of the blue whale.

**The International Whaling Commission**

The Convention for the Regulation of Whaling was ratified in 1935. It showed early signs of failure, as neither Germany nor Japan would joint the Commission, and indeed Britain and Norway were the only two countries that did adhere to the regulations that were set down.

Even in 1937, when the governments of South Africa, United States of America, Argentina, Australia, Germany, Great Britain and Northern Ireland, the Republic of Ireland, New Zealand and Norway (note the exclusion of Japan), sat down to work out an agreement that would effectively limit the number of whales taken, these governments could not agree on the quotas that should be taken. The problem seemed to stem
from the national governments' lack of political jurisdiction over the action of their whalers, a problem that has plagued the International Commission in almost every form of resource management.\textsuperscript{15} (See Appendix I)

The first meeting of the International Whaling Commission in 1949 was largely devoted to the formulation of rules and regulations and to establish the financial contributions of the countries concerned. The 1953 meeting, however, was one where the first large opposition to the committee's recommendations took place. A proposal was put forward to the commission to prevent the hunting of blue whales for one season in Area II. (See map 2-1). Area II was thought to be an area of extreme harvests, and therefore the need to prevent further killing there was greater than elsewhere. All whaling nations agreed, except the Netherlands. Acting on advice from their scientific advisors, the Dutch delegation refused to accept the recommendation, and threatened to boycott or, worse will, to veto the recommendation. The Dutch delegation presented information that they claimed proved that the estimates of blue whale stocks were erroneous.\textsuperscript{16} The threat of a veto brought other nations, who had previously realized the necessity to protect the blue whale in Area II, to agree for five years to the prevention of whaling in that area. The only limitation on whaling that occurred, however, was a delay of the season for two weeks.\textsuperscript{17}

By the early 1950's, the Japanese were members of the I.W.C., and, in fact, the commission's annual meeting in 1953 was in Tokyo. Much of the scientific writing about the blue whale at that time called for protection of the species as they maintained that the blue whale stocks
were drastically decreasing. The Dutch, however, continued to insist that the number of blue whales was far more than estimated, and hunting continued.

The debate over the number of blue whales existing in the Antarctic waters continued for five more consecutive meetings before the commission finally made realistic proposals for the protection of the species. In 1958, there was a suggestion that each nation should be allotted a portion of the Antarctic quota that would be valid for seven years. It was open to each nation to decide their national quota among their whaling companies.

At this point it is useful to examine in political geographic terms what, in fact, had been proposed. The I.W.C., an international organization devoid of any political authority, had made recommendations for independent sovereign states to govern the operating of their factory ships, and, in effect, their territory, in an area of undefined sovereignty, but implied zones of jurisdiction, namely the whaling areas on the high seas. The whaling companies, particularly the Dutch companies, refused to co-operate, and therefore for purely economic and domestic, political reasons, the Dutch refused to support the I.W.C. In effect, the national policy within the Netherlands and their eventual withdrawal from the commission in 1959, destroyed any chance of the I.W.C. working effectively, as it allowed for free economic interests in an otherwise controlled situation. The Dutch national policy, then, had a clear and marked influence on the regulation of the blue whale, and ultimately on the policy of other interested states.

In 1960, the I.W.C. decided that they should establish the 'Committee
of Three', which was to be a group of three pelagic scientists from non-whaling countries, to assess the population of blue whales. While their study was being conducted, the whaling fleets continued their decimation because of the added excuse that the committee findings had not been released and therefore there was doubt that the blue whale stocks were really as low as they were estimated to be.

Japan became the chief antagonist in the early 1960's, for Japanese fleets were becoming better equipped than in previous years. Despite the quotas finally established by the I.W.C. in 1962\textsuperscript{19}, the Japanese national government was reluctant to control its whalers and therefore, in 1963, when the I.W.C. finally received the findings of the Committee of Three, the Japanese insisted that the quota of 5,000 blue whale units suggested by the committee be increased to 10,000 units, and threatened to veto if they were not increased. Once again the commission backed down. Furthermore, the Japanese made a case for the existence of a sub-species of blue whale that they called the pigmy blue whale, and asserted that they should be permitted to kill these, as their scientists had predicted an annual intake of 400 whales without threat to the species' survival. Despite serious scientific doubts about the existence of such a sub-species as the pigmy blue whale,\textsuperscript{20} the I.W.C. incredibly gave way to Japanese demands.

By 1965, fifteen floating factory expeditions, with 172 catcher boats, killed twenty blue whales. The blue whale was no longer economically or biologically alive. The I.W.C. had failed, and failed because of national political interests. With the continued hunting within the pigmy blue whale area, (See map 2-1), the blue whale may well
be extinct. George Small states:

"In my opinion the pigmy whale was a fraud used as an excuse to continue killing blue whales in a portion of the Antarctic where a few could still be found. The 1963 meeting of the Whaling Commission was as much a failure as its predecessors despite the apparent progress in granting the blue whale protection throughout much of the Antarctic. The architect of that failure was the Japanese whaling industry".21

While the Japanese might well be seen as the nation that dealt the final death blow to the blue whale, it cannot be allowed to hold all the responsibility for the I.W.C.'s lack of management. The machinery was available within the I.W.C. with one significant exception, it had no power of enforcement. Ultimately the decision to accept or reject its decision lay in the hands of the national politicians, who, after all, were primarily concerned for their national economic interests. What may have happened if the I.W.C. had political authority? This and other questions will be discussed in the sixth and concluding chapter after an examination of the similarities reflected in the International North Pacific Fisheries Commission's handling of the dispute over the North Pacific salmon, and the International Union for Conservation of Nature's plan for the management of the polar bear has been discussed.

The North Pacific Salmon

The Pacific salmon provides an interesting transition between the discussion on the blue whale and the discussion on the polar bear to follow. The blue whale is a completely transnational marine resource, while the polar bear is a transnational resource that is for the most part 'land' based.22 The Pacific salmon is, on the other hand, found
within one particular political region during part of its life cycle, and therefore some national claim, as with the polar bear, may be laid to salmon spawned in national streams. Salmon become truly international when on the high seas, in a similar manner to the blue whale.

There are four countries actively concerned in the management of the North Pacific salmon. Those countries are Japan, U.S.A., Canada and the U.S.S.R. The actual conflict over the use of the Pacific salmon occurs primarily between Japan and the U.S.A., and therefore these two countries will provide the prime focus for the following discussion on the nature of the dispute, and the I.N.P.F.C.'s abilities to handle the situation. (Map2-2)

As mentioned, the salmon spawn and hatch in fresh water streams that are completely under the jurisdiction of the coastal state. As they mature, the salmon return to the high seas where they spend the middle cycle before returning to the streams from which they hatched, thus ending the life cycle. The problem that results is in the claims made by coastal states to their rights to take salmon that were spawned in their jurisdictional zone. Traditionally, salmon on the high seas have been free for any individual to catch. However, they are becoming an increasingly valuable resource, despite, and perhaps as a result of, their diminishing numbers.

At approximately the same time that the Japanese were beginning to expand their whaling industries, so too were they becoming involved in salmon fishing in the North Pacific on a large scale. The first sign of the salmon fishing dispute occurred in the mid 1930's when Japanese research vessels entered Bristol Bay in order to prepare for
future fishing in the area. After U.S. protests, the Japanese agreed not to fish the area, and curtailed further research.23

The end of the Second World War brought about the Treaty of Peace committing Japan to enter into international negotiations and therefore in 1953, Japan became a party to the I.N.P.F.C.24 Through international negotiations, all parties agreed to a 'temporary' line located along the meridian 175 degrees West longitude, that would serve as a "line of abstention". Hence the term the 'abstention principle' was coined.25

Under the 'abstention principle', nations agreed to abstain from fishing for stocks of certain species in particular areas, other than those spawned in their sphere of influence. This measure was negotiated as a measure of conservation as much as it was to protect the native stocks of salmon. It was based on three major provisions:-

"1. Scientific evidence indicates that the stock is fished so heavily that more fishing would not provide substantial additional catch which could be sustained year after year.

2. The stock is based on conservation records scientific research for the purpose of maintaining or increasing its maximum sustained productivity, and

3. The stock is subject to an extensive research programme to discover whether it is being fully utilized, and to find how its productivity may be maintained as a maximum." 26

The Japanese, however, asserted that the abstention policy was more of an economic or political act rather than one of a conservationist's view. Furthermore, the Japanese repeatedly asserted that the coastal state should not have any unilateral authority over the control of the fish within its adjacent waters simply because of its geographical location.26

The most critical problem, however, may be most simply stated.
The Americans have in the recent past found that they have had diminished stocks of salmon in the Bristol Bay area. It was asserted that the reason for this decline was due to overfishing of the salmon stocks by the Japanese. The I.N.P.F.C. thus became involved in a dispute that it has not to this time resolved. Much like the I.W.C., the concerned parties, particularly the Japanese, threatened to withdraw from the commission should the commission rule against them.

As a result of this dispute, and in the interest of conservation, a great amount of research has been carried out on fish migration. The result of these studies may be used by both governments as a basis for re-negotiating the 175 degree West line. The Americans claim that American-spawned tagged red salmon have been found as far as 175 degrees East, and use the fact to argue for a re-negotiation of the line. Similar facts may be presented for chum salmon and pink salmon. (See maps 2-3, 2-4, 2-5)

The Japanese have also engaged in fairly extensive research on the topic of fish migration, and as a consequence have data arguing for a change of the line to 160 degrees West. It appears obvious from maps 2-3, 2-4 and 2-5 that there is a large 'mixing' zone, and one that will need careful international management. Management, however, means enforcement of regulations and that appears to be beyond the scope of the I.N.P.F.C.

Having reviewed the asserted efforts of the I.W.C. and examined the problem of the salmon conflict, the two cases appear remarkably similar. In the I.W.C., the national economic interests proved dominant over the views of scientists and conservationists. As the resource
MAP 2:3 EASTERN AND WESTERN DISTRIBUTIONS OF ALASKAN AND KAMCHATKAN RED SALMON
Source for this and following two maps: Allan C. Hartt, "Migrations of Salmon in the North Pacific Ocean and Bearing Seas As Determined by Seining and Tagging" I.N.P.F.C. Bulletin No. 19, 1966, p. 81-82.
MAP 2-4  GENERAL DISTRIBUTION OF EASTERN AND WESTERN PINK SALMON
MAP 2-5  GENERAL DISTRIBUTION OF EASTERN AND WESTERN CHUM SALMON
became less, the struggle to maintain national quotas became greater, and there resulted the presence of strong national interests in areas of no political authority. This created a superficial zone, where nations would annually partake in the killing of whales without regard for any form of overall areal management attempted by the I.W.C.

