

THE NORTH PACIFIC AND REGIONAL COOPERATION: AN INTEGRATED
APPROACH TO MARINE POLLUTION AND
OVERFISHING PROBLEMS

by

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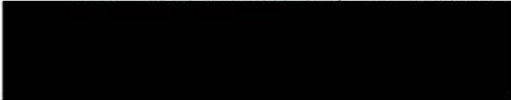
A THESIS

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APPROVED:


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States bordering semi-enclosed seas in the Northwest Pacific are confronted with serious transboundary marine pollution problems, and coastal states in the Northeast Pacific are troubled with overfishing. These transboundary problems are complicated by the distribution and/or migration patterns of resources and by states' boundaries and jurisdictional claims.

Northern Pacific Rim states' regional conservation and management efforts involving marine resources consist mainly of bilateral and trilateral agreements. These agreements generally have been restricted in scope to one species or problem. There are no regional organizations broad enough to assist states in the North Pacific region with their transboundary resource conservation and management challenges.

The 1982 Convention on the Law of the Sea suggests that states cooperate, either directly or through an appropriate regional organization. I present recommendations for the establishment of a regional organization in both the Northwest and Northeast Pacific regions.

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DEDICATION

I dedicate this thesis to the late Dr. Thomas Hovet, Jr., Professor, Political Science Department, University of Oregon, in remembrance of his wise guidance and understanding. Through inspiration, he taught me to envision a more peaceful world, one where structural and nonstructural violence are eliminated. His strong belief in peace inspired me to emphasize cooperation as the solution for resolving regional conflicts in the North Pacific.

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CHAPTER I

INTRODUCTION

The marine environment and all the living organisms which it supports are of vital importance to humanity, and all people have an interest in assuring that this environment is so managed that its quality and resources are not impaired. This applies especially to coastal area resources (where 90% of ocean's productivity takes place). The capacity of the sea to assimilate wastes and render them harmless and its ability to regenerate natural resources are not unlimited. Proper management is required and measures to prevent and control marine pollution must be regarded as an essential element in this management of the oceans and seas and their natural resources.¹

This statement, made at the 1972 United Nations Conference on the Human Environment, calls for all states to take action to protect the marine environment. Because I support this position, I will translate that statement into workable recommendations which utilize an integrated approach to the regional problems in the North Pacific Ocean and adjoining seas. I maintain that the North Pacific should "be protected and regulated as an integral natural resource, for a wide spectrum of multiple (and potentially competing) uses."²

This ecological approach has emerged out of a need for a more comprehensive scheme to serve a variety of functions, such as protection, conservation, management, and development of marine resources. An ecological approach is especially useful in the managing of transboundary resources, but it requires participating states to think and act cooperatively.

The language of cooperation is expressed in the final draft of the 1982 Convention on the Law of the Sea (LOS), the most comprehensive body of international ocean law ever conceived. Its articles stipulate that states shall endeavor directly, or through an appropriate regional organization to:

1. Coordinate the management, conservation, exploration, and exploitation of living resources of the sea;
2. Coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment; and
3. Coordinate their specific research policies and undertake, where appropriate, joint programs of scientific research in the area.³

The Convention was signed by 119 nations, including Canada, China, the Democratic People's Republic of Korea, and the USSR. Japan, the Republic of Korea, and the United States signed the Final Act.⁴ Forty-two states have ratified the Convention; sixty are required to bring it into force.⁵

The necessity for regional cooperation first became evident when 200-nautical mile exclusive economic zones (EEZ) were suddenly recognized. "The extended territorial jurisdiction of the EEZ has meant that one-third of what was formerly considered High Seas (as well as most of the ocean resources) have been transferred to the control of individual states."⁶ As a result, Northwest Pacific states bordering semi-enclosed seas acquired new jurisdictions and resources, although their EEZ extended less than 200 nautical miles because of the smaller size of the enclosed seas. In the Northeast Pacific, the United States, the Soviet Union, and Canada negotiated the division of the region and

its extremely valuable fishing grounds.

States operating unregulated distant-water fishing fleets in the northern Pacific found that their traditional fishing grounds had become part of the EEZ. Foreign fishing states then chose either to cooperate with the coastal states to gain the right to fish in their EEZ or to move their fleets just beyond states jurisdiction.

In the North Pacific, the reduction of the high seas has created increased pressures on the ocean, seas, and their resources. However, this reduction of high seas has also created a communication link for northern Pacific Rim states to discuss their states' interests with regard to transnational resources. These dynamics are best summarized by the statement:

The superimposition of a mosaic of national regulations on transnational resources and activities creates possibilities for transnational conflicts and opportunities for cooperation.⁷

To understand the dynamics of the interrelations among states and resources of the North Pacific requires knowledge of the natural processes, national and international laws, marine policies, as well as basic economics and geography.

Multi-disciplinary knowledge of the North Pacific region is essential for comprehensive management and scientific research. This requires regional cooperation, but agreement among Pacific Rim states which have political and ideological differences is extremely difficult. Transboundary resource problems, however, provide the optimum forum for Rim states to cooperate with one another, since conservation and management measures of transboundary resources cannot be unilaterally

applied to the same resources under another state's jurisdiction. To acquire and compile information on resources concerning the Pacific Rim states is challenging, especially given the complexity and size of the region.⁸

After years of changes in national and regional perspectives and a declining abundance of valuable resources in the North Pacific region, multilateral regional cooperation must now take an active role. Regional cooperation is needed most in the management and scientific exploration of valuable resources on the high seas and in semi-enclosed seas. The "tragedy of the commons"⁹ is the result of overexploiting and polluting resources by bordering states in the west and by both bordering states and distant-water fishing fleets in the east.

Marine pollution problems in the semi-enclosed seas of the Northwest Pacific provide an ideal subject for bordering states to discuss and determine procedures of cooperation with one another on a multilateral basis. In the Northeast Pacific, fisheries conflicts are appropriate topics for dialogue between the coastal states and the distant-water fishing fleets. Most importantly, discussions regarding the conservation and protection of target and nontarget species in this region should be addressed.

Reasons for managing transboundary resources in the North Pacific through the use of regional cooperative agencies are set forth in this document. Chapter II sets the stage for the following chapters by providing basic discussions on the ocean basin and its characteristics, ocean circulation patterns, and biological resources important to

Pacific Rim nations. Noteworthy environmental characteristics of the northern Pacific region are also mentioned.

Articles in the 1982 Law of the Sea Convention which apply to the North Pacific region and its resources are covered in Chapter III. The articles, resource patterns, and state jurisdictional claims are compared. Overlapping resource patterns and boundary conflicts are mentioned as well.

In Chapter IV, the interplay between humans and the marine environment is discussed in terms of transboundary resource problems. The first section focuses on causes that adversely affect common resources in both regions. The second covers the effects of problems in the Northwest Pacific (overfishing and marine pollution) and the Northeast Pacific (overfishing).

Chapter V summarizes the cooperative efforts currently taking place among the Pacific Rim nations, and how these efforts relate to valuable transboundary resources. In Chapter VI, management and scientific organizational recommendations which involve regional cooperation are made for the North Pacific region. For the Northwest Pacific semi-enclosed seas, a United Nations Environment Programme regional regime is proposed. A detailed plan is proposed for a Northeast regional organization that would be designed specifically to address conflicts related to fishery resources.

Regional cooperation in the North Pacific can begin the process of finding a solution to transboundary resource problems. Pacific Rim states are challenged with the complexities of this responsibility,

although the benefits of cooperation should become evident as knowledge is shared and the common good of maintaining a healthy, dynamic marine environment is understood. In addition to improved communication and management schemes, it is my hope that an integrated action plan to facilitate cooperation will aid in accomplishing this goal.

Notes

¹Peter H. Sands, Marine Environmental Law in the United Nations Environment Programme: An Emergent Eco-Regime (London: Tycooly Publishing, 1988), vii.

²*Ibid.*, xv.

³United Nations, The Law of the Sea (New York: United Nations, 1983), Part V: Exclusive Economic Zone, Articles 63 and 66, 22-23; Part VII: High Seas, Article 118, 38; Part IX: Enclosed and Semi-Enclosed Seas, Articles 123, 39.

⁴*Ibid.*, 190.

⁵Council on Ocean Law, "Law of the Sea Treaty Ratifications," Special Report: The Preparatory Commission, August 14-September 1, 1989, 1.

⁶Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987), Occasional Paper No. 3, 1.

⁷*Ibid.*

⁸Edward Miles, Stephen Gibbs, David Fluharty, Christine Dawson and David Teeter, The Management of Marine Regions: The North Pacific (Berkeley: University of California Press, 1982), 656 pp. This book is perhaps the most comprehensive and exhaustive source of information regarding the dynamics in the region.

⁹Garrett Hardin, "The Tragedy of the Commons," Science, 162 (1968): 1243-1248.

CHAPTER II

THE NATURAL ENVIRONMENT

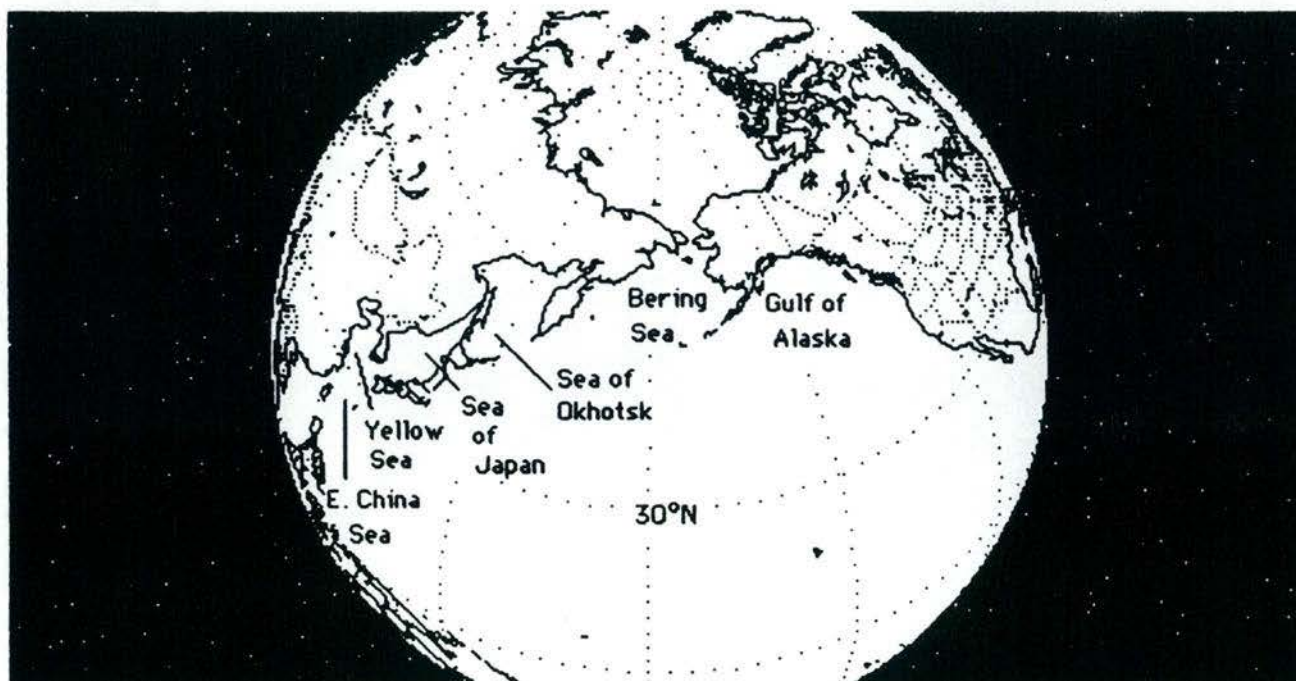
The largest of the world's oceans, the Pacific, is the home of diverse marine organisms whose distribution varies greatly, depending upon environmental factors. This study focuses on the northern Pacific region, defined as an area that extends from 30°N latitude to approximately 65.5°N latitude.¹ The study site (Map 1) includes five adjoining seas: The Yellow, the East China and the Bering Sea, and the Seas of Japan and Okhotsk.² The entire study site, including the adjoining seas, measures approximately 4,300 km by 10,400 km.³

The northern latitudes of the North Pacific Ocean contain a few known areas of very high biomass production. Adjacent states value these areas as sources for both protein-rich food and income. Little is known about much of the North Pacific region, especially the open ocean,⁴ because ocean research is very expensive to conduct and research results are not readily shared among Pacific Rim scientists.

Ocean Basin Characteristics

The form of the North Pacific Ocean basin is important in understanding the distribution of organisms. The configuration of the basin also directly affects ocean currents.

Based upon its bathymetry, the form of the North Pacific basin is likened to that of "a steep-sided half-moon shaped pan."⁵ The rim



MAP 1. The North Pacific Ocean and its adjoining seas.

of the basin, or continental shelf, is less than 150 to 180 meters deep to a distance from shore of 50 to 60 kilometers. (The Gulf of Alaska and the adjoining seas' shelf contours vary in depth and distance.) The continental slope between the continental shelf and the deep abyssal plain (4,000-7,000 m) is very steep.⁶

Table 1 compares the North Pacific Ocean proper with its adjoining seas.⁷ Over 90 percent of the floor of the Yellow and East China Seas is continental shelf and slope. By contrast, the North Pacific Ocean is 95.8 percent deep basin area. Two-thirds of the floor of the Sea of Okhotsk is continental shelf and slope, as is 46.4 percent of the Bering Sea benthos.

The continental shelves and slopes are important because "most of the fish production and harvest in the North Pacific is in the upper 300 to 500 meters of the water column."⁸ Ninety percent of all biological productivity takes place within the coastal areas of the world, due to more sunlight, higher temperatures, lower salinity, greater upwelling, higher rate of reproduction, and increased biomass.

Basic Circulation Patterns

Differential solar heating affects ocean surface temperatures and oceanic currents.⁹ In turn, these influence the atmospheric weather systems. Knowledge of circulation patterns can lead to predicting other patterns, such as species distribution and movement of pollutants.

The surface circulation patterns of ocean currents in the North Pacific are largely driven by gyres in massive loops (Map 2) by the

TABLE 1. Bathymetry of the North Pacific and Adjacent Seas

	Pacific Ocean ^a	Bering Sea	Sea of Okhotsk	Sea of Japan	Yellow and East China Seas ^a
Area	22,000,000 km ^{2b}	2,261,000 km ^{2b}	1,392,000 km ^{2b}	1,013,000 km ^{2b}	1,202,000 km ^{2b}
Mean Depth	4,188 m.	1,492 m.	932 m.	1,667 m.	272 m.
Volume	92,180,000 km ^{3c}	3,373,000 km ^{3c}	1,354,000 km ^{3c}	1,690,000 km ^{3c}	327,000 km ^{3c}
Continental Shelf					
Area (0-200 m)	1.6% ^d	46.4%	26.5%	23.5%	81.3%
Continental Slope					
Area (200-1000 m)	2.6%	6.0%	39.5%	15.2%	11.4%
Deep Basin Area	95.8%	47.6%	44.0%	61.3%	7.3%

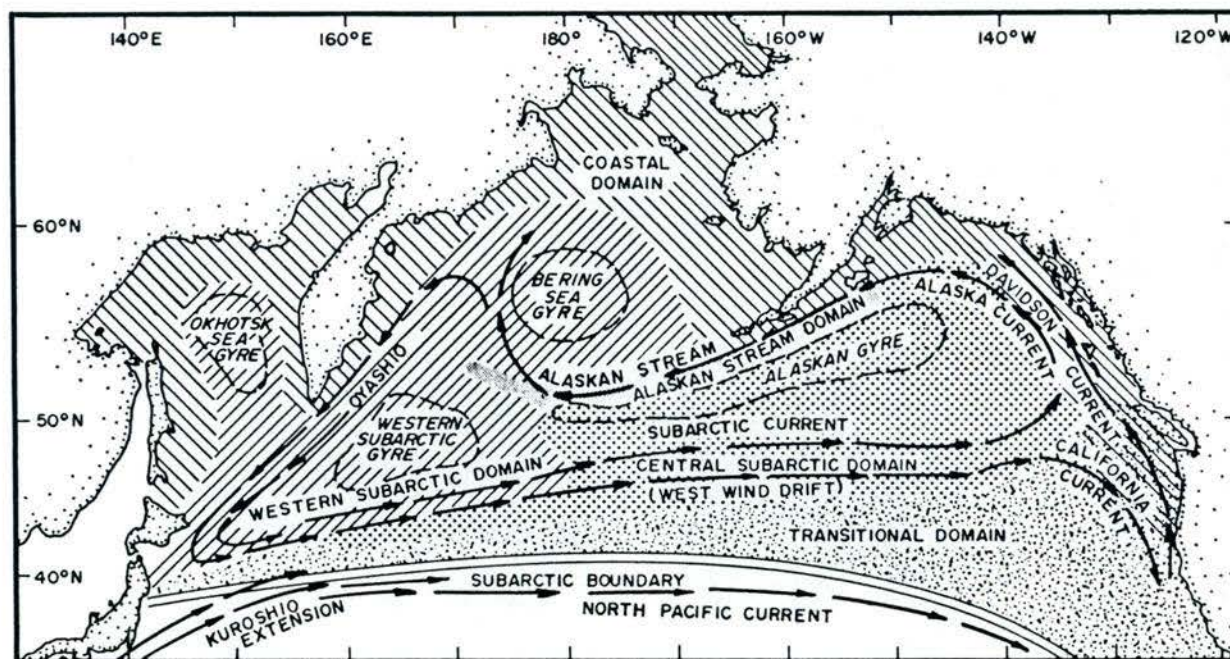
Source: Calculated on the basis of H. W. Menard and S. M. Smith, "Hypsometry of Ocean Basin Provinces" in Journal of Geophysics (Sept-Oct 1966), tables 3 and 4b, 77:4305-4323.

^aIncludes only portions north of 30°N latitude.

^bCalculated by 2 degree squares and estimates of partial squares using a Lamberts Conformal Projection and oceanographic tables from E. C. Lafond, Processing Oceanographic Data, U. S. Navy Hydrographic Office (Washington, D.C.: G.P.O., 1951). This represents 13.3% of the total Pacific Ocean area of 166,241,000 km² as calculated by Menard and Smith above.

^cAssuming that the mean depth for the Pacific Ocean is the same as the mean depth for the study area and using 22,000,000 km² as the area north of 30°N latitude.

^dThis figure is calculated by Menard and Smith for the total Pacific Ocean.



MAP 2. Schematic diagram of circulation and the various water masses in the North Pacific Ocean north of latitude 30°N.

prevailing wind systems.¹⁰ The surface currents shift slightly in accord with seasonal shifts in weather systems. As a general rule, the swiftest and narrowest ocean currents are located on the western edge of the oceans. The currents of the eastern North Pacific boundary are much broader and slower.

The strongest energy force of all the North Pacific circulation patterns is the Kuroshio Current, which flows from the Philippines to the east coast of Japan and brings warm water with it. Moving at the speed of 40 to 120 kilometers per day, the flow of the Kuroshio Current extends a thousand meters or more below the surface.¹¹

Off the coast of Japan, the warm Kuroshio converges with the Oyashio, which brings cold water from the Bering Sea. The turbulent mixing of the Kuroshio and Oyashio Currents over the shallow continental shelf off Japan causes bottom sediments to circulate to the surface, thus creating one of the most biologically productive areas in the North Pacific.¹²

The two currents flow to the east toward the southern shore of Alaska, where they merge and become known as the West Wind Drift. Upon reaching the west coast of North America, the West Wind Drift splits into the southward California Current and the northward flowing Alaska Current, which flows northward along the coast of British Columbia and southwest Alaska, where upwellings take place.

The Alaska Current in turn splits into three paths. The Alaskan Stream flows west and dwindles out as it approaches the western islands of the Aleutian chain. The Bering Current flows northward through the

Aleutian Islands along the eastern edge of the Bering Sea. (On the western side of the Sea, the Anadyr Current flows southward from Siberia.) This third path of the Alaska Current turns southward for a short distance, then turns west and becomes the Subarctic Current.

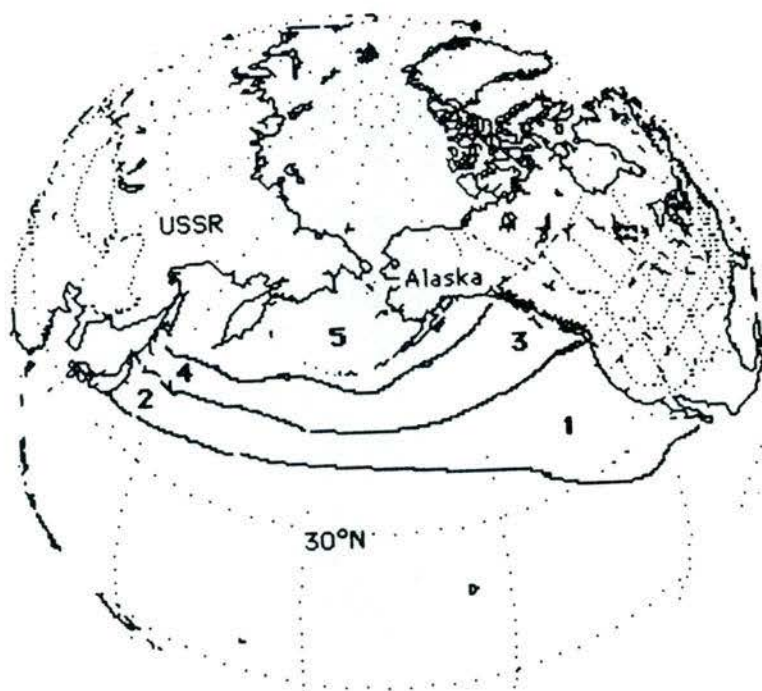
The southerly flow of the West Wind Drift parallels the west coast of the United States and becomes the cold California Current. At the same time, strong onshore winds force surface water offshore. The southerly flow and offshore surface movement establish the conditions for the rich, biologically productive areas along the California coast. The California Current eventually becomes part of the Pacific North Equatorial Current, which is beyond the scope of this study.

The four semi-enclosed seas in the northwest Pacific are affected by two of the major currents and a few less powerful ones. The Yellow and Bo Hai Seas are heavily influenced by the force from the northward flowing Tsushima Current (powered by the Kuroshio) and the Yangtze River discharge. The East China Sea is influenced from the Tsushima and the Kuroshio Currents. The two main circulation systems affecting the Sea of Japan are the Tsushima and the southward flowing Liman Current (powered by the Oyashio Current). The Sea of Okhotsk's circulation system is primarily driven by the Oyashio.¹³

In the open ocean, slower moving gyres are outlined by the major currents mentioned above. The largest and slowest of these is the clockwise-moving North Pacific Gyre, which is located in the middle of the north Pacific Ocean at 30°N latitude. Other slower moving

water masses which help drive the circulation system are the counter-clockwise gyre south of the California Current, a small counter-clockwise gyre in the Gulf of Alaska and a counter-clockwise gyre near the northern tip of the Kuril Island chain.

Cold and warm currents in the North Pacific directly affect the region's water temperatures. The region can be divided into five marine biogeographical areas with three distinct temperature zones or bands (Map 3).¹⁴ The North Pacific warm temperature zone is comprised of two parts: West American and East Asian. The surface temperature of the two temperate areas is between 10° and 20° C.



MAP 3. Five marine biogeographic areas in the North Pacific Ocean.
 1. North Pacific warm temperate: West American, 2. North Pacific warm temperate: East Asian, 3. Northwest American Boreal, 4. East Asian Boreal, and 5. Arctic and Subarctic.

The Boreal is also divided into two parts, North West American and East Asian. The surface temperature of the two boreal areas is between 5° and 10°C. The final zone is the Arctic and Subarctic, which have surface temperatures less than 5°C. The exact sizes of all the bands vary, depending upon the season and amount of sunlight.

One reason for describing the ocean circulation system and temperature zones is to illustrate why the southern edge of the North Pacific region is defined as the area north of 30°N latitude. The southern edge of both the West Wind Drift and North Pacific warm temperate zone, for example, roughly follow the 30°N latitude line (refer to Maps 2 and 3).¹⁵

Biological Resources

A discussion of biological resources and their productivity must begin with photosynthesis, the basic process that initiates the food chain. At the base of the marine food chain, the primary producers or photosynthesizers are plants called phytoplankton ("that which wanders or drifts"). Phytoplankton are free-floating microscopic algae growing in the upper 100 meters of the water column, the epipelagic or euphotic zone, where sunlight is most plentiful.¹⁶

Zooplankton (protozoans to larval fishes) consume phytoplankton and are next in the marine food chain. These primary consumers live predominantly in the upper 1,000 meters of the water column, but are not restricted to the euphotic zone; many of them migrate vertically in a diurnal cycle.¹⁷

As shown in Table 2, there is a distinct correlation between phytoplankton production and zooplankton abundance. These nutrient-rich and biologically productive areas are good indicators for locating sites, such as sensitive habitats or commercially exploitable fish. This concept is particularly important when resource problems are discussed (Chapter IV).

Productivity within these vertical and horizontal zones vary with oceanic and seasonal changes. In the North Pacific, the productivity and abundance of plankton rises dramatically during the warmer months of June, July, and August. During the colder months of December through March, the amount of plankton activity falls to its lowest.¹⁸

Fish species, or secondary consumers, are the next link in the food chain. Feeding on zooplankton and each other, many commercial species congregate near to shore during the summer months. In the winter months, they migrate to deeper water, where other fish and zooplankton are more abundant. Of the 2,000 species of fish in the North Pacific, approximately 80 species are of commercial significance.¹⁹ Of the commercial species, only 15 are significant to this study.

The remainder of this section will cover those fish species caught commercially, including marine species which cross national borders and/or are important in terms of their commercial value. These commercial and transboundary species are divided into demersal, pelagic, and anadromous fishes, cephalopods, marine mammals, and seabirds.²⁰

TABLE 2. Comparison of Plankton Production and Abundance within the North Pacific Ocean Region^a

	Phytoplankton Production ^b	Zooplankton Abundance ^c
Ocean Ocean	<100	<50
California, Oregon, Washington		
nearshore	200-500	>500
offshore	100-250	200-500
British Columbia		
nearshore	>500	200->500
offshore	150-500	50-500
Alaska/Aleutian Islands		
Gulf	250->500	200->500
offshore	150-250	50-500
Bering Sea		
nearshore	250->500	200->500
Donut Hole	250-500	>500
offshore	150-250	50-200
Northwest Pacific Seas		
nearshore	>500	200->500
offshore	150-500	50-200

Source: Extracted from the Alastair Couper, ed., Atlas of the World Oceans (New York: Van Nostrand Reinhold, 1983), maps, 70-71.

^aThe measurements used in the table are approximations. Nearshore means within 200 nautical miles and offshore means greater than 200 nm.

^bMeasurements are in milligrams of Carbon per square meter per day (mgC/m²/d).

^cMeasurements are in milligrams per cubic meter (mg/m³) in the upper 100 m of the water column.

Demersal species are those that spend most of their life swimming at depths between the open ocean and the continental shelf. Species which are included in this category are walleye or Alaska pollack (Theragra chalcogramma) and albacore tuna (Thunnus alauunga).

Pollack is the one of most commercially valued species in the North Pacific, accounting for over 25 percent of the total catch. Their distribution consists of many parts of the North Pacific, but especially in the Bering Sea, along the northern side of the Aleutian Island chain, and in many areas in the adjoining seas in the Northwest Pacific region. During the winter months, pollack migrate into deeper waters, and in the summer, they swim to warmer, more shallow waters.

Albacore tuna are widely distributed throughout the North Pacific Ocean.²¹ There are two substocks of albacore, but only the northern substock is significant for this study. The northern substock travels between the eastern and western North Pacific, and are caught off the coasts of northern California, Oregon, Washington, and even Japan.

The seasonal migration of this albacore substock begins in late May and June when the fish move from the central North Pacific eastward to within 1,000 to 1,600 kilometers (625 to 1,000 miles) offshore. When the surface waters begin to warm, they migrate further east. By late fall, the fish have moved back into oceanic waters. "Physical factors such as water temperatures and the structure of oceanic fronts can affect the timing of this migration as well as the

distribution of albacore."²² The diet of albacore include juvenile stages of anchovies, rockfishes, jack mackerel, and Pacific saury, as well as squid, euphausiids, and amphipods.

Pelagic species, which spend almost their entire lives in the open ocean, include Pacific herring (Clupea harengus pallasi), anchovy (Engraulis japonica), sardine (Sardinops melanosticta), Pacific or chub mackerel (Scomber japonicus), and Pacific saury (Coloabis saira). Herring is the most important commercial species in this category. Its distribution is wide-spread throughout continental shelf waters of the North Pacific, extending into the Bering Sea. Herring migrate closer to shore during the summer months when their food source is more abundant. They feed on zooplankton, such as copepods, amphipods, and euphausiids, but their food habits may change seasonally. Their predators include sharks, salmon, lingcod, sea lions, whales, and seabirds.²³

Sardines and anchovies are equally important species, and their distribution extends only to the southern Kamchatka Peninsula in the west and to the southeastern Gulf of Alaska. These species are located mainly near a large abundance of phytoplankton and zooplankton, which are their food sources. They are eaten by salmon, albacore tuna, marine mammals, and seabirds.

Anadromous species, which migrate between freshwater and the open ocean, include Chinook salmon (Oncorhynchus tshawytscha), coho salmon (O. kisutch), pink salmon (O. gorbuscha), sockeye salmon (O. nerka), and chum salmon (O. keta). The North Pacific stocks are

commercially significant, especially in the Northeast region.

Nearly all salmon stocks follow a migration pattern of swimming outside the boundaries of the coastal state into open ocean, then return to their rivers of origin to spawn. All the Alaska stocks and Chinook from British Columbia have migration patterns through the Bering Sea. Salmon migration routes into oceanic waters are significant in terms of drift-net fishing in the mid-North Pacific Ocean.

The fifth category contains the cephalopods or squids. The important species in the North Pacific is the common squid (Todarodes pacificus). It is especially valued by the Japanese, since it constitutes 90 percent of their total squid catch.²⁴ The largest abundance of squid, found in the mid-Pacific, is currently being exploited by the Asian drift-net fleets. Serious problems have been created by the Japanese squid fisheries' use of gill nets. This major problem will be discussed thoroughly in Chapter IV.

Marine mammals, which make up the sixth category, include Japanese fur seal (Zalophus californianus japonicus), northern fur seal (Callorhinus ursinus), sperm whale (Physeter macrocephalus), minke whale (Balaenoptera actuatorostrata davidsoni), sei whale (B. borealis), fin whale (B. physalus), blue whale (B. musculus), humpback whale (Megaptera novaeangliae), bowhead whale (Balaena mysticetus), grey whale (Exchrichtius robustus), and black right whale (Balaena glacialis). Many of these marine mammals have been commercially exploited almost to extinction. The bowhead is now the

only whale species currently harvested in the North Pacific. Under international guidelines, the Inuit tribes use the bowhead for ceremony and subsistence purposes.

Small cetaceans, also heavily exploited in the Northwest Pacific within the coastal regions, vary greatly in their distribution and migration. For example, during the fall and summer months, the northern fur seals are on the breeding grounds very near shore. In the winter, they are primarily pelagic, eating herring, pollack, and squid. The sperm and minke whales are found on the eastern and western edge of the Pacific, including the Bering Sea, while the sei whales swim further out into open ocean and are not found in the Bering Sea. Baleen whales eat plankton, which live near to shore, and the toothed whales eat squid and several demersal species, which live in deeper water. Porpoises, which are pelagic and feed on small organisms, swim mainly in oceanic waters.

There are not many significant international issues concerning seabirds, the last marine species discussed, but they are worth mentioning due to adverse impacts from marine pollution. The major species (and families) of seabirds found in the North Pacific region are the murre and auklets (Alcidae), gulls and terns (Laridae), and the fulmars and shearwaters (Procellariidae). Nearly all migrate, traveling various distances. Seabirds are one type of species taken into consideration when pollution results in food source contamination, habitat destruction, or entanglement.²⁵

Summary

The ocean basin characteristics affect the currents, which in turn affect water temperatures. The form, currents, and temperatures of the oceanic basin all affect where plankton is abundant and productive, which significantly affects the distribution and migration of all marine species examined in this study. An understanding of the migration patterns of transboundary pelagic, salmon, marine mammal, and bird species becomes useful when the problems and impacts of human activities are discussed in Chapter IV.

When overlaid with the various jurisdictional and resource ownership claims, the distribution and migration patterns of transboundary species is of particular importance also. These patterns allow for either regional conflict or cooperation. By recognizing the importance of transboundary migration patterns and choosing regional cooperation, human activities creating on-going conflicts can be modified; this is a goal of this study.

