FISHING LIMITS

"Limits and Status of the Territorial Sea, Exclusive Fishing Zones, Fishery Conservation Zones and the Continental Shelf," FAO Legislative Series No. 8, $1. Sold by UNIPUB, Inc. 650 First Ave., P.O. Box 433, New York, N.Y. 10016.

This is a new listing of national claims on territorial seas, fishing and conservation zones and adjacent waters, and the Continental Shelf. It covers 106 countries and territories and is a convenient reference.

Forty of the nations listed claim territorial limits of 12 nautical miles; 29 claim 3 miles. The 40 include Mainland China and the USSR. Nations adhering to the 3-mile limit include Canada, Republic of China (Taiwan), France, Japan, the U.K., and the U.S. (Tradition has it that 3 miles was the limit of early cannon.)

At least 8 nations claim a 200-mile territorial sea and/or exclusive fishing zone: Argentina, Chile, Ecuador, El Salvador, Nicaragua, Panama, Peru, and Uruguay*. Guinea's territorial limits extend 130 miles.

Fourteen, including Israel, Italy, South Africa, and Spain, maintain 6-mile territorial limits. Others vary from 4 miles for Finland, Norway, and Sweden to 10 for Albania and Yugoslavia.

Nearly 30 nations claim exclusive contiguous fishing zones 12 miles from the coast. Canada, France, the U.K., and the U.S. among others. At least 6 nations, including the U.S. and some Asian countries, maintain fishery conservation zones outside territorial and/or exclusive fishing waters.

Most nations assert exclusive claims over exploitation of Continental Shelf resources down to 200 meters. Many are parties to the Convention on the Continental Shelf.

The study notes that the 1964 Convention on the Territorial Sea and the Contiguous Zone sets no limits on the breadth of the territorial sea and may imply it should not exceed 12 miles.

*Brazil has joined group.--Ed.

INTERNATIONAL CONTROLS

"Comparative Study of Laws and Regulations Governing the International Traffic in Live Fish and Fish Eggs," by R. B. Zenny, EIFAC Technical Paper No. 10, European Inland Fisheries Advisory Commission, FAO Legislation Branch, FAO, via delle Terme di Caracalla, Rome, Italy.

International health standards are rigid for humans and livestock. They are notoriously lax for live fish and fish eggs shipped to foreign countries. Most fish diseases and infections are harmless to humans--yet they can cross frontiers to decimate entire fish populations in ponds, culture stations, lakes, rivers, and streams. The problem has been acute in some European and North American countries where many fish deaths have been attributed to imports of infected or diseased fish and eggs.

This is a report on the growing international exchange of live fish and eggs for culture (principally salmon and trout). Based on reports received from 86 nations, it reviews national legislation on live fish and egg trade, and finds most inadequate. Thirty-eight countries reported no control; most others had inadequate or poorly enforced legislation; only 10 appeared to have effective regulations.

"National legislation and policies, where they exist, are fashioned with little regard to the standards and practices in other countries," Zenny writes. Moreover, "effective control may be exercised over internal traffic, but not over imports or exports; over internal traffic and imports, but not over exports; or over imports only. The relevant legislation may exist on the statute books and may either not be implemented or only partly so."

Warning that fish diseases know no frontiers, and citing ever-increasing trade in live

fish and eggs, the study urges greater international collaboration on the establishment of a "uniform system of health control."

COD

"Géo-Économie de la Morue (Geo-Economics of Cod-Fisheries), edited by Jean Malaurie, Ecole Pratique des Hautes Etudes, Paris, published by Mouton & Co., P. O. Box 1132, The Hague, Netherlands. Price 65 Francs, 42 Dutch Guilders.

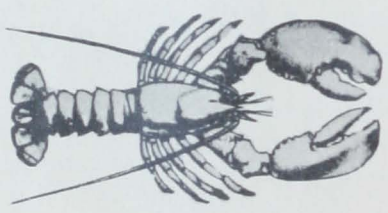
This is a compilation of papers presented at the first International Congress of the North Atlantic Cod Industry. The 25 papers cover production and processing, fishing methods, economics of fishing and production, biology, preservation and freezing, marketing, and recommendations for future action.