The fishing dispute over the North Pacific salmon and the negotiations to restrict fishing beyond the 175 degree West line have, in effect, created jurisdictional zones that are considered to be unjust by the parties concerned. The problem of how to resolve the situation has existed for over a decade, and still the I.N.P.F.C. is powerless. As one leading Canadian official remarked, the Japanese need the fish, and therefore if they cannot get the fish through negotiations they will get them without. Enforcement, short of naval policing, is impractical, if not impossible. Where, then, do the answers lie, and in what ways may future research by political geographers help to solve problems of this nature?

Before entering into a discussion on either of the above questions, one further example of transnational resource management should be discussed. Through a discussion of the polar bear, a species that has just recently become a case for international management, further evidence in support of the hypothesis that man's past and present uses of transnational resources have, in some cases, led to the need for international political control, may be put forward. In addition, the political geographic concerns for such research may be made clearer.
FOOTNOTES:

1. The blue whale belongs to the order Cetacea, and is of the suborder Mystacoceti, which differs distinctly from the suborder Odontoceti which includes the porpoise, dolphin, killer whale, and sperm whales, among others. All of the Cetaceans that belong to the suborder Odontoceti have teeth, which is the principal distinguishing characteristic between the two suborders. In place of teeth, all whales belonging to the suborder Mystacoceti have a baleen which hangs down from the upper jaw bone, and acts as a sieve. The whale allows the inflow of water through the hairy fringe of the baleen that traps the zooplankton. As the whale closes its jaws, it raises its tongue to force out the sea water, and thus swallows the food. Because the baleen is common to all whales belonging to the suborder Mystacoceti, they are frequently referred to as baleen whales. The blue whale belongs to a family class which is the Balaenopteridae, more commonly associated with the term rorqual. Hence, from this point on, the blue whale will be referred to as a baleen whale of the rorqual family.

2. For more complete biological information on Krill, see: J.W.S. Marr, "The Natural History and Geography of the Antarctic Krill", Discovery Reports, XXXII (1962) pp. 32 - 464.

3. George L. Small, The Blue Whale, (Columbia University Press, 1971) p. 47. This book is the printed version of Small's doctoral thesis entitled The Virtual Extinction of an Extraterritorial Palagic Resource, The Blue Whale, (Columbia University, New York 1968) and contains much of the same information. The thesis was conducted in the Department of Political Science, although tribute is paid to Dr. William A. Hance, Chairman of the Department of Geography, Columbia University. As the information in the book is so similar to that of his thesis, the thesis will only be cited where it contains information in more detail or not included in the book.


5. There has been a great deal of scientific debate over the actual existence of such a species as the pigmy blue whale. The Japanese had claimed that there did exist a smaller version of the blue whale with some biological differences. This was argued successfully at the I.W.C., and was the basis for extending the season beyond the critical period referred to later in the text. For a details discussion on the pigmy blue whale see: V.A. Zemsky


8. This may seem like a trivial amount, but at the time it must be seen as progressive legislation, as there was no need to kill whales that small, therefore they were regarded simply as added revenue.


10. Ibid. p. 254


15. A very similar situation may be found in the negotiations over the national quotas of tuna that may be taken. The International Tuna Commission is faced with the developing countries' lack of ability, and perhaps willingness, to comply with the international quotas suggested.

16. A noted biologist had estimated that the whale stocks were far larger than they were thought to be because of the large numbers of young whales that were being killed. His suggestion was that if there were large numbers of young, then there must be greater adult stock than generally agreed. It appears that there was no consideration given to the fact that blue whales only have one calf, and there is usually a three or four year period between calves.

17. Small, The Blue Whale, 1971, p. 188.

18. For further discussion, Ibid. pp. 190 - 203.

19. The quotas were established to be: Japan 33%, Netherlands 6%, Norway 32%, U.K. 9%, and U.S.S.R. 32%, Ibid. p. 197.
20. See *supra*, footnote 6.


22. While the polar bear may be regarded as a land-based animal, its general life cycle revolves around the arctic waters.


24. Ibid. pp. 60 - 62


28. Personal interview with former Canadian representative to I.N.P.F.C., presently commissioner to the International Tuna Commission.


31. R. Payne, Canadian Commissioner to the International Halibut Commission and former member of I.N.P.F.C., personal interview.
CHAPTER III

THE POLAR BEAR: THE INTERNATIONAL CASE

INTRODUCTION

The polar bear, like the blue whale, and the North Pacific salmon, is a highly mobile resource and moves across jurisdictional zones. As a result of this mobility, management of polar bear hunting becomes more difficult, as there exists the need for international co-operation in order for any regulations to be effectively enforced. It is this reason that reflects the similarity of the polar bear to the resources examined in the preceding chapter.

An examination of the difficulties of regulating the killing of polar bears may be viewed at two scales: the national scale and international scale. Both scales will be viewed here: firstly, the International scale, with an examination of the International Union for Conservation of Nature and Natural Resources' (I.U.C.N.) attempts at suggesting legislation to the national governments concerned, and secondly with the Canadian scene, and the effects of the Federal provincial authority on policy made by the individual provinces.

Before entering into a discussion on the international efforts at polar bear management, it may, perhaps, be helpful to very briefly review the political geography of the Arctic. The national claims in the Arctic are, undoubtedly, well known, for there are many sources that may readily be found to discuss their origin and implications on national interests. However, the national boundaries within the Arctic are of major importance to this work, and therefore bear repeating. For the
purpose of this work, Patrick Baird's book, *The Polar World*, provides a very concise description of the political geography of the Arctic, and therefore will provide the source for the following summary. Certainly there is no pretence at the following as individual research by this writer.

**THE POLITICAL GEOGRAPHY OF THE ARCTIC AND ITS EFFECT ON THE MANAGEMENT OF THE POLAR BEAR**

There exists a vast literature on political and strategic importance of the Arctic. In terms of this thesis, however, the most important aspect of the complex political geography of the Arctic is the control of territory by a sovereign power for its economic potential rather than for its strategic value in terms of defence. In the Arctic, there exist five sovereign states, each exerting authority over a sector of the Arctic seas. (See map 3-1) These countries are Canada, Denmark, Norway, U.S.S.R. and the U.S.A.

**THE CANADIAN ARCTIC**

The Canadian Arctic territories were largely a result of the inheritance from the Hudson's Bay Company's Rupertsland, and from discoveries in the area of the North-West Passage by the British Navy. In the early stages of arctic exploration, the Canadian government did not make specific claim on the sea space, but rather defined its territorial claims to the islands extending north of the Canadian portion of the North American land mass. These claims were not disputed, but it should be mentioned that, according to Patrick Baird, "In 1930, the Canadian government paid over a hundred thousand dollars to the heirs of Otto Sverdrups' estate in recognition of his discoveries". As
MAP 3-1 POLITICAL SECTORS IN THE ARCTIC.
the United States government had failed to make any official claim to the islands now considered part of Canadian territory, the Canadian government asserted their jurisdiction over them as part of the Northwest Territories.²

Despite some early Canadian maps showing the Canadian sector up to and including the Pole, it was not until after the Second World War that Canada made any asserted attempt to claim sea space, or had thoughts toward the acquisition of the continental shelf. There also existed the problem of air space, submarine space, and floating ice which could support ice stations. Canada's attitude towards her Arctic territories has not been one of overt concern for restrictive national control. Many scientific teams have entered Canada's North and conducted their research, and the Distant Early Warning (D.E.W.) Line provides a clear example of international co-operation in the North. In keeping with this attitude, the Canadian government has encouraged international research within her territory with regard to the polar bear population.

In recent years, the Canadian government has expressed concern for the maintenance of the fragile ecological balance that exists in the Arctic in light of increased stripping and northern mineral exploration. Dr. J.K. Stager comments:-

"The best that can be said for Canadian attitude to the effect of new transportation and military technology is that it is one of vigilance. The law related to pollution of Arctic waters and beaches passed by the Canadian Parliament in 1970 defines standards and responsibilities for foreign vessels operating within 100 miles of the Arctic shoreline. Moreover, Canada does not regard its legislation open to dispute and international arbitration. In other matters, Canada makes every effort to assert the right of consultation and
approval for Arctic adventures coming within her legitimate territorial realm."

GREENLAND - (Danish Arctic Sovereignty)

North Western Greenland is one of the major areas of international conflict in terms of polar bear management (see map 3-2). Since 1921, Greenland has been internationally recognized as Danish territory. Initial recognition, however, was a complex affair, largely because there were claims to the east coast fishing and hunting rights by Norway, and also claims by the United States to much of northern Greenland.

The United States' claim resulted from the fact that much of the early exploration of northern Greenland had been conducted by explorers of American nationality. Both the Norwegian claims to the fishing and hunting rights and the United States claims were settled by international agreement.

SVALBARD - (Norwegian Arctic Sovereignty)

Svalbard is an island of Norwegian sovereignty (see map 3-1). In terms of polar bear management, it remains extremely important because there is a large polar bear population in the area, particularly in the Spitzbergen region. The Norwegian claim was disputed earlier in this century, but recognition of the Norwegian claim was awarded in 1920 by the League of Nations. Since that time, there has been a change of national sovereignty due to the German conquests during the Second World War, but Norway has complete sovereignty at this time.

THE SOVIET UNION

The most pronounced claim to their adjacent Arctic area made by
the Soviet Union came shortly after the Canadian claim to their own adjacent sector. The Soviet claim, established in 1926, regarded its territory as extending north between 32°E longitude and approximately 169°W longitude. (See map 3-1)

Within that region the most important area in terms of the ensuing discussion on polar bear management is Wrangel Island, and the contiguous sea space. While jurisdiction on Wrangel Island was never really claimed by either the U.S. or Canada, both had desires in the early 1900's for the acquisition of the territory. In 1925, however, the Soviets made a formal claim that has remained unchallenged.

**UNITED STATES SOVEREIGNTY**

Alaska was formerly part of Russian territory, and was sold to the United States in 1867 for $7,200,000. Within Alaska there has been widespread concern for the polar bear population. The major region of regulatory conflict is that jointly shared by both Canada and the U.S. (See map 3-2) There has been no formal claim by the United States for the sector extending north of its territory, although it is internationally accepted that they exert authority over that region. In 1945, President Truman did declare the U.S. claim to the continental shelf off Alaska.  