Notes

¹The definition is used in a number of sources. See, for example, Report of the Second Intergovernmental Conference Called to Discuss the Possible Formation of an International North Pacific Marine Science Organization. "Draft: Convention for an International North Pacific Marine Science Organization." Sidney, B.C., Article I, 15-16 November 1988. In Institute for Marine Studies, "Recent PICES Papers 1986-1988" TMs (photocopy), 64 pp., University of Washington, Seattle. Also see Edward Miles, Stephen Gibbs, David Fluharty, Christine Dawson, and David Tetter, The Management of Marine Regions: The North Pacific (Berkeley: University of California Press, 1982), 3; Hiroshi Kasahara and William T. Burke, North Pacific Fisheries Management. Resources for the Future (RFF), Washington, 1973, Program of International Studies of Fisheries Arrangements, Paper 2, 1. (Cited in Miles et al., 581.)

²The East-West Environment and Policy Institute in Honolulu, Hawaii conducted three international conferences titled "Transnational Ocean Resource Management Issues and Options for Cooperation," which covered four Northwest Pacific semi-enclosed seas. The primary purpose and outcome of these conferences are further discussed in Chapter V. See Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: Environment and Policy Institute, 1987), Occasional Paper No. 3, 165 pp. The conference was held at the East-West Center from 23-27 June 1987; Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Environment and Policy Institute, 1989), Occasional Paper No. 10, 239 pp. The conference was held at the Hotel Niigata, Niigata, Japan, 11-14 October 1988; the International Conference on Seas of Japan and Okhotsk was held 17-22 September 1989. The proceedings are expected to be published in 1990.

³Extracted from Encyclopaedia Britannica, Britannica Atlas (Chicago: Encyclopaedia Britannica, 1982), 6-7.

⁴The lack of scientific information pertaining to the northern North Pacific has been recognized for more than fifteen years. Recently, there have been positive steps toward a new international organization called PICES (Pacific International Council for the Exploration of the Sea) to promote scientific investigation and exchange concerning oceanography and fisheries. See "Recent PICES Papers" by referring to Note 1. This topic is covered more thoroughly in Chapter V.

⁵Edward Miles et al., 18.

⁶Ibid.

⁷Edward Miles, Personal communication, 27 October 1989. Permission granted to use Table 2.1 from Miles et al., 19.

⁸Miles et al., 18. For scientific studies, see Hiroshi Kasahara, Fisheries Resource of the North Pacific Ocean, ed. Norman J. Wilimovsky (Vancouver: University of British Columbia, 1964), Parts I and II, F. R. McMillian Lectures in Fisheries, 12; Dayton L. Alverson, "Fishery Resources in the Northeast Pacific Ocean," ed. Dewitt Gilbert, The Future of Fishery Industry of the United States (Seattle: College of Fisheries, 1968), University of Washington Publications in Fisheries, New Series, Parts I and II, F. R. McMillian Lectures in Fisheries, 11. (Both studies are cited in Edward Miles et al., 582).

⁹A majority of the information in this section is taken from Michael Waldichuk, "Draft: The North Pacific Ocean," ed. Intergovernmental Oceanographic Commission and UN Environment Programme, The State of the Marine Environment (Paris or Nairobi: IOC and UNEP). The chapter is being written for the forthcoming publication, which is to be published in 1990. Also refer to The World Resources Institute, World Resources 1988-89 (New York: Basic Books, 1988), 144-145. This book is a collaboration between the International Institute for Environment and Development and the United Nations Environment Programme.

¹⁰Michael Waldichuk, Personal communication, 25 October 1989. Permission was granted to use Figure 1 from his chapter on the North Pacific Ocean (see Note 9).

¹¹The World Resource Institute, 144.

¹²Ibid.

¹³For further information pertaining to the physical oceanography of the Northwest Pacific, see International Conference on the Yellow Sea, 6-22; International Conference on the Sea of Japan, 11-21.

¹⁴Information concerning temperature patterns is taken from Alastair Couper, ed., Times Atlas of the Oceans (New York: Van Nostrand Reinhold, 1983), 68.

¹⁵For more detailed information concerning the physical oceanography of the North Pacific, see Felix Favorite, A. J. Dodimead and K. Nasu, Oceanography of the Subarctic Pacific Region, 1960-71 (Vancouver: International North Pacific Fisheries Commission, 1976), no. 33; A. J. Dodimead, Felix Favorite and T. Hirano, Review of Oceanography of the Subarctic Pacific Region (Vancouver: International North Pacific Fisheries Commission, 1963), no. 13. For more information on the oceanography on the Northeast Pacific, see Tish Parmenter and Robert Bailey, The Oregon Oceanbook (Salem: Oregon Department of Land Conservation and Development, 1985), 25-34.

¹⁶Times Atlas of the Oceans, 70.

¹⁷Ibid., 71.

¹⁸Ibid.

¹⁹Clinton E. Atkinson, "Northeast Asian Fisheries," unpublished draft of lecture presented at the Institute for Marine Studies, University of Washington, Seattle, 16 November 1976, 3. Quoted in Miles et al., 21.

²⁰The sub-section of marine species is primarily taken from Miles et al., 21-38, unless otherwise noted.

²¹Parmenter, 47. The segment on albacore tuna is taken from this source.

²²Ibid.

²³Ibid., 48.

²⁴T. Okutani, Stock Assessment of Cephalopods Resources Fished by Japan (Rome: Food and Agriculture Organization, 1977), Technical Paper no. 173, 4. (Cited in Miles et al., 26.)

²⁵For more detailed information concerning species distribution and movement, see Edward Miles, John Sherman, David Fluharty, Stephen Gibbs, Shoichi Tanaka, and Masao Oda, Atlas of Marine Use in the North Pacific Region (Berkeley: University of California Press, 1982); International Conference on the Yellow Sea, 22-25; International Conference on the Sea of Japan, 22-27; Parmenter, 37-82; Felix Favorite, Taivo Laevastu, and Richard Straty, Oceanography of the Northeastern Pacific Ocean and Bering Sea and Relations to Various Living Marine Resources (Seattle: Northwest and Alaska Fisheries Center, June 1977), Processed Report.

CHAPTER III

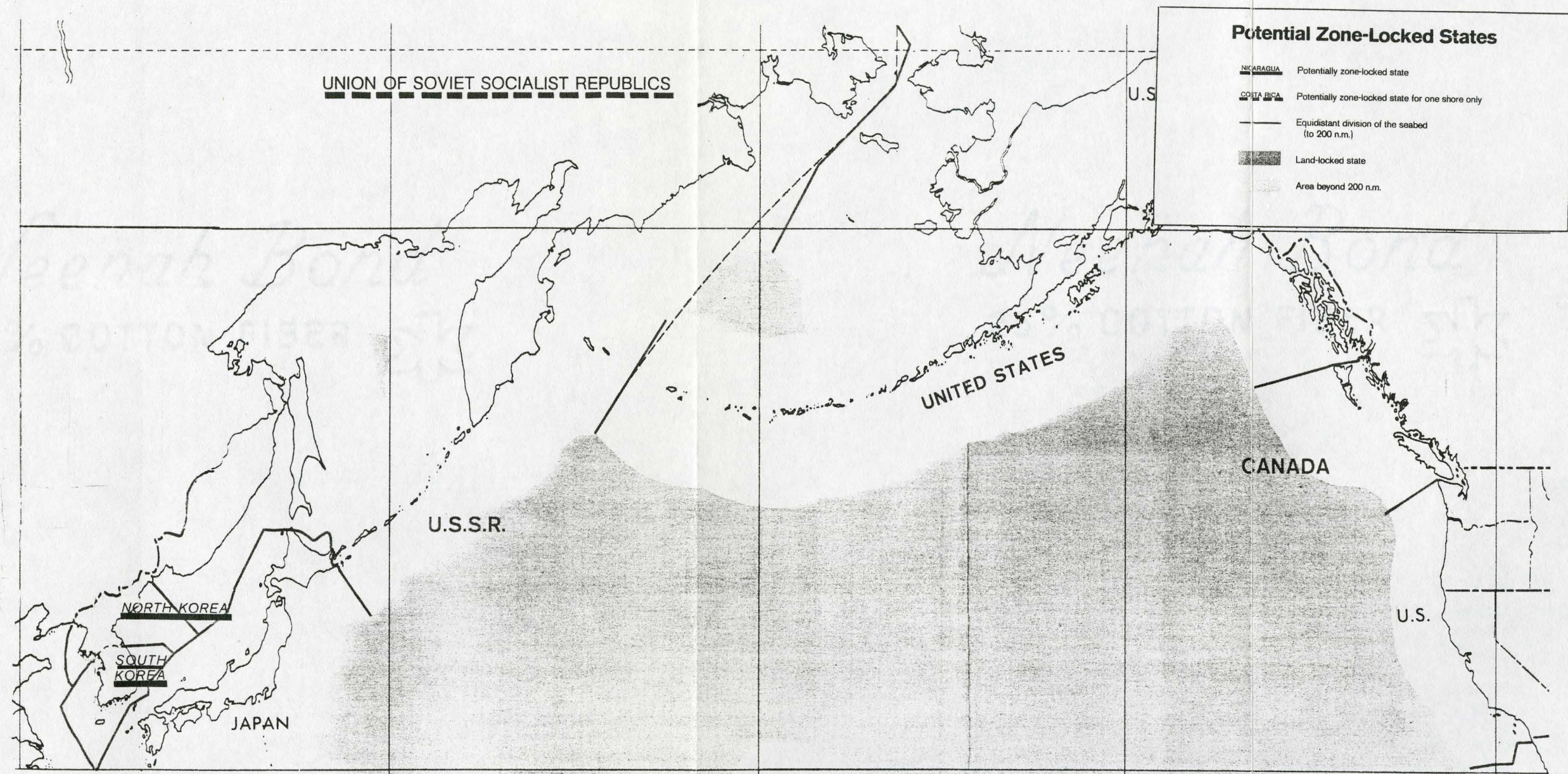
LAW OF THE SEA OF THE NORTH PACIFIC

The articles of the United Nations Convention on the Law of the Sea (hereinafter, UNCLOS) are discussed in this chapter,¹ including how they relate to transboundary resources within both the high seas of the Northeast Pacific and the semi-enclosed seas of the Northwest Pacific and Rim states' boundaries and jurisdictions. This study will focus on three divisions of UNCLOS: the exclusive economic zone (EEZ), the high seas, and the semi-enclosed seas.² These three parts and their articles are described below, according to their applicability to regional problems (Chapter IV).

The Exclusive Economic Zone

The EEZ extends from the baseline from which the breadth of the territorial sea is measured seaward 200 nautical miles.^{3,4} Map 4 shows the EEZs and boundaries applicable to both the Northeast and Northwest Pacific regions.⁵ Within the EEZ, the coastal state has the sovereign right to explore, exploit, conserve, and manage the living and nonliving resources.⁶

Separate articles in the EEZ section provide explicit rules for "transboundary" stocks, "straddling" stocks, highly migratory stocks, and anadromous species. For example, one transboundary and straddling



MAP 4. Potential zone-locked states and maritime boundaries of the North Pacific region.
Modified source: United States Department of State, Office of the Geographer,
1974.

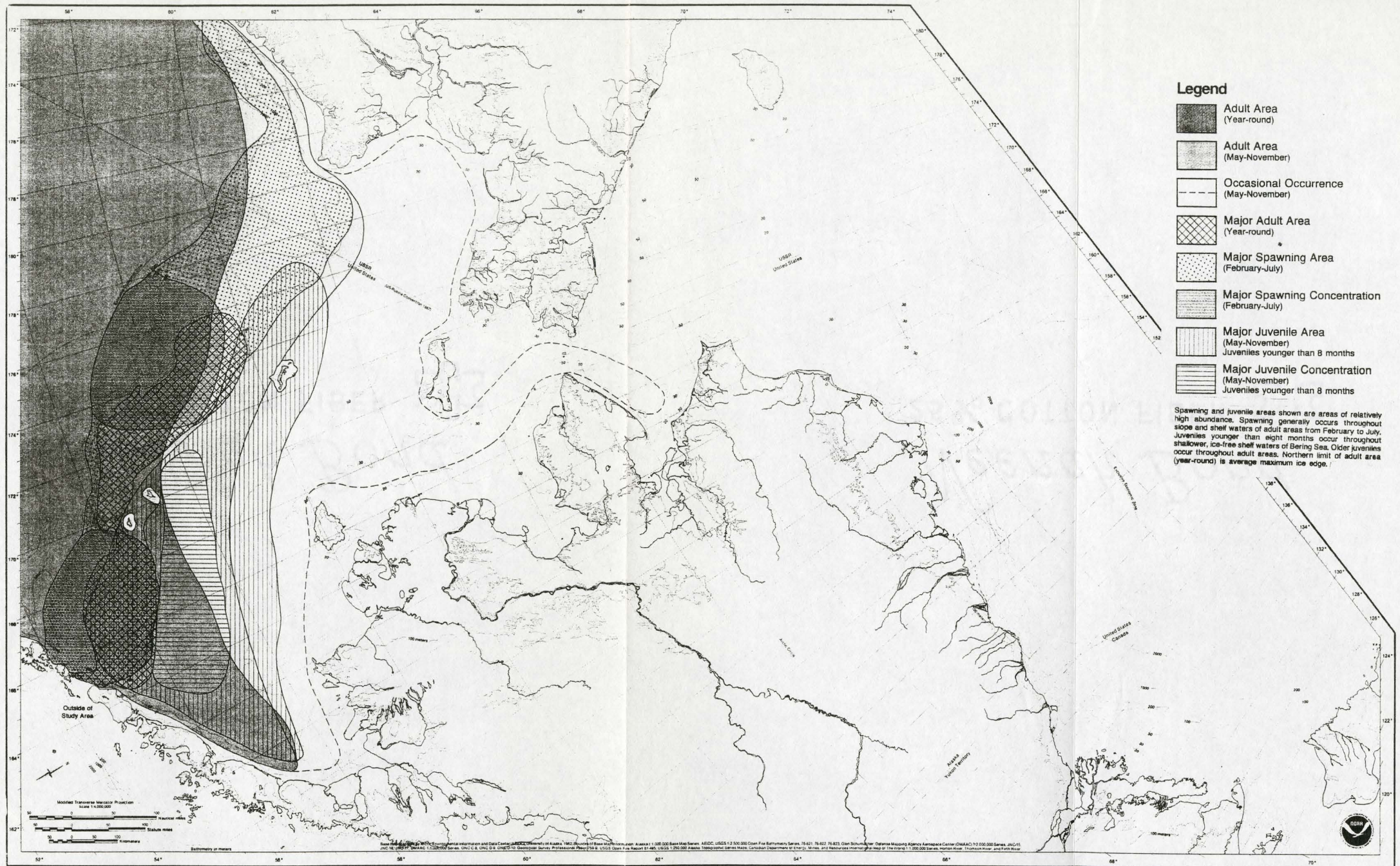
stock, the walleye pollack, occurs within both the United States' and Soviet Union's 200-mile EEZ in the eastern Bering Sea (Map 5).⁷

Although not shown in the map, pollack also swim in the high seas area (hereinafter, donut hole) within the Bering Sea. Distant-water fishing nations complicate the conservation and management measures implemented by coastal states in the Northeast Pacific region by fishing for the same stock of pollack in the donut hole.

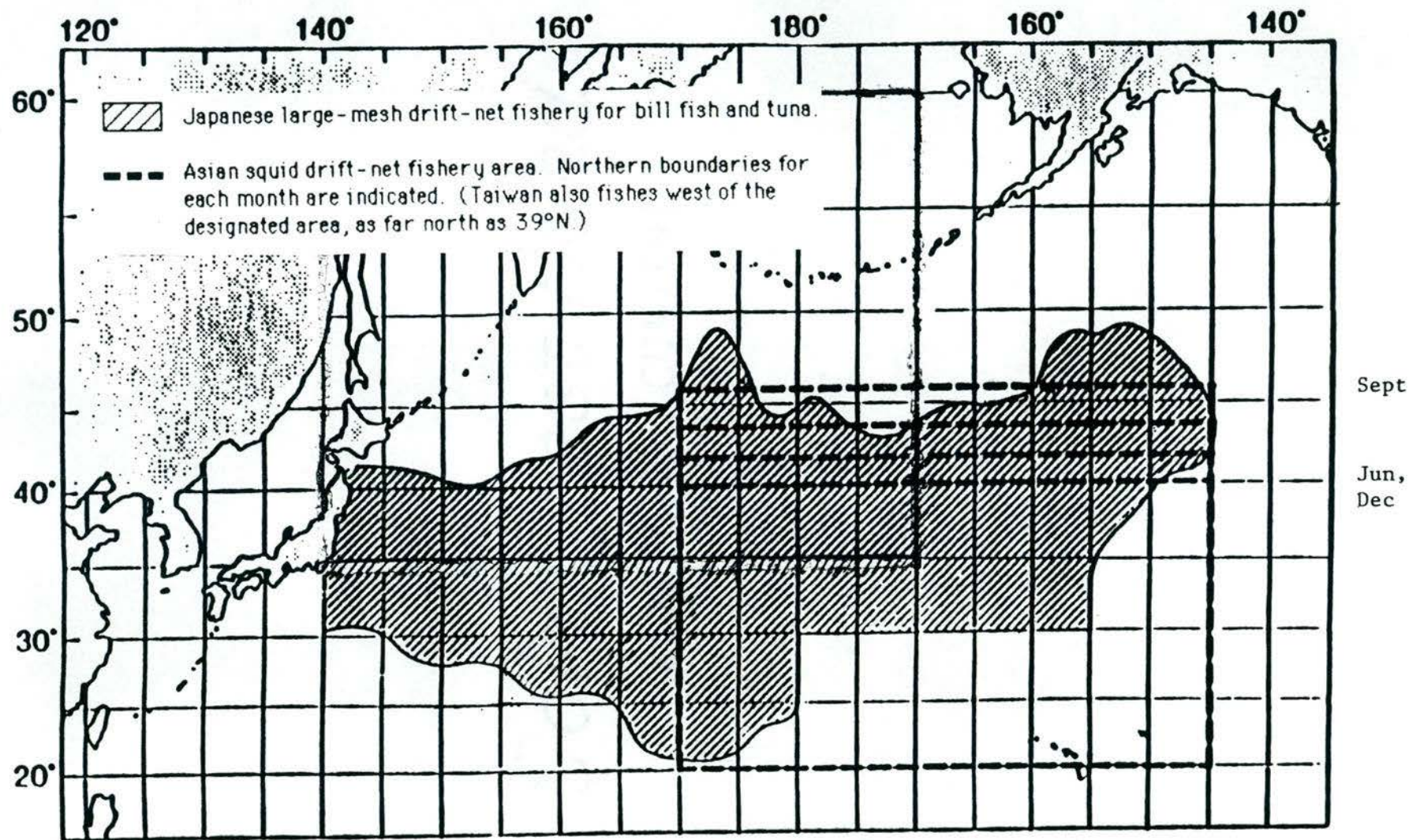
Article 63 of UNCLOS covers "transboundary" and "straddling" stocks, which occur within the EEZ of two or more coastal states or both within the EEZ and in an area beyond and adjacent to it:

1. Where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary to co-ordinate and ensure the conservation and development of such stocks without prejudice to the other provisions of this Part.
2. Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.⁸

Albacore tuna is a highly migratory species found off the coasts of Washington and Oregon during the summer months. Throughout the winter months, the northern sub-stock of albacore migrate through the North Pacific (between 30°N and 40°N) to the Asian continent and return to the North American continent the following summer. The presence of Asian drift nets in the mid-Pacific (Map 6) interrupt the albacore's extensive migration pattern and reduce the quantity



MAP 5. Walleye pollack distribution patterns in the North Pacific region. Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Bering, Chukchi and Beaufort Seas, Coastal and Ocean Zones Strategic Assessment: Date Atlas (Modified source), 3.32.



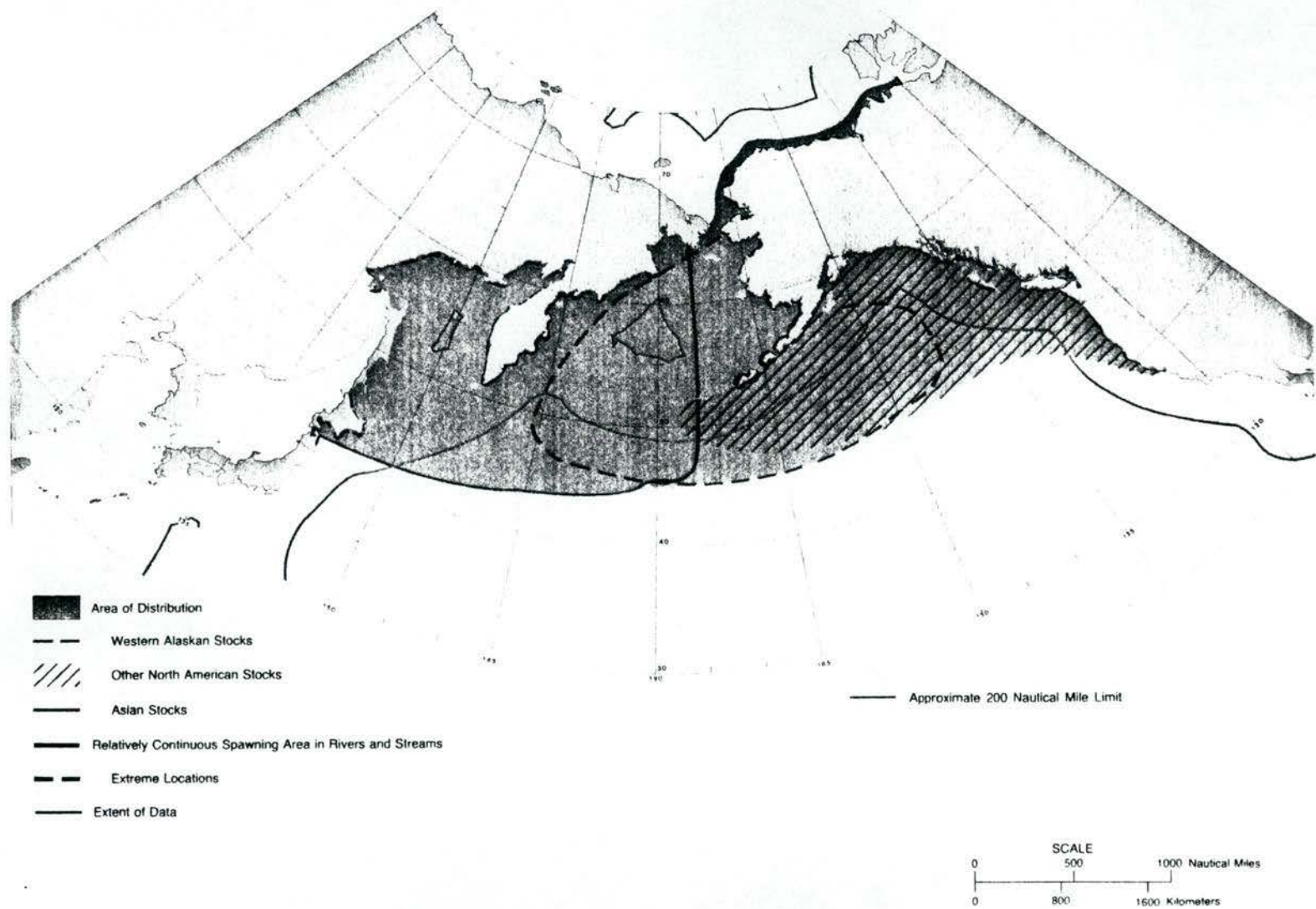
MAP 6. Asian high seas drift-net fisheries of the North Pacific Ocean. Modified source: United States Department of Commerce, "Report of the Secretary of Commerce to the Congress of the United States on the Nature, Extent, and Effects of Driftnet Fishing in Waters of the North Pacific Ocean," unknown author, open file report, National Marine Fisheries Service (Washington, D.C.: NMFS, 1989), 8.

returning to their summer feeding grounds.⁹ In such cases, coastal and flag states are encouraged to cooperate with one another. Article 64 reads:

The coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall co-operate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall co-operate to establish such an organization and participate in its work.¹⁰

Salmon is an anadromous species found most abundantly in the North Pacific, especially in the Northeast Pacific. Chinook, Chum, Coho, Sockeye, and Pink salmon migrate from rivers in Alaska, British Columbia, Washington, and Oregon. Some stocks, such as Alaskan Chinook, cross several state boundaries (Map 7) and swim beyond the outer limits of EEZs during their migration. Those stocks that migrate into the northern Pacific also get snared by Asian drift nets (Map 6), and do not return to their North American rivers to spawn. In these cases, special conservation and management provisions are necessary for anadromous stocks. These provisions are addressed in Article 66, which provides the following rules:

1. States in whose rivers anadromous stocks originate shall have the primary interest in and responsibility for such stocks.¹¹
2. The State of origin of anadromous stocks shall ensure their conservation by the establishment of appropriate regulatory measures for fishing in all waters landward of the outer limits of its exclusive economic zone and for fishing provided for in paragraph 3(b). The State of origin may, after consultations with the other States referred to in paragraphs 3 and 4 fishing these stocks, establish total allowable catches for stocks originating in its rivers.



MAP 7. Chinook salmon migration in the North Pacific region. Source: Edward Miles et al., Atlas of Marine Use in the North Pacific Region (Berkeley: University of California Press, 1982), 45.

3. (a) Fisheries for anadromous stocks shall be conducted only in waters landward of the outer limits of exclusive economic zones, except in cases where this provision would result in economic dislocation for a State other than the State of origin. With respect to such fishing beyond the outer limits of the exclusive economic zone, States concerned shall maintain consultations with a view to achieving agreement on terms and conditions of such fishing giving due regard to the conservation requirements and the needs of the State of origin in respect of these stocks.
- (b) The State of origin shall co-operate in minimizing economic dislocation in such other States fishing these stocks, taking in account the normal catch and the mode of operations of such States, and all the areas which fishing has occurred.
- (c) States referred to in subparagraph (b), participating by agreement with the State of origin in measures to renew anadromous stocks, particularly by expenditures for that purpose, shall be given special consideration by the State of origin in the harvesting of stocks originating in its rivers.
- (d) Enforcement of regulations regarding anadromous stocks beyond the exclusive economic zone shall be by agreement between the States of origin and the States concerned.
4. In cases where anadromous stocks migrate into or through the waters landward of the outer limits of the exclusive economic zone of a State other than the State of origin, such State shall co-operate with the State of origin with regard to the conservation and management of such stocks.
5. The State of origin of anadromous stocks and other States fishing these stocks shall make arrangements for the implementation of the provisions of this article, where appropriate, through regional organizations.¹²

The High Seas

In contrast to the international rules covering the EEZ, "the high seas are open to all States, whether coastal or land-locked."¹³ Fishing is one of the freedoms on the high seas, but it is subject to

special conditions.¹⁴ Under these conditions, flag states are subject to the rights, duties, and interests of the coastal states and other high seas provisions regarding the conservation and management of living resources.¹⁵ These tasks of coastal states are covered in Articles 63, 64 and 66 (see above).

Other high seas provisions specifically cover the conservation and management of transboundary species. For example, Article 117 states:

All States have the duty to take, or to co-operate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources on the high seas.¹⁶

Cooperation by states to conserve and manage is described in Article 118:

States shall co-operate with each other in the conservation and management of living resources in the areas of the high seas. States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate, co-operate to establish subregional or regional fisheries organizations to this end.¹⁷

Article 119, Conservation of the Living Resources of the High Seas, further describes how states can determine the allowable catch and establish other conservation measures by using available scientific information. The pollack, albacore, and salmon stocks are all covered by the high seas articles.

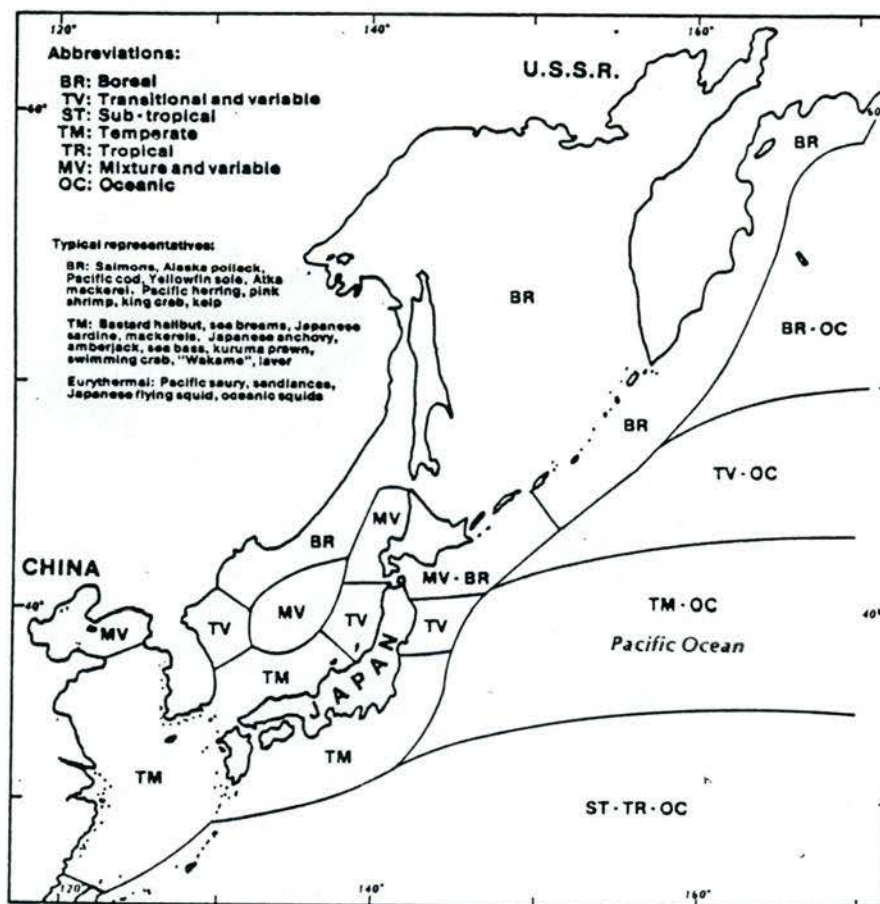
Semi-Enclosed Seas

Semi-enclosed seas are unique bodies of water which differ from

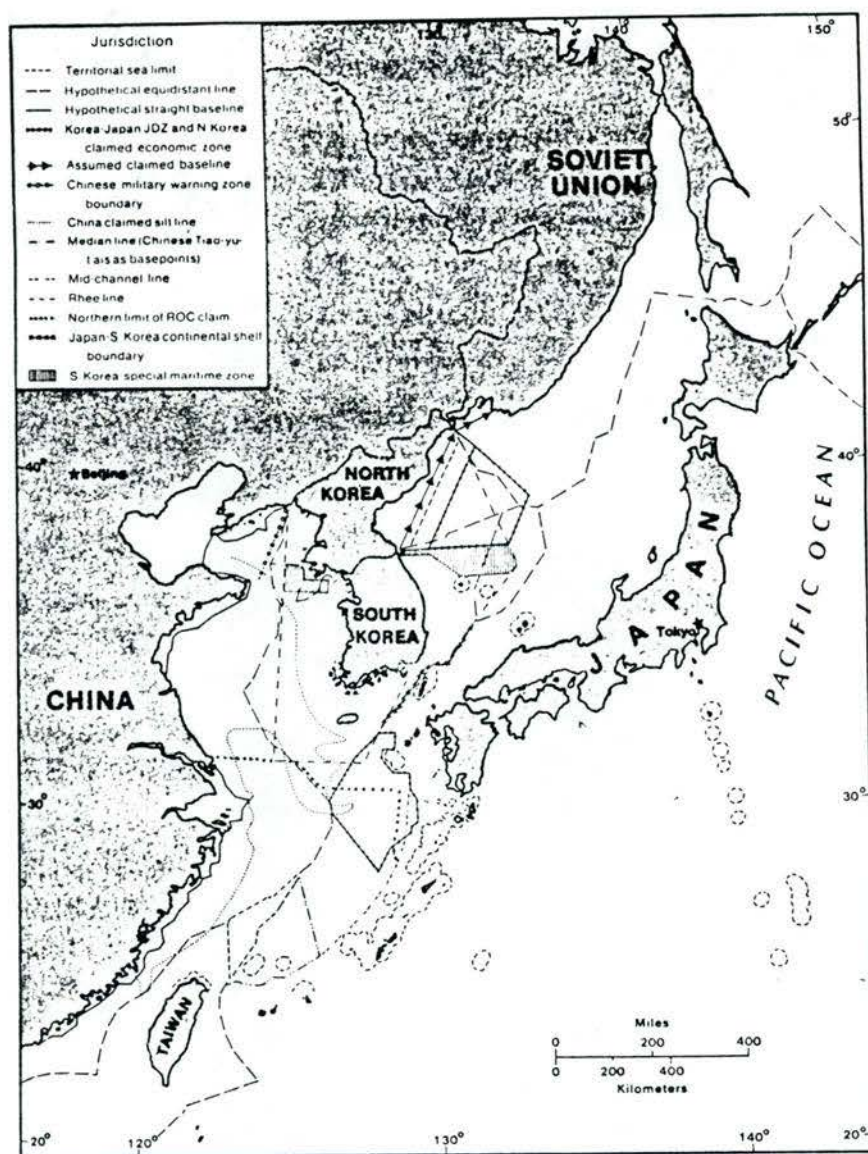
other marine areas because of their currents, bottom topography, and populations of organisms. In the Northwest Pacific, states border four major semi-enclosed seas where valuable transboundary resources exist. Valuable commercial fish species (Map 8), which vary greatly according to oceanographic and topographic conditions, are wide-spread throughout the semi-enclosed seas.¹⁸ Another transboundary resource valued by the Northwest Pacific states is good marine water quality.

