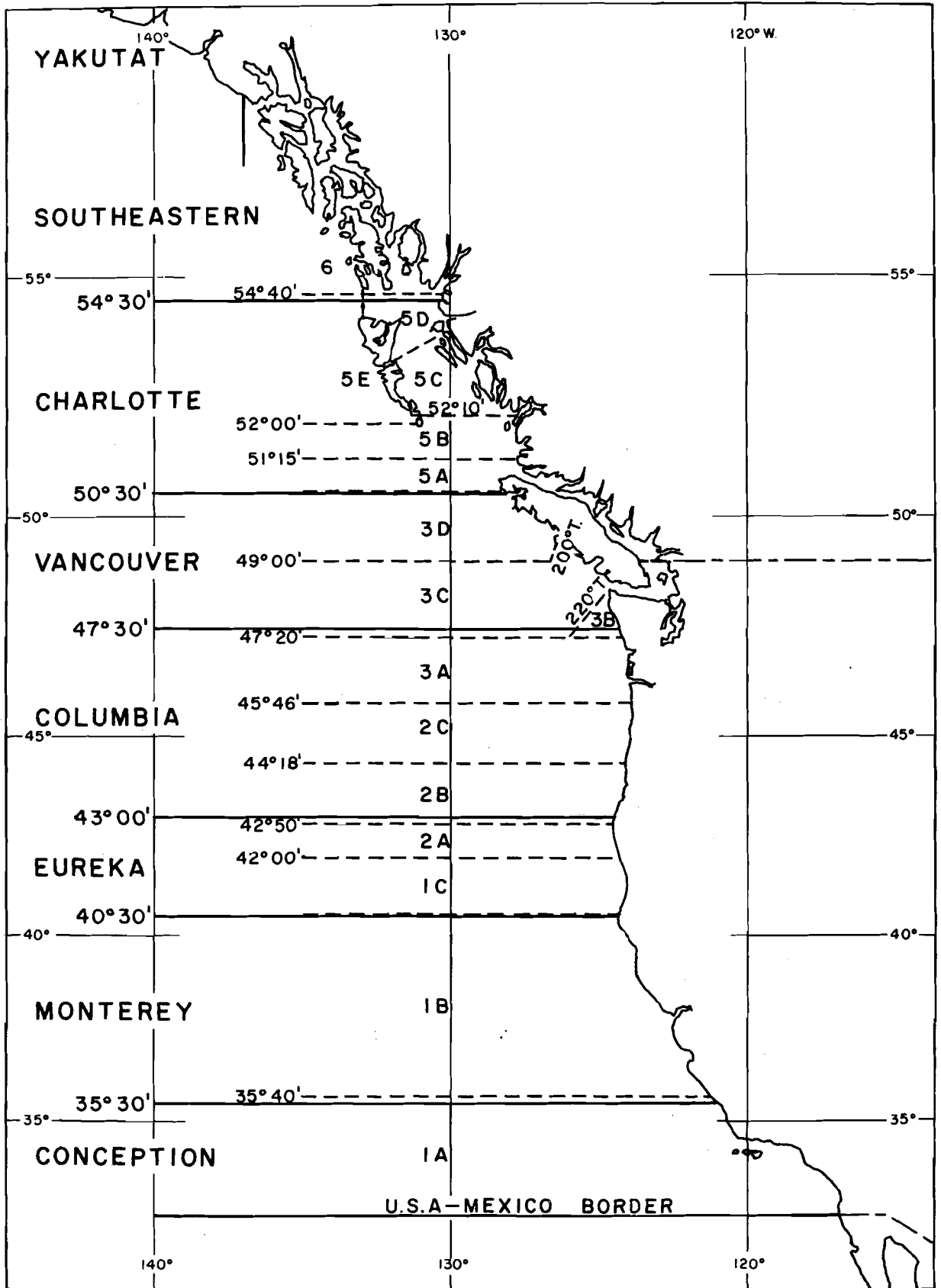


REPORT OF THE
TECHNICAL SUBCOMMITTEE OF THE
INTERNATIONAL GROUND FISH COMMITTEE

APPOINTED BY
THE SECOND CONFERENCE ON COORDINATION
OF FISHERIES REGULATIONS BETWEEN
CANADA AND THE UNITED STATES

EIGHTEENTH ANNUAL MEETING
JUNE 15-16, 1977
SEATTLE, WASHINGTON



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Report of the Technical Subcommittee of the International Groundfish
Committee Appointed by the Second Conference on Coordination of Fisheries
Regulations Between Canada and the United States

Date: June 15-16, 1977

Place: Seattle, Washington

Participants:

Canada

Fisheries and Marine Service	Mr. B. Leaman, Chairman
Department of Environment	Dr. R. Beamish
	Ms. J. Smith
	Mr. K. Pitre (Observer)

United States

California Department of Fish and Game	Mr. T. Jow
Oregon Department of Fish and Wildlife	Mr. R. Demory
Washington Department of Fisheries	Mr. M. Pedersen Mr. M. Fraidenburg
Alaska Department of Fish and Game	Mr. P. Rigby
National Marine Fisheries Service	Mr. T. Dark Dr. D. Gunderson (Observer) Dr. W. Lenarz (Observer)
Pacific Marine Fisheries Commission	Dr. J. Harville (Observer)
International Pacific Halibut Commission	Mr. S. Hoag (Observer) Mr. R. McNaughton (Observer)

I. Call to Order

The 18th annual meeting of the Technical Sub-committee was called to order at 0900, June 15, 1977, by Chairman pro tem Mr. B. Leaman under instructions set forth by the Parent Committee in 1959. Mr. Leaman was unanimously selected to act as Chairman during the absence of Mr. J. Westrheim, who had been elected to serve as Chairman during 1977-78.