A review of sovereignty in separate Arctic sectors shows the definite national northern interests. The strategic importance of the Arctic still holds great prominence in the formulation of national policy, reflecting a need for international co-operation in any venture affecting northern development, and particularly in polar bear management.
The first International Scientific Meeting on the polar bear took place at Fairbanks, Alaska, in September of 1965, and brought together delegates from the United States, Canada, Denmark, Norway, and Russia, for the purpose of exchanging information on the polar bear. The Statement of Accord that resulted from those meetings helped to develop an awareness of the need for conservation programmes. There were six basic points in that Statement:

1. That the polar bear should be considered an international circumpolar resource.
2. That each nation should take steps to adequately conserve the polar bear.
3. That cubs and females accompanied by cubs require year-round protection.
4. That each nation should conduct, as it sees fit, a research programme to provide a basis for effective management.
5. That all nations freely exchange information. It was suggested that the International Union for Conservation of Nature be the co-ordinating agency or clearing house for such information.
6. That future meetings devoted to the study of polar bears be held.

The aspect of most significance for the political geographer is the first statement regarding the polar bear as an international resource, with no territorial affinity with national jurisdictional zones. The mobility of the polar bear was recognized to be a critical factor in its management because it resulted in the need for national co-operation among those countries who share the resource.
The polar bear as an economic resource does not have the dollar value of the salmon or the whale. It is, however, an important resource to some of the Eskimo people who draw revenue from the hunting of the bear to supplement their annual income. Non-Eskimo hunters coming north to shoot the bear bring in money that adds to the general wealth of the community as a whole. In that sense the polar bear is definitely an important economic resource to some of the people in the north, not to mention its value in ecological terms, as a symbol of the north and, in fact, the emblem of the Northwest Territories.

In 1968, the first working meeting of polar bear specialists, organized by the I.U.C.N., took place in Morges, Switzerland. This meeting provided an opportunity for a further exchange of information for research analysis by members of the Commission, and for development of a co-ordinated effort in Arctic-wide research.

In a similar manner to the I.W.C. and I.N.P.F.C., most of the preliminary material that was being exchanged by the members was biological. This is understandable if we realize that there had been very little scientific information available on the polar bear prior to those meetings. Nevertheless, it is important to recognize the initial exchange of information and co-operation between independent sovereign states that resulted.

It was earlier believed that the polar bear's range was circumjacent the Pole (see maps 33; 3-3) is This theory was put forward by Pedersen, who supported it with an examination of the ice floe movement around the Pole; Pedersen asserted that the polar bear followed
MAP 3-3 - POLAR ICE MOVEMENT
the ice floes. While this theory has never been completely disproven, there is mounting evidence that there are, in fact, a number of individual polar bear populations that migrate throughout a defined but smaller territory, and therefore do not travel the distances suggested by Pedersen. Partial acceptance of this theory in 1965 might, perhaps, have been one of the reasons for the urgent call for all countries which bordered the polar bear range to meet and exchange scientific information on such things as numbers of polar bears harvested, methods of tagging, and denning areas.

There was also an extreme fear felt by conservationists for the maintenance of polar bear populations, as there were indications that the numbers of polar bears were decreasing due to excessive harvest by hunters. The two main areas where these harvests were taking place were, as mentioned earlier, Alaska and Svalbard. The conservationists formed a strong lobby group, as they maintained that not only were polar bear harvests excessive but the manner in which they were taken was "unsportsmanlike".

"In Alaska, hunters fly out with a guide in small ski-equipped aircraft from several points and search for polar bear tracks. Upon finding tracks, one plane flies on ahead and the hunter and his guide land, get out of the plane, and hide behind a pressure ridge. The other plane drives the bear towards the men waiting on the ice, and when the bear comes within close range it is killed with a high powered rifle ......

In Norway, hunters depart from Tromso in sealing vessels. There vessels work through the loose packed ice around Svalbard, and when polar bears are sighted, the ships approach as close as the hunters wish. All the hunter has to do is pick up a rifle and shoot the bear while it is swimming ......

There exists a problem concerning polar bear harvests that is far more complex than the instances that are recounted above by Dr. Vagn
Flyger. The problem is the control of polar bear harvests on the high seas. The possibility exists that far more polar bears are killed on the high seas than are reported. It is thought that the severe reduction of polar bears off the coast of Newfoundland may be a result of killing on the high seas, and it was freely admitted by those specialists attending the I.U.C.N. meetings that this problem remains unresolved.  

The question of hunting rights on the high seas and the enforcement of the regulations set down to control these rights is more complex in terms of the polar bear than in the case of either the salmon or the blue whale. In many respects, however, it should prove a more interesting problem to the political geographer because of the nature of the jurisdiction over the area involved, and the complex international legislation required to govern such areas. As shown earlier, the sectors in the Arctic reflect sovereign areas and therefore it may be assumed that the national legislation does prevent such hunting, and the enforcement of that legislation is the responsibility of the nation concerned. But the Arctic is a frontier region without major enforcement agencies, and clearly there is very little possibility of sufficient enforcement with the area.

The revenue from polar bear hunting benefits the native peoples, particularly in Canada and the United States, as shall be more clearly illustrated in the section dealing with the Canadian case. That factor, coupled with the very strong and influential gun clubs and sportsman organizations that maintain a strong lobby group in
Canada, and particularly the United States, effectively prevented any real restriction on polar bear harvests in the mid-sixties despite international concern. (See Tables I, II, III, IV.)

**TABLE I - POLAR BEAR HARVEST FIGURES FOR ALASKA**

<table>
<thead>
<tr>
<th>Year</th>
<th>All Sport Hunters</th>
<th>Resident Native</th>
<th>All Hunters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. % Male</td>
<td>No. % Male</td>
<td>No. % Male</td>
</tr>
<tr>
<td>1961</td>
<td>129 77</td>
<td>23 52</td>
<td>152 73</td>
</tr>
<tr>
<td>1962</td>
<td>181 70</td>
<td>16 50</td>
<td>201 69</td>
</tr>
<tr>
<td>1963</td>
<td>163 81</td>
<td>22 68</td>
<td>189 79</td>
</tr>
<tr>
<td>1964</td>
<td>228 78</td>
<td>23 69</td>
<td>253 77</td>
</tr>
<tr>
<td>1965</td>
<td>275 79</td>
<td>21 50</td>
<td>296 76</td>
</tr>
<tr>
<td>1966</td>
<td>347 79</td>
<td>52 46</td>
<td>399 74</td>
</tr>
<tr>
<td>1967</td>
<td>166 90</td>
<td>25 50</td>
<td>191 80</td>
</tr>
<tr>
<td>1968</td>
<td>240 80</td>
<td>111 61</td>
<td>351 74</td>
</tr>
<tr>
<td>1969</td>
<td>290 69</td>
<td>27 56</td>
<td>298 72</td>
</tr>
</tbody>
</table>

**SOURCE:** For this and following three tables, Delegates Presentation to I.U.C.N. meetings, Morges, Switzerland, 1970.
### TABLE II - NORWEGIAN POLAR BEAR HARVESTS 1960 - 1969

<table>
<thead>
<tr>
<th>Year</th>
<th>Sealers All Areas</th>
<th>Trappers, Svalbard</th>
<th>Weather Station Crew</th>
<th>Tourist Hunters</th>
<th>Other Residents &amp; Expeditions</th>
<th>Total Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>11</td>
<td>57</td>
<td>70</td>
<td>24</td>
<td>23</td>
<td>185</td>
</tr>
<tr>
<td>1961</td>
<td>42</td>
<td>9</td>
<td>52</td>
<td>23</td>
<td>11</td>
<td>137</td>
</tr>
<tr>
<td>1962</td>
<td>42</td>
<td>11</td>
<td>85</td>
<td>39</td>
<td>19</td>
<td>196</td>
</tr>
<tr>
<td>1963</td>
<td>127</td>
<td>62</td>
<td>86</td>
<td>32</td>
<td>7</td>
<td>314</td>
</tr>
<tr>
<td>1964</td>
<td>147</td>
<td>152</td>
<td>79</td>
<td>56</td>
<td>3</td>
<td>437</td>
</tr>
<tr>
<td>1965</td>
<td>9</td>
<td>273</td>
<td>120</td>
<td>28</td>
<td>5</td>
<td>435</td>
</tr>
<tr>
<td>1966</td>
<td>3</td>
<td>23</td>
<td>96</td>
<td>45</td>
<td>18</td>
<td>185</td>
</tr>
<tr>
<td>1967</td>
<td>9</td>
<td>102</td>
<td>86</td>
<td>38</td>
<td>28</td>
<td>263</td>
</tr>
<tr>
<td>1968</td>
<td>3</td>
<td>120</td>
<td>68</td>
<td>38</td>
<td>38</td>
<td>267</td>
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<tr>
<td>1969</td>
<td>8</td>
<td>123</td>
<td>133</td>
<td>33</td>
<td>49</td>
<td>346</td>
</tr>
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</table>

**TOTALS** 401 932 875 356 201 2,765

<table>
<thead>
<tr>
<th>1960-1964</th>
<th>1,269</th>
<th>1965-1969</th>
<th>1,496</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 year total</td>
<td></td>
<td>Average per year</td>
<td></td>
</tr>
<tr>
<td>253.8</td>
<td></td>
<td>299.0</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE III - CANADIAN POLAR BEAR HARVEST 1960 - 1968

<table>
<thead>
<tr>
<th>Year</th>
<th>Bears Killed</th>
<th>Total Captured and Killed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-61</td>
<td>236</td>
<td>241</td>
</tr>
<tr>
<td>1961-62</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>1962-63</td>
<td>444</td>
<td>444</td>
</tr>
<tr>
<td>1963-64</td>
<td>558</td>
<td>558</td>
</tr>
<tr>
<td>1964-65</td>
<td>565</td>
<td>566</td>
</tr>
<tr>
<td>1965-66</td>
<td>603</td>
<td>604</td>
</tr>
<tr>
<td>1966-67</td>
<td>710</td>
<td>710</td>
</tr>
<tr>
<td>1967-68</td>
<td>454</td>
<td>456</td>
</tr>
</tbody>
</table>
TABLE IV - POLAR BEAR HARVEST STATISTICS IN GREENLAND