In semi-enclosed seas, jurisdictions tend to overlap more easily than they do elsewhere, and there are several overlapping jurisdictional claims (Map 9) in the four major Northwest Pacific seas.¹⁹ For example, two claims are the "security zones" of China and DPR Korea, zones of a type not mentioned in UNCLOS. Additionally, China claims the area in the Yellow Sea between Shangdong and Liaoning provinces as internal waters. In the area between Taiwan and the Korean peninsula, China, Japan, and the Republic of Korea all have claims in the East China Sea.²⁰ In the northeastern region of the Sea of Okhotsk, Japan claims four islands northeast of Hokkaido, which have been occupied by the Soviet Union since World War II, although the Soviet government does not recognize these islands. Such claims complicate the conservation and management measures of states to regulate fish catches and water quality.

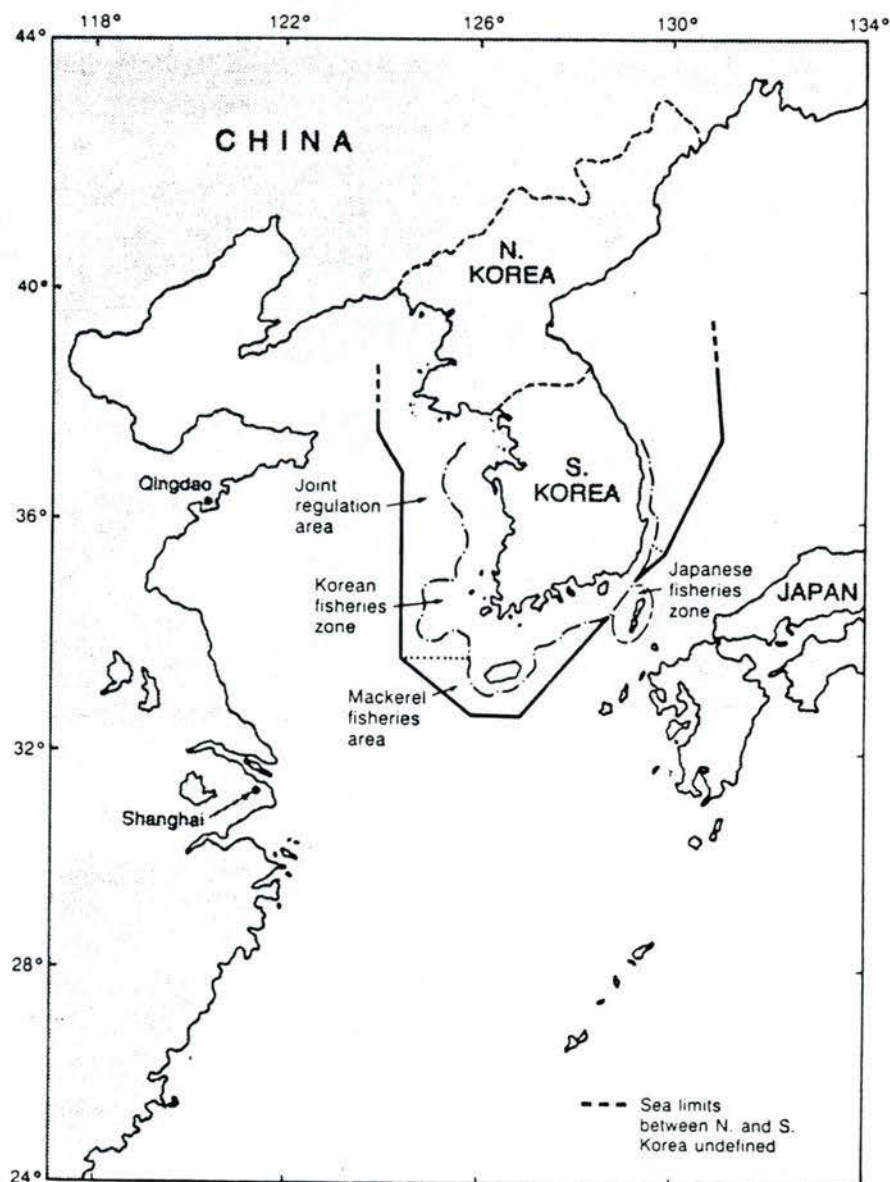
To further complicate the present boundary claims, there are overlapping fisheries zones and two fisheries regulation areas (Maps 10 and 11). The conservation and management areas were established through bilateral treaties.²¹



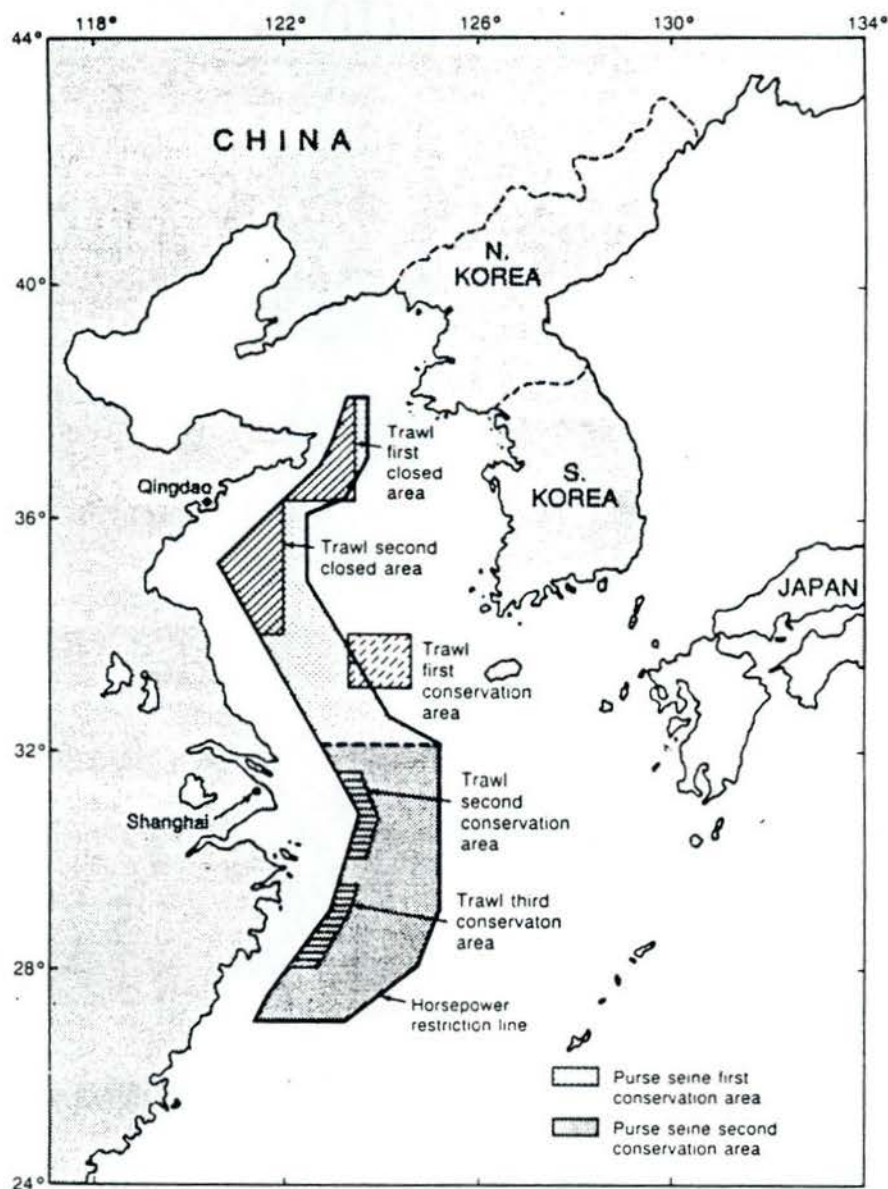
MAP 8. Schematic illustration of the climatic distribution pattern of living resources in the region and adjacent waters. Source: Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Environment and Policy Institute, 1989), 46.



MAP 9. Jurisdictional claims. (Sources: Prescott 1987; Office of the Geographer, n.d.; Park 1983; boundaries, national claims, and hypothetical median lines from Miles et al. 1982a), Source: Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Environment and Policy Institute, 1989), 117.



MAP 10. The fisheries zone and the joint regulation area established by the Japan-ROK fisheries treaty (adapted from Tanaka 1979). Source: Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987), 56.



MAP 11. The treaty area and the regulation area set up by the Japan-PRC treaty on fisheries. (Adapted from Tanaka 1979). Source: Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987), 58.

Since these seas are layered with boundary claims and regulation areas, they require special provisions to conserve and manage the valuable transboundary resources. Article 123 of UNCLOS is a guideline to follow for states interested in cooperating. The Article suggests states should cooperate with one another, directly or through an appropriate regional organization:

1. to co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea;
2. to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;
3. to co-ordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area;
4. to invite, as appropriate, other interested States or international organizations to co-operate with them in furtherance of the provisions of this article.²²

Summary

Transboundary resources are difficult to conserve and manage when they cross several jurisdictions. Because of this, resource conflicts are inevitable. However, articles in the Law of the Sea Convention provide guidelines for Pacific Rim nations to cooperate by jointly conserving transboundary fishery resources, preserving the marine environment, and managing related problems. The causes and effects of regional problems are examined in Chapter IV.

Notes

¹Since the required number of states have not ratified UNCLOS, it is not yet binding. Although, UNCLOS is an appropriate document to use for this study because it is primarily viewed as a reflection of current, customary law.

²United Nations, The Law of the Sea (New York: United Nations, 1983), 18, 30, 39. According to Article 55, the EEZ is an area beyond and adjacent to the territorial sea. As stated in Article 86, the high seas apply to all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of the State, or in the archipelagic waters of an archipelagic State. As defined from Article 122, an enclosed or semi-enclosed sea means a gulf, basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States.

³*Ibid.*, Part II: Territorial Sea and Contiguous Zone, Article 5, 3.

⁴*Ibid.*, Part V: Exclusive Economic Zone, Article 57, 18.

⁵For a complete discussion on boundaries in the North Pacific, see J. R. V. Prescott, The Maritime Political Boundaries of the World (London: Methuen, 1985), 234-256.

⁶United Nations, The Law of the Sea, Part V, Article 56 1(a), 18.

⁷For a further legal discussion on Alaska Pollack and Article 63 and their application to the donut hole in the Bering Sea, see William T. Burke, Memorandum on Legal Issues in Establishing Fishery Management in the Donut Area in the Bering Sea (Seattle: Fisheries Management Foundation, 1988).

⁸United Nations, The Law of the Sea, Part V, Article 63, 22.

⁹George Herrfurth, United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of International Affairs. Telephone interview, 29 November 1989. The squid fishing areas in the northern mid-Pacific are established by national law. Japan established the first area in 1982, amended 1989. Republic of Korea and Taiwan established their squid fishing area in 1989.

¹⁰United Nations, The Law of the Sea, Part V, Article 64, 22.

¹¹Ibid., Article 66, 22. Claims are being made by states (e.g., the United States) that drift-net fishing fleets are catching salmon illegally. However, Article 66, paragraph 1, of the UNCLOS reads coastal states "shall have the primary interest in and responsibility for such (anadromous) stocks." No where in the article does it read coastal states shall have the only or controlling interest in these stocks. This is not an easy international law to interpret, but paragraphs 4 and 5 suggest cooperative efforts.

¹²Ibid., 22-23.

¹³Ibid., Part VII: High Seas, Article 87, 30.

¹⁴Ibid., Article 87 1(e), 31.

¹⁵Ibid., Article 116, 37-38.

¹⁶Ibid., Article 117, 38.

¹⁷Ibid., Article 118, 38.

¹⁸Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Environment and Policy Institute, 1989), Occasional Paper No. 10, 44.

¹⁹Charles E. Morrison, ed., Asia-Pacific Report (Honolulu: East-West Center, 1988), 49-50. A majority of the political information in the following two paragraphs is taken from this source.

²⁰Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987), Occasional Paper No. 3, 46-60. Also see Valencia, International Conference on the Sea of Japan, 68-94. These pages contain additional information concerning fishing and regulation areas in the Northwest Pacific region.

²¹Near this area, there are continental shelf disputes concerning petroleum between the Republic of Korea and Japan, Republic of Korea and China, and China and Japan. For a complete discussion, see Mark A. Valencia, "Northeast Asia: Petroleum Potential, Jurisdictional Claims, and International Relations," Ocean Development and International Law, n.s. 1 (1989): 35-61.

²²United Nations, Law of the Sea, Part IX, Article 123, 39.

CHAPTER IV

REGIONAL PROBLEMS: CAUSES AND EFFECTS

The major regional problems which affect transboundary resources within the semi-enclosed and high seas of the North Pacific are population, technology, rate of exploitation, overfishing, and marine pollution. These problems are discussed below in terms of their causes and effects.

Regional Problems: The Causes

Population

After the late 1800s, populations began growing along both the eastern and western coasts of the North Pacific. With the long-established populations in East Asia, they quickly out-paced the inhabitants of North America. Today, the Chinese population constitutes 20 percent of the world's population. In Japan, the population figure has risen to well over 100 million people.¹ The coastlines of these two countries are so densely populated that their uses and activities create excessive pressures on the marine environment and its inhabitants.²

Population figures for the coast of North America are not as high, but they are increasing. According to one projection, over 80 percent of the U.S. population soon will live within 50 miles of the

oceans.³ A dramatic increase in coastal population places tremendous pressure on fishing industries. The demands of large and rapidly growing populations in East Asia, for example, have caused the fisheries to become an important source for gaining protein and income.

One central theme involving the East Asian countries is best summarized by Larry Hreha, a pelagic fisheries expert with the Oregon Department of Fish and Wildlife: "Just feeding their own population with a cheap source of protein is a major concern. They've got a different set of priorities."⁴ This over-simplification suggests that although the values of East Asians and North Americans are different, there are common problems that affect valuable transboundary marine resources.

Technology

Time-saving technology and techniques are one response to greater demands placed on resources by increasing populations. Since the industrial revolution, for example, the commercial fishing industries have undergone four dramatic shifts. The first major shift occurred from the end of the 1880s to the beginning of the twentieth century when vessels were powered first by steam and then by motor. The second shift came during the 1940s when sophisticated instrumentation was introduced, such as echo sounders and sonars. "The total catch of fish and other living aquatic products tripled from 1948 to 1968."⁵ The third major shift came with the changing of fishing techniques, one result of market growth. A greater number of

fish could be caught by increasing the number, size, and type of nets used. During this period, longlines and synthetic fiber netting were invented. The last shift occurred when long-distance fisheries were developed. This shift brought with it more efficient refrigeration, the power block, power-driven drum, and the stern chute, which mechanized the handling of catches and gear.⁶

Since the introduction of more sophisticated technology and techniques, the quantity and even the quality of the resources have declined. Additionally, the new devices and techniques for such tasks as fishing, oil drilling, and processing have created the ability for humans to overexploit and pollute more easily than ever before. This has resulted in new threats to marine life in the North Pacific. Something as simple as gill nets or as sophisticated as nuclear-powered submarines carrying missiles with warheads change the contents of the oceans entirely.⁷

Rate of Exploitation

Since populations have increased and technology and techniques have become so efficient, the rate of exploitation has risen dramatically. This section is divided into two parts, marine mammals and birds and fishery resources. In the North Pacific, these species are the most vulnerable to the increased pressures of exploitation.

Marine Mammals and Birds

Exploitation of marine mammals has been going on for hundreds of

years, but since the late 1800s, the rate has increased significantly. These changes occurred because of the shift from sailing to steam-driven vessels, the invention of the harpoon, and the invention of motors for boats in the early 1900s. The ability to maneuver vessels more easily allowed whalers to catch faster-swimming marine mammals.⁸

For nearly two centuries, marine mammals have been hunted intensely with ever-newer technology and techniques, leading to an increase in the rate of exploitation. Although the marine mammal populations in the North Pacific suffered greatly, as shown in Table 3, most are slowly recovering. Except for Inuits, whaling has ceased, and the killing of smaller cetaceans has been reduced to coastal fisheries. Japanese coastal fishermen annually kill an average of more than 18,000 small cetaceans of various species including 10,000 Dall's porpoises.⁹

The threat from drift nets places pressure on the populations of seabirds and other types of marine life. Marine pollution in the Northwest Pacific causes another type of pressure on marine mammals and birds that adversely affects their populations. The vulnerable species of seabirds are listed in Table 3.

Fishery Resources

Pressures from overfishing create concerns about severe depletion of very valuable commercial species in the North Pacific region. Stocks from both the Northwest and Northeast region are in trouble. The commercial species from both regions are exploited

TABLE 3. Vulnerable to Endangered Species Found in the North Pacific Region

Species	Distribution	Prewhaling Population	Present Population	Status
<u>Mammals</u>				
Black Right Whale	Worldwide	*	3,000	Endangered
Blue Whale	5 World Regions	166,000-226,000	7,500-15,000	Endangered
Bowhead Whale	5 World Regions	54,680	3,500- 4,417	Endangered
Fin Whale	3 World Regions	> 443,000	96,000-121-714	Vulnerable
Gray Whale	NE,NW Pacific	15,000- 20,000	Nearly extinct in NW Pacific NE Pacific: 13,450-19,210	Recovering
Humpback Whale	Worldwide	> 119,400	8,957-10,489	
Endangered				
Japanese Sea Lion	NW Pacific	*	*	Nearly Extinct
N. Right Whale	3 World Regions	*	*	Threatened
Sei Whale	3 World Regions	*	*	Threatened
White Whale (Beluga)	3 World Regions	*	*	Threatened
<u>Seabirds</u>				
Chinese Crested tern	NW Pacific	*	10-20 (in Thailand)	Nearly Extinct
Crested Shelduck	NW Pacific	*	*	Endangered
Relict Gull		*	*	Nearly Extinct
Ryukyu Kingfisher	NW Pacific	*	*	Nearly Extinct

Sources: Compiled from the World Resources Institute, World Resources 1988-89 (New York: Basic Books, Inc., 1988), 156; Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Center, 1987), 29-30; Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Center, 1989), 28.

* Information not available.

heavily, particularly in the Northwest Pacific. In the Northeast, conservation and management regimes strive to achieve and maintain sustainable fish catch quotas.

The overall conditions of fishery resources in the two regions, however, are declining. This is representative of what is happening world-wide to the commercially-valuable species. According to the World Resource Institute, the world fisheries are approaching maximum sustainable yield.¹⁰ "World fisheries appear to be approaching a catch size that the United Nations Food and Agriculture Organization (FAO) believes may be the maximum sustainable harvest from the oceans."¹¹ In 1986, the world fisheries' harvest was estimated at nearly 91 million metric tons. If aquaculture was not included in the estimation, the figure would be 7 million metric tons less. The FAO's estimated maximum sustainable yield is 100 million metric tons, which will be reached and surpassed in 1991 if the rate of exploitation increases according to the 1986 annual catch rates.¹²

These statistics present complications and even crises, especially for the Northwest Pacific nations. Japan, DPR Korea, and the Republic of Korea have an annual fish consumption of more than 40 kilograms per capita, which implies that the present and future fish catches are invaluable. These crises mean that cooperation among states is important to conserve and manage fish resources.

The interplay between the three causes and the fishing industry are shown in Figure 1. As the model illustrates, when a population begins to grow, technology becomes more efficient, which causes the

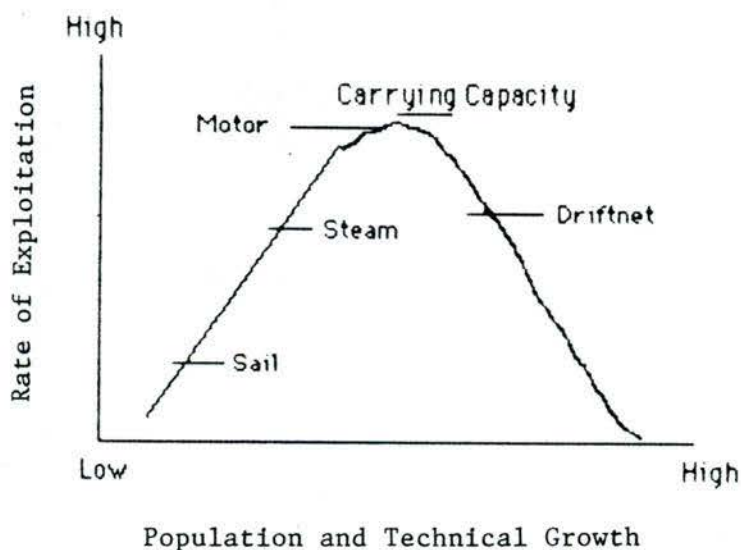


FIGURE 1. Correlation between population growth, technology efficiency, and rate of exploitation involving the fishing industry. Source: Author.

rate of exploitation to increase. The higher the rate of exploitation, the higher the population, and thus, the greater the need for more efficient technology. Finally, when the carrying capacity is exceeded both by too high of population and by too much technological efficiency, the rate of exploitation begins to decline. As in the model, the decline may be so dramatic that the rate of exploitation may be the same as when the technology was less efficient. The entire process of exploitation becomes destructive in terms of renewable and productive biological resources.¹³

Regional Problems: The Effects

Because environmental problems in the Northwest Pacific differ from those of the Northeast Pacific, this section is divided into the two regions. A discussion of the multi-layered effects is necessary to depict the adverse impacts on transboundary resources. Overfishing and marine pollution are the major environmental problems facing states in the Northwest Pacific; overfishing is the primary dilemma in the Northeast Pacific.

Northwest Pacific

Overfishing

For centuries, Chinese and Japanese fisheries have fished for various marine species within the North Pacific region.^{14,15} Marine products, especially fish, continue to be an integral part of the diets and economies of Pacific Rim nations, particularly those of East Asia. For example, approximately one-half of the animal protein intake in the Japanese diet is fish and fish products, and the demand is constantly increasing.¹⁶ The present total fish catch of Asian states is twice that of the states of any other continent.¹⁷

Among the top 15 major fishing nations of the world are Japan, the Soviet Union, China, the Republic of Korea, and DPR Korea (Table 4).¹⁸ The high catch statistics in the Northwest Pacific provide evidence that these countries are linked crucially to fishery resources. In the Yellow, Bo Hai, and East China seas, for example,

TABLE 4. States Fishing in the North Pacific

	Ranked ^a	Factory Ships ^b	Fishing Vessels ^b	NW Pacific ^c	NE Pacific ^c
Japan	1	200,000	1,000,000	9,023,882	730,001
Soviet Union	2	3,000,000	3,000,000	3,005,751	248,834
China	3	50,000	10,000	3,400,000	unk
United States	4	20,000	1,000,000	-0-	515,375
South Korea	8	200,000	500,000	1,914,005	116,565
North Korea	14	50,000	10,000	1,600,000	unk
Canada	N/A	1,000	500,000	-0-	199,183
Others:					
Taiwan	N/A	-0-	100,000	-0-	unk
Poland	N/A	200,000	500,000	-0-	29,372

Sources: Adapted from Alastair Couper,, ed., Time Atlas of the Oceans (New York: Van Nostrand Reinhold Co.), maps, pp. 86-7, 96-7; Charles E. Morrison, ed., Asia-Pacific Report (Honolulu: East-West Center), Table 4.1, p. 51.

^aRanking are from the top 15 fishing nations in the world ranking.

^bFigures are in gross tonnes.

^cFigures are in tonnes according to FAO regions 61 (NW Pacific) and 67 (NE Pacific).

the total catch by China, the Republic of Korea, and Japan has increased by 2.3 million metric tons in 1970 to 5 million metric tons recorded in 1984;¹⁹ "however, maximum sustainable yield is one-half to one-third of that figure."²⁰ (DPR Korea's catch statistics are not included.)

From 1965 to 1984, the weight of the total catch of demersal fish has declined by more than 40 percent due to larger, higher trophic level species being replaced by smaller, lower trophic ones. For

example, the catch of the small yellow croaker (Pseudosciannean polyactis) was the most commercially-dominant demersal species during the 1950s and early 1960s. In 1957, the total catch reached a peak of 200,000 million tons, but by the mid-1960s had decreased to between 30,000 and 40,000 million tons. The present catch is nearly the same, but 80 percent are young fish less than 1 year old.

Since 1980, "smaller-bodied, fast-growing, short-lived, and low value fish" have replaced the larger, higher trophic small yellow croaker (Figure 2).²¹ The results of this trophic shift are significantly less mean body lengths and biomass of fish. For example, in the 1950s the mean body length of all commercial species was 20 centimeters, and in the 1960s it declined to 12 centimeters.

In other words, the total catches of all fish has more than doubled, but the catch of demersal fish has declined by more than 40 percent. This has occurred because the species of fish caught has shifted from smaller numbers of larger fish to increased numbers of smaller fish. This means fish lower on the food chain have replaced fish higher on the food chain. The implications of this are evident in the shifting of locations to other fishing grounds, including within other states' jurisdictions both in the Northwest and Northeast Pacific regions.

In the Seas of Japan and Okhotsk, the implications are virtually the same in terms of overexploitation of fish stocks. The primary species that are, or projected to be affected by overfishing are chum salmon from U.S.S.R. rivers, pollack, Pacific cod, Pacific herring,

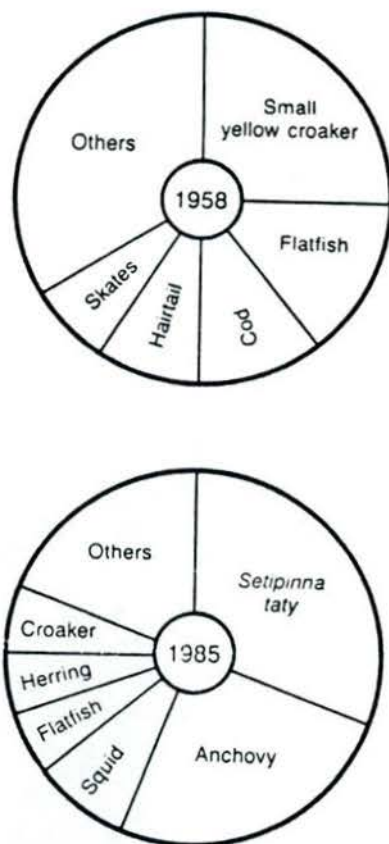


FIGURE 2. Proportion of major species in total catch based on research vessel bottom trawl survey of the Yellow Sea in March-April of 1958 and 1985 (Source: Tang 1987a). Source: Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987), 41.

Japanese sardine, and squid.

The chum salmon originating from U.S.S.R. rivers declined from 80,000 tons in the mid-1950s to about 20,000 tons in 1986, but they are making a come back due to effective enhancement programs in the U.S.S.R. Pollack and Pacific cod make up the majority of demersal fish production in the region: "The pollack catch accounts for about 54 percent of the total marine production from the entire region."⁷²

The catch of pollack from 1952 to 1986 rose from less than 0.5 million tons to an estimated 5 million (these catch figures do not include DPR Korea). Even though statistics do not show that this stock is in serious danger of overexploitation, there are signs, such as a slight decline in catch-per-unit-effort and intensity levels beyond sustainable yields, that indicate it is only a matter of time before catch numbers decline.

The cod catch from 1952 to 1986 also rose from just under 50,000 tons to around 240,000 tons. In 1985, the catch dropped by about 35,000 tons, which may indicate that cod stocks are headed for serious trouble in the near future. Other catches which are being fished beyond their sustainable levels are Pacific herring, Japanese sardine and the flying squid.

In the 1910s, the herring catch was 800,000 tons, but by the late 1980s the figure had declined severely to less than 100,000 tons. The sardine catch rose from 0.25 million tons in 1910 to 5.5 tons in 1986. A dramatic decrease is expected in the sardine stock. In 1968-1969, the flying squid catch peaked at 800,000 tons, and since

then has declined to its lowest level of 150,000 tons in 1986.

From 1982 to 1985, the increase in total production was approximately 9 to 12 million tons. The reasons for the increase vary, depending upon which country is involved. As Mark J. Valencia reported, "all the conventional fish stocks have been nearly fully exploited."²³ In terms of overall sustainable yields, there may be room for a 10 to 15 percent increase of total production between 12.9 and 13.5 million tons. However, in terms of individual stocks and total production for all semi-enclosed seas in the Northwest Pacific region, there are projected decreases expected because the carrying capacity of many species has been exceeded. Overfishing in the Northwest Pacific has caused East Asian governments to negotiate access to waters in the region.²⁴

Marine Pollution

In the Yellow Sea conference proceedings, marine pollution problems are divided into two categories, Western Yellow Sea Water Quality (which includes the Bo Hai Sea) and Eastern Yellow Sea Water Quality. Pollution sources in the western part of the Sea are domestic sewage, industrial wastewater, oil discharges from vessels and ports, oil and oily mixtures from oil exploration, and chemicals. Valencia reports that "more than 100 million tons of domestic sewage and about 530 million tons of industrial wastewater from coastal urban and rural areas are discharged into the nearshore areas of the Yellow Sea each year."²⁵

Sixty percent of all oil pollution in the Sea comes from domestic sewage and industrial wastewater. Other sources are from ships and coastal oil field, which makes up 39.7 percent. The remaining 0.3 percent results from offshore platform operations. Even though the percentage of oil pollution from platforms does not seem significant, a major spill can adversely affect the fish caught for consumption for a year or more.

The last major source of pollution in the western region of the Yellow Sea comes from chemical discharges. Inorganic nitrogen and benzene hexachloride (BHC) originate mainly from rivers that flow into the Sea. In water samples from this area, concentrations of inorganic nitrogen measured 96.9 percent at the surface and 97 percent near the bottom. The BHC concentrations measured 99 percent at the surface and near the bottom. These concentrations, which vary according to season and location, are a direct result of increasing populations along the shores of the western Yellow Sea.

In the eastern Yellow Sea, the major forms of pollution are red tides and ocean disposal. In this region, red tides are a combination of pathogenic bacteria, parasitic cercaria, and high concentrations of pesticides. Between 1972 and 1979, there were 100 red tides near the oyster growing areas and local fishing grounds near the southern coast of Korea. In 1981, red tides affected many of the marine organisms in the region, including a few species of copepods and the hard clam (Meretrix lusoria). Red tides also adversely affect the feeding grounds of other sedentary species, as well as bathing beaches,

especially during the months of July and August when the circulation of the Sea is actively moving.

Presently, ocean disposal is allowed by the Republic of Korea on a limited basis. In the future, however, disposal of titanium oxide, acid iron, radionuclide, and dredge spoils by bordering states may become more cost-effective. These pollutants can adversely affect valuable demersal fisheries by contaminating their feeding grounds.

The marine pollution in the Seas of Japan and Okhotsk that affect the transboundary resources are divided into land- and sea-based sources. The land-based sources include industrial and port-related activities, nuclear power plants, and river runoff. Chemical pollutants originating from coastal industrial and port activities have resulted in extraordinarily high levels of mercury concentrations in nearshore sites. High concentrations of oil measured in locations along the Japanese coast within the Sea of Japan also contribute to the pollution problem.

Nuclear energy is being pursued as an alternative source to coal, oil, and wood. Given the present projections, by the year 2000, Japan will have in operation 48 nuclear power plants producing 39 percent of its total electricity. The Republic of Korea is also expected to increase its number of nuclear power plants in the coming years. With this increase in plants, pollution from additional heat and small amounts of radioisotopes will be released into the marine environment. The risk of releasing large amounts of radioisotopes accidentally is also increased.

The last major land-based source of pollution is from river run-off containing chemical fertilizers and pesticides which are carried into the seas. The flow of chemicals causes increasing incidents of red tides and results in the problems of recreational beaches and of fishing areas which contain benthic filter-feeders and smaller organisms. These problems create adverse environmental and socio-economic impacts to coastal communities.