LOBSTER

"Lobster Storage," by H. J. Thomas, 55 pp., illus. Order from Sales Section, British Information Services, 845 Third Ave., New York, N.Y. 10022, 90¢.

Long-term storage--keeping lobster for several months--permits operators to take advantage of the high winter prices, and evens supplies in the process. It also enables the operator to sell on a good market rather than a glutted one. Short- and medium-term storage can increase profits by decreasing deaths in transit, and improving condition at market time.

This pamphlet is concerned mainly with medium- and long-term storage. It discusses methods used in Britain and abroad, and describes siting and construction; water conditions; handling; pests and diseases; welled boats; floating boxes and cages; pools and lobster ponds; refrigerated storage; and marketing.



AQUACULTURE

"Aquaculture: The New Shrimp Crop," Sea Grant Information Leaflet No. 1, Feb. 1970, U. of Miami, 10 Rickenbacker Causeway, Miami, Fla. 33149.

Interest in the commercial culture of marine and estuarine animals has been heightened by increasing need for more protein food--and by growing knowledge of the life histories of some animals that seem capable of being cultured.

Some schemes for producing marine resources by culture are considered impractical:

1. "It is very unlikely, for example, that aquatic farms will be set up in North America to grow marine plants for food. . . Although some seaweed are edible, they are relatively nonnutritious." And more important, there now is no food market for them.
2. "It seems unlikely that we can establish extensive marine fish farms in deep water because of the great practical and legal difficulties of creating and controlling large enclosures in these areas. Sea farms will, therefore, only be feasible in shallow water regions."
3. "At least in the beginning stages of marine aquaculture, only animals of market value can be raised profitably."

The possibilities of the commercial culture of crustaceans seem greater than those of other seafood. The U.S. demand for shrimp seems incapable of being satisfied. Demand in several other countries is growing too. Because of this, shrimp prices have reached high levels. "Consistently high market value encourages the hope that profitable culture operations may be possible."

There is a long history of attempts throughout the world to raise several species of shrimp: in India, Malaysia, Pakistan, Singapore, Vietnam, Cambodia, and Japan. Several of these are described.

At the University of Miami, marine aquaculture experiments have been launched with the pink shrimp, Penaeus duorarum. The procedures, as elsewhere in the U.S., "are similar to those of the Japanese and attempt to control the whole life history."

THE FOLLOWING ARTICLES ARE IN 'FISHERY BULLETIN,' VOL. 67, NO. 2. IT IS AVAILABLE FROM DIVISION OF PUBLICATIONS, BCF, 1801 N. MOORE ST., ARLINGTON, VA. 22209:

CHINOOK SALMON

"Egg-to-Migrant Survival of Spring Chinook Salmon ('Oncorhynchus tshawytscha') in the Yakima River, Washington," by Richard L. Major and James L. Mighell, pp. 347-359, illus.

Though the Columbia River runs are but a fraction of their former size, they are still a major producer of spring chinook salmon. In 1957, a study of egg-to-migrant survival of a population of spring chinook was begun on the Yakima River--a Columbia tributary. This paper summarizes the study from 1957 to 1963.

The Yakima was chosen because a trap in a diversion canal at Prosser, Wash., on the lower river, provided an unique opportunity to sample seaward migration.

Spring chinook spawning both in tributaries of the Yakima and in its upper stretch migrate in their second year. Comparison of the number of migrants with the number of eggs deposited by female spawners yielded an estimate of survival to the seaward migrant stage.

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"Contribution of Columbia River Hatcheries to Harvest of Fall Chinook Salmon ('Oncorhynchus tshawytscha')," by D.D. Worlund, R.J. Wahle, and P.D. Zimmer, pp. 361-391, illus.

There are over 15 salmon-producing hatcheries on the lower 180 miles of the Columbia River. They were built primarily to offset the loss of natural spawning and rearing areas for salmon and steelhead caused by water-development projects. Releases of fall chinook have varied from fewer than 10 million fish from 6 hatcheries in 1949, to about 56 million from 14 hatcheries in 1966.

This article describes an experiment with fall chinook from 12 hatcheries. They were marked in 4 consecutive years to estimate their contribution to the sport and commercial fisheries. It estimates returns, catch, value and cost-benefit ratios.