<table>
<thead>
<tr>
<th>Year</th>
<th>N.W. Greenland</th>
<th>S.W. Greenland</th>
<th>Angmagsalik</th>
<th>Scoresbysund</th>
<th>E. Greenland weather &amp; police stations *)</th>
<th>Thule</th>
<th>Total for Greenland</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>6</td>
<td>2</td>
<td>31</td>
<td>21</td>
<td>(20)</td>
<td>25</td>
<td>105</td>
</tr>
<tr>
<td>1956</td>
<td>2</td>
<td>1</td>
<td>26</td>
<td>54</td>
<td>(20)</td>
<td>25</td>
<td>128</td>
</tr>
<tr>
<td>1957</td>
<td>4</td>
<td>1</td>
<td>42</td>
<td>28</td>
<td>(20)</td>
<td>15</td>
<td>110</td>
</tr>
<tr>
<td>1958</td>
<td>12</td>
<td>1</td>
<td>29</td>
<td>61</td>
<td>(20)</td>
<td>25</td>
<td>148</td>
</tr>
<tr>
<td>1959</td>
<td>5</td>
<td>17</td>
<td>86</td>
<td>18</td>
<td>(20)</td>
<td>25</td>
<td>171</td>
</tr>
<tr>
<td>1960</td>
<td>7</td>
<td>8</td>
<td>28</td>
<td>23</td>
<td>(20)</td>
<td>35</td>
<td>121</td>
</tr>
<tr>
<td>1961</td>
<td>9</td>
<td>4</td>
<td>25</td>
<td>19</td>
<td>(20)</td>
<td>35</td>
<td>112</td>
</tr>
<tr>
<td>1962</td>
<td>14</td>
<td>0</td>
<td>8</td>
<td>15</td>
<td>(20)</td>
<td>30</td>
<td>87</td>
</tr>
<tr>
<td>1963</td>
<td>8</td>
<td>2</td>
<td>21</td>
<td>15</td>
<td>(20)</td>
<td>40</td>
<td>106</td>
</tr>
<tr>
<td>1964</td>
<td>2</td>
<td>4</td>
<td>27</td>
<td>15</td>
<td>(20)</td>
<td>40</td>
<td>108</td>
</tr>
<tr>
<td>1965</td>
<td>4</td>
<td>8</td>
<td>55</td>
<td>35</td>
<td>(20)</td>
<td>60</td>
<td>182</td>
</tr>
<tr>
<td>1966</td>
<td>6</td>
<td>2</td>
<td>45</td>
<td>25</td>
<td>(20)</td>
<td>18</td>
<td>116</td>
</tr>
<tr>
<td>1967</td>
<td>1</td>
<td>5</td>
<td>70</td>
<td>31</td>
<td>(20)</td>
<td>23</td>
<td>150</td>
</tr>
<tr>
<td>1968</td>
<td>2</td>
<td>2</td>
<td>52</td>
<td>62</td>
<td>(20)</td>
<td>15</td>
<td>153</td>
</tr>
</tbody>
</table>

*) Estimated average
It is interesting to note that an examination of the previous four tables reveals that, with the exception of Canada, the number of polar bears killed dropped substantially in 1966, the year after the first meeting of polar bear specialists in Alaska. While it should not be concluded that the sole reason for declining numbers of polar bears killed was the international accord drawn up at that meeting (specifically item number 2 listed on page 44), the figures do indicate that an unusually small number of polar bears were taken in the following year. Certainly anyone armed with those figures in 1966 could have concluded that the first international discussions were effective in bringing about legislative controls for polar bear hunting over independent national areas.

THE I.U.C.N. - ITS ROLE IN POLAR BEAR MANAGEMENT

The fifth item of the Accord drawn up at the meeting of polar bear specialists in Alaska in 1965 (page 44) suggested that the International Union for Conservation of Nature act as a co-ordinating agency to handle the meetings of such specialists. In January of 1968 that organization sponsored the second meeting of polar bear specialists. This meeting will, from this point, be referred to as the First International Working Meeting of the Polar Bear Group of the I.U.C.N.

The major function of this meeting was an exchange of primarily biological information and early recommendations for management that had for the most part been gathered since 1965. The biological
emphasis may be seen by the following examples of co-operation that were agreed to:

1. Procedures for marking bears were standardized and a block of ear tag and tattoo numbers assigned each nation to avoid duplication of marks. Each country agreed to publicize tagging programmes, pay for tag returns of other nations, and return tags to countries of origin. Data on recovery of marked animals would be freely exchanged.

2. Canadian and Russian scientists would continue taxonomic work based on skull morphology, and all countries would collect skulls where possible for their examination.

3. All nations would collect blood samples and provide them to Norway for analysis of serum protein differences that might indicate racial distinctions.

4. Known age tooth material, regardless of origin, would be forwarded to Alaska for sectioning and examination to further develop a technique for age determination.

5. The U.S. Federal Government in Alaska would include an attempt to develop a censusing technique which could then be used by all countries.

6. Raw data relating to sex and age composition, denning areas, food habits, and diseases and parasites, would be made available to all co-operating scientists for interpreting the results of studies in which each is engaged.15

The biological research by the members of the I.U.C.N. has been of major importance to the legislation by concerned governments. As shown in the preceding chapter, a lack of knowledge of the numbers of the resource, their breeding patterns, and general physical structure, and their mobility or migratory pattern, may have been the cause of errors made in terms of international regulations. In this respect, perhaps, a valuable lesson has been learned from the errors of past commissions.
There still exists, however, some controversy regarding the actual size of the world's polar bear populations, their regional distribution, and the dynamics of polar bear reproduction. Prior to the meetings of polar bear specialists in Fairbanks in 1965, there existed considerable debate over the actual status of the species. This led to international controversy over some national policies set down to regulate the hunting of polar bear. It has been, in large measure, the I.U.C.N. that has resolved this controversy by establishing the polar bear as an international Arctic resource.

In February, 1970, the second working meeting of polar bear specialists met at Morges, Switzerland. It was as a result of that meeting that the major contributions of the many scientists who had been working on biological investigations began to effect legislation on polar bear management.

At those meetings, it was revealed that there was to be enforcement of legislation in all areas concerned with the harvesting of polar bears. In Alaska, for example, agents from the state-operated Department of Fish and Game are stationed in villages from which the majority of hunting occurs. Seal tags were issued and skins and hides must be inspected upon entry into the state. It was revealed that the high numbers of polar bears killed in 1968, indicated in Table 1, were the result of an increased native kill, a point that will be discussed in more detail later.
Recommendations that were presented to the Alaska Board of Fish and Game were discussed at the international meetings. The proposals were for a reduced number of permits to be given to non-resident hunters. Residents, however, were allowed to shoot bears, with females accompanied by cubs excepted, at any time and without limit for 'food', as long as aircraft were not used.\(^{17}\)

At the same conference, changes in polar bear management in Canada were disclosed by Dr. Andrew Macpherson and Dr. Charles Jonkel.\(^{18}\) While the text of that material was considered preliminary, it clearly outlined the steps that the provincial governments within the Canadian federal network planned to take. The details of those policies are outlined in the section dealing with international policies that follows.

In the most recent of the meetings of the I.U.C.N., which took place in February, 1972, further international co-operation has been witnessed. At the time of writing, the full contents of those meetings were not known. The Canadian position with regard to the management of the bear, however, has been received by the author in unpublished manuscript, and is therefore discussed in the following pages.
TABLE V - SUMMARY OF REGULATIONS COVERING POLAR BEAR MANAGEMENT IN CANADA AS OF 31 DECEMBER 1971

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>JURISDICTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MANITOBA</td>
</tr>
<tr>
<td>Hunting Season</td>
<td>Closed</td>
</tr>
<tr>
<td>Who can Hunt</td>
<td>Protection only</td>
</tr>
<tr>
<td>Quota</td>
<td>Nil</td>
</tr>
<tr>
<td>1972 limit equals 422</td>
<td>No quota</td>
</tr>
<tr>
<td>Females and cubs protected</td>
<td>Yes</td>
</tr>
<tr>
<td>Bears in dens protected</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Cont'd
### TABLE V Cont'd

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>MANITOBA</th>
<th>NFLD./LAB.</th>
<th>N.W.T.</th>
<th>ONTARIO</th>
<th>QUEBEC</th>
<th>YUKON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof of origin of untanned bear</td>
<td>Uncertain</td>
<td>Verbal Proof</td>
<td>Seal on hide or export permit from area of origin</td>
<td>Seal on hide</td>
<td>Seal on hide</td>
<td>Seal on hide</td>
</tr>
<tr>
<td>Export Permit required &amp; Cost</td>
<td>Not applicable</td>
<td>Required No cost</td>
<td>Required $1.00</td>
<td>None</td>
<td>None</td>
<td>Required $5.00</td>
</tr>
<tr>
<td>Scientific Licenses</td>
<td>Discretion of Minister</td>
<td>Discretion of Minister</td>
<td>At discretion of Supt. of Game</td>
<td>Discretion of Minister</td>
<td>Discretion of Minister</td>
<td>At discretion of Commissioner</td>
</tr>
<tr>
<td>Selling of hide by hunter</td>
<td>Cannot be sold</td>
<td>--</td>
<td>None</td>
<td>Must be sealed by Dept. staff</td>
<td>Sale at North Bay Fur Sales rec.</td>
<td>Permit required from Director of Game</td>
</tr>
</tbody>
</table>

Source: Canadian Wildlife Service, Dept. of Environment, Edmonton, Alberta.
CHAPTER III

FOOTNOTES:


2. Ibid, p. 171


8. It is easy to become involved in an argument over the value of the term resource as it applies to wildlife, particularly today when there is active concern on the topic of wildlife management. Economic in this instance implies dollar value from the sale of pelts, whereas the ecological term as used here refers simply to the animal being part of the northern ecosystem.


10. It is interesting to note in this regard that the polar bear silhouette is used for the shape of the 1973 license plates. Also, the polar bear is most commonly shown in commercial advertising of commodities associated with ice or snow, i.e. Polar grip snow tires, ice cream, etc.


17. Ibid., p. 65.

THE POLAR BEAR: THE CANADIAN CASE

As mentioned in Chapter I to this thesis, the intranational authorities established to manage the polar bear provide a good example of a political situation discussed in the hypothesis that man's past and present uses of transnational resources has led, in some cases, to the urgent necessity for international political control. Map No. 4-1 shows the polar bears' range in Northern Canada. It may be seen from that map that Manitoba, Ontario, Quebec and Newfoundland, plus the Yukon and the Northwest Territories, form part of the polar bears' range, and consequently both the provincial and territorial governments have some jurisdiction over the hunting and the movement of the bears. These zones appear as A (A_1, A_{ii}, A_{iii}), B, C, and E on Map No. 4-1.