Sea-based pollution sources are ships and other types of vessels. Pollution problems from tanker accidents are oil and chemical spills, and, with the projected two-fold increase in maritime traffic, tanker accidents are expected to rise. Intentional discharging of oil by vessels other than tankers, permitted by national laws and regulations, also creates problems. The increasing number of vessels permitted to discharge pollutants may become significant in terms of degradation to marine species and their environment.

Another sea-based problem on the rise is the dumping or disposal of marine debris. The persistent plastics and netting discarded in the ocean and seas adversely affects marine species. For example, fish, marine birds and mammals either ingest small plastic materials (e.g., pellets, beads) or become entangled in "ghost" nets floating unattended.

Northeast Pacific

Overfishing

Development of fisheries in the Northeast Pacific is a result of Europeans moving westward at the end of the nineteenth century and settling along the coasts of Alaska, British Columbia, and Washington. The main fishing centers of these newly established settlements included Vancouver and Seattle.²⁶ Prior to this period, Native Americans dominated fishing in these and other nearshore waters.

Presently, states fishing in this region are Canada, China, DPR Korea, Japan, Poland, the Republic of Korea, Taiwan, the United States and the U.S.S.R. (Table 4). In particular, the East Asian states are fishing in the region because their fish stocks in the Northwest Pacific have been markedly reduced.

High Seas Salmon and Albacore Interceptions

East Asian fishing fleets began using drift nets about 10 years ago, "plying the ocean for more than half the year in a mid-Pacific area larger than the United States."²⁷ Although, Japan, Taiwan, and the Republic of Korea continue to use drift nets while fishing for their targeted species of squid, billfish, and albacore tuna, they are now restricted to smaller areas (Map 6) by national laws; Japan's salmon fleets are regulated under international law (Chapter V). The combined fleets range from 700 to 1,200 vessels,²⁸ with about 800

vessels from Japan, Taiwan, and the Republic of Korea involved in the squid drift-net fishery, 470 of which are owned by the Japanese.²⁹

Drift nets used in the North Pacific average 30 to 35 miles in length, more than 30 feet in depth and potentially cover more than 30,000 square miles of ocean on any given day.³⁰ The nets trail 20 to 50 miles behind the fishing vessels. Earthtrust, an environmental organization, estimates that some fleets deploy 30,000 miles of net each night, more than enough to encircle the globe.³¹ A biologist from Earthtrust stated that it is possible for new technology to create 80 to 90 mile long nets.³² The catch estimate for squid caught in the North Pacific is roughly 200,000 metric tons annually.³³

Pacific salmon caught by the United States and Canada in 1987 was 475 million pounds, 761 million pounds in 1983, and only 791 million pounds in 1988.³⁴ These overall catch figures do not, however, represent the complete picture of the salmon stocks from North America. In California's Sacramento River, for example, only 600 Chinook salmon made the winter run upriver. Twenty years ago 120,000 Chinooks spawned there. Since this is the state's most valuable spawning ground, the negative impact is obvious. Salmon runs in North America, particularly in Alaska, are also severely depleted.

The declining numbers of salmon are attributed to East Asian squid gill-net fisheries, which snare and process North American salmon.³⁵ The Asian drift-net fleets annually snare an estimated 10,000 to 30,000 metric tons of salmon worth roughly \$21 to \$30 million;³⁶ these figures represent only the salmon stocks which are

bound for North American rivers to spawn. The State Department estimates that Asians harvest approximately \$400 million worth of salmon each year.³⁷ They have opened private markets to sell the fish and fish products, including North American salmon, which they are presently catching in the high seas of the northern Pacific Ocean. For example, in April, 1989, an American and Japanese seafood broker and a Japanese company tried to market 24 million pounds of salmon, which were caught on the high seas by Taiwanese fishermen. Undercover fisheries agents from Seattle, Washington, say the black market negotiated price would have been about \$47 million.³⁸

In October 1989, another incident involving black market salmon was reported. A cannery in Thailand offered to sell to French brokers thousands of tons of North American salmon, caught either by Taiwanese or Korean fishermen. The total sell equaled about 2,340 tons of canned pink salmon worth about \$8.7 million. The cannery asked \$44.50 per carton, and each carton contained 48 half-pound cans of pink salmon. According to North American brokers, similar U.S. and Canadian products sell for \$58 per carton. The U.S. and Canada are not able to match the \$44.50 offer, which means that Thailand was underselling the U.S. product by 30 percent. This incident resulted in a "trade alert," signalling that major French salmon traders may have already started buying salmon that came originally from either North American or Soviet rivers.³⁹

The decline in North American salmon can also be seen in local economies and businesses. For example, a University of Alaska study

has concluded that fish (including salmon) that have been poached represent a loss of \$7.7 million to cannery employees and \$54.7 million to Alaska processors.⁴⁰ One example of direct hardship caused by the use of drift nets occurred at OreAqua, near Newport, Oregon, where the numbers of returning salmon are drastically reduced. In 1988, OreAqua released 4 million coho salmon with a projected return of 100,000. When the runs ended in October 1989, only 30,000 coho had returned. The 70 percent reduction in returns represents a \$2.5 million loss for the company, Newport, and the State of Oregon.⁴¹

An official from OreAqua suspects foreign gill-net fisheries caused the low returns because the fish that returned are undersized, indicating that the larger ones were snagged. Scars that show contact with monofilament netting were noted as well.⁴² Many west coast fishermen are concerned about the immature salmon. If too many juveniles are snared on their way out into the open ocean, a devastating gap in the food chain and age structure could be created, and salmon populations could be altered for years to come.

Albacore tuna is a pelagic fish, lives mostly in the high seas, and are susceptible to high seas drift nets. Asian drift-net fleets consists of about 1,200 boats, and of that number there are 470 Japanese-owned vessels that use large-mesh nets to fish for albacore (Map 6). Taiwan's fleet of 166 boats and Korea's fleet of 147 boats fish for both squid and albacore. Along the west coast of North America, there are approximately 300 active albacore boats (the number of boats varies according to catch statistics). North

American albacore fishermen use troll lines, which is considered the "cleanest" method, since the gear consists mainly of a dozen hooks on a line, with several lines used at one time.⁴³

Although the U.S. consumes more imported and domestic albacore combined than any other nation in the world, in the future this may not be the case. Peter DeFazio, a Congressional Representative from Oregon, reports that of the 244.5 million pounds of canned tuna imported by the United States in 1988, 232 million pounds were most likely caught in drift nets. The price of imported albacore caught in drift nets and imported into the United States is roughly \$250 million.⁴⁴

The squid and albacore drift-net fisheries from East Asia affect the North American albacore tuna catch as well. From 1981 to 1989, there has been an estimated 90 percent catch reduction. The west coast albacore tuna fishermen are finishing their worst fishing season on record.⁴⁵

The Western Fishboat Owners Association (WFOA), which represents Oregon, Washington, Alaska and British Columbia, projects that the 1989 catch will be 1,400 metric tons, down nearly 3,500 metric tons from the 1988 catch. In 1981, the U.S. fishermen were paid about \$24.5 million for their catch. In 1989, the estimated payoff was \$2 million. Drift-net fishing is suspected because of the observed net marks on many albacore caught this past season.

WFOA projects that many of the trollers will lose their jobs in the near future if drift nets continue to operate in the North Pacific.

Prices are lower if drift nets are used, but the quality of the fish is reduced because of damage from being left in the nets overnight. As albacore becomes more scarce, prices will rise even further on North American products. Scarcity is expected to occur if a large percentage of young are caught before they spawn, a major concern expressed by WFOA.⁴⁶

Environmental Impacts From Drift Nets

The use of drift nets not only affects the economic climate of the Northeast Pacific, but the environmental balance as well.⁴⁷ Congressman Peter DeFazio referred to the use of drift nets in the North Pacific when he said, "They are strip-mining the oceans to create biological deserts."⁴⁸

Environmentalists from North America have compared drift-net fishing to clear cutting a forest. Drift nets are changing the nature of the ocean by killing thousands of marine mammals annually. Besides killing, porpoises and seals, hundreds of thousands of sea birds and an unknown number of sharks and other marine life are also killed each year by drift nets.⁴⁹ In 1987, the environmental group, Earthtrust, made a dramatic video of the tragedies occurring to entire schools of sea life, which have led North American governments and their agencies to take action.⁵⁰

Under informal and formal contracts, U.S. fisheries' observers from each state were placed on Japanese squid boats.⁵¹ During the observation period, a total of 63 nets were set, and 111 dolphins and

porpoises and a number of birds were entangled in the nets. Fourteen northern right whale dolphins were taken in a single set. When a gill net is hauled into the boat and fish of no commercial value are found, they are thrown overboard, either dead or injured. In some cases, the nets are cut or lost and become "ghosts" as they drift through the ocean catching species in their path.⁵²

In May 1989, the United States Department of Commerce released a study stating that there is "serious concern" for marine mammals, especially northern fur seals. However, there were no specific or estimated figures given. The report does state that the nets could potentially snare several hundred thousand sea birds annually.⁵³

In the South Pacific, drift-net fishing has been linked to the killing of large numbers of marine mammals and other sea life while catching tuna.⁵⁴ In October 1989, the Bush administration supported a moratorium on drift-net fishing in the South Pacific.⁵⁵ Several lawmakers are now pointing to this precedent, and demanding a similar ban in the North Pacific.

Based upon the negative press coverage that the Japanese gill-net fishery was receiving and a possible ban by the United States, the National Common Squid Fishery Association released a statement in late October 1989. The Association, a Japanese fishing organization located in Tokyo, disputes the contentions made by United States fishing and environmental organizations that drift-net fishing indiscriminately catches marine life. The group included in their remarks that Japanese drift nets have not harmed U.S. salmon stocks.

The director of the Tokyo Association defended the use of drift nets by stating that the nets operate at depths and temperatures suitable only for target species, and that they have gaps to allow nontargeted species to escape. In the case of lost or "ghost" nets, he said they quickly get bunched into balls and become incapable of catching fish. If a ban was supported by the United States, the director declared, it would put 8,000 crew members out of work, disrupt Japan's processing industry and waste millions of dollars of investments.⁵⁶ Statistics were not, however, provided when the statement was given.

High Seas Pollack Fishing Conflicts

The Bering Sea is one area where productive bottom fishing takes place. Alaska pollack are particularly abundant in this area (Map 5). However, most of the prime fishing grounds for pollack are found within the United States' exclusive economic zone. This zone is off-limits to foreign fishing fleets, unless an international agreement is signed with the United States (see Chapter III).⁵⁷ Since the late 1970s, when Canada and the United States extended their exclusive economic zones (EEZs) to 200 nautical miles, most foreign fishing fleets made adjustments by moving their fleets beyond the outer limits of coastal states' jurisdictions. However, the United States allowed Japan to fish within their exclusive fishery zone. The primary states presently fishing for pollack in the Northeast Pacific region are Canada, China, DPR Korea, Poland, the

Republic of Korea, the U.S.S.R., and the United States. "By weight, pollack accounts for nearly a quarter of the 24.6 million metric tons of fish harvested annually in the region."⁵⁸

As a result of the decreasing catch of pollack in the Northwest region, greater pressure is being placed upon this biologically rich area. For example, Japanese companies are now having difficulties ensuring supplies of pollack, which they use for such fish products as artificial lobster claws.⁵⁹ One side effect from this type of pressure is that Asian fishing is taking place in either U.S. or U.S.S.R waters.

One adjustment made by foreign fleets is to fish more intensely in the donut hole.⁶⁰ Fishermen in Alaska and the Soviet Union are concerned about the Japanese, Korean, Chinese, and Polish boats fishing north of the Aleutian Islands. They are either all fishing in the donut hole and/or straying into coastal waters. The U.S. fishermen in Alaska have reported that intruders hauled in 13 times as much Alaska pollack in 1988 than the 1.4 million tons caught in 1984.⁶¹

The intruders' catch increase has resulted either from a greater number of vessels and gear in the donut hole, the increased number of vessels and gear in U.S. waters, or both. If the foreign fleets are fishing without permission in the EEZs, they are clearly going against international law. According to Ted Kronmiller, formerly with the United States Department of State, if they are trawling strictly in the donut hole, there is little authority for enforcement provided to the coastal states in international law, particularly as reflected in UNCLOS.⁶²

Political Discord

One significant consideration, especially from the point of view of Oregon, Washington, and Alaskan politicians, is that fishing and environmental interest groups are extremely upset and concerned about drift nets. For example, SEACOPS, an Alaskan group seeking an end to the drift-net fisheries, claim the drift-net fleets are no better than pirates.⁶³

In April 1989, for example, a Taiwanese vessel cut its nets and fled when it was approached by a Coast Guard cutter. The vessel was fishing in waters 450 miles outside the designated fishing zone. While the cutter was approaching, the fishermen disposed of all their fish cargo. Upon boarding, Coast Guard personnel discovered that the hold was empty.⁶⁴

Many politicians from the west coast of the United States have responded to the growing number of economic and environmental concerns by submitting bills to Congress that would ban drift nets or products caught in drift nets by East Asian countries. In 1988 and part of 1989, the problems created from drift-net fishing and high seas harvesting of pollack were addressed at the high levels within the United States government. The highlights are outlined in Appendix A. Since April 1989, a number of important national and international political events have taken place, which will eventually affect the future of gill-net fishing in the North Pacific. The significant political events are summarized below.

In mid-April 1989, two lawmakers from the west coast of the

United States claimed the Office of Management and the Budget was engaged in "political footdragging" by not releasing a report on foreign drift-net fishing in the North Pacific. In 1987, legislation had been approved by Congress and signed by the former president, Ronald Reagan, directing the Commerce Department to prepare a report. The report's objective was to provide the "nature, extent, and effects of drift-net fishing in waters of the North Pacific Ocean on marine resources of the United States."⁶⁵

According to the 1987 Driftnet Monitoring, Assessment and Control Act, the report was to be submitted to Congress and required the department to notify the president if states using drift nets did not sign monitoring and enforcement agreements with the U.S. by June 29, 1989. If a state did not sign the agreement, the president had the authority to place an embargo on the importing of seafood products from the country that did not sign.⁶⁶

By the first of May, limited copies of the draft report were available for review. The report claimed few facts were available, except for the following four points:

1. In fisheries with more than 40,000 drift net sets per year, the incidental take of marine mammals could be tens of thousands of animals;
2. Driftnet fishing may have a negative effect on the recovery of northern fur seals, listed as a "depleted" species by the National Marine Fisheries Service;
3. As much as 6.2 percent of the world population of some seabird species could be killed each year by driftnets; and
4. The incidental harvest of salmon will continue to be significant as long as there is a large amount of drift-net fishing in the North Pacific.⁶⁷

The report also stated that drift nets have not had any major impacts on the stable albacore tuna stocks.

By mid-May 1989, the United States, Canada, and Japan reached a tentative agreement. The agreement itself is discussed in Chapter V. In response to the agreement, members of the United States Congress, fishermen, and environmentalists said it was inadequate to protect marine life. According to a Japanese Embassy official in Washington, D.C., the fishing industry was not in favor of the scheme, but were not surprised when the agreement was made.⁶⁸

Also in May 1989, Polish and Soviet vessels were caught fishing in the EEZ off Alaska and intercepted by Coast Guard boats. The cargo of Alaska pollack was confiscated. The vessel operators claimed that they accidentally strayed into coastal waters. In June 1989, Taiwanese fishermen were caught throwing blocks of frozen salmon over the side of their boat during a high-speed chase with a Coast Guard cutter on the high seas.⁶⁹ After the incident, an accord was reached by the United States and Taiwanese governments to monitor Taiwan's fishing practices.

In mid-August 1989, President George Bush warned the Republic of Korea's government that they faced a possible ban on shipments of their fishery products if an agreement was not reached by September. By the first week in September, the United States and the Republic of Korea reached a tentative agreement on drift nets in the North Pacific. In September 1989, the United States and Soviet Union met in the U.S.S.R. to discuss the harvesting of high seas salmon, the

donut hole, and possibly the drift net issue.⁷⁰

Lawmakers from Alaska, Washington, and Oregon are seeking a ban to all drift-net fishing in the North Pacific, and so far they have fifty supporters in Congress. In mid-September 1989, Ed Wolfe, the State Department's ambassador for oceans and fisheries, said in an interview that the high seas interceptions "are affecting our stocks. But we need to see proof. We need statistically reliable data on which to base our decision."⁷¹ Ambassador Wolfe prepared an internal options paper that develops a long-term strategy to deal with "the wasteful and indiscriminate practice of drift-net fishing."⁷² He also said in the interview that the drift-net issue will eventually have to be addressed on an international level.

A significant event occurred in October 1989, when the Bush administration supported a ban of drift nets in the South Pacific. This sent positive signals to those in favor of a similar ban in the North Pacific. However, Ambassador Wolfe re-emphasized the fact that there will be no support for such a ban in the North Pacific until the end of the 1990 fishing season, when enough data has been gathered by observers.⁷³

Congressman Peter DeFazio introduced a bill into Congress in October 1989, that would ban the import of products caught in drift nets. The bill is currently being considered in the House of Representatives.⁷⁴

A final consideration that may indirectly affect the dynamics between the United States and Japan are changing trade relations.

Formerly, there was friction between the United States and Japan concerning trade, but presently "there is a new push for economic cooperation in the Asia-Pacific region."⁷⁵ If either a ban on drift nets or seafood imports takes place, it may disrupt the newly improving relations between the two countries.

Summary

Transboundary resource problems, both their causes and effects, provide the optimum forum for countries to focus on similar conservation and management concerns. Overfishing and marine pollution in the west and overfishing in the east are excellent examples of common problems worthy of regional cooperation.

Notes

¹Michael Waldichuk, "Draft: The North Pacific," ed. Inter-governmental Oceanographic Commission and UN Environment Programme, The State of the Marine Environment (Paris: IOC or Nairobi: UNEP), 1. Report is scheduled for release in 1990.

²Ibid.

³Elise Jones, "Coastal Barriers: Fragile Treasures," Wild Oregon (Winter 1987-1988): 13.

⁴Larry Bacon, "Asian Drift Netters Anger U.S. Trollers," The Register-Guard (Eugene), 22 October 1989, 4(A).

⁵Encyclopaedia Britannica, 1983 ed., s.v. "Fishing, Commercial," 352.

⁶Ibid. All historical information pertaining to the commercial fishing industry was taken from this source.

⁷William Arkin and Joshua Handler, Naval Accidents of 1945-1988 (Washington: Greenpeace, 1989); The Christian Science Monitor, "Nuclear Threat at Sea," 15 May 1989, 20; Daniel Benjamin, "Soviet Subs in Trouble," Time, 10 July 1989.

⁸O. Hertz and F. O. Kapel, "Commercial and Subsistence Hunting of Marine Mammals," Ambio, n.s. 3 (1986): 114-151.

⁹Karen Mulvaney, "Small is Difficult," BBC Wildlife (June 1989): 364-365.

¹⁰The World Resources Institute, World Resources 1988-89 (New York: Basic Books, 1988), 145-148.

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¹²Ibid.

¹³Political considerations should also be taken into account when discussing significant causes of problems. In the Northwest Pacific, political and ideological barriers currently affect transboundary resources negotiations. For example, China and the Soviet Union do not have diplomatic relations with the Republic of Korea. The Soviet Union's present policy of glasnost, however, reflects that their priorities are beginning to change. See Serguet Morozov, "'Glasnost' of the Oceans," The Siren (July 1989): 17-18. While some barriers may be eliminated, recent youth-dominated

uprisings in China have caused their government to respond with a stronger commitment to communism, so the tension between China and the Republic of Korea may continue. Japan and DPR Korea also have no diplomatic relations at this time, and the well-publicized friction between the two Koreas creates extreme difficulties in coordinating cooperative ventures. An immediate resolution to these differences seems unlikely in the near future. For a complete discussion on political considerations involving maritime issues in the Northwest Pacific region, see Barry Buzan, "Maritime Issues in North-East Asia," Marine Policy, n.s. 3 (July 1979): 190-200.

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¹⁶Ibid., 97.

¹⁷Charles E. Morrison, ed., Asia-Pacific Report (Honolulu: East-West Center, 1988), 51.

¹⁸Ibid., Table 4.1, 52.

¹⁹Ibid. Also see Valencia, International Conference on the Yellow Sea, 33, 43.

²⁰Ibid., 43.

²¹Ibid., 41.

²²Ibid. Also see Valencia, International Conference on the Sea of Japan, 56.

²³Ibid., 67.

²⁴Morrison, ed., 52.

²⁵Valencia, International Conference on the Sea of Japan, 71.

²⁶Couper, ed., 96.

²⁷Larry Bacon, "Driftnets Pose Peril to Sealife," The Register-Guard (Eugene), 1 May 1989, 1(A), 4(A).

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³⁰The Associated Press, 13 April 1989; Bacon, 1 May 1989, 1(A).

³¹Ibid., 1 May 1989, 1(A).

³²Shabecoff, 18 May 1989.

³³Bacon, 22 October 1989, 1(A), 4(A).

³⁴James L. Graff, "After the Flounder Are Gone," Time, 7 August 1989, 38-39.

³⁵The Associated Press, 13 April 1989.

³⁶Ibid., 13 April 1989; Bacon, 1 May 1989, 4A; Les Blumenthal, "Timing of Driftnet Ban Argued," from The Associated Press in The Register-Guard (Eugene), 17 September 1989, 3B.

³⁷Graff, 7 August 1989, 38.

³⁸Bacon, 1 May 1989, 1A, 4A.

³⁹Les Blumenthal, "Illegally Caught Salmon May be for Sale," from The Associated Press in The Register-Guard (Eugene), 5 October 1989, 3B.

⁴⁰Bacon, 1 May 1989, 4A.

⁴¹The Register-Guard and news service reports, "Salmon Ranch Threatened by Scarcity of Fish," The Register-Guard (Eugene), 5 October 1989, 5(C); Larry Bacon, "Salmon Ranching May Die," The Register-Guard (Eugene), 3 November 1989, 1(A), 4(A).

⁴²Ibid., The Register-Guard, 5 October 1989.

⁴³Bacon, 22 October 1989.

⁴⁴Bacon, 18 October 1989.

⁴⁵Bacon, 22 October 1989, 4(A).

⁴⁶ Ibid.

⁴⁷ Blumenthal, 17 September 1989.

⁴⁸ Bacon, 18 October 1989.

⁴⁹ The Associated Press, 13 April 1989; Shabecoff, 18 May 1989.

⁵⁰ Bacon, 1 May 1989, 4(A).

⁵¹ George Herrfurth, United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of International Affairs, telephone interview by author, 29 November 1989 to Washington. In 1982, an informal agreement was reached with Japan through individuals at the University of Washington and the National Marine Fisheries Service, Seattle, Washington. In 1986, a formal contract was signed with Japan; see Lawrence M. Tsunoda, "Observations on Board a Japanese, High-seas, Squid Gillnet Vessel in the North Pacific Ocean 1 July-14 August 1986" (Seattle: National Marine Fisheries Service, February 1989). In 1988, a formal contract was signed with the Republic of Korea; see Perry Gooder, "Observations on Board the Korean Squid Driftnet Vessel, Oyang 53 9 June-6 August, 1988" (Seattle: National Marine Fisheries Service).

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⁶⁰ Clarence G. Pautzke, Executive Director, North Pacific Fishery Management Council to David L. Livengood, 12 May 1989, transcript in the hands of David L. Livengood, Environmental Studies Center, University of Oregon, Eugene.

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CHAPTER V

CURRENT REGIONAL COOPERATION

Among the northern Pacific Rim states, conflicts exist and create tensions, but they also create potential opportunities for regional cooperation. The cooperative efforts currently being undertaken by the Rim nations to study, manage, and conserve transboundary resources are discussed below.

Past regional cooperation, based upon bilateral and trilateral agreements, was restricted predominantly to a single species or problem. These efforts are briefly listed in Appendix B. Recently, multilateral agreements have focused on regional problems, but cooperative efforts have been limited by political and ideological differences. These differences cause difficulties in communication among states. Since the quality and quantity of transboundary resources are diminishing, efforts are more successful. Present cooperative efforts of the Northwest and Northeast Pacific are covered below.

Northwest Pacific

According to Article 123 in the UN Convention on the Law of the Sea, states bordering semi-closed seas are to cooperate directly or through an appropriate organization (see Chapter III).¹ Recent events indicate that China, DPR Korea, Japan, the Republic of Korea,

and the U.S.S.R. are beginning to cooperate with one another.

Formal cooperation in the Northwest Pacific, beginning with three international workshops concerning the Yellow and East China Seas and the Sea of Japan, was initiated by a proposal.² The goals of the workshops were to: (a) equalize knowledge; (b) increase mutual understanding of each nation's perspective on transboundary issues; and (c) try to avoid or better manage conflicts regarding the shared resources.

From June 23 to 27, 1987, the first of the three conferences was held in Honolulu, Hawaii, at the East-West Center. Professionals from the bordering countries of China, Japan, and the Republic of Korea, as well as the United States, India, and others from international organizations and agencies, met to discuss the Yellow Sea. The conference was considered a success by the attending members, with the exception of DPR Korea, which was not represented. At the conference, information was exchanged, consolidated, and published.³

Five transboundary issues involving fisheries were suggested:

1. The role of North Korea in Yellow Sea fisheries and their management.
2. The possible declaration by China and South Korea of EEZs and the possible eventual exclusion of Japan from fishing in the Yellow Sea;
3. Data standardization, collection, and exchange to provide a comparable statistical basis for decisions;
4. The regulation of shared stocks within the Yellow Sea, including those shared with the East China Sea; and

5. The regulation of overfishing in a multi-species fishery and the allocation of resources.⁴

The possible cooperative responses developed as a result of the conference include:

1. Modification of existing arrangements to develop a coordinated approach to improving the scientific basis for regulation, with Japan serving as the go-between;
2. Creation of a 4-nation nongovernmental arrangement; and
3. Establishment of a scientific organization either de nouveau for joint monitoring and research stock status or as a working group of existing international organizations like WESTPAC.⁵

Marine pollution was an important topic, because it is a regional problem that affects such transboundary resources as fisheries. Additionally, a sincere interest was expressed in cooperating further on pollution problems that affect the Yellow, Bo Hai, and East China seas. The transboundary issues identified include:

1. Cooperation in the study of transboundary pollution, including intercalibration, baseline studies, coordination in emergencies, and possibilities of ocean disposal;
2. The adjustment of national initiatives so they are compatible with emerging international legal and technical obligations (e.g., United Nations Convention on the Law of the Sea, the London Dumping Convention, United Nations Environment Programme's Regional Seas Programme) and with one another; and
3. Possible enforcement of environmental regulations near or across disputed boundaries.⁶

Possible responses and a plan of action to address the regional issues mentioned include:

1. Establishment of coastal management plans;

2. Assessment of priorities for marine resource management and areas of the coast and the Sea most at risk;
3. Creation of marine parks to protect fish spawning areas and establishment of estuarine and wetland protected areas for seabirds and juvenile fish that inhabit these areas;
4. Initiation of national and international workshops to discuss the shared resources, conduct research, and make available the findings to interested parties (research priorities might include the effects of red tides, heavy metals, chlorinated hydrocarbons, and tributyl tin or TBT);
5. Inclusion of land-based polluters at all stages of environmental management discussions; and
6. Consideration of the social and economic implications of development.⁷

At the conclusion of the conference, it was recommended that the bordering states have another meeting on the Yellow Sea in 1990. The suggested topics for discussion include: (a) offshore activities; (b) socio-economic aspects; and (c) the integration of information concerning the Bo Hai and East China Seas.

On October 11 to 14, 1988, the second conference was held in Niigata, Japan, where transboundary problems affecting the Sea of Japan were discussed. The participating bordering states represented included South Korea, Japan, and China. Several individuals who represented academic institutions and international organizations also attended. The meeting was not considered a complete success because DPR Korea and the U.S.S.R. did not attend. However, a significant amount of information was exchanged and consolidated into a publication.⁸ The transboundary resource responses involving fisheries are:

1. Coastal states should standardize their data on fishery resources and release them;
2. Information covering all the major species currently utilized should be released in a timely manner for detecting any changes in the ecosystem;
3. Frequent and reciprocal exchanges of scientists between laboratories in different countries concerned with resources assessment to intensify technical cooperation on a bilateral and regional basis;
4. Laboratories should encourage visits by other scientists of other nations and share data while they are visiting;
5. Conduct multi-nation working, scientific sessions in neutral locations dealing with one or many species.⁹

The major cooperative research actions needed by each country bordering the Sea of Japan are to:

1. Intensify research on fish sources to gain scientific data to preserve the fish stocks and their feeding and spawning grounds;
2. Jointly investigate stocks which over-winter and spawn in the waters of the coastal countries;
3. Agree on a management scheme that would mutually conserve fish resources by limiting fishing quantity and vessels or would implement closed fishing zones;
4. Working with international organizations, such as FAO, IOC and regional agencies, to conserve and develop stocks or exchange scientific information.¹⁰

Four recommendations requested from the conference concerning the marine environment. They are: (a) for UNEP and the International Maritime Organization to consult with the bordering nations concerning the feasibility of a Regional Seas Action Plan, which would include aspects of pollution control (vessel source and land-based) and contingency plans and measures for offshore installations;¹¹ (b) to harmonize the national laws and implement cooperative monitoring,

focusing on ocean dumping, red tides, and the environmental hazards of developing nuclear power; (c) to acquire more information on the ecology of the western and northern regions of the sea; and (c) to form a small ad hoc working group that would focus on environmental protection and the monitoring of pollution in the Sea of Japan.¹²

Because the workshop in Japan was not considered successful, the International Conference on the Seas of Japan and Okhotsk was held in Nakhodka, U.S.S.R., from September 17 to 22, 1989. The conference participants from the region included China, DPR Korea, Japan, the Republic of Korea, and the Soviet Union. This conference was successful because all the bordering states were present, and information was exchanged among participants. Several others attended, such as academic, international organization and agency professionals, including a UNEP representative from Moscow State University. The conference proceedings are scheduled to be published early in 1990.¹³

The last conference in the series of three was to discuss the East China and Yellow seas. This conference was to be held in Seoul, Korea, and co-sponsored by a national marine laboratory. However, due to political reasons concerning the necessary attendance of China and DPR Korea, the conference has been postponed indefinitely.¹⁴

The recent status of cooperation in the Northwest Pacific has evolved to a point where the assistance of an international agency (i.e., UNEP) is required to develop a regional action plan. At the recent UNEP Governing Council meeting, held in Nairobi, Kenya, from

May 15 to 26, 1989, the states of the Northwest Pacific indicated that such assistance would be welcomed in resolving regional marine pollution problems. A summary of the statements from the individual representatives are as follows:

China: We recommend to first call a meeting to discuss common problems applicable to the Northwest Pacific region, and to set aside political and ideological differences. We also recommend that UNEP take the initiative in setting up such a meeting of experts.

Japan: In principle, we would like to see a Regional Seas Programme in the Northwest Pacific developed. For this to happen, UNEP must take action to set up the initial meeting of experts from all the states concerned. There is support available for UNEP to take such action.

Republic of Korea: There is a second scientific symposium planned for February 1990 in Japan. The environment should take precedence over any ideological and political differences between Northwest Pacific states. We are especially concerned with pollution in the Yellow Sea, thus, we urge UNEP and the countries involved to cooperate.

U.S.S.R.: We recommend that UNEP call a meeting of experts from China, DPR Korea, Japan, the Republic of Korea, and the U.S.S.R. The purpose of the meeting would be to discuss pollution problems in the Northwest Pacific region, which would lead to an action plan.