ESTUARINE DESTRUCTION

"Some Effects of Hydraulic Dredging and Coastal Development in Boca Ciega Bay, Florida," by John L. Taylor and Carl H. Saloman, pp. 213-241, illus.

Hydraulic dredging has been an accepted means of creating premium-value waterfront real estate in Florida since 1920. Since 1950, it has become a serious threat. Bay filling has been little regulated and, in most cases, estuarine biological and recreational resources have been disregarded.

Boca Ciega Bay is a part of Tampa Bay. Coastal development and progressively deteriorating water quality have affected both its plant and animal production adversely. This report describes some of the biological and physical changes that have followed alteration. It also compares estuarine conditions in dredged areas with relatively undisturbed areas.

Urging against further destruction by development, the authors note: "In Florida, and other States bordering the Gulf of Mexico, dredging and other forms of estuarine destruction damage fisheries, because most of the species taken in sport and commercial fisheries live in estuarines during part or all of their life cycle." They add: "Perhaps, the most timely argument against further destruction of estuarine habitats is the present and potential value of these areas for production of food."

The report also cites economic losses from filling and dredging:

"Fishery production alone in Tampa Bay estuary has an annual value of about $300/acre. In addition, these waters are used by public utilities, industry, and commerce and serve recreational requirements of nearly a million residents and 1½ million annual vacationers. Hence, total worth of each water acre in the estuary can be conservatively estimated at $400/acre. At this rate, the 3,500 acres covered by bayfills in Boca Ciega Bay represent an annual loss of about $1.40 million, which if capitalized at 6% would total a natural investment of $23.3 million. This accounting is not complete because the undesirable aspects of coastal development extend well beyond bulkheads and outfalls."

PESTICIDES

"Effects of Pesticides on Embryonic Development of Clams and Oysters and on Survival and Growth of the Larvae," by J.C. Davis and H. Hidu, pp. 393-404.

To control certain insects and undesirable plants, highly persistent pesticides have been used extensively in recent years--not only on agricultural lands, but on recreational areas, lakes, streams, and marshes. This has made evaluation of their effects on fish and wildlife imperative. Attaining control of undesirable species, while doing the least possible harm to desirable ones, requires extensive knowledge of how each pesticide affects each species.

This is a summary of data obtained at BCF's Milford (Conn.) Biological Laboratory on the effects of various pesticides on development of fertilized eggs of hard clams and American oysters, and on survival and growth of the larvae. It also describes study methods, and cites the need for further work.

SHELLFISH PREDATORS

"Changes in Abundance of the Green Crab (Carcinus maenas, L.) in Relation to Recent Temperature Changes," by Walter R. Welch, pp. 337-345, illus.

The green crab catch is of minor commercial importance. It is fished only as bait for sport fishermen. Major interest in the species arises from the fact that it is a significant predator of the commercially valuable soft-shell clam, Mya arenaria. Mass mortalities of green crabs coincide with periods of severe cold. The commercial catch of soft-shell clams increases markedly when the crabs decline.

This paper documents the changes in abundance of green crab from its peak in the mid-1950s, relating changes to concurrent changes in temperature.

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"The Feeding Habits of the Green Crab, Carcinus maenas, L.," by John W. Ropes, pp. 183-203.

This is a study of the feeding habits of green crabs. It contains observations on the relation of feeding behavior to environment and available food.

MARINE RESOURCES & COURSES

"Oceanography in Florida 1970," Florida Department of Commerce, 262 pp., $1. Available from E. Earl Donaldson, Executive Director, the Florida Council of 100, P.O. Box 2192, 601 Twiggs Street, Tampa, Fla. 33601.

A comprehensive analysis of marine science, technology, and oceanographic activities. It includes a complete description of all Florida's sea-related organizations, facilities, and natural resources.

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"Directory of Academic Marine Sciences Programs in New England," New England Marine Resources Information Program, University of Rhode Island, 51 pp. Free copies available from NEMRIP, Narragansett Bay Campus, URI, Narragansett, R.I. 02882.

The directory lists the courses in marine sciences offered by 41 institutions of higher learning in the six-state New England region. It includes those of the Woods Hole Oceanographic Institution.

--Barbara Lundy