While these areas are, in some instances, politically autonomous in terms of provincial and territorial legislation, there is an overriding interest in polar bear management shown by the Federal Department of the Environment. While responsibility for regulation regarding polar bear hunting does largely depend on the provincial government concerned, the federal government has a very strong influence over the regulations and the extent to which the regulations are implemented. The basis for this statement, and its consequences, will be discussed later in this chapter.

The hunting of polar bears in Canada is a long established practice. Hunting took place by the non-native peoples, both for
MAP 4-1 CANADIAN ADMINISTRATIVE ZONES BASED ON POLAR BEAR SUB-POPULATIONS

Source: Canadian Wildlife Service
profit from the sale of pelts and also for sport. Recently, the actions of the involved provincial governments and the federal government have shown the concern for what appears to be a general decline in polar bear population throughout the North. The realization of the declining numbers of polar bears was very clearly brought out, as has been shown, at the first meeting of the International Meeting of polar bear specialists in 1965. In the seven years that have elapsed since that first meeting, the individual provinces have, for the most part, taken action to prohibit excessive hunting of polar bears. This action has been taken with co-ordination from the Canadian Wildlife Service, an agency within the Department of the Environment, and is largely the result of strong federal action on an international level. Table V summarizes the regulations that were in effect in all areas of jurisdiction up to December 31, 1971. (See Table No. V)

In late 1970, the government of Newfoundland banned all hunting of polar bears within its area of political jurisdiction. The problem of the polar bear overkill in this area did not result from over-hunting by the local population, but rather from excessive kills by crews on sealing vessels and by freighters passing through the area.¹ The question of resource management on the high seas remains a critical problem involving both political and legal aspects. To discuss the problem of international resource management on the high seas would go well beyond the scope of this thesis, but such problems concern themes common to the political geographer, and consequently offer avenues for future research in political geography. ²
Realization of the need to establish some uniform regulations for the management of the polar bear brought about an organization with provincial and federal officials meeting for discussion within the body that is known as the Federal-Provincial Administrative Committee. The committee has to this time met twice. This group may, perhaps, be seen as a similar type of body that is discussed in the hypothesis regarding international political control mentioned earlier. The structure of this federal-provincial body exists as a single political body that does not have binding political authority, but certainly does have tremendous influence over the final resolutions that may result from the meetings of the conferences, or from the Technical Committee that makes recommendations to the meetings.

The regulations that are shown in Table V are, for the most part, largely the result of recommendations from the meetings of the federal-provincial authority. The table shows that in the three areas where the polar bear concentrations are the highest the right to shoot bears has been retained by the Eskimo. The laws of the Northwest Territories, Quebec and the Yukon are very similar to the laws that prevail in Alaska and Greenland. In light of the declining numbers of polar bears in those areas, and the legislation permitting the Eskimos to kill bears, it might be worth examining the 'traditional' use the Eskimo has had for the polar bear, not only in Canada, but also in Alaska and Greenland. Such an examination might well shed light on the actual 'dependency' of the Eskimos on
the bear, and therefore their need for continued hunting rights. The results of such a discussion should not be regarded as criteria for extending or preventing the Eskimo's right to kill the bear, but should illustrate one important factor to be considered in the national management of this transnational resource. If there was no dependency on polar bear in certain areas, a strong case could be made for having regional legislation permitting only those Eskimo who had a clear need for the bear in the past, and continued to in the present, the right to continued hunting. With this in mind, it is worth examining the 'traditional' use some Eskimo have had for the bear.

THE ESKIMO AND POLAR BEAR

Descriptive accounts of traditional Eskimo life style may be found in much of the writings of early explorers, such as C.F. Hall (1865), E. De-Long (1883), E. Belcher (1885), F. Nansen (1890), R.E. Peary (1898), O. Sverdrup (1904), VV. Stefansson (1913), P. Haig-Thomas (1939), and others. These early accounts of traditional Eskimo life style show evidence of many similarities and yet also some significant differences among the Eskimo peoples. The Eskimo language is fairly uniform, with very little geographical variation. Similarly, many of their social customs are quite similar. This is understandable if one accepts the belief that the Eskimo migrated across Bering Strait and divided into two groups; one known as the Aleuts, who reside along the Aleutians, and the other, the Eskimo of Northern Alaska, Canada and Greenland. There is little doubt that
the polar bear has played, and may continue to play, an important part in the lives of many of the Eskimo people. It is equally apparent, however, that the extent to which the Eskimo has utilized the polar bear depends on the geographical location of the particular group, as will be explained in the following pages.

There is some evidence suggesting that only those Eskimos who reside in the Arctic islands or northern Greenland have had to depend upon the seal as their major source of food, and would consequently have had frequent contact with the bears. Other Eskimos, residing further south, have had muskoxen, caribou, arctic fox and other animals that have supplemented their diet, provided clothing, and implements which would be fashioned from bone. Reports from the Mackenzie region of northern Canada show the Eskimos have used reindeer hide and bird feathers to clothe themselves, and have also used seal skin to make kamiks.4 There is little evidence to support the ideas that mainland Eskimos hunt polar bears in any great number as a source of food or clothing. This is noted by Balikci of the Netsilik Eskimo of northern Canada.

"Despite the wide distribution of the polar bear in the eastern regions of the Netsilik country, there is no evidence of any extensive bear hunts being conducted in traditional times by the Pelly Bay Eskimos. Rasmussen attributed this to the small number of dogs owned by these Eskimos, a fact which limited the territory covered during hunting expeditions .... Further, Rasmussen mentions dangerous bear pursuits by single individuals armed with the sealing harpoon only presumably in spring, when polar bears leave their hibernating dens.

Information collected in 1960 from elderly Pelly Bay Eskimos indicates that usually it was in spring that a
polar bear was chased, and then by several hunters together. Kept at bay by the dogs, the large bear was surrounded by the hunters who watched for the opportune moment to strike, usually from the side .... The sealing harpoon, armed with a special barbless point, was generally used, together with the short bear spear of antler horn with a sharp bear-bone point. The long and much heavier bear spear (iputuru) was used during the special winter hunts to drive the hibernating bears out of their dens into the snow."5

Similarly, in the Alaska region, with the possible exception of some northern coast peoples, the walrus, seal and whale play a major part in the Eskimo society, but little use is made of the polar bear. Indeed there are very few polar bears that move into the south-western regions in which many Eskimos dwell. On St. Lawrence Island there is mention by Hughes of polar bears among the Eskimos in the mid-fifties.6 Hughes contends, however, that polar bear meat does not play an important part in the Eskimo diet. Contrasting the Eskimos of Thule, in Northern Greenland, with those from the Alaska region that Hughes discusses, it can be clearly seen that those from the northwestern regions of Greenland have traditionally been far more dependent on the polar bear than the Alaskan Eskimo ever was. While the Alaskan Eskimo used caribou and seal skins for their clothing, the Thule Eskimo used polar bear for pants, sleeping mats, and the hide for sledge runners. Similarly, their diets differed, the Thule Eskimo using polar bear for meat and the Alaskan Eskimo predominantly using seal and walrus.7
There are few, if any, superstitions or special glories awarded the hunter of the bear among the Arctic Island Eskimos, although there are many tales of the bear. This does not appear to be the case among the Eskimos of the Alaska region. M. Hughes recalls a hunt, and the subsequent honour awarded the hunter, in her work among the Eskimos on St. Lawrence Island, suggesting that the killing of a polar bear was not a common affair. Similarly, the ceremonial bear cult described of the Nunivak Eskimo by M. Lantis indicates that the Eskimos in that region held the bear in a position of honour.

It is generally agreed that the introduction of the rifle has resulted in a marked increase in the number of Arctic animals killed, as is evidenced by the comments of F.G. Vallee:-

"The sharp demand for caribou meat from the whalers and traders before and around the turn of the century led the Eskimos to slaughter a much greater number of animals than they were wont to do in earlier times, and is one of the historical causes for the spectacular depletion in caribou which later decades of this century has witnessed. It is unlikely that the Eskimos could have made such huge kills without the rifle and other apparatus, such as telescopes and binoculars, introduced by the Kabloona." 10

It is perhaps unlikely that the Arctic Island Eskimos have developed a dependency on the gun for the fulfilling of their 'traditional' habits with respect to the polar bear. The reason for this contention lies in the fact that the number of polar bears killed to support an Eskimo family with fur and meat is a constant amount. Any
polar bear killed in excess of that amount would likely be sold or traded for goods or money. Contact by traders with the Arctic Island Eskimos was not as great as the contact with the Eskimos to the south, and, therefore, it is unlikely that as great a trade developed. Once the trade practice begins, there no longer remains the same 'traditional' need for the bear. The polar bear becomes a commodity that is valuable to improve the Eskimos' standard of living, which in effect is changing his traditional life style. How the Eskimo's life style has changed, if indeed it has, is an academic argument beyond the scope of this thesis. Polar bears are being killed, however, in higher numbers with the aid of the rifle, and most recently by using the skidoo which has become commonplace in certain Eskimo centres. This fact has been acknowledged several times in the reports of members to the I.U.C.N. Conferences.

The right of the Eskimo and Indian to hunt freely is guarded by treaty in Canada, and is therefore very carefully watched by the Department of Indian Affairs in Ottawa. As has been mentioned, fur hunting also provides the Eskimo with an important source of income, and as the Eskimo is increasingly becoming dependent on the Canadian economic system their right to hunt polar bears as an added source of income is given priority by government officials. In order to protect this right, and also the polar bear, the Canadian Wildlife Service has been in communication with the provinces and has attempted to co-ordinate, and thereby encourage, the use of a tag system using a metal seal to mark all bear hides.
The Northwest Territories Council was the first to provide a system of marking polar bear hides. The system consisted of a metal seal that was attached to the bear hide for later identification. This system was used later by the Yukon Territory and the Province of Ontario. The pelts in Ontario are marked for the Indian by the Ontario government, and sold at the North Bay Fur Auction.\textsuperscript{11}

Greater restrictions have been placed on the hunting of polar bears by non-residents in the Northwest Territories, which has deliberately ensured Eskimo participation by insisting that an Eskimo guide be present and a dog team be used. All motorized vehicles, such as the skidoo, fixed wing aircraft and helicopters, are prohibited. This policy also ensures that the Eskimo guide receives approximately five hundred dollars for his services; the number of bears killed is deducted from the quota set for the settlement as a whole.\textsuperscript{12}

The Yukon, on the other hand, allows Eskimos 'with a tradition' of hunting the bear the right to two bears annually, although there are indications that this legislation may be changed in the very near future. In light of the Eskimos' use of the bear, further inquiries might be made, and perhaps should be made, in future research, into the validity of the term 'traditional' where it refers to Eskimos' use of the polar bear, and whether or not there had been, and continues to be, a 'dependency' on the polar bear.\textsuperscript{13}

\textbf{FEDERAL-PROVINCIAL AUTHORITY}

Perhaps the most relevant development in terms of this thesis is
the formation of the Federal-Provincial Administrative Committee that has met twice, largely as a result of the second working meeting of the I.U.C.N. at Morges. The structure of this committee, while not exactly the type of body mentioned in the hypothesis calling for international political control over transnational resources, is certainly close to the same structure, only on a national rather than an international scale. By the same token, it is a very clear example of a 'transregional' governing body influencing the decisions of individual political regions.