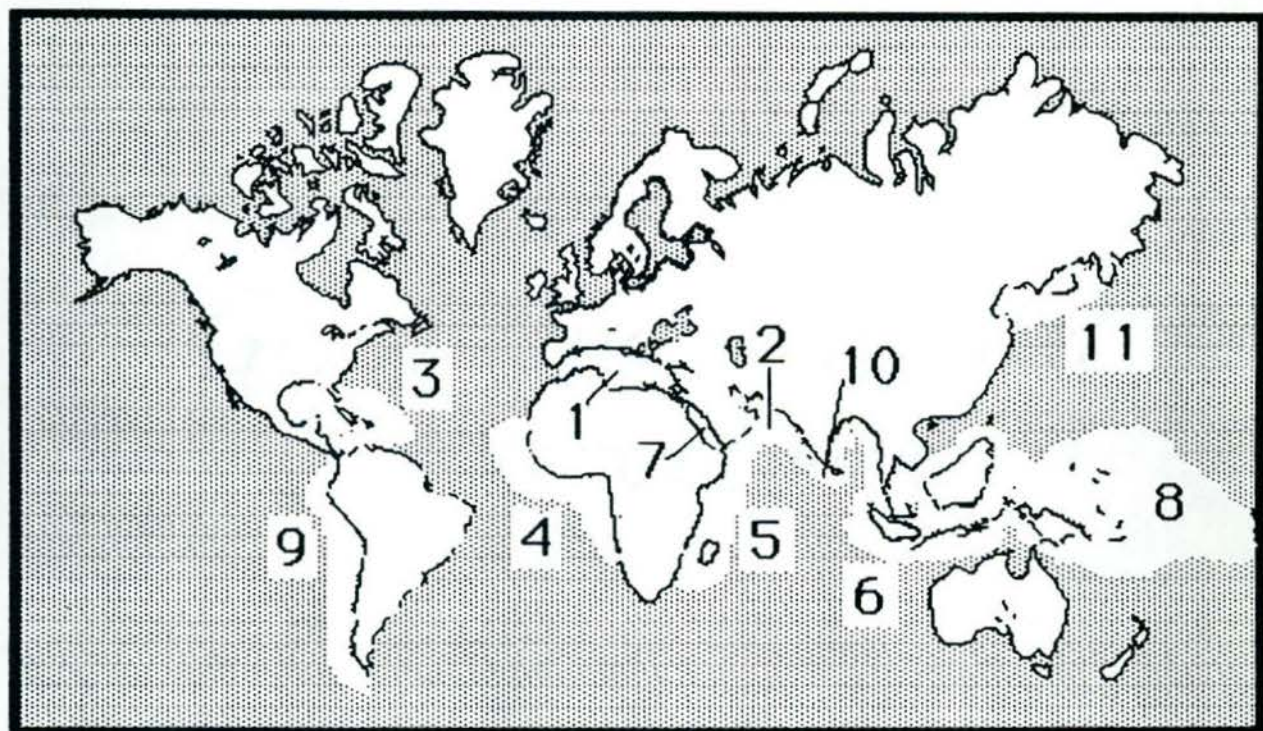
DPR Korea: Did not attend the Governing Council meeting.¹⁵

Cooperation was first expressed in bilateral agreements. Now, however, all the states in the Northwest Pacific region are on the verge of entering into multilateral negotiations for a UNEP Regional Seas Programme. This means of cooperation can integrate all transboundary marine pollution problems into a comprehensive plan of action.

The UN Environment Programme's Ocean and Coastal section will have to take the initiative if a North-West Regional Action Plan (hereinafter NOW/RAP) is to be successful. Additional symposiums and conferences may be held, but a comprehensive action plan will be delayed unless a formal meeting of regional experts is called by UNEP. UNEP, experienced in providing regional cooperation concerning marine pollution, has initiated regional and global marine programmes for over two decades. The first Regional Seas Programme began in 1976 with the adoption of the Barcelona Convention for the Protection of the Mediterranean against Pollution. Since then, more than a hundred countries have adopted 23 regional conventions and protocols for the purpose of conserving and protecting shared resources.¹⁶ There are presently 10 Regional Seas Programmes (Map 12) established or being established.

Northeast Pacific

Cooperative efforts in the Northeast Pacific are not as straight-forward as in the Northwest region. Simply stated, the Northeast regional problems often relate to international ocean laws



MAP 12. Geographic coverage of UNEP Regional Seas Programmes.

Source: United Nations Environment Programme, The Siren (Nairobi: UNEP, 1987-1989).

- 1 = Mediterranean Region - Action Plan adopted, 1975; Regional Convention signed, 1976.
- 2 = Kuwait Region - Action Plan adopted, 1978; Regional Convention signed, 1978.
- 3 = Wider Caribbean Region - Action Plan adopted, 1981; Regional Convention signed, 1983.
- 4 = West and Central African Region - Action Plan adopted, 1981; Regional Convention signed, 1981.
- 5 = East African Region - Action Plan adopted, 1985; Regional Convention signed, 1985.
- 6 = East Asian Region - Action Plan adopted, 1981; Regional Convention signed, 1987.
- 7 = Red Sea and Gulf of Aden Region - Action Plan adopted, 1981; Regional Convention signed, 1981.
- 8 = South Pacific Region - Action Plan adopted, 1982; Regional Convention signed, 1986.
- 9 = South-East Pacific Region - Action Plan adopted, 1981; Regional Convention signed, 1981.
- 10 = South Asian Seas Region - Action Plan in preparation.
- 11 = North-West Pacific Seas Region - being proposed.

which are not always agreed upon by Pacific Rim states. For example, strictly regulated fisheries in the Northeast Pacific are not always compatible with Asian fishing practices. Foreign fleets fishing on the high seas accidentally or intentionally deplete fish stocks originating from coastal states' rivers and EEZs.

However, there continue to be significant events which require international cooperation of transboundary resources in the Northeast Pacific. The following section discusses the established and future cooperative efforts relating to current fisheries problems and scientific research gaps.

Established Cooperation

International cooperation in the Northeast Pacific relating to transboundary resources has been going on for almost two centuries. As shown in Appendix B, the oldest agreement in the region dates back to 1818 when a bilateral convention was signed by the United States and Canada. Since then, there have been approximately 14 multilateral and 80 bilateral agreements signed. The established, international cooperative efforts relating to salmon and pollack stocks are discussed below.

Salmon and Albacore

A well-established cooperative venture in the region began on May 9, 1952, when the International Convention for the High Seas Fisheries of the North Pacific Ocean was signed by the United States,

Canada, and Japan.¹⁷ Establishment of the International North Pacific Fisheries Commission (INPFC) was the best achievement that came from the signing of the Convention; it is still in existence today. The species included in the Convention as an Annex are halibut, herring, and five species of salmon.

The salmon species are the most important for this discussion, based on the problems which have resulted from drift-net fishing:

This treaty prohibited the Japanese from fishing to the east of 175 degrees west longitude (the longitude of the Atka Island in the Aleutians) in the belief that would protect salmon of North American origin while allowing the Japanese to continue their historical harvest of Asian salmon.¹⁸

In 1978, the Convention was renegotiated and all concessions were agreed upon by the Japanese, which affected their high seas salmon fisheries. The results included a western movement of the Japanese land-based and mothership fleets by about 500 miles, which may have reduced interceptions by as much as 70 percent.¹⁹ During 1985 and 1986, other negotiations took place resulting in further reductions of Japanese fleets in the Northeast Pacific. These negotiations involving international fishing boundaries resulted in protection of British Columbia's salmon. However, salmon stocks from the United States, the Yukon, and Canada are still vulnerable to Asian drift nets (including U.S. steelhead).²⁰

Salmon stocks in the Northeast Pacific are also regulated under a Salmon Treaty between Japan and the Soviet Union. The Soviets have placed a number of restrictions and quotas on the Japanese catch in various areas. An announcement was made by the U.S.S.R. that all

Japanese high seas vessels would be phased out of their waters by 1992.²¹

In 1985, the Pacific Salmon Treaty was signed by the United States and Canada, which formed the Pacific Salmon Commission.²² The goal of the Treaty is for the two countries to conduct their fisheries and enhancement programs so as to: (a) prevent overfishing and provide for optimum production, and (b) ensure that both countries receive benefits equal to the production of the salmon originating in their waters.²³

For the countries to fulfill their treaty obligations, they agreed to take into account the desirability of reducing interceptions, avoiding undue disruption of existing fisheries, and annual variations in abundance of the stocks.²⁴ None of the articles in the Treaty account for Asian drift-net fishing and their adverse impacts on salmon stocks. The socio-economic impacts from drift-net fishing has now placed a tremendous amount of pressure on the U.S., Canadian and U.S.S.R. salmon industries.

According to Article 66 of UNCLOS concerning anadromous stocks, coastal states have the primary interest in and responsibility for stocks originating in their rivers (see Chapter III).²⁵ States fishing these stocks are also encouraged to cooperate with one another.

Based upon Article 66, Asian fishing fleets in the North Pacific which are snaring salmon, either intentionally or accidentally, are probably in violation of international law if they do not cooperate

with the state of origin (unless economic dislocation results). In this case, salmon originate from the U.S., Canadian, and U.S.S.R. rivers, and thus all three have a primary interest in and responsibility for the stocks in the Northeast Pacific. According to the statistics described in Chapter IV, the U.S. stocks are most affected by Asian drift-net fishing, particularly the salmon originating in Alaskan rivers.

As a result of the deleterious impacts on U.S. salmon stocks and other sealife, the United States recently signed three, separately negotiated bilateral agreements with Japan, Republic of Korea, and Taiwan. The U.S. and the U.S.S.R. met recently to discuss the North Pacific fisheries. A summary from each of the four international communications follows:

Japan: According to the provisions of the agreement, 18 Japanese and 14 North American scientific observers will be placed aboard Japanese vessels (there are 480 vessels in their commercial fleet). Many of the boats will fish in the most northern waters of the squid fishing boundary. (See Map 6 for location of northern boundary.) The observers will collect biological samples and record information on the catch of squid and other "nontarget" species. The activities of the Taiwanese and Korean vessels will also be monitored while aboard the Japanese vessels. During the period, there will be strict regulations regarding "domestic penalties," such as port confinement. By 1990, all Japanese vessels will be required to have special transmitters called transponders.²⁶

Republic of Korea: The agreement allows for U.S. enforcement officers to board a Korean vessel and inspect it for evidence of illegal fishing. By the 1990 fishing season, from June to December, agreement calls for scientific monitoring of the fleet and will allow the Koreans to fish in a larger area in the mid-Pacific during the month of May.²⁸

Taiwan: The agreement will allow for enforcement officers to board a Taiwanese vessel at any time to inspect for evidence of illegal fishing. Each vessel will be required to have on board a satellite transponder. The devices will allow U.S. enforcement vessels to know their exact locations at all times. Scientific monitoring of the fleet will occur throughout the duration of the fishing season.²⁷

U.S.S.R.: The talks with the U.S. in Leningrad discussed illegal harvesting of salmon and possible regulation of bottom fishing in the "donut hole." Drift nets may have been mentioned during the meeting. The central topic was the potential for negotiating a new salmon agreement (see Appendix C). A proposal was made by the U.S.S.R., and the U.S. was expected to reply during the meeting.²⁹ (Details of the proposals were not provided through the press or personal interviews.)

During a recent interview with Clarence G. Pautzke, the Executive Director of the North Pacific Fishery Management Council, he reported that a cooperative agreement between the U.S. and the U.S.S.R. is very likely. The Director also indicated that Canada and Japan may be signing members to the new regional agreement.³⁰

There are no international laws that specifically address the problems associated with drift nets and drift-net fishing. The problems linked to drift nets are not only interception of salmon, but also of albacore. According to Article 64 of UNCLOS, coastal states and flag states are to cooperate with each other on the conservation and management of highly migratory species, such as albacore (see Chapter III). The entanglement of sealife is interconnected to many of the problems related to drift nets, and all drift net-related problems require regional cooperation.

Such cooperation began in the southern Pacific Ocean when the South Pacific Forum issued the Tarawa Declaration, a call for a drift-net free zone in the region.³¹ (The declaration and a moratorium on drift-net fishing in the South Pacific is supported by the United States.) A more substantial political move was made early November 1989, when the United States joined eleven other nations and sponsored a United Nations' resolution that would ban large drift nets: "The measure would abolish drift-net fishing immediately in the South Pacific and phase it out worldwide by June 30, 1992."³²

The Province of British Columbia and the States of Alaska, Washington, Oregon, Idaho, California, and Hawaii have joined together to urge a ban on drift-net fishing in the North Pacific. Their formal cooperation is signified by the "Proclamation on High Seas Driftnet Fisheries in the North Pacific Ocean," which is now being circulated to members for their signature. (See Appendix D for an official copy of the Proclamation.)³³

The seven signing members met during July 1989, in Sydney, British Columbia, for a three-day meeting on drift-net problems. As a result of the meeting, a "Statement on High Seas Driftnet Fisheries in the North Pacific Ocean" was compiled, which is the rationale for submitting the Proclamation to the United States and Canadian governments. In the Statement, the members included six principles, six problems in the North Pacific created from drift-net fishing, and six recommendations to the governments in Washington, D.C., and Ottawa. A copy of the eighteen-point Statement is provided in Appendix E.³⁴

Since mid-November 1989, no other international action has been taken either by the coastal states or the drift-net fishing states. Further negotiations between the U.S. and the U.S.S.R. to establish cooperation concerning fisheries in the North Pacific is anticipated. Ed Wolfe, the State Department's ambassador for oceans and fisheries, declared during the summer of 1989 that there will be no further international action taken by the United States until the 1990 fishing season is over and the results from the observers stationed on the foreign vessels are analyzed.³⁵ However, on October 5, 1989, the United States' House Merchant Marine and Fisheries Committee amended and reauthorized the Fisheries Conservation and Management Act (the Magnuson Act, HR 2061) for another three years,³⁶ which significantly affects the Northeast Pacific fisheries. (The Magnuson Act gave the United States the authority to extend its jurisdiction to 200 nautical miles to create their present fishery zone or EEZ.)³⁷ A summary of

the amendments are as follows:

1. Bans drift nets in the U.S. EEZ, and directs the Secretary of State to seek a similar ban, through international agreement, on drift-net fishing on the high seas. Reports would be required every year (following the enactment of the reauthorization) describing the steps taken by the State Department and legislative strategies for pressuring reluctant states to conform. The bill also provides support for the Tarawa Declaration and other similar international efforts that support the banning of large-scale drift-net fishing. This kind of fishing is defined as the use of a gill net of one and one-half miles or more in length allowed to drift with the currents and winds.

2. Removes or reduces a legal obstacle that has made it difficult for the National Marine Fisheries Service to prosecute persons suspected of illegally catching U.S.-origin salmon on the high seas.³⁸ Establishes a presumption that any anadromous fish found on board a vessel within the migratory range of U.S.-origin salmon is of U.S. origin. This would allow U.S. authorities to prosecute under the Magnuson Act, if a vessel without authorization to take U.S. salmon is located within the migratory range of U.S. salmon and has salmon on board.³⁹

3. Provisions to allow the U.S. to claim management authority over tuna. The Secretary of State would be directed to revise and renegotiate existing international agreements so they conform to the assertion that the U.S. has jurisdiction over highly migratory species.

Pollack

Pollack is another species in the Northeast Pacific being depleted by distant-water fishing states. Since the donut hole is an area in the Bering Sea that is not covered by the EEZ of the United States or the Soviet Union, foreign fleets are heavily overfishing pollack stocks. One course of action to address this problem would be to follow Article 63 in UNCLOS.⁴⁰ This article applies to stocks occurring within the exclusive economic zones of two or more coastal states or both within the exclusive economic zone and in an area beyond and adjacent to it (see Chapter III). An example of how this article applies to the Northeast Pacific is that it provides guidelines for the United States and the Soviet Union to cooperate on matters concerning pollack stocks.

Cooperation has taken place between countries that fish in the Bering Sea via a scientific symposium called Sitka. The participating members included the United States, the Soviet Union, Japan, the Republic of Korea and the Polish People's Republic. From a recommendation made at the symposium, The Scientific Meeting on International Cooperation for Pollack Research in the Bering Sea was held during August 1989 in Shimizu, Japan.⁴¹ Results of the meeting provided a greater understanding of walleye pollack and established cooperative exchanges for data between scientists. Although participants declared the meeting a success, representatives from neither the United States nor the Soviet Union attended the conference due to political reasons relating to the donut hole.⁴²

Another factor that complicates cooperation in the Bering Sea is that some foreign fishing fleets accidentally or intentionally stray into the EEZ off the coastal states to fish for pollack, particularly in Alaskan waters. Recently, fishermen from the U.S.S.R. were caught fishing near the coast of Alaska.⁴³ The primary motivation for illegally fishing in the waters near the Alaskan coast is that highly productive feeding grounds in the Bering Sea and near the Aleutian Islands are located there (Map 5).

According to Article 56 of UNCLOS, a coastal state has the sovereign right to explore, exploit, conserve, and manage natural resources.⁴⁴ Therefore, foreign fishing boats caught in the EEZ are clearly in violation of this article, which is recognized by most states fishing in the region, but is not adhered to closely by fishermen of the flag state.

Future cooperation in the Bering Sea involving pollack is unknown. However, from recent talks between the United States and Soviet Union, a management scheme could potentially be negotiated. The purpose, scope, and construction of this scheme is also unknown. However, one certainty is that the pollack stocks in the Northeast Pacific are going to need conservation and management measures quickly, before stocks are exploited beyond sustainable levels.

Future Cooperation

Fifteen years ago, a comprehensive international organization was proposed to bring scientists together to exchange information and

research on topics relating to the North Pacific. In 1986, after a period of uncertainty, professionals from Canada, China, Japan, the Soviet Union, and the United States finally met in Anchorage, Alaska, to discuss the establishment of the Pacific International Council for the Exploration of the Sea or PICES. The new organization's goal is to "promote scientific investigation and information exchange concerning the oceanography and fisheries of the northern North Pacific and Bering Sea."⁴⁵

The area covered by the organization was later defined as "all waters of the northern North Pacific Ocean (generally but not restricted to waters north of 30° North Latitude, including the Bering Sea and other adjacent seas)".⁴⁶ At the 1986 meeting, the participants decided PICES should be an intergovernmental organization, which should initially be represented by participating states.

Since 1986, there have been two meetings, both held in Canada. The most significant accomplishment of the November 1988, meeting was the drafting of a convention that would formally establish PICES. The drafted treaty, the "Convention for an International North Pacific Marine Science Organization," is provided in Appendix F.⁴⁷ According to an official source, the convention will be ready for the signatures of the five participating governments in 1990 or 1991, depending upon the progress in the scheduled meetings.⁴⁸

There are signs to indicate PICES will be called into action immediately, once the treaty has been signed. Drift-net fishing in the North Pacific may be one of its first challenges. Based upon the

six-point formal request made by the Province of British Columbia and the States of Alaska, Washington, Oregon, Idaho, California, and Hawaii in their Proclamation, they call for the United States and Canadian governments to "take immediate steps to form the multinational research organization PICES (Pacific International Council for Exploration of the Seas)."⁴⁹ To review the points made in the Proclamation, see Appendix D.

With the establishment of PICES, multilateral scientific communication will certainly be promoted. However, the critical management questions concerning gill nets, salmon and albacore interceptions, and pollack stock depletions remain. The scientific information from PICES will be valuable, but it does not pretend to replace the policy decisions that need to be made by a regional management organization. The drafted convention states that one function of PICES will be "to provide advice to government institutions, international organizations and private sector enterprises with interest in the Convention area by the evaluation and interpretations of available data and information as they apply to agreed problems."⁵⁰

In the past, regional cooperation in the Northeast Pacific consisted mainly of bilateral and trilateral agreements. In the region's history of transboundary resource cooperative efforts, only three agreements included more than three countries.⁵¹ Regional cooperation is now expanding in the Northeast Pacific region to include more states and problems. (A model that illustrates this evolutionary expansion of cooperative efforts in the region is shown

in Figure 3). Adoption of the PICES project could signify a new era of cooperation in the North Pacific.

As Figure 3 shows, the next logical step for regional cooperation is the implementation of a fisheries management organization that would integrate many of the problems facing the Northeast Pacific coastal states. A comprehensive management organization that could integrate the problems affecting the Northeast Pacific fisheries is a viable alternative to piece-meal schemes that address only one species or problem.

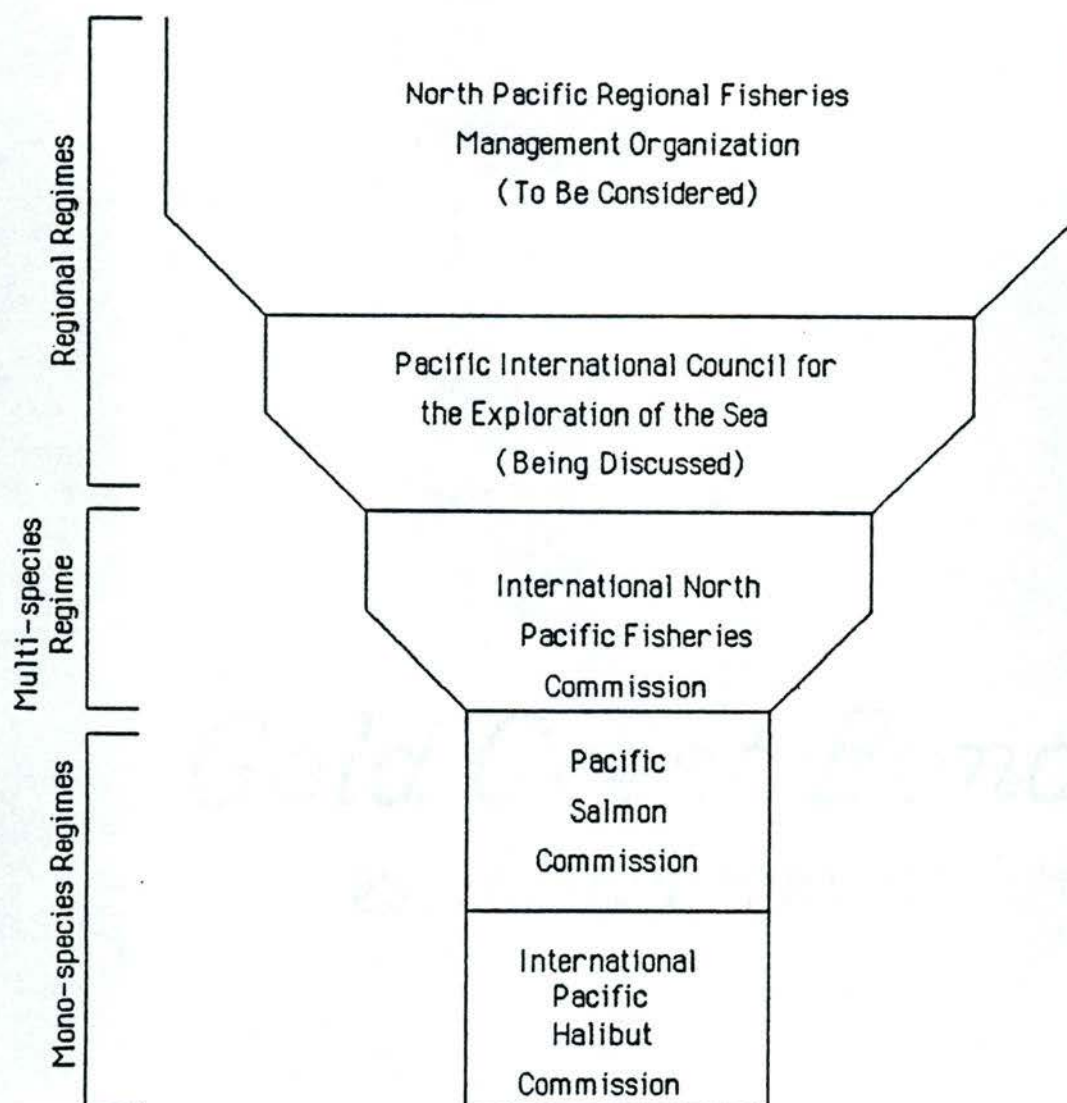


FIGURE 3. Expansion model of present and future cooperation in the Northeast Pacific region.

Notes

¹United Nations, The Law of the Sea (New York: United Nations, 1983), 39.

²Mark J. Valencia, "Ocean Management in Northeast Asia: Possibilities of Cooperation, 1987 (?)," TMs (photocopy). East-West Center, Environment and Policy Institute, Honolulu, 8 pp. The general heading for the workshops is Meeting National Marine Interests Through Regional Approaches. One of the long-term goals of the East-West Center is to compile an atlas on the East Asian seas using the information obtained through the various workshops.

³Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987), Occasional Paper No. 3, 165 pp.

⁴Ibid., 137.

⁵Ibid., 137-138.

⁶Ibid., 139.

⁷Ibid.

⁸Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Environment and Policy Institute, 1989), Occasional Paper No. 10, 239 pp.

⁹Ibid., 194-198.

¹⁰Ibid., 198.

¹¹Ibid., 201.

¹²Ibid., 205.

¹³Mark J. Valencia, Research Associate, East-West Environment and Policy Institute, East-West Center, telephone interview, 8 November 1989 to Honolulu. Mark Valencia provided the information concerning the September conference.

¹⁴David L. Livengood, "The North-West Pacific Region: Past and Present, 1989," original, UN Environment Programme, Ocean and Coastal Areas Activity Centre, Nairobi, 5 pp. The communication between UNEP and the East-West Center concerning Korea and China's attendance to the Conference is thoroughly outlined.

¹⁵Jin Jianming, S. Y. Chot and Soichiro Seki, "Towards a North-west Pacific action plan," The Siren, July 1989, 19-20.

¹⁶Peter H. Sands, Environmental Law in the United Nations Environment Programme (London: Tycooly Publishing, 1988), vii, 1-27.

¹⁷United Nations, Treaty Series, "International Convention (with annex and protocol) for the High Seas Fisheries of the North Pacific Ocean," UNTS 205, 79-100.

¹⁸The Province of British Columbia and the States of Alaska, Washington, Oregon, Idaho, California, and Hawaii, "Statement on High Seas Driftnet Fisheries in the North Pacific Ocean, 1989," TMs (photocopy), State Capitol, Governor's Office, Proclamations division, Salem, 2.

¹⁹Ibid., 3.

²⁰Ibid.

²¹Ibid.

²²Pacific Salmon Commission, "Reprint of the Pacific Salmon Treaty and Original Annexes and Memorandum of Understanding, 1985," TMs (photocopy), Pacific Salmon Commission, Vancouver, 23 pp. A portion of the Treaty was revised, thus, refer to Pacific Salmon Treaty including the 1988 Agreed Fishery Regimes, 1988," TMs (photocopy), Pacific Salmon Commission, Vancouver, 33 pp.

²³Pacific Salmon Commission, Pacific Salmon Commission (Vancouver: Pacific Salmon Commission, 1988), 4.

²⁴Ibid.

²⁵United Nations, The Law of the Sea, Part V: Exclusive Economic Zone, Article 66, 22-23.

²⁶Philip Shabecoff, "Pact Reached to Monitor Japan's Fishing Practices," The New York Times, 18 May 1989, 13(A); Leigh Dayton, "Japan Vows to Clamp Down on Rogue Squid Fishers," New Scientist, 3 June 1989, 27.

²⁷Clarence G. Pautzke, Executive Director, North Pacific Fishery Management Council, telephone interview by author, 8 November 1989, to Anchorage.

²⁸Les Blumenthal, "U.S., South Korea Approve Pacific Drift-Net Treaty," from The Associated Press in The Register-Guard (Eugene), 9 September 1989, 3(B0).

²⁹The Associated Press, "U.S., Soviets to Hold Talks on North Pacific Fisheries," The Register-Guard (Eugene), 5 September 1989, 2(C).

³⁰Pautzke, 8 November 1989.

³¹The Associated Press, "U.S. Decision on Drift-Nets Gets Applause," The Register-Guard (Eugene), 12 October 1989, 3(B). Also see Council on Ocean Law, "South Pacific Fisheries Declaration," Oceans Policy News (September/October 1989): 2.

³²The Associated Press, "U.S. Backs Ban on Drift Nets," The Register-Guard (Eugene), 7 November 1989, 3(B). The measure was slightly modified December 1989 when the United Nations General Assembly showed support for a ban of driftnets in the South Pacific by 1991 and a world-wide ban by 1992. See United Nations, "Ban on Drift Nets Backed," The Register-Guard (Eugene), 23 December 1989, 2(A).

³³The Province of British Columbia and the States of Alaska, Washington, Oregon, Idaho, California, and Hawaii, "Proclamation on High Seas Driftnet Fisheries in the North Pacific Ocean, 1989," TMs (photocopy), State Capitol, Governor's Office, Proclamations Division, Salem, 2 pp.

³⁴The Province of British Columbia, et al., "Statement on High Seas Driftnet Fisheries in the North Pacific Ocean," 6-10.

³⁵Les Blumenthal, "Timing of Driftnet Ban Argued," The Associated Press in The Register-Guard (Eugene), 17 September 1989, 3(B).

³⁶Council on Ocean Law, "Magnuson Act Amendments and Reauthorization," Oceans Policy News (September/October 1989): 3-4.

³⁷North Pacific Fishery Management Council, North Pacific Fishery Management Council (Anchorage: NPFMC), 1.

³⁸Council on Ocean Law, September/October 1989, 3-4. Under existing law, the U.S. claims management jurisdiction over salmon spawning in U.S. rivers throughout their migratory range. But without proof of the origin of salmon found on fishing vessels, U.S. agents have had to base their enforcement efforts on the Lacey Act, which makes it a violation of U.S. law to import fish caught in violation of the laws of another nation. U.S. agents were thus without grounds to prosecute, unless a foreign law was broken and fish products were bound to enter U.S. territory.

³⁹Ibid., 4. The amendment would not affect the international law rules regarding the need for consent before boarding a foreign flag vessel on the high seas. Under agreements reached this summer (1989) with driftnet fishing nations, the Koreans and Taiwanese recognized U.S. authority to inspect vessels to enforce the

agreements. According to State Department sources, it is the U.S. view that the Japanese have consented to U.S. boarding rights as a member of the International North Pacific Fisheries Convention (INPFC). The Japanese have disputed this view and have filed formal protests in relation to a number of U.S. boardings.

⁴⁰United Nations, The Law of the Sea, Part V: Exclusive Economic Zone, Article 63, 22.

⁴¹Far Seas Fisheries Research Laboratory, "The Scientific Meeting on International Cooperation for Pollack Research in the Bering Sea, 1989," TMs (photocopy), North Pacific Fishery Management Council, Anchorage, 23-25 August, 14 pp.

⁴²The conference is now being called "Sitka One and One-Half" because these major countries were not represented.

⁴³James L. Graff, "After the Flounder Are Gone," Time, 7 August 1989, 39.

⁴⁴United Nations, The Law of the Sea, Article 56, 1(a), 18.

⁴⁵Institute for Marine Studies, "Recent PICES Papers 1986-1988," TMs (photocopy), University of Washington, Seattle, I. Warren Wooster, Professor, Institute for Marine Studies, wrote a letter dated 28 December 1988, and included it in the packet.

⁴⁶*Ibid.*, North Pacific Marine Science Council, "Draft: Convention for an International North Pacific Marine Science Organization," 16 November 1988, Article I, 1, 2.

⁴⁷*Ibid.*

⁴⁸Warren S. Wooster, Professor, Marine Studies, University of Washington, Telephone interview by author, 8 November 1989, to Seattle.

⁴⁹Province of British Columbia, et al., "Proclamation on High Seas Driftnet Fisheries in the North Pacific Ocean," 1.

⁵⁰North Pacific Marine Science Council, Article III, 1(h), 3.

⁵¹Edward Miles, The Management of Marine Regions: The North Pacific (Berkeley: University of California Press, 1982), 516. These three multilateral agreements include the Convention for the Preservation of Fur Seals, International Convention for the Regulation of Whales, and the 1937 International Convention for the Regulation of Whaling, which was replaced by the 1946 International Convention for the Regulation of Whaling that established the International Whaling Commission (IWC). The signing members to all three treaties included Canada, Japan, U.S.S.R. and the United States.

CHAPTER VI

CONCLUSION: ANALYSES, RECOMMENDATIONS, AND THE FUTURE

The subjects of marine regionalism and regional arrangements have been written about extensively.¹ Marine regionalism as a potentially viable concept began to emerge during the 1970s when several authors, from diverse perspectives, began arguing about how marine regions could be approached.² In 1986, Kenneth Sherman and Lewis Alexander began developing a new concept of marine regionalism, which they called the Large Marine Ecosystem (hereinafter, LME),³ and which expands upon Alexander's earlier approach. Others have developed the LME concept into workable, comprehensive schemes for the management of all types of marine regions.⁴

The LME concept is suggested here to manage the problems of overfishing and marine pollution in the Northwest Pacific and the overfishing complexities in the Northeast Pacific.⁵ Martin Belsky makes a strong case for the United States to adopt a comprehensive and integrated approach to its ocean policy and Law of the Sea.⁶ He also provides substantial evidence in making his point that international law is evolving to accept and promote the LME concept.⁷ The recommendations below are generally based upon the LME concept and model. Because recommendations and the cooperative future differ for the Northwest and Northeast Pacific, each is discussed separately.