The Federal-Provincial Committee on polar bears has at the larger meetings of the Federal-Provincial Wildlife Conference discussed many facets of federal-provincial co-operation in the management of the species. Particularly encouraging is the recommendation by the Administrative Committee for co-ordinated management of polar bears by the provinces that have established a plan for a zoning pattern which cuts across jurisdictional boundaries. Should this recommendation be adopted, there would result regional management of sub-populations of polar bears. In that respect, there were differences in legislation between zones, even if the zones would be within the conventional provincial boundaries; i.e. zones C, E, D on Map 4-1.

This suggestion has not yet been put into full practice. However, the successful management of interjurisdictional zones in Canada by the provincial governments and co-ordinated by the federal government may well prove to be a blueprint for a similar governing body implemented at the international level. If that were the case, then the
interjurisdictional management problems that are evident at the international level, and the problem of management of the polar bears on the high seas, may well be near a solution.

This chapter has reviewed the Canadian problems of polar bear management and, by doing so, has shed light on three specific factors that have required the attention of those involved. Firstly, the mobility of the polar bear has resulted, in some cases, in polar bears crossing provincial boundaries. The consequence has been the need for interprovincial co-operation in establishing regulations for polar bear hunting. Secondly, there is the so-called traditional rights of Eskimo to hunt bears. With the declining numbers of polar bears, and some evidence that only certain Eskimo groups have, in fact, ever had a 'traditional' dependency on the bear, there surely is a case for regional variation of regulations on native hunting of bears. Lastly, there is the proposal for jurisdictional zones established on the basis of the geographical locations of sub-populations of polar bear. Regulations of such jurisdictional zones would permit regional variations in legislation enacted to regulate native hunting, and would, through the Federal-Provincial Committee, remove many of the inherent problems of inter-provincial transnational resource management.

The same political geographic themes are evident in all three cases presented. In all three cases, political conflict over policy making result from the mobility of a resource across politically defined space. While the facts of the three cases presented may be different,
the similarities show through, and therefore it should appear reasonable to assume that a particular system that is functional in one case, may, with some variation, be functional in the others.

In conducting this research, many questions regarding the actual decision making process of the involved governments could not be answered through archival or library research. For this reason, a questionnaire was sent to thirty members of the three commissions studied in order to obtain answers to questions such as, the form of presenting commission's proposals to the individual governments, initial government response, and also which methods of suggested transnational resource management the Commissioners themselves felt were most appropriate for the successful regulation and management of transnational resource management. The results of that questionnaire will comprise the following chapter.
CHAPTER IV

FOOTNOTES:


2. As has already been shown in the case of the I.W.C. and the I.N.P.F.C., the aspect of resource management on the high seas is a highly complex legal and political problem. Political geographers would be well advised to enter into a "political marine geography", an avenue that might, perhaps, have great potential.

3. The term 'traditional' is used by many authors. Far too frequently it is used in an ambiguous manner because traditional is relative to a time scale. The term in this paper refers to the social customs of Eskimo people at the time of the first recorded encounters between Eskimo and Europeans.


12. Ibid.

13. This thesis does not intend to prove Eskimo dependency on the polar bear. Further research in political geography might examine the national policies regarding the Eskimo's right to hunt the polar bear, in light of their more recent geographic locations.
CHAPTER V

COMMISSIONERS' RESPONSE TO THE QUESTIONNAIRE

The questionnaire, presented as Appendix II, was sent to thirty individuals who had been their country's most recent representative to the International Whaling Commission, the International North Pacific Fisheries Commission, or the International Union for Conservation of Nature's meeting of polar bear specialists. The questions were designed to derive answers to two basic aspects of transnational resource management that had not been evident from extensive library research. Firstly, was the aspect of the Commissioner's role within his respective Commission, and secondly, his attitudes regarding the Commission's effectiveness in managing their respective resource and the Commissioner's personal view as to the most appropriate method of resource management.

A covering letter accompanied the questionnaire (see Appendix II), which was personally addressed to each member and the appropriate Commission entered into the blank space provided. It was hoped that the personal nature of such a letter would help achieve a high number of returns. Of the thirty questionnaires sent, twenty were returned. It was disappointing to note that a proportionately low number of returns came from the Russian and Japanese delegates surveyed. However, that fact should not detract from the usefulness of the results that did come from the other Commissioners involved.
Finally, by way of introduction to this chapter, a comment on the method of tabulating the results is required. Because of the relatively small sample, it was not felt necessary to tabulate the results in percentages. Therefore, the numbers discussed will be over a sample total of twenty.

In light of the obvious political nature of the Commissions, and the apparent lack of successful political management of the resource resulting from proposals and recommendations of the Commissions concerned, it became necessary, if some conclusions were to be made, to understand the structure of the Commissions, and the authority commanded by those attending.

Responses to questions one, two and three, revealed most of the Commissioners as either federal or provincial government appointments. Only one respondent represented a non-political international organization. In terms of their actual capacity within the Commissions, however, ten of the respondents indicated they were other than an official government spokesman, four being organizational representatives, three consultant experts, and three biological experts. Thirteen respondents were directly involved in the pre-planning and administration of the Commission. These results, on the surface, may not appear particularly useful. However, of the ten respondents who were official government spokesmen, two were members to the I.N.P.F.C., and one a member to the I.U.C.N. The remaining seven were all members to the I.W.C., and comprised the total I.W.C.
sample. This, perhaps, gives some insight into the formation of the Commissions: the first established Commission, the I.W.C., being the most positively represented by national governments; the most recently established, the I.U.C.N. polar bear group, having the least formal government input.

Questions four, five, six and seven were essentially aimed at attaining the Commissioners' reactions to their government's response to proposals or recommendations presented to it. Without exception, the response was positive to question four, asking whether or not specific proposals had been presented to their government, and the recommendations that were presented to the governments were, in all cases, acted on favourably, resulting in positively agreed action. These results must be viewed with some caution, as the specific proposals were not made clear, and consequently it would be wrong to assume that these proposals that were reportedly acted on referred to the particular problems discussed in this thesis. In this respect, the questionnaire could have been re-worded, affording a more specific response.

Question eight is, perhaps, the most important in terms of the hypothesis regarding the necessity for international political management of transnational resources. In this question, the Commissioners were asked to list in rank order of importance the method of regulation most likely to improve future management of transnational resources. (See questionnaire, Appendix II)
majority of the responses, eight of the twenty, indicated that their first choice was to maintain the system that is presently used, i.e. continual negotiations on a regular basis. Five suggested international research, conservation and cropping, as their first choice, four indicated international legislative controls and agreements, the closest to the hypothesis of international control, and three agreed to established international quotas, policed by member states. Noticeably there were no respondents advocating the control of marketing, consumption and distribution of the resource. It is also worth noting that of the eight members who showed preference for continual negotiations on a regular basis, five were members of the I.W.C. As it has already been shown, that Commission had been totally ineffective in negotiating regulations protecting the blue whale.

The overall results of this small survey show clearly that the Commissioners themselves are not prepared to enter into new methods of resource management. This may be seen by the responses to question eight. In that respect, it is fair to assume that the individuals involved in the management of the blue whale, North Pacific salmon and polar bear would not react favourably to the implementation of international political control called for in the hypothesis, even though in principle it might appear to be an effective means of resource management. In order to discuss that point further, and to draw conclusions from this study as
part of political geography, it is necessary to briefly review the material that has been presented in the last five chapters. This review will form the last and concluding chapter to follow.
CHAPTER VI

CONCLUSION

This thesis has attempted essentially to prove two hypothesis: firstly that man's past and present uses of transnational resources have, in some cases, led to the necessity for international political control, and secondly, that research on the effects of resource mobility on national and international government policy is a realm of study that could, and should, play an important part in political geographic inquiry.

Comparing the results found in the data in Chapters Two, Three and Four, similar themes may be observed. All three cases involved transnational marine resources that were under some form of international regulations. In the case of the blue whale, it is evident that the International Whaling Commission was powerless as far as enforcement of whaling restrictions was concerned. The right of the individual members to veto the I.W.C.'s recommendations made any form of enforcement of international regulation totally reliant upon national co-operation. The results of this lack of international enforcement brought about the drastic decline of the blue whale to the point of economic extinction, and almost to the point of biological extinction.
To simply state that an international political body would have resolved the problem of enforcement would be based largely on speculation. It is worth noting, however, that the International North Pacific Fisheries Commission's attempts to resolve the dispute between the Japanese and Americans over the validity of the 175° W. line of longitude as a line of abstention showed a similar lack of ability to enforce regulations. It is, then, justifiable to assert that some form of international enforcement is essential in some cases to bring about meaningful regulations for transnational resource management.

The data presented on the regulation of the polar bear further supports this conclusion. This may be seen through the formation of the Federal-Provincial Committee. In this instance, there essentially exists a group of semi-independent provincial regions that are co-ordinating regulations by means of a super provincial authority, i.e. the Federal Government. This federal-provincial alliance has brought about a set of jurisdictional zones within a single political region. These jurisdictional zones, based on sub-populations of polar bear, affords the possibility of regionally based legislation, where the geographical variations of the resource in terms of its mobility, population, size, and degree of exploitation, may be more effectively observed and therefore more appropriate regional legislation enacted.
To establish jurisdictional or administrative zones on the high seas would undoubtedly be a far more difficult task than establishing such zones over an already defined political region, such as the Northwest Territories; however, the problems of effective international regulation of transnational resources would, undoubtedly, be made simpler, just as polar bear management may more effectively be controlled in Canada. In this light, then, the facts brought out in this thesis support the hypothesis that man's past and present uses of transnational resources have led, in some cases, to the need for international political control.

It should be made clear that this thesis makes no claim to having established the feasibility of such a suggestion in terms of national government approval of such a political authority. A study to examine the feasibility of an international political body to regulate transnational resource use would be immensely difficult, because of its hypothetical nature. The results of such a study may, nevertheless, be a valuable contribution to the literature dealing with transnational resource management.