Northwest Pacific

Regional cooperation in the Northwest Pacific has proceeded toward addressing the difficult problems facing the four semi-enclosed seas and the bordering countries.⁸ The major problems of overfishing and marine pollution need immediate cooperative responses. Problems relating to fishing practices are the least likely subjects to obtain the necessary support for any type of cooperation. Serious considerations, as cautioned by one regional expert,⁹ are that additional fishing conservation and management regulations stir up sensitive issues and disintegrative forces in the region,¹⁰ such as fear of inequitable political footing and long-standing conflicts over jurisdictional claims.¹¹

Marine pollution, however, provides the optimum dynamics between states for regional cooperative responses.¹² Of the five states in the region, China, Japan, Republic of Korea, and the U.S.S.R. made official statements that they are in favor of cooperating on the problems concerning marine pollution.¹³ As reported by Alexander, "the perception by (potential) members of the existence or promise of a favorable cost/benefit ratio so far as participation in the (expected) arrangement is concerned" as an integrative force is apparently strong.¹⁴ In other words, the costs created by further degradation to the semi-enclosed seas environment are great, which make the benefits gained from cooperation even greater.

Regional cooperation is not the only option available to the Northwest Pacific states.¹⁵ For example, unilateral action, such as

additional national legislation, may be taken to regulate pollution at the source. While I agree this is an effective measure, it does not preclude bordering states from dumping or spilling pollutants which affect valuable resources. Continuing the option of bilateral agreement is another possibility to resolve pollution problems, but this method has not always been effective because third states also affect the quality of the marine environment. However, there is also the possibility of using a global solution, but some authors have pointed out that there are serious drawbacks to this approach,¹⁶ such as the difficulty in both addressing specific problems unique to the region and creating and maintaining a cooperative, free-flowing atmosphere for participating states. A global approach is important and useful, but I believe the appropriate and productive action needed to resolve the transboundary problems in the Northeast Pacific can be more effectively accomplished at the regional level.

Recommendations

The recommendations below are based upon the requests by China, Japan, the Republic of Korea, and the U.S.S.R. to implement a United Nations Environment Programme (UNEP) Regional Seas Programme.¹⁷ I believe these requests are significant and hopeful indicators because they represent a willingness to cooperate to resolve transboundary water quality problems.

The primary recommendation concerning the Northwest Pacific is the establishment of a Northwest Regional Seas Programme, which would

encompass the Yellow (and Bo Hai), the East China, the Japan, and the Okhotsk seas. The recommended international agency to assist the bordering countries to implement such a program is UNEP, with assistance from both the Intergovernmental Oceanographic Commission and the United Nations University.

To initiate and develop a North-West Regional Action Plan (NOW/RAP), various actions must transpire. Recommended actions for UNEP are to do the following:

1. Organize and coordinate a formal meeting of regional, scientific experts through the Director of the Ocean and Coastal Areas Programme Activity Centre in Nairobi, Kenya, to discuss cooperative responses to marine pollution affecting the four semi-enclosed areas.

2. Assign a consultant under the guidance of the Director or Deputy of the Director to assist in initiating and coordinating regional cooperation. Later, assign a Programme Officer to aid in the development of the Regional Seas Action Plan from Nairobi.

3. Establish a Northeast Asia Regional Coordinating Unit (NEAR/CU) within the UNEP Regional Office for Asia and the Pacific office in Bangkok, Thailand.

4. Develop NOW/RAP that outlines steps to be taken by each country to reduce or eliminate pollution that affect transboundary resources.

5. Assist in establishing a regional office in Niigata, Japan, or Vladivostok, U.S.S.R., to coordinate the activities concerning the action plan with bordering states and the Programme Officer in

Nairobi, Kenya.

While UNEP is initiating the above actions, bordering countries could take regional actions to expedite the initiation of an action plan. The East-West Environment and Policy Institute is willing to assist with these actions.¹⁸ Further regional cooperative actions include:

1. Coordinate and conduct a workshop titled "International Conference on the East China and Yellow Seas" in Sasebo or Kitakyushu, Japan or Pusan, Korea to gather and exchange information and data on such fields of study as hydrology, geology, oceanography, fisheries, shipping, and toxicology.
2. Coordinate and conduct a small ad hoc working work meeting to discuss environmental protection and monitoring of pollution in the Seas of Japan and Okhotsk.
3. Begin planning for an office in Niigata, Japan, or Vladivostok, U.S.S.R., to coordinate meetings, conferences, and monitoring for the Northwest Pacific region. The reason for the office is to provide a liaison service to member states and to support the idea of regionalism through a formal commitment.

The regional ad-hoc working group and their results would become the founding participants for the initiation of NOW/RAP.¹⁹

Since the problem of overfishing must be addressed, one long-term cooperative response is to establish a multilateral fisheries organization, similar to the one suggested for the Northeast Pacific in the next section. Another long-term, cooperative joint venture would

be to establish a Regional Marine Science and Technology Center.²⁰

I believe such a center would stimulate further regional cooperation and augment the integrative forces that have already emerged from the three workshops.

The Future

Multilateral action is possible in the Northwest Pacific region because bordering states are seriously considering regional cooperation since the quality and quantity of transboundary resources are declining. Overfishing and marine pollution continue to create serious problems which affect the region's valuable marine resources in the four semi-enclosed seas.

Marine pollution is the most likely problem to cause bordering states to initiate a multilateral agreement among themselves, because it is in their national interest to cooperate. Action by UNEP to organize a meeting of experts is the next important step. This step is crucial because bordering states have said that UNEP's participation is necessary if an action plan is going to be successful.²¹ For a Regional Seas Programme to be a success in the Northwest Pacific region, participation by either the Director or Deputy to the Director of UNEP's Ocean and Coastal section is highly recommended.²²

Meanwhile, the East-West Environment and Policy Institute is planning to continue regional workshops and meetings,²³ until UNEP initiates a meeting of experts to discuss a Northwest Pacific action plan.²⁴ Regional cooperation in the future is unknown, mainly because

UNEP's active participation is a prerequisite. When UNEP finally does initiate talks in the region, reduction or elimination of marine pollution will become one action plan. The more complicated overfishing problems may be addressed as well.

Northeast Pacific

In the Northeast Pacific region, distant-water fishing practices are creating serious fisheries conservation and management problems. The Asian high seas drift-net fishery is adversely affecting the salmon stocks, marine mammals, and birds which swim in and fly over the mid-Pacific Ocean. The foreign fleets are fishing for Alaska pollack beyond coastal states' jurisdiction, while critically depleting the valuable stocks. These problems are causing major socio-economic and environmental impacts.

None of the Northeast Pacific (sub and quasi) regional organizations in existence have the capacity to address the fisheries problems in the high seas. Some of the options available, other than regional, to coastal states include taking unilateral, bilateral, or global action. The "donut hole" in the Bering Sea is the most likely candidate for unilateral action by the United States, the Soviet Union, or both.²⁵ As noted by William Burke, there is no basis in any source of international law that justifies a coastal state to take such action, unless by the consent of the distant-water fishing states.²⁶ A bilateral agreement approach has been taken by the United States, which is monitoring the Japanese, Korean, and

Taiwanese drift-net fishing practices for a year. States bordering the northern Pacific, including Canada, Japan, the U.S., and the U.S.S.R., are discussing two multilateral, regional treaties.²⁷

Global action is the last major option available to resolve the transboundary problems in the Northeast Pacific.²⁸ Even if a world-wide ban of drift nets takes place by 1992, there are no guarantees that states, particularly Japan, will adhere to such a measure. Even if states do adhere to the ban, there are no regulatory measures in place to prevent them from using other gear technology with a higher exploitation ratio per set. Additionally, the problem of overfishing will most likely still exist, whether the reason is related to type of gear or number of vessels. The approach I am promoting here is to resolve the overfishing illness (practices) at the regional source, not only to cure the symptoms (gear) through global action.

Fisheries problems in the region have escalated so quickly in the past two years (1988 and 1989) that coastal states are presently reviewing recommendations and proposed action plans. Under the international rules reflected in UNCLOS, living resources beyond the exclusive economic zone require states to cooperate either directly or through an appropriate regional organization. The potential for major regional socio-economic and environmental catastrophes to occur justifies the necessity for a multilateral organization that could integrate the conservation, management, and scientific research needs of the region's fisheries problems. Because no guidelines

presently exist for a multilateral, comprehensive regional fisheries organization for the Northeast Pacific,²⁹ two formal, alternative arrangements with their purpose, structure, and functions are outlined below.

Recommendations

A proposal for a comprehensive fisheries organization was made at the Pacific Rim Fisheries Symposium (August 1989) held in Bellingham, Washington. Mr. Vjacheslav K. Zilanov, Vice Minister, Ministry of Fisheries of the U.S.S.R., informally proposed an international, Pacific-wide fisheries research and management organization.³⁰ The purpose of the organization, as stated by Mr. Zilanov, would be to assess and conserve stocks beyond the 200-nautical mile exclusive economic zones and enhance cooperative research by combining financial and human resources. The structure of the organization was not expressed in Mr. Zilanov's remarks, except that it should include states that border the Pacific Ocean.

My recommended structure for a Pacific Ocean Organization (hereinafter, P00) includes a representative from each state bordering or in the region of the Pacific Ocean (Figure 4). The various research needs of P00 would be coordinated through regional "panels." When P00 sends a directive to a panel, the panel would engage the appropriate scientific or management body.

The scientific research for the northern Pacific region would be conducted by PICES and the southern Pacific states' counterpart, the

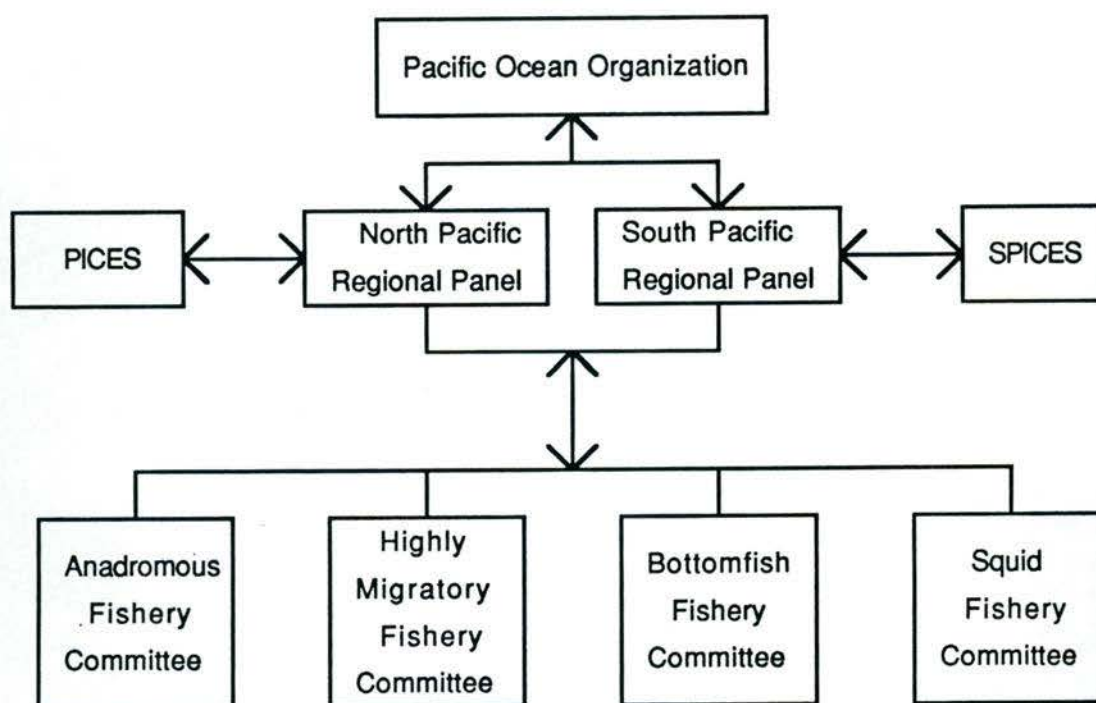


FIGURE 4. Organizational structure of the Pacific Ocean organization.

South Pacific International Convention on the Exploration of the Sea or SPICES.³¹ Each scientific organization would coordinate activities through their respective panel. The panel would transfer the scientific data and information to the appropriate specialized fishery committee. Each committee would analyze and consolidate both the scientific data and information, then send a report of policy recommendations to the requesting panel. The panel then would prepare and submit a report of management recommendations at POO's annual meeting.

As suggested by Mr. Zilanov, P00's functions would be to:

(a) identify data gaps; (b) plan and coordinate research efforts to address such data gaps; and (c) based on data collected, recommend management measures to conserve stocks. The specific functions of P00 would be determined when the treaty is signed to establish the organization.

One advantage of a comprehensive Pacific Ocean Organization would be that it would have the ability to integrate problems.³² Another advantage of P00 would be that it would allow for all the bordering states to be involved in the decision-making process of conserving and managing the resources.³³ Additionally, when a new fishing technology becomes available, the organization could screen the device or gear before it is used.

There are, however, three main disadvantages to such a large organization. First, inconsistent priorities and goals of several participants often create obstacles during treaty negotiations. Second, communication can be extremely difficult when several languages are represented. Finally, a large bureaucracy is often slow and unwieldy.³⁴

Another possibility for a multilateral organization is at the regional level. Current negotiations between the U.S. and the U.S.S.R. present an excellent forum for discussing such an organization. I recommend that the discussions between these two states focus on drafting a treaty to establish the Northeast Pacific Regional Fisheries Organization. Topics to be included in the treaty would be

salmon, steelhead, albacore interceptions, and catch regulations on the pollack fishery.

The purpose of the organization would be to provide a forum for both scientific and management cooperative ventures on matters concerning high seas and transboundary fisheries. This purpose is directed primarily at the regional squid, salmon, steelhead, albacore, and pollack stocks beyond the EEZs. The purpose also covers methods of fishing, especially drift nets.

While it is being established, the initial implementation of the regional organization would be guided by the United States and the Soviet Union. Once the treaty is signed, the specific structure of the organization (Figure 5) would be agreed upon equally by Canada, Japan, the U.S., and the U.S.S.R. These states have the responsibility for agreeing upon and implementing such an organization. Distant-water fishing states would provide their input into the decision-making process through the Northeast Pacific Regional Fisheries Commission. The scientific needs of the organization would be met by PICES' researchers, who would relay their findings to the appropriate specialized panel.

The four specialized fishery panels would process the scientific data and results from PICES and the management information from the Commission. Based upon the scientific and management input, each panel would prepare and submit a report to the commission. The commission would then consolidate and submit a report of recommendations to the four states at the annual meeting, where the

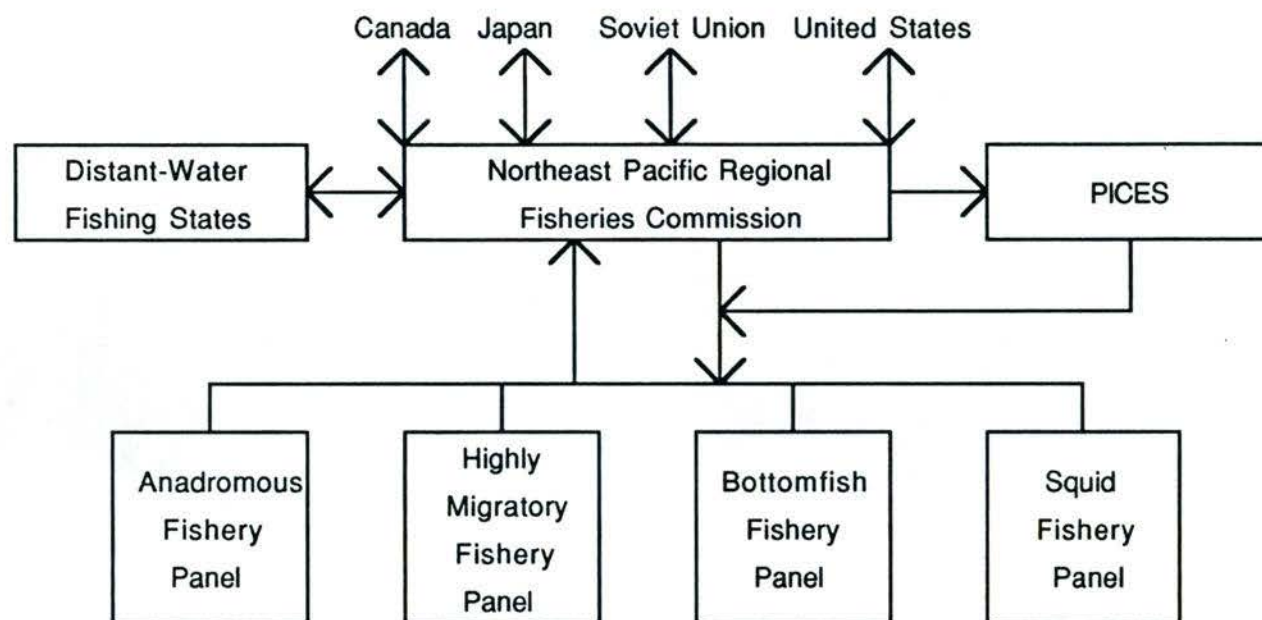


FIGURE 5. Organizational structure of the Northeast Pacific Regional Fisheries Organization.

states could comment on the recommended actions. A copy of the report would be sent to all distant-water fishing states for their optional responses at the annual meeting.

The function of the organization would be to: (a) identify scientific data and management information gaps; (b) plan, coordinate, and conduct research efforts to close the scientific and management gaps; and (c) apply the data and information gathered either to conduct further scientific and management research or to recommend to the regional organization management measures to conserve and protect stocks.

Some of the initial high seas scientific research projects would be expected to:

1. Monitor and assess impacts from drift-net fishing on squid albacore, salmon, marine mammals, seabirds, and other sea life populations.
2. Monitor the migration, distribution, and intermingling patterns of Japanese, U.S.S.R., and North American salmon stocks.
3. Monitor the migration and distribution patterns of North American steelhead stocks.
4. Monitor the distribution and movement patterns of pollack stocks in the donut hole and other areas in the Bering Sea.
5. Monitor the foreign fleets fishing in the Northeast Pacific region at the docks for intentional and accidental catches.
6. Consolidate available scientific data and information on the valuable resources and standardizing methodologies for future studies.

Some of the long-term scientific projects would be expected to:

1. Monitor and assess impacts of marine pollution (e.g., oil, chemicals) on fish stocks and their environment.

2. Monitor and model the impact of climate change and rise in sea level on valuable and vulnerable resources.

Because the regional organization is not as comprehensive as the Pacific Ocean Organization, it could be structured with fewer problems. A smaller organization can, for example, propose and make decisions more expeditiously, and communication and consensus are also more easily resolved. However, if the regional organization, with its autonomy intact, is loosely affiliated with P00, a comprehensive organization is more likely to evolve.

I recommend that both organizations have a commission with a substantial amount of regulatory powers so that the commission is more autonomous. "A higher level or regional organization is represented by regulatory commissions with some degree of autonomy or discretionary authority, independently of the governments of the member states."³⁵ I believe a commission with greater autonomy would be more effective in its operation and decision-making because less input is required from the member states.

One model to pattern a commission after is the North-East Atlantic Fisheries Commission with its "norm creation and allocation" authority. This authority is expressed "through the establishment of standards and regulations and the allocations of costs and benefits."³⁶ Another model commission, but with a greater amount of authority, is

the International Pacific Salmon Fisheries Commission with its "rule observance" powers.³⁷ I believe that the second model is more effective because it has more autonomy from the influence of member states and it is more likely to monitor and manage resources from a more integrated and comprehensive approach.³⁸ The implementation and success of both regional arrangements is principally contingent upon states' willingness to comply with the constraints of the organization.

Another recommendation is to establish a Pacific Ocean Policy Institute (hereinafter, POPI).³⁹ The purpose of the institute would be to develop recommendations for the regional organizations concerning transboundary fishery problems. The recommended location for POPI is either at the Oregon State University,⁴⁰ Corvallis, the University of Washington,⁴¹ Seattle, or the University of Alaska,⁴² Fairbanks. The structure of POPI would include a board of academic professors from a variety of disciplines. Some of the short- and long-term functions of POPI would be expected to:

1. Conduct research projects on ocean-use conflicts and possible cooperative responses.
2. Conduct workshops on regional problems and cooperation covering various ocean uses.
3. Coordinate international conferences to exchange ideas on improved conservation and preservation methods.
4. Gather and consolidate information into a publication describing the valuable and vulnerable resources and the regional

activities adversely affecting them.

To explain how the regional organization would function to resolve a fishery problem, I have developed a hypothetical scenario and outlined the steps below:

1. A member state, PICES scientists, or POPI researchers notify the commission, via a formal report, that there is a serious problem with drift nets adversely affecting the abundance of salmon, steelhead, and albacore.

2. The commission reviews the report and decides there may be a problem, but more information and data are needed for a proper assessment.

3. The commission engages PICES' scientists to evaluate and report their findings to the anadromous, highly migratory, and squid fishery panels by a given date.

4. After the PICES report is prepared and distributed to the panels, it is analyzed and supplemented with environmental, socio-economic, and political data and information.

5. Each panel then submits a report, with an attached list of recommendations and alternatives, to the commission for their review.

6. The commission decides what regulatory action to take and prepares a "Summary of Actions" report. A copy of the report is then sent to member and distant-water fishing states for review.

7. At the (bi-)annual meeting, all states have an opportunity to give their response to the actions suggested by the commission. In this case, the commission decides to support the world-wide ban on

drift nets, assign observers to distant-water fishing vessels, assign monitors to observe the satellite transponders, and appoints PICES researchers to monitor the stocks for abundance and age structure. The commission also recommends to the coastal states to monitor, record, and report back during the next meeting as to the number of returning salmon and steelhead and number of tuna caught. States would be bound by the nonrecommended action cited in the commission's report, with one opportunity to appeal to the commission. The enforcement of rules on a member state would come from political and other mutually agreed upon pressures via other member states.

The Future

The outcome of the U.S.-U.S.S.R. negotiations will be one factor determining the future for regional cooperation in the Northeast Pacific. Both states are considering a comprehensive, multilateral salmon agreement (Appendix C) that may eventually replace the International North Pacific Fisheries Convention. A United States Department of State official responded to the possibility of a new salmon regime by stating:

The existing convention has been very effective since it was signed in the 1950s, but times have changed, the players have changed and there is a need for more regulation and cooperation that goes beyond the INPFC mandate. In addition, the U.S.S.R. are not members of the INPFC.⁴³

Initially, the regional organization is more feasible than is a Pacific-wide organization,⁴⁴ given the greater autonomy of Canada, Japan, the U.S., and the U.S.S.R. In addition, based upon the regional

organizational structure (Figure 5), distant-water fishing states are afforded the opportunity to have a voice in the organization. The willingness and sincere interest in restoring quantity of resources are the reasons for these distant states to cooperate with the coastal states. The structure restricts nonmember states to submit recommendations to the commission.

In comparison, P00 allows all states an equal voice in the organization's actions. In addition, the preliminary proceedings necessary to organize P00 so that all the bordering states are included is a long process. Establishing P00 should be a long-range goal for the bordering states, but current problems necessitate a more immediate regional response.

In the distant future, a large, comprehensive organization is more likely to emerge based upon the slow progression of past multilateral cooperation. It is time, however, to begin initial preparations to establish the Pacific Ocean Organization. As cooperation expands in the Pacific, the need for a Pacific-wide organization may present itself. Presently, the Northeast Pacific needs a regional organization to address the fishery problems beyond the jurisdiction of the coastal states.

The acceptance of such an organization is partially dependent upon whether states believe the benefits of regional cooperation are sufficient enough to outweigh the costs of committing to a highly formal agreement. I believe states will not consent to such a comprehensive treaty at present because they still perceive it as a

political risk. I also think that some states do not accept that there is enough of a threat to the health of transboundary stocks to justify a regional organization. However, I argue that after the transboundary resources become even more depleted, the benefits of regional cooperation will be self-evident.

Summary

Regional problems provide challenges and opportunities to many of the current conservation and management practices of Pacific Rim states. Since overfishing and marine pollution are transboundary problems, the need for cooperation exists. The future health of transboundary resources depends upon how states choose to address these various problems. The recommendations in this chapter address these problems, not by a short-term, piece-meal solution, but by a more long-term, integrated approach. While this proposition is not the only solution, it is a more comprehensive plan than presently available and has the potential to address a wide variety of current and future problems. If implemented, the proposed organizations could transform existing problems and integrate resolutions into regional cooperation. Since political environments are rapidly changing in the world, particularly among the northern Pacific Rim states, the possibility of accepting a comprehensive, integrated plan is favorable.

Notes

¹See, for example, Lewis M. Alexander, "Regional Arrangements in the Oceans," American Journal of International Law, n.s. 1 (January 1977): 84-109; Douglas M. Johnston and Lawrence M. G. Enomoto, "Regional Approaches to the Protection and Conservation of the Marine Environment," The Environmental Law of the Sea, ed. Douglas M. Johnston (Gland, Switzerland: International Union for Conservation of Nature, 1981), 285-386; Lewis M. Alexander, Regional Arrangements in Ocean Affairs (Washington: Office of Naval Research, 1977); Douglas M. Johnston, ed., Regionalization of the Law of the Sea (Cambridge: Ballinger Publishing, 1978); C. Odidi Okidi, Regional Control of Ocean Pollution: Legal, and Institutional Problems and Prospects (Alphen aan den Rijn, The Netherlands: Sijthoff and Nordhoff, 1978); Maria Eduardo Goncalves, "Concepts of Marine Regions and the Law of the Sea," Marine Policy, n.s. 4 (October 1979): 255-263. For specific regions, see East-West Environment and Policy Institute, 1982), Report no. 11; Edward Miles, Stephen Gibbs, David Fluharty, Christine Dawson, and David Teeter, The Management of Marine Regions: The North Pacific (Berkeley: University of California Press, 1982); Alan E. Boyle, "Regional Pollution Agreements and the Law of the Sea Convention," The Law of the Sea and International Shipping: Anglo-Soviet Post-UNCLOS Perspectives, ed. William E. Butler (New York: Oceania Publications, 1985), 285-386.

²One popular perspective is presented by a well-known political geographer, Dr. Lewis M. Alexander, Professor, Institute for Marine Affairs, Department of Geography, University of Rhode Island, who argues three principal forms of marine regions exist: physical, management, and operational. Another popular perspective is from a well-known political scientist, Dr. Edward Miles, Professor, Director, Institute for Marine Studies, University of Washington, who argues that marine regions can be determined by focusing primarily on either location/contiguity or by the pattern of activities and perceived policy problems. For a complete discussion on the comparison of their two approaches, see "Regional Approaches to the Protection and Conservation of the Marine Environment," 286-287. For the application of each approach, see Lewis Alexander, "Regionalism at Sea: Concept and Reality," in Regionalization of the Law of the Sea, 5-6; Edward L. Miles, "On the Utility of Regional Arrangements in the New Ocean Regime," in Regionalization of the Law of the Sea, 259-260.

³Kenneth Sherman and Lewis M. Alexander, ed., Variability and Management of Large Marine Ecosystems (Boulder: Westview Press, 1986). Although not widely recognized as LMEs before 1986, the United Nations Environment Programme has been coordinating regional action plans involving marine pollution between states bordering semi-enclosed seas since the mid-1970s. See Alexander, Regional Arrangements in Ocean Affairs; Johnston and Enomoto, "Regional Approaches to the Protection

and Conservation of the Marine Environment," 324-337; Peter H. Sand, "Marine Environmental Law in the United Nations Environment Programme: An Emergent Eco-Regime" (London: Tycooly Publishing, 1988). Also, generally see, Stella Maris A. Vallejo, "Development and Management of Coastal and Marine Areas: An International Perspective," Ocean Yearbook 7, eds. Elisabeth Borgese and Norten Ginsburg (Chicago: University of Chicago, 1988); 205-222.

⁴See, for example, Martin H. Belsky, "Management of Large Marine Ecosystems: Developing a New Rule of Customary International Law," San Diego Law Review, n.s. 4 (1985): 733-763. Martin H. Belsky, "The Ecosystem Model: Mandate for a Comprehensive United States Ocean Policy and Law of the Sea," San Diego Law Review, n.s. 3 (1989), forthcoming in January 1990; Joseph R. Morgan, "Large Marine Ecosystems: An Emerging Concept of Regional Management," Environment, n.s. 10 (1987): 4-9, 29-34.

⁵The LMEs approach is chosen for two reasons: One, it is a concept based upon a comprehensive, ecological and management view that accounts for natural and anthropogenic changes, and two, it is a marriage of past perspectives and approaches creating a new expanding "ecological consciousness" in terms of regional arrangements.

⁶Belsky, "The Ecosystem Model: Mandate for a Comprehensive United States Ocean Policy and Law of the Sea," original manuscript, 40. Belsky mentions the fisheries problems in the Northeast Pacific and the disadvantages of piece-meal management by referring to past policies as "'problem-oriented' and singularly focused."

⁷*Ibid.*, note 275.

⁸Alexander points out that problems in semi-enclosed seas frequently require regional resolutions, but there are differences that make it difficult for problem solving: Conditions of marine resource use; relations among the littoral states; the perceptions of policy makers as to problems requiring regional action. In contrast, he argues that marine-related issues in the open oceans respond more readily to regional and subregional action. The main advantages of a regional approach to management in semi-enclosed seas are the physical uniqueness, policy makers tend to think in terms of comprehensive geographic units, and regional activities and problems can be viewed as an interconnected ecosystem. For a complete discussion on these points and advantages, see Alexander, "Regional Arrangements in the Oceans," 86, 91.

⁹Mark J. Valencia, Research Associate, East-West Environment and Policy Institute, East-West Center, telephone interview by author, 8 November 1989, to Honolulu.

¹⁰Dr. Alexander discusses the importance of these and other forces; see Alexander, "Regional Arrangements in the Oceans," 99-100.

¹¹For a discussion on maritime issues affecting states in the Northeast Pacific region, see Barry Buzan, "Maritime Issues in North-East Asia," Marine Policy, n.s. 3 (July 1979): 190-200.

¹²Similar arguments for this kind of regional cooperation based upon marine regionalism are made regarding the Southeast Asia and Arctic regions. See, Alexander, Regionalism in the South-East Asia Seas; Joseph Morgan, "Marine Regions and Regionalism in South-East Asia," Marine Policy, n.s. 4 (October 1984): 299-310; J. Enno Harders, "In Quest of an Arctic Legal Regime," Marine Policy, n.s. 4 (October 1987): 285-298.

¹³For official communications, see Serguet Morozov, " 'Glasnost' of the Oceans," The Siren (July 1989): 17-18; Jin Jimming, S. Y. Choi, and Soshiro Seki, "Towards a North-West Pacific Action Plan," The Siren (July 1989): 19-20.

¹⁴Alexander, "Regional Arrangements in the Oceans," 100.

¹⁵Other options that regional arrangements might offer include: (1) collective action by states, such as fisheries or pollution surveys performed by a joint group of scientists from each state or by a United Nations agency; or (2) regional regimes with mutual expectations, agreed upon rules, regulations, and plans for organizational energies and financial support, such as a commission that just makes recommendations. These two options differ from the chosen option of regional organizations for both regions in that it is more involved and structured to plan, make decisions, and implement programs. For a complete discussion on these three institutional levels, see Alexander, "Regional Arrangements in the Oceans," 96. Johnston and Enomoto classify regional arrangements according to the nature, degree, and duration of commitment involved, such as minimal, special, formal (transactional), and organizational. For a discussion on these arrangements, see Johnston and Enomoto, "Regional Approaches to the Protection and Conservation of the Marine Environment," 353-354.

¹⁶See, for example, Harders, "In Quest of an Arctic Legal Regime," 291. In the case of semi-enclosed seas, the author argues that a regional solution is more effective than a global one because states "generally suffer the direct effects of one another's polluting activity. The author further defends a regional approach over a global one by stating four reasons: (a) Even if the 1982 UNCLOS was implemented, it would require regional supplementation; (b) the degrees and types of pollution vary from area to area around the world, thus requires different regulations and pollution controls;

(c) regional mechanisms and organizations are near and tend to be more familiar with the problem, and thus are able to distribute remedial technology and support more readily; and (d) regional cooperation promotes participation of a minimum number of states, and exclude those that are not directly involved with the marine pollution problem of a given area. These four reasons were originally taken from John Warren Kindt, "The Effect of Claims by Developing Countries on LOS International Marine Pollution Negotiations," Virginia Journal of International Law, n.s. 2 (Winter 1980): 332.

¹⁷To review the requests made by these four Northwest Pacific states, see Morozov, "'Glasnost' of the Oceans," 17-18; Jianming, Chot, and Seki, "Towards a North-West Pacific Action Plan," 19-20.

¹⁸Mark J. Valencia, telephone interview, 8 November 1989.

¹⁹The reason why I suggest these recommendations is because Northwest Pacific states' representatives expressed a sincere interest in expanding cooperative efforts in the region. See, generally, Morozov, "'Glasnost' of the Oceans," 17-18; Jianming, Chot, and Seki, "Towards a North-West Pacific Action Plan," 19-20. For specific examples of recommended actions, see Mark J. Valencia, International Conference on the Yellow Sea (Honolulu: East-West Environment and Policy Institute, 1987); Mark J. Valencia, International Conference on the Sea of Japan (Honolulu: East-West Environment and Policy Institute, 1989); Mark J. Valencia, International Conference on the Seas of Japan and Okhotsk (Honolulu: East-West Environment and Policy Institute, forthcoming).

²⁰Valencia, International Conference on the Sea of Japan, 206.

²¹At the last regional workshop held in the Soviet Union, several papers were presented, including one by a UNEP-appointed representative. States from the Northwest Pacific region specifically stated, however, that a UNEP official, not an appointed representative, is necessary for regional cooperation to be successful.

²²Mark J. Valencia, telephone interview, 8 November 1989.

²³Successful cooperation is most likely if a "regional consciousness" is proven to exist, or, as stated in Alexander, "Regional Arrangements in the Oceans," 94, "a belief that the benefits of joint action on certain matters outweigh the cost associated with regional cooperation."

²⁴Mark J. Valencia, telephone interview, 8 November 1989.

²⁵For a complete discussion on legal alternatives for establishing an effective fishery management regime, see William T. Burke, Memorandum on Legal Issues in Establishing Fishery Management in the

Donut Area in the Bering Sea (Seattle: Fisheries Management Foundation, 1988). The United States is also considering unilateral action vis-à-vis amendments to the Magnuson Act. For more information, see Council on Ocean Law, "Magnuson Act Amendments and Reauthorization," Oceans Policy News (September/October 1989): 3-4.

²⁶Burke, 12.

²⁷The U.S. and U.S.S.R. are discussing the possibility of proposing a multilateral salmon treaty (Appendix C) that would include Canada and Japan as signing members. The treaty is similar in function to INPFC, but has a broader scope and adds the Soviet Union as a signing member. Canada, China, Japan, the Soviet Union, and the United States are discussing a multilateral, scientific organization, PICES (Appendix F). Comprehensiveness is the main advantage of PICES, but it is primarily focused on scientific cooperation. However, as William Burke perceptively notes, "The Japanese apparently are opposed to such an organization presently, perhaps they fear it will involve active management of fisheries in the North Pacific outside national jurisdiction or will accelerate the advent of such management." See Burke, 5. Even though Japan is not in favor of a comprehensive management scheme, it is not proof that such an approach is not needed for proper management of transboundary resources. For a complete discussion concerning PICES and how it would relate to the donut hole, see William T. Burke, 5-6. For a discussion of the benefits of PICES, see Warren S. Wooster, "On the Benefits of Participation in PICES," ed. Institute for Marine Studies, "Recent PICES Papers 1986-1988," TMs (photocopy), University of Washington, Seattle, 58-61.

²⁸The United Nations General Assembly, with support from the United States, is proposing a ban of drift nets in the South Pacific by 1991, and a world-wide ban a year later. See The Associated Press, "U.S. Decision on Drift-Nets Gets Applause," The Register-Guard (Eugene), 25 October 1989, 3(C); The Associated Press, "U.S. Backs Ban on Drift Nets," The Register-Guard (Eugene), 7 November 1989, 3(B); United Nations, "Ban on Drift Nets Backed," The Register-Guard (Eugene), 23 December 1989, 2(A).

²⁹The International North Pacific Fisheries Convention can be used as a general model, but it cannot substitute for a comprehensive regional fisheries arrangement because it is restricted in scope in terms of geographical location, participating coastal states (the U.S.S.R. is not a member), and species monitored. Also, the structure of INPFC was not established with an adaptive approach to oversee activities such as drift-net fishing, and a regulatory mechanism was not included to insure compliance. For further reasoning as to why INPFC is outdated, see The Associated Press, "U.S., Soviets to Hold Talks on North Pacific Fisheries," The Register-Guard (Eugene), 5 September 1989, 2(C).

³⁰James W. Brennan, Assistant Administrator for Fisheries, National Marine Fisheries Service, Letter to Vjacheslav K. Zilanov, Vice Minister, Ministry of Fisheries of the USSR, 12 September 1989, 1. Transcript in the hand of Clarence G. Pautzke, Executive Director, Pacific Fishery Management Council, Anchorage, Alaska.

³¹An alternative to SPICES is expanding PICES area of coverage to include the entire Pacific Ocean region. I do not think this is likely, at least in the near future, but it may be more feasible after it is well established. Any other discussion pertaining to the South Pacific region is beyond the scope of this paper.

³²Alexander, "Regional Arrangements in the Oceans," 98. The author discusses the advantage of obtaining a comprehensive use region.

³³*Ibid.*, 87, 100. Another key aspect of regionalization besides accessibility is the cost-benefit analysis of cooperation. If the costs are too high, states will not be willing to take the necessary risks to cooperate with others.

³⁴*Ibid.*, 95-100. Alexander analyzes the operation of regional arrangements and the institutional levels of cooperation, such as collective action, regional regimes, and regional organizations.

³⁵Johnston and Enomoto, "Regional Approaches to the Conservation and Protection of the Marine Environment," 354. For another discussion on the levels of regional commitment, see, Alexander, "Regional Arrangements in the Oceans," 96.

³⁶Alexander, "Regional Arrangements in the Oceans," 99.

³⁷*Ibid.*

³⁸*Ibid.*, 95-100. As Lewis Alexander points out, the objectives of a regional organization and how much regulatory powers a commission possesses is closely tied to the financial support base. In other words, since the member states are the support base, they determine how much regulatory power is apportioned. The "norm creation and allocation" model is, therefore, the most likely to be adopted by member states because the commission would have less authority.

³⁹For details of a model organization, see Biliiana Cicin-Sain and Robert W. Knecht, Ocean and Coastal Policy Center: Statement of Purpose (Santa Barbara: Marine Science Institute, April 1988).

⁴⁰Oregon State University is an attractive possibility because it houses the Oregon Sea Grant program, the well-known and respected oceanography department, the Marine Resources Management program, and

the Hatfield Marine Science Center in Newport. Another possibility is to structure it as an inter-institutional organization between OSU and the University of Oregon, Eugene. The University of Oregon houses the Ocean and Coastal Law Center and the Institute for Marine Biology in Charleston.

⁴¹The University of Washington is the most likely option for POPI because of its locale, university resources (Institute for Marine Studies and College of Fisheries), and Seattle's multitude of resources (e.g., National Oceanic and Atmospheric Administration, National Marine Fisheries Service).

⁴²The University of Alaska is also a good possibility because of its locale and university resources (coastal marine science center and its fishery programs).

⁴³The Associated Press, 5 September 1989.

⁴⁴Significant complications in regional cooperation in the Northeast Pacific exist, such as the lack of "high level of transactions" and a "regional consciousness." Although, this lack of cohesiveness is changing with the improving relations with the Soviet Union and the increasing problems (environmental and socio-economic) with overfishing. In the near future, comprehensive management may not be as likely, but as political relations improve this may change. For a complete discussion on complications of regional arrangements, see Alexander, "Regional Arrangements in the Oceans," 95-100.

APPENDIX A

CHRONOLOGICAL ACTIVITIES INVOLVING THE NORTH PACIFIC FISHERY
MANAGEMENT COUNCIL AND THE UNITED STATES FROM
JANUARY 1988 TO JANUARY 1989^{*}

^{*} Source: Extracted from North Pacific Fishery Management Council, "North Pacific Fisheries International Activities: 1988-89" (Anchorage: NPFMC, 1989), Agenda C-4(d), April, 5 pp.

1988

January 20-22: North Pacific Fishery Management Council (NPFMC) meets and hears report on overflight that video records Japanese trawlers fishing illegally in United States Exclusive Economic Zone (EEZ). The NPFMC sends letters calling for action to Secretaries of State, Commerce and Transportation.

January 25: The NPFMC writes to Secretary of State urging him to immediately determine the feasibility of extending U.S. fisheries jurisdiction in the Bering Sea westward to the 1867 Convention Line. Also, have Ambassador Wolfe of oceans and fisheries seek an agreement that would provide common control of the fishing activities in international waters when he goes to Moscow.

March 16: John Peterson, a staff member of NPFMC, testifies before Senate Committee on Commerce, Science and Transportation, urging them to act promptly to declare a moratorium on all fishing in the "Donut Hole" and to unilaterally extend U.S. fishery jurisdiction to those waters.

May 13: United States Senate votes unanimously to accept Murkowski Amendment to Defense Authorization Bill directing Department of Defense to investigate and report back to Congress within 90 days on how it can help prevent the illegal harvest of fish within the EEZ.

September 28 to October 1: The NPFMC endorses letters to Ambassador Wolfe and Secretary of Commerce calling for immediate cessation of Donut Hole fisheries.

October 11: The NPFMC sends a letter to Ambassador Wolfe calling for an immediate cessation of all fishing in the Donut Hole to be implemented as expeditiously as possible by bilateral or unilateral action as necessary. The letter states that the cessation needs to be followed by effective management and enforcement, he take the position forward to Moscow, and the burden of proof should be on foreign countries to show that stock removals from the Donut Hole do not impact the resource. The letter asks for the State Department to investigate ways to enhance enforcement and to respond to Senate Resolution 396, which directs the State to report to the Senate Commerce Committee on actions of the Interagency Task Force on enforcement options for the Bering Sea.

October 14: The NPFMC notified of illegal salmon laundering scheme. Industry sources report that large quantities of North Pacific salmon

are being taken illegally on the high seas and exported to markets around the world. Reports claim Taiwan-caught salmon are being transhipped through Hong Kong, Thailand, and Singapore to European markets.

October 26: The NPFMC sends a letter to Secretary of Commerce calling for immediate cessation of all fishing in the Donut Hole, and expresses concerns over illegal, foreign fishing and suggests actions to be taken based upon an organization's (probably fishing) suggestions.

December 5: A National Oceanic and Atmospheric Administration (NOAA) Administrator responds to a letter from the NPFMC dated October 26. The Administrator states they are exploring the use of such measures as check in and out, stowage of gear on foreign vessels and transponders (a tracking device). The letter stated that a National Marine Fisheries Service (NMFS) Special Agent had completed a four-week patrol aboard a Japanese enforcement vessel, logging over 6,500 miles in the northern area of the drift-net fisheries and in the Donut Hole, but not finding any violations by Japanese vessels. The letter noted that NMFS Northwest (covering Oregon and Washington) and Alaska enforcement offices are developing a comprehensive enforcement plan that will focus on the problems of high seas salmon interceptions and Bering Sea violations by foreign fishing vessels. The Administrator was certain the plan would identify the need to work closely with NPFMC, concerned industry representatives and appropriate Federal agencies, including the Department of Defense.

1989

January 16-19: The NPFMC recommends amending the Magnuson Act by adding a new purpose, which would eliminate interception of U.S. anadromous salmon and steelhead beyond the EEZ.

January 27-28: The NPFMC's Chairman adopts proposed Magnuson Act amendment on salmon interception.

APPENDIX B

LIST OF INTERNATIONAL AGREEMENTS FOR NORTH PACIFIC FISHERIES*

*Permission given to reproduce this appendix by author Edward Miles, 13 November 1989.

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE
NORTHEAST PACIFIC OCEAN*

Key:

- ILM International Legal Materials
- LNTS League of Nations Treaty Series
- TIAS United States--Treaties and International Agreements Series
 (post-1945)
- TS Treaty Series--U.S. State Department, Pamphlet Series (pre-1945)
- UNLS United Nations Legislative Series (ST/LEG/B/16 and B/18)
- UNTS United Nations Treaty Series

* Denotes treaties in force prior to extension of jurisdiction. Earlier agreements are provided to illustrate the development of the international regime for fisheries in the Northeast Pacific Ocean. Agreements related to shellfish sanitation, natural resources in general, and cooperation in environmental protection are excluded.

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE NORTHWEST PACIFIC OCEAN

<u>Multilateral Agreements</u>	Year signed	Signatories	Reference
West Pacific Fisheries, Oceanology and Limnology Research Cooperation Agreement	1956	DPRK. N. Vietnam. PRC. USSR (1958. Outer Mongolia joined, and 1967, PRC, withdrew)	(1)
<u>Bilateral Agreements</u>			
<u>China-Korea</u>			
Sino-Korea Trade Agreement--Includes Reciprocal Fishery Clause	1882	China, Korea	(1)
<u>Japan-Korea</u>			
Agreement to Permit Japanese Fishermen to Live in Three Korean Ports	1426	Japan, Korea	(1)
Agreement to Regulate Japanese Fishing in Waters Near Korea	1442	Japan, Korea	(1)
Trade Agreement--Includes Reciprocal Fishery Clause	1883	Japan, Korea	(1)
Fishery Treaty	1889	Japan, Korea	(1)
Superseded	1908	Japan, Korea	(1)
<u>PRC DPRK</u>			
Fishery Agreement for the Yellow Sea	1959 [*]	PRC, DPRK	(1)
Agreement Regarding Fishery Cooperation	1972 [*]	PRC, DPRK	(2)

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE NORTHWEST PACIFIC OCEAN (Continued)

	Year signed	Signatories	Reference
<u>Japan-ROK</u>			
Agreement on Fisheries Between Japan and the Republic of Korea	1965*	Japan, ROK	<u>International Legal Materials</u> . vo. 4, p. 1128.
Agreement on Increased Fisheries Claims Compensation, nongovernmental	1979*		<u>Latest Developments in World Fisheries</u> , NMFS, Part II (January 1980). For mention of earlier nongovernmental arrangements see (3).
<u>Japan-PRC</u>			
Nongovernmental Agreement on Japanese Fisheries in Waters Near PRC	1955		(1)
Extended	1956		(1)
Extended	1957		(1)
Lapsed	1958		(1)
Second Nongovernmental Agreement on Japanese Fisheries in Waters Near PRC	1963		(1)
Third Nongovernmental Agreement on Fisheries in Waters Near PRC	1965		(1)
Extended six times through 1975			

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE NORTHWEST PACIFIC OCEAN (Continued)

	Year signed	Signatories	Reference
Nongovernmental Seine Fishing Regulation	1970		
Agreement on Fisheries Concluded Between the Governments of Japan and the People's Republic of China	1975*	Japan, PRC	<u>Japanese Annual of International Law</u> , vol. 20 (1976).
Extended	1978*	Japan, PRC	<u>Latest Develop- ments in World Fisheries</u> , Part II, NMFS (December 1978).
<u>Japan-DPRK</u>			
Nongovernmental Agreement on Japanese Fisheries in the Exclusive Zone of DPRK	1977*		(2)
Extended for two years	1978		(2)
Extended for two years	1980*		<u>Latest Develop- ments in World Fisheries</u> , Part II, NMFS (May 1980)
<u>DPRK-USSR</u>			
Meeting Regarding Fishing in Respective Zones of Extended Jurisdiction	1977	DPRK, USSR	(2)
Protocol for Scientific and Technical Cooperation in Fisheries	1980*	DPRK, USSR	<u>Latest Develop- ments in World Fisheries</u> , NMFS (November 1978)
Protocol for Expanded Fisheries Cooperation	1980*	DPRK, USSR	<u>Latest Develop- ments in World Fisheries</u> , NMFS (March 1980).

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE NORTHWEST PACIFIC OCEAN (Continued)

	Year signed	Signatories	Reference
<u>Japan-Russia</u>			
Poutiatine's Treaty	1855	Japan, Russia	(4)
Treaty of Exchange of Sakhalin and the Kurile Islands	1875	Japan, Russia	(4)
Russo-Japanese Peace Treaty (Portsmouth Treaty)	1905	Japan, Russia	(4)
Russo-Japanese Fishery Convention	1907	Japan, Russia	(4)
<u>Russia-Great Britain</u>			
Treaty of 1825	1825	Russia, Great Britain	Jozo Tomasevich, <u>International Agreements on Conservation of Marine Resources</u> (Palo Alto: Stanford University, 1943).
Fur Seals Northwest Pacific	1893	Russia, Great Britain	(5)
<u>Russia-U.S.</u>			
Fur Seals Northwest Pacific	1894	Russia, United States	(5)
<u>Japan-Ussr</u>			
Convention Embodying Basic Rules of the Relations Between Japan and USSR	1925	Japan, USSR	(4)
Fishery Convention Between Japan and USSR	1928	Japan, USSR	(4)

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE NORTHWEST PACIFIC OCEAN (Continued)

	Year signed	Signatories	Reference
Extended Annually Until World War II		Japan, USSR	(4)
Protocol Extending for Five Years the Japan-USSR Fishery Convention	1944	Japan, USSR	(4)
Convention Between Japan and the USSR Concerning the High Seas Fisheries of the Northwest Pacific Ocean	1956	Japan, USSR	(4)
Denounced by the USSR	1978		(6)
Replaced by:			
Japan-USSR Interim Fishery Agreement (Japanese Access to the Soviet Zone)	1977 [*]	Japan, USSR	<u>Government Gazette</u> (Japan), Extra no. 43 (June 10, 1977).
Japan-USSR Interim Fishery Agreement (Soviet Access to the Japanese Zone)	1977 [*]	Japan, USSR	<u>Japanese Annual of</u> <u>International Law</u> , no. 22 (1978).
Both Agreements Extended	1978 [*]	Japan, USSR	(6)
Agreement Between the Great Japan Fisheries Association and the National Commission of Fisheries of the Soviet Socialist Republics Pertaining to Collection of Tangle in the Area round Kaigara Islands (Sigalnui Is.) by Japanese Fisheries, nongovernmental	1963		Shigeo Sugiyama, "The Japanese-Soviet Tangle Collection Agreement of 1963," <u>Japanese Annual of</u> <u>International Law</u> , no. 9 (1964).
Extended for 1964 and Lapsed	1964		Sugiyama, "Tangle Collection Agreement."

INTERNATIONAL AGREEMENTS RELATED TO LIVING RESOURCES IN THE NORTHWEST PACIFIC OCEAN (Continued)

	Year signed	Signatories	Reference
Exchange of Notes Concerning the Crab Fisheries	1970	Japan, USSR	<u>Japanese Annual of International Law</u> , no. 14 (1970).
Agreement Between Japan and the USSR on the Regulation of North Pacific Whaling	1974	Japan, USSR	<u>Japanese Annual of International Law</u> , no. 19 (1975).
Replaced by:			
Agreement Between Japan and the USSR on the Regulation of North Pacific Whaling	1975	Japan, USSR	<u>Japanese Annual of International Law</u> , no. 20 (1976).
Agreement Between Japan and the USSR on Whaling	1979*	Japan, USSR	<u>Latest Developments in World Fisheries</u> . Part I, NMFS (December 1979).
Agreement on Bilateral Claims Settlement	1975	Japan, USSR	(3) <u>Japanese Annual of International Law</u> , no. 20 (1976).

Notes: The discussion presented here is interpreted from available sources of information on international agreements related to living resources. Dates followed by an asterisk indicate agreements in effect January 1, 1980. References cited more than once are indicated by numbers in parentheses and listed below.

- (1) Choo-ho Park, "Fishing Under Troubled Waters; the Northeast Asia Fisheries Controversy," Ocean Development and International Law Journal, 2, 2 (January 1979).
- (2) Ocean Development and Law of the Sea Newsletter, no. 2 (January 1979).
- (3) Shoichi Tanaka, "Japanese Fisheries in the Northwest Pacific," Ocean Development and International Law Journal, vol. 6, Pacific Rim Issue (1979).
- (4) Zengo Ohira, "Fishery Problems Between Soviet Russia and Japan," The Japanese Annual of International Law, vol. 2, 1958.
- (5) Stefan A. Reisenfeld, Protection of Coastal Fisheries Under International Law, Monograph Series of the Carnegie Endowment for International Peace, Division of International Law (Washington, D.C.: 1942).
- (6) Ocean Development and Law of the Sea Newsletter, no. 3 (June 1979).

I. Multilateral Agreements

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
1. Convention for the Preservation of Fur Seals	1911	Canada, Japan, USSR, U.S.	TS 564
(Japan notified the other nations of intent to withdraw from the convention in 1940. Canada and the United States concluded a separate agreement on a bilateral basis in 1942.)			
Interim Convention on Conservation of North Pacific Fur Seals	1956*	Canada, Japan,	UNTS 314:105
Amended by Protocol	1963*		UNTS 494:303
Extended by an Exchange of Notes	1969*		UNTS 719:313
Amended and Extended	1976*		TIAS 8368
Amended	1978		TIAS 9842
2. International Convention for the Regulation of Whaling	1937	Canada, Japan, USSR, U.S.. ^a	LNTS 190:79
Replaced by: International Convention for the Regulation of Whaling	1946*		UNTS 161:73
Amended by Protocol (Numerous other amendments to whaling schedules)	1956*		UNTS 338:336
3. International Convention for High Sea Fisheries in the North Pacific Ocean	1952 ^b	Canada, Japan, U.S.	UNTS 205:81
Amended	1962*		TIAS 5385
Amended	1978		TIAS 9242
4. Convention on Fishing and Conservation of Living Resources on the High Seas	1958*	United States (subject to an understanding) ^a	UNTS 559:285
5. Convention on the Continental Shelf	1958*	Canada (with a declaration), USSR, U.S.. ^a	UNTS 499:311

^aNorth Pacific nations which are signatories.^bThis treaty follows the provisions of the Treaty of Peace with Japan 1951 signed by the Allied Powers (TIAS-2490). Article 9 of that treaty requires that Japan negotiate agreements regulating fishing on the high seas.

II. Canada-United States Bilateral Agreements

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
1. Convention Respecting Fisheries, Boundary, and the Restoration of Slaves	1818	Canada, U.S.	TS 112
Agreement on Boundaries	1827*		TS 116
2. Convention on Fur Seal Fishing (Replaced by multilateral agreement)	1894 1911	Canada, U.S.	TS 307
3. Convention for the Protection of Migratory Birds	1916	Canada, U.S.	TS 628
4. Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea	1923	Canada, U.S.	TS 701
Supplanted by Agreement	1930	Canada, U.S.	TS 837
Replaced by Agreement	1937	Canada, U.S.	TS 917
Replaced by Agreement	1953*	Canada, U.S.	UNTS 222:77
Amended	1979		TIAS 9855
5. Convention for the Protection, Preservation, and Extention of the Sockeye Salmon Fisheries in the Fraser River System	1930*	Canada, U.S.	LNTS 184:305
Exchange of Notes Constituting an Agreement to Facilitate the Ascent of Salmon in Hell's Gate Canyon and elsewhere in the Fraser River System.	1944*	Canada, U.S.	UNTS 121:300
Protocol Amending the Con- vention to include Pink Salmon in the Fraser River System.	1956*	Canada, U.S.	UNTS 290:103
6. Convention Concerning Fur Seals	1942	Canada, U.S.	^a
Amended	1947	Canada, U.S.	TIAS 1686
(Replaced by multilateral agreement 1956)			

II. Canada-United States Bilateral Agreements (Cont.)

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
7. Convention for the Extension to Halibut Fishing Vessels of Port Privileges on the Pacific Coasts of USA and Canada	1950*	Canada, U.S.	UNTS 200:212
8. Agreement between the Government of the USA and the Government of Canada on Reciprocal Fishing Privileges in Certain Areas of their Coasts	1970	Canada, U.S.	UNTS 752:3
Extended	1972	Canada, U.S.	TIAS 7323
Reciprocal Fishing Privileges	1973	Canada, U.S.	TIAS 7606 & 7676
Reciprocal Fishing Privileges	1974	Canada, U.S.	TIAS 7818
Reciprocal Fishing Privileges	1975	Canada, U.S.	TIAS 8057
Reciprocal Fishing Privileges	1976*	Canada, U.S.	TIAS 8251
Amended	1977		TIAS 8648

^aNo. 415 in the U.S. State Department, Executive Agreement Series.

III. Canada-Bilateral Agreements with Countries Other Than the United States

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
1. Agreement between the Government of Canada and the Government of USSR on Cooperation in Fisheries in the Northeastern Pacific Ocean off the Coast of Canada	1971*	Canada, USSR	UNLS B16: 546
2. Agreement between the Government of Canada and the Government of USSR on Provisional Rules of Navigation and Fisheries Safety in the Northeastern Pacific Ocean off the Coast of Canada	1971*	Canada, USSR	UNLS B16: 543

IV. United States-Bilateral Agreements with Countries Other Than Canada

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
A. Japan			
1. <u>Crabs</u>			
Exchange of Notes Constituting an Agreement between USA and Japan Relating to the King Crab Fishery in the Eastern Bering Sea	1964	Japan, U.S.	UNTS 533:30
Amended	1966		UNTS 680:382
Amended	1968		UNTS 714:286
Replaced by:			
Exchange of Notes Constituting an Agreement between the U.S. and Japan Regarding the King and Tanner Crab Fisheries in the Eastern Bering Sea	1970	Japan, U.S.	UNTS 776:239
Extended	1972		TIAS 7527
Replaced by:			
Agreement Concerning Fisheries: Certain Fisheries off the United States Coast, Salmon Fisheries, King and Tanner Crabs	1974*	Japan, U.S.	TIAS 7986
2. <u>Certain Fisheries</u>			
Exchange of Notes Constituting an Agreement Concerning Certain Fisheries off the Coast of the United States	1967	Japan, U.S.	UNTS 685:268
Amended and Extended	1868		UNTS 714:330
Replaced by:			
Exchange of Notes Constituting an Agreement between Japan and U.S. Concerning Certain Fisheries off the U.S. Coast and Salmon Fisheries	1970	Japan, U.S.	UNTS 776:197
Amended and Extended	1972		TIAS 7528

IV. United States-Bilateral Agreements with Countries Other Than Canada (Cont.)

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
Replaced by:			
Agreement Concerning Fisheries: Certain Fisheries off the United States Coast, Salmon Fisheries, King and Tanner Crabs	1974*	Japan, U.S.	TIAS 7986
3. <u>Whale Observers</u>			
Agreement Concerning an International Observer Scheme for Whaling Operations from Land Stations in the North Pacific Ocean	1972	Japan, U.S.	TIAS 7315
Extended	1973		TIAS 7647
Extended	1974		TIAS 7823
Extended	1975		TIAS 8088
Extended	1976*		TIAS 8399
4. <u>Migratory Birds</u>			
Convention for the Protection of Migratory Birds and Birds in Danger of Extinction, and their Environment	1972*	Japan, U.S.	TIAS 7900
Amendment to Annex	1974*		TIAS 7990
B. Poland			
1. Agreement between the two Governments regarding Fisheries in the Northeast Pacific Ocean off the Coast of the USA	1975*	Poland, U.S.	TIAS 8100
(Settlement of Claims in the Northeastern Pacific Ocean is dealt with under the procedures established in Agreement Regarding Fisheries in the Western Region of the Middle Atlantic Ocean, 1973 TIAS 7659, extended 1975 TIAS 8099.)			

IV. United States-Bilateral Agreements with Countries Other Than Canada (Cont.)

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
C. Republic of Korea			
1. Agreement Concerning Cooperation in Fisheries with Agreed Minutes	1972	ROK, U.S.	TIAS 7517
Terminated	1977		TIAS 8525
D. Soviet Union (USSR)			
1. Convention Regarding Navigation, Fishing and Trading on the Pacific Ocean and along the Northwest Coast of America	1824*	USSR, U.S.	TS 298
2. Agreement on Fur Seal Fisheries (Replaced by Multilateral Convention)	1894 1911	USSR, U.S.	TS 307
3. <u>Fishing Operations</u>			
Agreement between USSR and U.S. Relating to Fishing Operations in the Northeastern Pacific Ocean	1964	USSR, U.S.	UNTS 531:214
Amended and Extended	1967		UNTS 697:318
Amended and Extended	1969		UNTS 714:281
Replaced by:			
Agreement between USSR and U.S. Relating to Fishing Operations in the Northeastern Pacific Ocean	1971	USSR, U.S.	UNTS 777:41
Extended	1972		TIAS 7541
Replaced by:			
Agreement between the two Governments Relating to Fishing Operations in the Northeastern Pacific Ocean	1973	USSR, U.S.	TIAS 7572
Extended	1974		TIAS 7981
Extended	1975		TIAS 8020

IV. United States-Bilateral Agreements with Countries Other Than Canada (Cont.)

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
Replaced by:			
Agreement between the two Governments Regarding Fisheries in the Northeastern Pacific Ocean off the Coast of the U.S.	1975*	USSR, U.S.	TIAS 8207
4. <u>Crabs</u>			
Agreement between the Government of the U.S. and the Government of the USSR Relating to Fishing for King Crab	1965	USSR, U.S.	UNTS 541:97
Amended and Extended	1967		UNTS 688:428
Amended and Extended	1969		UNTS 714:292
Replaced by:			
Agreement between the Government of the U.S. and the Government of the USSR Relating to Fishing for King and Tanner Crab	1971	USSR, U.S.	UNTS 781:203
Extended	1972		TIAS 7541
Replaced by:			
Agreement between the Governments of the USA and the USSR Relating to Fishing for King and Tanner Crab	1973	USSR, U.S.	TIAS 7571
Extended	1974		TIAS 7981
Extended	1974		TIAS 8020
Replaced by:			
Agreement between the two Governments Relating to Fishing for King and Tanner Crab	1975*	USSR, U.S.	TIAS 8160

IV. United States-Bilateral Agreements with Countries Other Than Canada (Cont'd)

<u>Title</u>	<u>Year signed</u>	<u>Signatories</u>	<u>Reference</u>
<u>5. Certain Fisheries</u>			
Agreement between USSR and U.S. on Certain Fishery Problems in the Northeastern Part of the Pacific Ocean off the Coast of the U.S.	1967	USSR, U.S.	UNTS 688:158
Extended	1968		UNTS 697:362
Amended and Extended	1969		UNTS 714:352
Replaced by:			
Agreement between USSR and U.S. on Certain Fishery Problems in the Northeastern Part of the Pacific Ocean off the Coast of the U.S.	1971	USSR, U.S.	UNTS 777:18
Amended	1972		TIAS 7328
Extended	1972		TIAS 7541
Replaced by:			
Agreement on Certain Fisheries Problems in the Northeastern Part of the Pacific Ocean off the Coast of the U.S.	1973	USSR, U.S.	TIAS 7573
Extended	1974		TIAS 7981
Replaced by:			
Agreement between the two Governments Regarding Fisheries in the Northeastern Pacific off the Coast of the U.S.	1975*	USSR, U.S.	TIAS 8207
<u>6. Settlement of Claims</u>			
Agreement Relating to the Consideration of the Claims Resulting from Damage to Fishing Vessels or Gear and to Measures to Prevent Fishing Conflicts	1973*	USSR, U.S.	TIAS 7575
Amended	1974*		TIAS 7663
Amended	1975*		TIAS 8022

V. Fisheries Regime in the Northeastern Pacific Ocean Following Unilateral Extension of Fishery Zones to 200 Miles

A. National Acts Extending Jurisdiction

<u>Nation</u>	<u>Title</u>	<u>Date</u>	<u>Reference</u>
Canada	Act Amending the Law on Territorial Sea and Fishing Zones	1970	ILM 9:543
	Proposed Fishing Zones	1976	ILM 15:1372
DPRK	Economic	1977	Foreign Broadcast Information Service, vol. 4, July 1, 1977, DZ
Japan	Law on Provisional Measures Relating to the Fishing Zone	1977	Unofficial translation. U.S. Natl. Marine Fisheries Service
USSR	Edict on Provisional Measures for the Preservation of Living Resources and the Regulation of Fishing in Marine Areas	1976	ILM 15:1381
United States	Fisheries Conservation and Management Act of 1976	1976	ILM 15:634

B. Fisheries Agreements Relating to 200-Mile Fishing Zones in the Northeastern Pacific

<u>Nation</u>	<u>Title</u>	<u>Date</u>	<u>Reference</u>
Canada-USSR	Agreement for Fisheries within the Canadian 200-mile Fishery Zone	1976	ILM 15:1267
Canada-Japan	Agreement for Fisheries within the Canadian 200-mile Fishery Zone	1976	No published reference available. Similar to Canada-USSR.
Canada-Poland	Agreement for Fisheries within the Canadian 200-mile Fishery Zone	1976	No published reference available. Similar to Canada-USSR.
U.S.-Japan	Governing International Fisheries Agreement	1977	TIAS 8728/8728

V. Fisheries Regime in the Northeastern Pacific Ocean Following Unilateral Extension of Fishery Zones to 200 Miles (Cont.)