There may be many criticisms of research, such as this thesis, when considered part of the geographic discipline. The nature of research such as this required the inclusion of a fairly high degree of biological information. The work is, however, clearly geographical, and may be seen as a product of the long-standing concerns that geographers have had for environmental themes,
as was evidenced by the material presented in Chapter One of the thesis.

It is certainly true that many aspects of research such as this may be studied by researchers in other disciplines. The distinguishing factor is the scale at which geographers work compared to the ecologist or biologist. It is extremely doubtful that ecologists or biologists would hold any concern for the political ramifications of the movement of the species across political boundaries and, indeed, if the biologist or ecologist was studying the migration of the animal, it is doubtful if that study would be conducted on anything other than a very large scale where only a very small portion of the total species' range would be examined. This statement is certainly supported by the majority of biological work conducted on the blue whale, the North Pacific salmon and the polar bear.

There are several themes present in work such as this that are common to the political geographer. Themes such as regulation of jurisdictional zones, cross-boundary movement and policy making are all established themes in political geography. The value of this research as part of political geography goes further than simply the re-statement of central themes. The real value of research such as this thesis within the sub-discipline is the fact that it is highly problem oriented in terms of 'realistic' or 'applied' research.
Political geographers are fortunate that the themes central to the sub-discipline such as those listed above have great value in applied geographic research. With the mounting problems involved in international co-operation toward the use of decreasing world resources, an increasing number of problems such as those involved in this work are surely to arise. For this reason, political geographers should, perhaps, place a greater emphasis on problems of international political co-operation. By so doing, they may add a valuable contribution, not only to the sub-discipline in which they are writing, but also to the society in which they are working.

There are many problems inherent in heavy reliance on library material when conducting research such as this. Some of these problems are found in the lack of current material, the possibility of conflicting sources, and the possibility of a lack of the specific information required, all of which may deter from a well-researched piece of work. In that respect, library research should, where practical, accompany as great an extent of field research as possible. In problems such as those central to this thesis, most beneficial field work would obviously be spent in the headquarters of the involved Commissions, in the appropriate government archives, and actually among those involved in the harvest of the resource itself.

Field work as just mentioned is, perhaps, not what many may consider traditional 'in the field' research, and, because of the
international nature, involves large sums of money not easily obtainable at the Masters level.

In conclusion, an examination of the work included in this thesis does, indeed, show a need for international political regulation of transnational resources. Furthermore, problems such as those included deserve greater attention by political geographers, not only in terms of the development of the sub-discipline, but also because political geographers are well suited to contribute to the solution of problems inherent in transnational resource management - management which is, in some cases, urgently needed to prevent extinction. Extinction, after all, is in all cases final.
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APPENDIX 1

INTERNATIONAL WHALING AGREEMENT FOR THE REGULATION OF WHALING - 1937

The Government of the Union of South Africa, the United States of America, the Argentine Republic, the Commonwealth of Australia, Germany, the United Kingdom of Great Britain and Northern Ireland, the Irish Free State, New Zealand and Norway, desiring to secure the prosperity of the whaling industry and for that purpose, to maintain the stock of whales, have agreed as follows:-

Article 1.

The contracting Governments will take appropriate measures to ensure the application of the provisions of the present Agreement and the punishment of infractions against the said provisions, and, in particular, will maintain at least one inspector of whaling on each factory ship under their jurisdiction. The inspectors shall be appointed and paid by the Governments.

Article 2.

The present Agreement applies to factory ships and whale catchers and to land stations as defined in Article 18 under the jurisdiction of the contracting Governments, and to all waters in which whaling is prosecuted by such factory ships and/or whale catchers.

Article 3.

Prosecutions for infractions against or contraventions of the present Agreement and the regulations made thereunder shall be instituted by the Government or a Department of the Government.

Article 4.

It is forbidden to take or kill grey-whales and/or right-whales.

Article 5.

It is forbidden to take or kill any blue-, fin-, humpback- or sperm-whales below the following lengths, viz:-

(a) Blue-whales ........................................ 70 feet
(b) Fin-whales ........................................ 55 "
(c) Humpback-whales ................................ 35 "
(d) Sperm-whales ..................................... 35 "

Article 6.

It is forbidden to take or kill calves, or suckling whales, or female whales which are accompanied by calves or suckling whales.
Article 7.

It is forbidden to use a factory ship or a whale catcher attached thereto for the purpose of taking or treating baleen whales in any waters south of 40° South Latitude, except during the period from the 8th day of December to the 7th day of March following, both days inclusive, provided that in the whaling season 1937-8 the period shall extend to the 15th day of March, 1938, inclusive.

Article 8.

It is forbidden to use a land station or a whale catcher attached thereto for the purpose of taking or treating whales in any area or in any waters for more than 6 months in any period of twelve months, such period of six months to be continuous.

Article 9.

It is forbidden to use a factory ship or a whale catcher attached thereto for the purpose of taking or treating baleen whales in any of the following areas, viz:–

(a) in the Atlantic Ocean north of 40° South Latitude and in the Davis Strait, Baffin Bay and Greenland Sea;
(b) in the Pacific Ocean east of 150° West Longitude between 40° South Latitude and 35° North Latitude;
(c) in the Pacific Ocean west of 150° West Longitude between 40° South Latitude and 20° North Latitude;
(d) in the Indian Ocean north of 40° South Latitude.

Article 10.

Notwithstanding anything contained in this Agreement, any contracting Government may grant to any of its nationals a special permit authorising that national to kill, take and treat whales for purposes of scientific research subject to such restrictions as to number and subject to such other conditions as the contracting Government thinks fit, and the killing, taking and treating of whales in accordance with the terms in force under this Article shall be exempt from the operation of this Agreement.

Any contracting Government may at any time revoke a permit granted by it under this Article.

Article 11.

The fullest possible use shall be made of all whales taken. Except in the case of whales or parts of whales intended for human food or for feeding animals, the oil shall be extracted by boiling or otherwise from all blubber, meat (except the meat of sperm whales) and bones other than the internal organs, whale bone and flippers, of all whales delivered to the factory ship or land station.
Article 12.

There shall not at any time be taken for delivery to any factory ship or land station a greater number of whales than can be treated efficiently and in accordance with Article 11 of the present Agreement by the plant and personnel therein within a period of thirty-six hours from the time of the killing of each whale.

Article 13.

Gunners and crews of factory ships, land stations and whale catchers shall be engaged on terms such that their remuneration shall depend to a considerable extent upon such factors as the species, size and yield of whales taken, and not merely upon the number of whales taken, and no bonus or other remuneration calculated by reference to the results of their work shall be paid to the gunners and crews of whale catchers in respect of any whales the taking of which is forbidden by this Agreement.

Article 14.

With a view to the enforcement of the preceding Article, each contracting Government shall obtain, in respect of every whale catcher under its jurisdiction, an account showing the total emolument of each gunner and member of the crew and the manner in which the emolument of each of them is calculated.

Article 15.

Articles 5, 9, 13 and 14 of the present Agreement, insofar as they impose obligations not already in force, shall not until the 1st day of December, 1937, apply to factory ships, land stations or catchers attached thereto which are at present operating or which have already taken practical measures with a view to whaling operations during the period before the said date. In respect of such factory ships, land stations and whale catchers, the Agreement shall in any event come into force on the said date.

Article 16.

The contracting Governments shall obtain with regard to all factory ships and land stations under their jurisdiction records of the number of whales of each species treated at each factory ship or land station and as to the aggregate amounts of oil of each grade and quantities of meal, guano and other products derived from them, together with particulars with respect to each whale treated in the factory ship or land station as to the date and place of taking, the species and sex of the whales, its length and, if it contains a foetus, the length and sex, if ascertainable, of the foetus.
Article 17.

The contracting Governments shall, with regard to all whaling operations under their jurisdiction, communicate to the International Bureau for Whaling Statistics at Sandefjord in Norway the statistical information specified in Article 16 of the present Agreement together with any information which may be collected or obtained by them in regard to the calving grounds and migration routes of whales.

In communicating this information, the Governments shall specify:-

(a) the name and tonnage of each ship factory;
(b) the number and aggregate tonnage of the whale catchers;
(c) a list of the stations which were in operation during the period concerned.

Article 18.

In the present Agreement the following expressions have the meanings respectively assigned to them, that is to say:-

factory ship means a ship in which or on which whales are treated whether wholly or in part;
whale catchers means a ship used for the purpose of hunting, taking, towing, holding on to, or scouting for whales;
land station means a factory on the land, or in the territorial waters adjacent thereto, in which or at which whales are treated whether wholly or in part;
baleen whale means any whale other than a toothed whale;
blue-whale means any whale known by the name of blue-whale,
Sibbald's rorqual or sulphur bottom;
fin whale means any whale known by the name of common finback,
common finner, common rorqual, finback, fin-whale, herring-whale, razorback, or true fin-whale;
grey-whale means any whale known by the name of grey-whale,
California grey, devil fish, hard head, mussel differ, grey back, rip sack;
humpback-whale means any whale known by the name of bunch, humpback, humpback-whale, humpbacked whale, hump whale or hunchbacked whale;
right-whale means any whale known by the name of Atlantic right-whale, Arctic right-whale, Biscayan right-whale, bowhead, great polar whale, Greenland right-whale, Greenland whale, Nordkaper, North Atlantic right-whale, North Cape whale, Pacific right-whale, pigmy right-whale, Southern pigmy right-whale or Southern right-whale;
sperm-whale means any whale known by the name of sperm-whale, spermacet-whale, cachalot or pot-whale;
length in relation to any whale means the distance measured on the level in a straight line between the tip of the upper jaw and the notch between the flukes of the tail.

Article 19.

The present Agreement shall be ratified and the instruments of
ratification shall be deposited with the Government of the United Kingdom of Great Britain and Northern Ireland as soon as possible. It shall come into force upon the deposit of instruments of ratification by a majority of the signatory Governments, which shall include the Governments of the United Kingdom, Germany and Norway; and for any other Government not included in such majority on the date of the deposit of its instrument of ratification.

The Government of the United Kingdom will inform the other Governments of the date on which the Agreement thus comes into force and the date of any ratification received subsequently.

Article 20.

The present Agreement shall come into force provisionally on the 1st day of July, 1937, to the extent to which the signatory Governments are respectively able to enforce it; provided that if any Government within two months of the signature of the Agreement informs the Government of the United Kingdom that it is unwilling to ratify it the provisional application of the Agreement in respect of that Government shall thereupon cease.