<u>Nation</u>	<u>Title</u>	<u>Date</u>	<u>Reference</u>
U.S.-GDR	Governing International Fisheries Agreement	1976	TIAS 8527
U.S.-ROK	Governing International Fisheries Agreement	1976	TIAS 8526
U.S.-Poland	Governing International Fisheries Agreement	1976	TIAS 8524
U.S.- Taiwan	Governing International Fisheries Agreement	1976	TIAS 8529
U.S.-USSR	Governing International Fisheries Agreement	1976	TIAS 8528
U.S.-Canada	Interim Agreement on Reciprocal Fisheries	1977	TIAS 8648

Note: Agreements that are under active renegotiation include:

Canada-U.S. Halibut Convention
 Canada-U.S. Agreement on Management of Shared Salmon Stocks
 Canada-U.S. Agreement on Reciprocal Fisheries
 Canada-Japan-U.S. International North Pacific Fisheries Convention

APPENDIX C

CONVENTION FOR THE CONSERVATION OF ANADROMOUS STOCKS
OF FISH IN THE NORTH PACIFIC OCEAN

THE PARTIES to this Convention,

RECOGNIZING that anadromous fish originating in the rivers, lakes, and intertidal waters of the United States, Canada, the Union of Soviet Socialist Republics, and Japan intermingle in certain areas of the North Pacific Ocean;

RECOGNIZING that, in conformity with international law, the Parties to this Convention have sovereign rights for the purpose of exploration, exploitation, conservation, and management of the living resources within zones they have established, extending 200 nautical miles from the baseline from which the territorial sea is measured (hereinafter referred to as "zones"); and have authority and responsibility for conservation and management of anadromous species of their respective origin beyond their respective zones, except when found in the zone or jurisdiction of another State;

RECOGNIZING that many important stocks of living marine resources of the North Pacific Ocean ecological complex, including anadromous species, range within and beyond the respective zones of the Parties;

RECOGNIZING that stocks of anadromous species originating in rivers of the Parties, which are the major States of origin for the North Pacific Ocean, constitute the vast majority of such species which occur in the Convention area;

RECOGNIZING that there do not currently exist fisheries for anadromous species in the North Pacific Ocean, by States other than States of origin, which are sanctioned by the laws of such States or by agreement with the Parties;

RECOGNIZING that the directed and incidental harvest of anadromous fish in areas beyond the zones of the Parties have a detrimental effect on the efforts of the Parties to carry out their responsibility for conservation and management of those stocks;

RECOGNIZING that the Parties have important economic interests in the anadromous species of the North Pacific Ocean, for the reason that, as States of origin, they must make significant commitments of financial resources and must forego certain economic development opportunities in order to conserve and manage those species;

RECOGNIZING, as well, that the harvest of anadromous fish by the Parties, as States of origin, contributes to their national economies and sustains the economic and social viability of their small and often isolated coastal communities;

RECOGNIZING that, in accordance with international law, all States have an obligation to cooperate with the States of origin in conservation of such anadromous species and a duty to enforce compliance by their flag vessels with international restrictions on fishing for such species;

EMPHASIZING the importance of scientific research for the conservation and management of the living marine resources of the North Pacific Ocean;

DESIRING to promote the acquisition, analysis, and dissemination of scientific information pertaining to living marine resources, including anadromous species, of the North Pacific Ocean;

DESIRING to coordinate efforts to conserve and manage anadromous species in the North Pacific Ocean; and

DESIRING to promote the conservation, restoration, enhancement and rational management of anadromous stocks of fish in the North Pacific Ocean through international cooperation;

HAVE AGREED as follows:

ARTICLE I

1. The area of this Convention, hereinafter referred to as the "Convention area," shall be the waters of the North Pacific Ocean north of 33 degrees N.
2. This Convention shall apply to the management of anadromous fish in the Convention area beyond the seaward limits of the zones of the Parties and within the zones of the parties, seaward of 50 nautical miles of the baseline from which the territorial sea is measured.

ARTICLE II

1. The directed or incidental harvesting of anadromous fish by any State is prohibited beyond the seaward limit of the zones in the North Pacific Ocean, except as agreed among the Parties.
2. The knowing sale, purchase, or transport of anadromous fish harvested in violation of this Convention is prohibited.
3. Within the zones of the Parties, directed fishing for anadromous fish is prohibited seaward of 50 nautical miles of the baseline from which the territorial sea is measured, unless otherwise agreed among the Parties.

ARTICLE III

1. The Parties shall invite any State not a Party to this Convention to consult with regard to any matter relating to the activities of the vessels or nationals of that State which might affect adversely the conservation, restoration, enhancement, or rational management of anadromous stocks of fish subject to this Convention or the implementation of the Convention.
2. The Parties shall seek to achieve agreement with any State, referred to in paragraph 1 of this Article, concerning the enforcement of the prohibitions established in Article II.
3. In the absence of an agreement in accordance with paragraph 2 of this Article, the Parties shall, consistent with international law, take such measures, individually and collectively, as they deem necessary and appropriate to implement the prohibitions established in Article II.

ARTICLE IV

The parties may establish separate subregional organizations, among themselves or with other states, to address the interception of anadromous species originating in one state within the zone or jurisdiction of another state.

ARTICLE V

1. Each Party shall take appropriate measures to ensure that no fishing from stocks of anadromous fish is permitted within its zone 50 miles seaward of the baseline from which the territorial sea is measured, and that its nationals and vessels refrain from fishing beyond its zone or the zones of any Party for anadromous stocks of fish, except as otherwise authorized pursuant to this Convention.
2. Each Party consents to, and will assist, boardings and inspections of its vessels by duly authorized officers of any other Party in the Convention area beyond the zones of the Parties for compliance with provisions of this Convention and measures established pursuant thereto. If, upon boarding and inspection of a vessel by a Party's duly authorized officer, any provision of this Convention, or any measure pursuant thereto, is found to have been violated, each Party agreed that it will not object to appropriate enforcement action undertaken pursuant to the laws of that other Party, including seizure of the vessel.

3. Each Party shall impose appropriate penalties, in accordance with its laws, for violations of any provision of this Convention or any measure established pursuant thereto.
 - a) The penalty for violation of a limitation or restriction on the fishing operations of a Party shall be limited to appropriate fines, forfeitures or revocation, or suspension of fishing privileges.
 - b) In the case of arrest and seizure of a vessel of a Party by the authorities of any other Party, notification shall be given promptly through diplomatic channels informing the flag state Party of the facts and actions taken. Each Party shall release vessels of the other Party and their crews promptly, subject to the posting of reasonable bond or other security.

ARTICLE VI

1. The Parties shall cooperate, consistent with their existing international obligations, to exchange information and to take action, where appropriate, to address the harvesting of anadromous species originating in the waters of any other Party by nationals and vessels of non-Parties in areas beyond any zone, and otherwise to advance the conservation of such anadromous species.
2. The Parties shall cooperate on the exchange of information on the sale and transport of anadromous species taken contrary to the provisions of this Convention.

ARTICLE VII

1. The Parties shall cooperate in the conduct of scientific research required for the purpose of the conservation and optimum utilization of living marine resources, including anadromous stocks of fish.
2. The Parties shall cooperate in the implementation of procedures for collecting, reporting, and exchanging biostatistical information, fisheries data including catch and fishing effort statistics, biological samples, and time and area of vessel and fleet operation, in accordance with agreed upon procedures.

3. The Parties shall develop appropriate cooperative programs to monitor fishing operations in Convention waters in order to ensure conservation and rational management of living marine resources, including anadromous stocks of fish.
4. The Parties agree to exchange scientists in order to carry out scientific observations necessary to fulfill the purposes of the Convention.

ARTICLE VIII

1. There is hereby established an international organization that shall be known as the North Pacific Anadromous Species Commission, hereinafter referred to as the "Commission."
2. The objective of the Commission is to contribute through consultation, cooperation and recommendations to the conservation, restoration, enhancement, and rational management of anadromous stocks of fish subject to this Convention.
3. The Commission shall have legal personality and shall enjoy in the territories of the Parties and its relations with other international organizations such legal capacity as may be necessary to perform its functions and achieve its ends. The privileges and immunities which the Commission, its officers and staffs, and representatives of the Parties shall enjoy in the territory of a State shall be subject to agreement between the Commission and the State concerned.
4. The official languages of the Commission shall be English and Russian.
5. The Commission shall be composed of three Commissioners from each of the Parties and a Secretariat composed of an Executive Director and appropriate support staff housed at a permanent location agreed to by the Parties. One Commissioner from each party will serve on one of three standing committees, which shall include Science, Enforcement and Administration.
6. Each national section shall have one vote. All proposals, recommendations and other decisions of the Commission shall be made by a vote of at least three national sections.
7. The Commission shall meet at least once annually and at such other times as may be agreed upon, to elect officers, which shall include a chairman and vice chairman, and conduct such other business as is appropriate to the implementation of this Convention.

8. The Commission may adopt its own rules of procedure.

ARTICLE IX

The functions of the commission shall include the following:

1. recommend to the Parties measures for the conservation and rational management of anadromous stocks in the Convention area beyond the zones of any Party;
2. provide for the exchange of information on the illegal harvesting of anadromous species in the convention area beyond the zones of any party; and
3. provide for the exchange of catch and effort information for conducting scientific studies and for coordinating the collection, exchange and analysis of scientific data regarding living marine resources, including anadromous species, including data regarding the continent of origin of these species, and provide a forum for cooperation among the Parties with respect to these species.

ARTICLE X

1. The Commission shall appoint an Executive Director who shall oversee the work of the Secretariat.
2. The functions of the executive Director and the Secretariat shall be:
 - a) To provide administrative services to the Commission;
 - b) To compile and disseminate statistics and reports concerning anadromous stocks subject to this Convention; and
 - c) To perform such functions as follow from other provision of this Convention or as the Commission may determine.
3. The Commission shall determine the conditions of employment of the Executive Director and staff.
4. The Executive Director shall appoint the staff in accordance with staffing requirements approved by the Commission. The staff shall be responsible to the Executive Director, subject to the general supervision of the Commission.

5. The location of the Secretariat shall be _____.

ARTICLE XI

1. Each Party shall determine and pay the expenses incurred by its national section. Joint expenses incurred by the Commission shall be paid by the Commission through contributions made by the Parties.
2. The Commission shall adopt an annual budget. The Executive Director shall transmit a draft budget to the Parties together with a schedule of contributions not later than 60 days before the meeting of the Commission at which the budget is to be considered.
3. The Commission shall determine the annual contribution of each Party according to the following formula:
 - a) 70 percent of the budget shall be divided equally among the Parties; and
 - b) 30 percent of the budget shall be divided among the Parties in proportion to their nominal catches of anadromous stocks in the areas beyond the zone of any Party.
4. The Executive Director shall notify each Party of its contribution. Contributions shall be paid not later than four months after the date of such notification, in the currency of the state in which the office of the organization is located.
5. The Commission shall authorize the disbursement of funds for the joint expenses of the Commission and may employ personnel and acquire facilities necessary for the performance of its functions.
6. A Party which has not paid its contributions for two consecutive years shall not be entitled to vote under this Convention until it has fulfilled its obligations, unless the parties agree otherwise.
7. The financial affairs of the Commission shall be audited annually by external auditors to be selected by the Commission.

ARTICLE XII

1. The Annex attached hereto forms an integral part of this Convention. All references to the Convention shall be understood as including the Annex either in its present terms or as amended in accordance with the provisions of paragraph 2.
2. The Annex shall be considered amended from the date upon which the Commission receives notification from all the Parties of acceptance of a recommendation to amend the Annex made by the Commission or by one of the Parties.

ARTICLE XIII

Any Party, or the Commission, may propose amendments to this Convention. The adoption of an amendment shall require the unanimous agreement of the Parties. The amendment shall enter into force ninety days after all the parties have deposited instruments of ratification with the Executive Secretary. The Executive Secretary shall immediately notify all Parties of the receipt of instruments of ratification and the date of entry into force of the amendments.

ARTICLE XIV

Any Party may withdraw from this Convention 12 months after the date on which it formally notifies the Executive Secretary of its intention to withdraw.

ARTICLE XV

Nothing contained in this Convention shall be deemed to prejudice:

- a) The positions or view of any Party with respect to the existing territorial or other coastal State jurisdiction for all purposes other than the conservation and management of fisheries;
- b) The positions or views of any Party with respect to its rights or obligations under international law including, but not limited to, treaties, and other international agreements to which it is party; or
- c) Any arrangements between or among the Parties concerning fisheries enforcement in the Bering Sea or the position of any Party concerning the extent of its respective maritime jurisdictions.

ARTICLE XVI

1. The original of this Convention shall be deposited with _____, which shall transmit certified copies thereof to all signatories and acceding Parties.

ARTICLE XVII

This Convention shall be open for signature at _____ from _____ to _____, by Canada, Japan, the Union of Soviet Socialist Republics, and the United States of America, which are the major States of origin for anadromous species in the North Pacific Ocean. It is subject to ratification in accordance with the domestic requirements of the Parties, and will enter into force ninety (90) days following the deposit of instruments of ratification by three of these Parties.

ARTICLE XVIII

The International Convention for the High Seas Fisheries of the North Pacific, among the United States, Canada and Japan, shall be superseded upon entry into force of the present Convention,

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed this Convention.

OPENED FOR SIGNATURE at _____ on _____, in a single original, in the English and Russian languages, both texts being equally authentic.

APPENDIX D

PROCLAMATION ON HIGH SEAS DRIFTNET FISHERIES

IN THE NORTH PACIFIC OCEAN

STEVE COWPER
GOVERNOR



STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

Proclamation
on
High Seas Driftnet Fisheries
in the
North Pacific Ocean

October 1989

The Province of British Columbia, and the States of Alaska, Washington, Oregon, Idaho, California, and Hawaii recognize the severe impacts that high seas driftnet fisheries in the North Pacific Ocean, conducted by Japan, Taiwan, and South Korea, have on coastal fisheries for salmon and other anadromous fish, albacore, billfish, and on populations of seabirds, marine mammals, and other living marine resources. We formally request the federal governments of Canada and the United States to:

1. Seek further reductions in Japanese landbased and mothership directed high seas salmon fisheries.
2. Immediately seek additional measures to reduce the impact of high seas squid fleets on salmonids, albacore, seabirds, marine mammals, and other living marine resources.
3. Take immediate action to establish a new convention in the North Pacific, signed by Canada, Japan, the USSR and the United States, which would prohibit the directed or incidental harvesting of salmonids on the high seas beyond the 200-mile zones established by coastal nations.
4. Take immediate steps to form the multinational research organization PICES (Pacific International Council for Exploration of the Seas).
5. Secure long-term commitments of substantially increased fiscal and personnel resources for monitoring and enforcement of international agreements.
6. Negotiate international agreements to prohibit the sale, import, or transshipment of salmon illegally harvested on the high seas.

These requests are further specified in the related document entitled Statement on High Seas Driftnet Fisheries in the North Pacific Ocean. A driftnet is defined as a gillnet composed of a panel of monofilament plastic webbing one and one-half mile or more in length; driftnet fishing is a fish harvesting method in which a driftnet is placed in the water and allowed to drift with the winds and currents for the purpose of entangling fish in the webbing.

If successfully implemented, these recommendations will represent a significant first step. However, to ensure the long-term protection of North American fisheries and living marine resources of the North Pacific, Canada and the United States should join together and initiate diplomatic efforts through the United Nations and other appropriate international forums to secure an international ban on driftnet fishing on the high seas.


Premier William N. Vander Zalm
Province of British Columbia
Governor Steve Cowper
State of Alaska
Governor Booth Gardner
State of Washington
Governor Neil Goldschmidt
State of Oregon
Governor Cecil D. Andrus
State of Idaho
Governor George Deukmejian
State of California
Governor John Waihee
State of Hawaii

APPENDIX E

PRINCIPLES, PROBLEMS, AND RECOMMENDATIONS FROM THE STATEMENT
ON HIGH SEAS DRIFTNET FISHERIES IN THE
NORTH PACIFIC OCEAN

Principles

The Communique from the July meeting in Sydney, British Columbia established a number of principles under which fisheries could be conducted responsibly on the high seas beyond the 200-mile zones of coastal nations. These principles include:

- There must be provision for conservation and rational management of salmon, tuna, billfish and other stocks.
- There must be recognition of the rights of states of origin to manage anadromous species and action to ensure that these fisheries are not harmful to the environment and to resources originating within the 200-mile zones of coastal states.
- High seas fisheries must be conducted in a manner that minimizes or eliminates the incidental taking of seabirds, marine mammals, and other living marine resources.
- Marine debris resulting from fishing operations must be minimized or eliminated.
- Fishing activities must be strictly controlled through effective scientific monitoring and enforcement systems.
- All nations should take steps to ensure that their channels of commerce are not used to market marine resources illegally harvested on the high seas.

Problems

Driftnet fisheries presently taking place on the high seas of the North Pacific pose several problems which render traditional management and conservation measures ineffective over the long-term. These include:

1. The scale of the operations and the nature of the technology make for wasteful fishing practices.

Dropout rates for target and nontarget fish species may run up to 50 percent. Driftnets are nonselective and have high incidental harvest rates for nontarget fisheries resources such as tunas, billfishes, and salmonids.

2. Conventional regulatory measures may reduce problems in one fishery but, when viewed in the aggregate, may shift the problems to other fisheries and other areas.

Solutions in the South Pacific may shift the fleets to the north which will only increase our existing conflicts, or vice versa.

3. Driftnet fisheries have high incidental mortalities of other nontarget living marine resources.

Estimates indicate that, for the total North Pacific driftnet fleet, incidental takings of marine mammals probably number in the tens of thousands, and seabirds number over one million annually.

4. Substantial scientific monitoring and observer programs would be required to verify any possible rational conduct of such fisheries.

Driftnet fishing nations are reluctant to host the numbers of North American observers necessary to collect statistically verifiable data. Observer safety is a major concern in some fleets. Scientific research budgets are at a minimum now, with little likelihood for increases in the foreseeable future.

5. Maintaining an adequate enforcement presence will be extremely difficult and costly.

Protecting North American interests will place a great burden on U.S. and Canadian enforcement agencies. The North Pacific squid fleet alone operates over an area larger than the continental United States. Yet, the only way for the U.S. and Canada to ensure adequate implementation of any monitoring and enforcement measures is to mount significant programs themselves. Long-term costs may be prohibitive.

6. Commerce in illegally harvested salmon is extremely difficult to trace and eliminate.

Substantial quantities of salmon suspected of being harvested illegally have been showing up in the world market from processors located in Singapore and Thailand. Tens of thousands of metric tons of illegally caught fish have been confiscated in various enforcement actions this year. Identifying illegally harvested salmon is difficult because there is no international marking and tracking system for processed fisheries product, and treaty arrangements regarding processing illegally harvested fish are either weak or nonexistent.

Recommendations

British Columbia, Alaska, Washington, Oregon, Idaho, California, and Hawaii, recognizing the magnitude and urgency of the high seas driftnet problem in the North Pacific, recommend that the following actions be taken immediately by our respective federal governments to take advantage of every opportunity to address the high seas driftnet issue, including:

1. The United States and Canada should seek further reductions in the Japanese landbased and mothership directed high seas salmon fisheries.

These reductions should be negotiated at the 1989 meeting of the INPFC. And, the 1992 phase-out date targeted by the USSR should be supported by both countries.

2. Canada and the United States should immediately seek additional measures to address the impact of high seas squid fleets on salmonids, albacore, seabirds, marine mammals, and other living marine resources.

These additional measures, effective for the 1990 season and beyond, should include effort limitations and reductions in fleet size, 100 percent coverage of the fleet with real-time satellite vessel location devices, and a comprehensive scientific observer program. For the Japanese fleets, negotiations should be pursued at the 1989 meeting of the INPFC.

3. The United States and Canada should take immediate action to establish a new Convention in the North Pacific which would prohibit the directed or incidental harvesting of salmonids on the high seas beyond the 200-mile zones established by coastal nations.

The primary parties to such a Convention should be the major salmon producing nations of Canada, Japan, the USSR, and the United States. Such a Convention could lead eventually to a comprehensive multilateral fisheries management regime for the North Pacific. If necessary, both the U.S. and Canada must strengthen their respective claims, as states of origin, to management authority over anadromous species throughout their range.

4. Canada and the United States should take immediate steps to form the multinational research organization PICES.

The Pacific International Council for Exploration of the Seas should implement a comprehensive research program regarding the impacts of driftnet fishing on North Pacific living marine resources.

5. The United States and Canada must make long-term commitments of substantially increased fiscal and personnel resources for monitoring and enforcement of international agreements.

Each nation should immediately allocate the resources necessary to conduct comprehensive research, monitoring, and enforcement activities on the high seas. The two nations should establish cooperative scientific and enforcement programs, as appropriate, to increase the overall effectiveness of their efforts to protect North American salmonid resources and the other living marine resources of the North Pacific. The burden of these costs should be shifted to the fishing nations as soon as possible, while preserving the integrity of monitoring and enforcement programs.

6. Canada and the United States should negotiate international agreements to prohibit the sale, import, or transshipment of salmon illegally harvested on the high seas.

Bilateral or multilateral agreements should be put in place which prohibit the transshipment, purchase, sale, or import of illegally harvested salmon. Such agreements should be made with all nations which process or import salmon products, and should be accompanied by domestic implementing legislation in each of the respective importing or processing nations.

APPENDIX F

CONVENTION FOR AN INTERNATIONAL NORTH PACIFIC MARINE
SCIENCE ORGANIZATION

Draft

November 16, 1988

PREAMBLE

The CONTRACTING PARTIES,

RECOGNIZING

[the importance of preserving the living resources of the North Pacific Ocean and the need for better scientific understanding of the resources]; (Canadian Proposal)

[the importance of scientific knowledge of the ocean and its resources to the countries bordering the North Pacific and the Bering Sea]; (U.S.A. Proposal)

BEING AWARE OF the broad interdisciplinary nature of the scientific questions which involve climatology, oceanography and fisheries science;

NOTING that existing organizations deal with elements of these questions but that none is specifically focussed on the oceanography and marine biology of the region;

DESIRING [to establish an appropriate intergovernmental mechanism to promote and facilitate scientific effort and cooperation among North Pacific countries while avoiding duplication of effort with other organizations];

Japanese proposal for changes in some items in the Preamble and comments on the U.S.A. and Canadian proposal for the Preamble:

1. CONSIDERING the necessity of international cooperation in the northern North Pacific beyond national boundaries because of its vastness;
2. RECOGNIZING the importance of the living resources of the northern North Pacific and the need for better understanding of the living resources in order to conserve as well as rationally use its living resources;
3. RECOGNIZING the importance of exchanging information and the contribution to progress of marine science by the utilization of the research results.

in U.S.A. proposal:

Recognizing ...the countries [bordering and conducting fishing and research activities] in...

Desiring ...[North Pacific Countries] [Contracting Parties] while avoiding...

U.S.S.R. proposal for additions to the Preamble based on this and the minutes of the Ottawa meeting.

1. CONSIDERING the importance of the development of a spirit of international scientific cooperation on a mutually beneficial basis;
2. ACKNOWLEDGING that the Organization must be based on the principles of international law of the sea and appropriate provisions of national legislations of participating countries.

Footnote: It was agreed that all participating countries will need to further review the preamble before finalizing the contents.

HAVE AGREED as follows:

ARTICLE I CONVENTION AREA

1. The area to which this Convention applies, hereinafter referred to as "the Convention Area," shall be all waters of the northern North Pacific Ocean [generally but not restricted to waters north of 30° North Latitude, including the Bering Sea and other adjacent seas.]
2. Nothing in this Convention shall be deemed to affect or prejudice the position or claims of any [Contracting Party/Coastal State] in regard to the internal waters, the territorial sea, or the limits or extent of the sovereign rights or jurisdiction of any [Contracting Party/Coastal State] over fisheries or marine scientific research; or to affect or prejudice the views or positions of any [Contracting Party/Coastal State] with respect to the law of the sea.

Footnote: The Chinese delegation expressed reservations about extending the area to which the Convention applies south of 30° North Latitude while some other delegations thought that biological and physical phenomenon might better be used as the criteria for delineation of the area of the Convention. All five parties agreed in principle to Article I, 2 but felt that there was need for some further drafting which would be more specific on those areas within the jurisdiction of coastal states.

ARTICLE II
PURPOSE, FOCUS AND STRUCTURE OF THE ORGANIZATION

1. The Contracting Parties agree to establish and maintain an international organization whose purpose shall be [through the joint action of its members to advance scientific knowledge of the region with respect to the ocean environment and its interactions with land and atmosphere, its role in and response to global weather and climate change, its flora, fauna, and ecosystems, its uses and resources, and its response to human activities] to contribute to the scientific understanding of the Convention Area.
2. The Organization shall consist of:
 - (a) a Governing Council;
 - (b) a Secretariat; and
 - (c) such scientific support groups and committees as the Governing Council considers necessary for the Organization to conduct its work.
3. [Nothing in this Convention shall be deemed to affect or prejudice the position or claims of any Contracting Party with respect to its control of its marine scientific research programs.]

ARTICLE III
FUNCTIONS AND ACTIVITIES

1. The functions of the Organization shall be:
 - A - Canadian proposal
 - (a) to promote and facilitate cooperative investigations of marine biology and oceanography in the Convention Area and foster the development of research programs;
 - (b) to promote the collection and exchange of marine biological, oceanographic and marine pollution information and data;
 - (c) to identify pressing research problems and plan research programs;
 - (d) to coordinate, where appropriate, scientific investigations of issues of common interest;
 - (e) to organize special symposia and scientific events;
 - (f) to establish and maintain cooperative relationships with other international organizations engaged in marine research;

- (g) to encourage and facilitate direct contacts and cooperation between universities, government institutions and private sector enterprises engaged in marine research in the Convention Area;
- (h) to provide advice to government institutions, international organizations and private sector enterprises with interest in the Convention area by the evaluation and interpretations of available data and information as they apply to agreed problems; and
- (i) to maintain direct contact with government institutions, international organizations and universities where possible to avoid duplication of effort by the Organization in the formulation of joint projects.

B - U.S.A. proposal

- (a) exchange and disseminate through discussion and publication as appropriate, data and information on scientific questions of concern to members;
- (b) exchange and review research programs, progress, and plans of international interest;
- (c) identify critical research problems and methods appropriate for their solution;
- (d) plan, develop, and coordinate cooperative investigations of problems of common interest;
- (e) evaluate and interpret available scientific data and information as they apply to agreed problems;
- (f) cooperate with national and international bodies concerned with scientific knowledge of the region.

ARTICLE IV
SEAT OF ORGANIZATION

The Organization shall establish its headquarters in _____.

ARTICLE V
MEMBERSHIP

1. The founding members of the Organization shall be Canada, Japan, the People's Republic of China, the Union of Soviet Socialist Republics and the United States of America.

2. (a) The Contracting Parties may, by consensus, invite any other State able to contribute to scientific understanding of the Convention area to accede to this Convention.
- (b) Accession shall become effective on the date of receipt of the instrument of accession by the Depository.
3. Nothing in this Convention precludes the Organization from inviting other States, organizations, and experts, to participate in scientific events or meetings of the Organization.

Footnote: Article V, 1 needs further discussion on what countries will be the founding members. Japan expressed an interest in considering further the definition of "founding members." Article V, 2a and 2b: the treaty experts and legal advisors in each country will have to review this article.

ARTICLE VI MEETINGS

1. The Organization shall meet once a year in ordinary session and at such other times as may be requested by a majority of the Contracting Parties.
2. [The annual meeting shall be hosted by each Contracting Party in rotation unless the Organization decides otherwise.]
3. The annual meeting shall include sessions of the Governing Council, and subsidiary bodies, as required.
4. Special symposia and workshops may be held at the annual meeting or at other times set by the Governing Council.

Footnote: Article VI, 2; other alternatives are possible. There may be economic reasons for holding meetings in the country where secretariat is housed.

ARTICLE VII REPRESENTATION AND VOTING

1. Each Contracting Party shall be represented on the Governing Council by a maximum of [two] delegates.
2. Each Contracting Party may appoint such alternatives, experts and advisors as it sees fit to assist in the work of the Organization.
3. Each Contracting Party shall have only one vote.

4. Decisions of the Organization shall, except where otherwise provided in this Convention, be arrived at by a simple consensus of the Contracting Parties participating at the meeting.
5. A quorum of _____ Contracting Parties shall be required for the Organization to conduct its meetings.

ARTICLE VIII
OFFICERS OF THE ORGANIZATION

At its first session the Organization shall elect by majority vote a Chairman and [two Vice-Chairmen] from the national delegates of different Contracting Parties. Tenure shall be for [two] years. [After the first [two] years, the elected Vice-Chairman will assume the office of Chairman and each subsequent Chairman and Vice-Chairman will assume office on a rotating basis, to be decided at the first meeting.] On assuming office, the Chairman shall cease to be a delegate.

Footnote: China expressed an interest to further consider the vice-chairman's delegate status in the organization.

ARTICLE IX
THE GOVERNING COUNCIL

The functions of the Governing Council shall be:

- (a) to consider all matters brought forward by parties and subsidiary bodies;
- (b) to direct the Secretariat in drawing up the agenda for and convening Governing Council meetings and in preparing an annual budget and an annual report for approval by the Governing Council;
- (c) to supervise and coordinate the organizational, administrative, financial and other internal affairs of the Organization, including the relations among its constituent bodies;
- (d) to coordinate the external relations of the Organization;
- (e) to direct the Secretariat in the intersessional work of the Organization;
- (f) to direct the Secretariat in the publication of reports on symposia and workshops undertaken by the Organization, as required;
- (g) to review and approve the establishment and activities of subsidiary bodies.

ARTICLE X
THE SECRETARIAT

The Organization shall appoint an Executive Secretary on such terms and with such duties as it may determine. The staff of the Secretariat shall be appointed by the Executive Secretary in accordance with such rules, procedures and requirements as may be determined by the Governing Council.

ARTICLE XI
FINANCES

1. Contracting Parties shall contribute an equal share toward the annual budget adopted by the Governing Council at the annual meeting of the Organization. Such shares shall be payable to the Organization in the currency of the country in which the Secretariat resides, at prevailing currency exchange rates. In the event that a Contracting Party attending a meeting of the Organization has failed to contribute its designated share, [a vote shall be taken on whether that Contracting Party shall be permitted to participate in the meeting].
2. Each Contracting Party shall pay the expenses of its delegates, experts, and advisers to attend meetings of the Organization.
3. Expenses of the Secretariat and the chairman of the Organization to attend official meetings shall be covered by the Organization.

Footnote: China expressed concern with the proposed cost-sharing agreement and would like to consider further the implications. Japan suggested that it be made clear that the Chairman of the Organization is the Chairman of the Governing Council.

ARTICLE XII
LANGUAGE

[English shall be the working language of the Organization.]

ARTICLE XIII
RULES OF PROCEDURE

The Organization shall operate under rules and procedures which shall be determined by the Governing Council by consensus.

ARTICLE XIV
ENTRY INTO FORCE

A - Canadian proposal

[The Convention shall enter into force upon the signature of the five founding members.]

B - U.S.A. proposal

[The Convention shall enter into force 30 days after the deposit of the instrument of ratification of four of the five original signatories.]

Footnote: Article XIV, the treaty experts and legal advisors in each country will have to review this article.

ARTICLE XV
AMENDMENTS TO THIS CONVENTION

Amendments to this Convention shall be by consensus.

Footnote: Article XV, the treaty experts and legal advisors in each country will have to review this article.

ARTICLE XVI
WITHDRAWAL FROM THE CONVENTION

Any Contracting Party may withdraw from the Convention by giving written notice to the Depository. Withdrawal shall become effective [six months] following the date on which such notice is received.

Footnote: Article XVI, the treaty experts and legal advisors in each country will have to review this article.

ARTICLE XVII
DEPOSITION OF THE CONVENTION

1. The original of the present Convention shall be deposited with the Government of _____, which shall communicate certified copies thereof to all the Signatories and to all the Contracting Parties.
2. The Depository shall register the present Convention with the Secretariat of the United Nations.

Footnote: Article XVII, the treaty experts and legal advisors in each country will have to review this article.

U.S.A. proposed new articles for inclusion[ARTICLE XVIII][MEMBER'S OBLIGATIONS TO THE ORGANIZATION]

[The Contracting Parties agree to furnish to the Organization information which will contribute to its purposes and can reasonably be made available and, wherever possible, to assist in carrying out research and other programs approved by the Organization.]

[ARTICLE XIX][LEGAL CAPACITY AND IMMUNITIES]

1. [The Organization may enjoy, in the territories of the Contracting Parties, such legal capacity as may be agreed between the Organization and the Government of the Contracting Party concerned.]
2. [The Organization, delegates and experts, the Executive Secretary and other officials shall enjoy in the territories of the Contracting Parties such privileges and immunities, necessary for the fulfillment of their functions, as may be agreed between the Council and the Government of the Contracting Party concerned.]

Footnote: Article XIX, the treaty experts and legal advisors in each country will have to review this article.

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