The Government of the United Kingdom will communicate the name of any Government which has signified that it is unwilling to ratify the Agreement to the other Governments, any of whom may within one month of such communication withdraw its ratification or accession or signify its unwillingness to ratify as the case may be, and the provisional application of the Agreement in respect of that Government shall thereupon cease. Any such withdrawal or communication shall be notified to the Government of the United Kingdom by whom it will be transmitted to the other Governments.

Article 21.

The present Agreement shall, subject to the preceding Article, remain in force until the 30th day of June, 1938, and thereafter if, before that date, a majority of the contracting Governments, which shall include the Governments of the United Kingdom, Germany and Norway, shall have agreed to extend its duration. In the event of such extension it shall remain in force until the contracting Governments agree to modify it, provided that any contracting Governments may, at any time after the 30th day of June, 1938, by giving notice on or before the 1st day of January in any year to the Government of the United Kingdom (who on receipt of such notice shall at once communicate it to the contracting Governments) withdraw from the Agreement, so that it shall cease to be in force in respect of that Government after the 30th day of June following, and that any other contracting Government may, by giving notice in the like manner within one month of the receipt of such communication, withdraw also from the Agreement, so that it shall cease to be in force respecting it after the same date.

Article 22.

Any Government which has not signed the present Agreement may accede thereto at any time after it has come into force. Accession
shall be effected by means of a notification in writing addressed to the Government of the United Kingdom and shall take effect immediately after the date of its receipt.

The Government of the United Kingdom will inform all the Governments which have signed or acceded to the present Agreement of all accessions received and the date of their receipt.

In faith whereof the Undersigned, being duly authorized, have signed the present Agreement.

Done in London the 8th day of June, 1937, in a single copy, which shall remain deposited in the archives of the Government of the United Kingdom of Great Britain and Northern Ireland, by whom certified copies will be transmitted to all the other contracting Governments.

FINAL ACT

The Conference, having this day signed an Agreement for the Regulation of Whaling, to take immediate effect, desires to add, for the consideration of the Governments represented at the Conference, the following observations.

1. The Agreement is valid for one year and will, it is hoped, continue in force for future years, unless the Governments, or any of them, decide to the contrary. It is likely in the opinion of the Conference, to go far towards maintaining the stock of whales, upon which the prosperity of the whaling industry depend.

2. Experience may prove, however, that further measures of conservation are necessary or desirable. The Conference desires, therefore, to suggest that certain further methods of conservation and of preventing wastage of whales should be examined by the Governments concerned without delay, and that the Governments should take the necessary measures by legislation to place themselves in a position to impose such further regulations of whaling as experience may dictate.

3. The Agreement prescribes regulations mainly of general application to whaling from factory ships and land stations alike. The most important of these regulations are those requiring the observance of closed seasons, prohibiting the taking of whales of certain species already threatened with extinction, prohibiting the taking of female whales with calves or suckling whales and of whales of different species below size limits prescribed for each species, requiring full commercial use to be made of every part of every whale taken, and limiting the time within which, from the time of catching, whales must be treated in a factory ship or land station as the case may be. The purpose of these regulations is to limit the number of whales killed and to prevent the waste of whale material.

4. Certain provisions of the Agreement, however, affect only pelagic whaling, in particular those provisions which absolutely pro-
hibit pelagic whaling for baleen whales in certain large areas of the sea. This differentiation between whaling prosecuted by means of factory ships and by means of land stations needs explanation. It has been urged that whaling as hitherto prosecuted from some land stations, especially near the equatorial zone, has been wasteful and harmful because the physiological condition of the whales taken was such that their oil yield was low and because whales were taken at these stations when they were about to throw their calves. Against this it may be argued that the raising of the size limits for various species under the Agreement will greatly restrict the catch brought to the land stations, that the land stations, not enjoying the mobility of the factory ships, are already handicapped in the pursuit of whales and that whatever catch they take is a comparatively insignificant fraction of the total catch. The Conference recommends that the catch of the land stations should be carefully studied and that the Governments should consider, in the light of such study, what further regulations, if any, should be attached to whaling from land stations, either generally or in particular geographical areas. In the view of the Conference, there is a certain risk that the restrictions imposed on pelagic whaling may lead to a development of whaling from land stations and the Governments should accordingly place themselves in a position to check or regulate such development should it occur.

5. The Conference further recommends that the Governments should put themselves in a position to limit, if it is thought fit, the number of whale catchers that may be employed in connection with any factory ship or land station with a view to further limitation of the destruction of whales.

6. The Governments are also recommended to take powers, if they do not already possess them, to prohibit whaling entirely in any area of the sea, either permanently or for a limited period. It is felt that it may be desirable, in the light of experience gained, to close permanently areas which may be proved to be calving areas, or to close from year to year selected areas of the Antarctic Ocean or elsewhere for the purpose of giving to the whales a sanctuary in which they may escape molestation.

7. The Conference also recommends that the Governments should place themselves in a position to regulate the methods of killing whales. Under existing methods of whaling, whales may be fatally injured, but lost owing to defects in the guns or harpoons in use, including the propelling and bursting charges. This involves waste of whales. It is suggested that it may prove desirable so to regulate the methods of taking whales as to ensure that, by the use of suitable explosive charges, or by the use of a harpoon electrically charged, the whale when hit may be speedily killed and wastage thus avoided. Moreover, a regulation of this character may be expected to abate something of the undoubted cruelty of present methods of whaling.

8. The Conference further recommends that the contracting Governments should take steps to prevent this Agreement and any regula-
tions made thereunder from being defeated by the transfer of ships registered in their territories to the Flag of another Government not a party to this Agreement, and suggests that for this purpose it might be provided that the transfer of a factory ship or whale catcher from its national Flag to the Flag of any other country should be permitted only under licence of the Government.

9. The Conference believes that the regulations upon which it has agreed will certainly contribute to the maintenance of the stock of whales and to the prosperity of the whaling industry. Not all the representatives of Governments present at the Conference have been able to sign the Agreement, some of them not being authorized by their Governments in that behalf. It is hoped that all Governments represented will eventually accede to the Agreement. The Conference desires to urge upon the contracting Governments that they should use their utmost endeavours to secure the adhesion of such Powers as are interested in the whaling industry but were not represented at the present Conference. The Conference recognizes that the purpose of the present Agreement may be defeated by the development of unregulated whaling by other countries, in which case it would be a matter for consideration whether the present Agreement should be continued in force, or whether the contracting Governments should not agree to modify their regulations to meet the situation thus created, or even to permit their nationals to pursue whaling without regulation, so that they may derive from its pursuit such benefit as may be had before the stock of whales has been reduced to a level at which whaling ceases to be remunerative. For the Conference is convinced that, unless whaling is now strictly regulated that eventuality cannot be regarded as remote.

10. In conclusion, the Conference desires to urge that a further Conference should be held at a convenient time next year, at which the results of the forthcoming season may be studied and the question of the modification or extension of the present Agreement be considered.

Done in London, the 8th day of June, 1937, in a single copy which shall remain deposited in the archives of the Government of the United Kingdom of Great Britain and Northern Ireland by whom certified copies will be transmitted to the other Governments which have signed the Agreement for the Regulation of Whaling.
I presently am working on the final stages of my Masters Thesis at the University of British Columbia. The thesis deals with the management of transnational resources through legislative controls. In this study I am concerned with the Antarctic blue whale, the North Pacific salmon, and the polar bear.

Having completed reading an extensive literature, I am still faced with several questions that are of major significance to the thesis. I hope that you, as a member of the department, might take time to answer the enclosed questionnaire, and return your response to me in the self-addressed envelope, also enclosed.

Should you feel that these questions are misdirected in any way, your suggestions as to how they may be better used would be most helpful. Any assistance you may be able to offer would be very much appreciated.

Yours sincerely,

Gordon F.D. Wilson

Encl: 2
QUESTIONNAIRE TO COMMISSION DELEGATES

Q.1 WHICH OF THE FOLLOWING MOST ACCURATELY DESCRIBES HOW YOU CAME TO ATTEND THE COMMISSION?

(a) Government appointment - Federal/National
(b) Government appointment - Provincial/State
(c) University/Society/Association appointment
(d) Other (please describe)

Q.2 IN WHAT CAPACITY DID YOU ATTEND?

(a) Official Government spokesman
(b) Organization representative
(c) Observer only
(d) Consultant/expert
(e) Other (please state)

Q.3 WERE YOU DIRECTLY INVOLVED IN THE PRE PLANNING, ADMINISTRATION OR ORGANIZATION OF THE COMMISSION?

(a) Yes
(b) No

Q.4 DID THE FINDINGS OF THE COMMISSION RESULT IN SPECIFIC PROPOSALS OR RECOMMENDATIONS FOR PRESENTATION TO MEMBER GOVERNMENTS?

(a) Yes
(b) No

(if NO, skip to Question 7)

Q.5 IF 'YES' TO Q.4, HOW WERE THE PROPOSALS OR RECOMMENDATIONS PRESENTED TO YOUR GOVERNMENT?

(a) Through a private Member's Bill
(b) Through a government agency
(c) Through new legislature
(d) Other (please state)

Q.6 HOW DID YOUR GOVERNMENT RESPOND TO THE PROPOSALS OR RECOMMENDATIONS PRESENTED TO IT? DID IT RESPOND:

(a) Favourably
(b) Indifferently
(c) Unfavourably
(d) Do not know
Q.7  TRY TO ASSESS THE DEGREE OF EFFECTIVENESS THE COMMISSION MIGHT HAVE IN THE FUTURE MANAGEMENT OF THE RESOURCE

   (a) Preliminary communication only  
   (b) First step to future meeting(s) which was/were planned and date(s) set  
   (c) Resulted in positive agreed action  
   (d) Other (please describe) 

Q.8  THE FOLLOWING ARE SOME OF THE WAYS VARIOUS EXPERTS HAVE SUGGESTED MAY IMPROVE FUTURE MANAGEMENT OF TRANSNATIONAL RESOURCES. WHICH OF THESE, IN RANK ORDER OF IMPORTANCE, FIRST, SECOND, THIRD, ETC., WOULD YOU SUPPORT?

   (a) Continual negotiations on a regular basis  
   (b) International legislative controls and agreements; e.g. as established for control of slavery, drugs, atomic testing, etc.  
   (c) International research, conservation and cropping; i.e. joint co-operative enterprise  
   (d) Established international quotas, policed by member governments  
   (e) Control marketing, consumption and distribution of resource  
   (f) Other (please state)