II. Appointment of Secretary

Mr. T. Dark of NMFS was appointed as recording secretary.

III. Approval of the Agenda

The tentative agenda circulated prior to the meeting was approved with the following modifications: "Aging criteria for Sebastes flavidus" and "Rockfish age of entry and appropriate mesh size" were added as items 8 and 9, respectively, under VII.B. The meeting was conducted according to the approved agenda found in Appendix A.

IV. Terms of Reference of the Sub-committee

The Sub-committee reviewed its term of reference as described in the first meeting of the Technical Sub-committee in 1961 and amended at the 13th meeting of the International Groundfish Committee (1971). No changes were proposed. The terms of reference remain as follows:

(1) to review proposed changes in groundfish regulations affecting fisheries of common interest before they are implemented;

(2) to review the effectiveness of existing regulations;

(3) to exchange information on the status of groundfish stocks of mutual concern ~~and to coordinate, wherever possible, programs of research; and~~

ICC
clarify?

(4) to recommend the continuance and further development of research programs in order to provide a basis for future management of the groundfish fishery *and to coordinate wh. poss. programs of research*

V. Review of Agency Groundfish Programs

A. Reports Completed or in Progress

Each agency distributed with its status reports a list of reports completed or in progress.

B. Current and Proposed Research

1. Canada

A minor reorganization of the three units involved in groundfish research took place during 1975-76. The Marine Resources Management Program was formed under the direction of Dr. Z. Kabata to deal with domestic fisheries, as well as those affected by the coming of the extended jurisdiction regime. Accordingly, the focus of the three units has broadened to encompass these added responsibilities.

During 1976 the Strait of Georgia hake and pollock study was concluded. Results of this study should be available early in 1978. The aging of older Pacific hake in this study necessitated the use of thin sections of otoliths, a technique which has provided both insights and questions with regard to these older fish. A study of the biology of lingcod with an assessment of the size of various stocks was initiated. As part of this study a new method for aging lingcod using dorsal fin spines was developed.

An analysis of the population dynamics of dogfish stocks was completed. This analysis indicated that the infusion of juveniles from their midwater habitat played an important role in the rapid recovery of the stocks following

the extensive wartime fishery. Studies of the life history of the lamprey and its effect on commercial fish stocks were continued during 1976.

The hydroacoustic unit continued using digital echo integration to determine the distribution and abundance of certain fish stocks off the southwest coast of Vancouver Island and in Queen Charlotte Sound. In the former area the stocks included herring, hake, pollock, dogfish, and the "other rockfish" complex; in the latter area the stocks were mainly "other rockfish." Acoustic surveys formed part of the joint Canada-United States rockfish survey of Queen Charlotte Sound in September 1976.

The third unit in the program continued its monitoring of the commercial fishery through vessel interviews and samples of landings. In 1976 a total of 198 biological samples was taken; the intensity of sampling for any given species was generally in proportion to its annual landings.

Biological studies conducted by this unit were primarily concerned with Pacific cod and Pacific ocean perch. Two cruises of the G. B. Reed (July 1976 and March 1977) involved a study of Pacific cod spawning sites and their surficial sediments in an attempt to determine if this species exhibited sediment-specific egg deposition. A report was prepared detailing the length-weight, length-girth, maturity, spawning season, and diet characteristics of Pacific cod collected during April, 1975-February, 1976. In addition, a report is being prepared on the growth of Pacific cod in British Columbia waters. Estimation of Pacific ocean perch biomass in Goose Island and Mitchell's gullies was conducted during the joint Canada-United States rockfish survey in Queen Charlotte Sound during September 1976. In conjunction with the Industrial Development Program of Environment Canada, explorations for Dover sole fishing grounds were made off the northwest coast of the Queen Charlotte Islands during February 1977.

2. United States

(a) Alaska

Groundfish management responsibilities are assumed by Alaska Department of Fish and Game area and region management personnel. One full-time groundfish position was created in 1976 to coordinate and develop groundfish management and research programs and to coordinate state-federal cooperative activities.

Proposed, but as yet unfunded, projects include domestic observer, log book, and commercial catch sampling programs.

(b) Washington

The Marine Fish Program is responsible for the research, monitoring, and management of groundfish resources as well as baitfish species and albacore tuna. The PMFC age reader position is also included in this program.

Stock Assessment Unit (1 biometrician, 2 biologists).--There are three projects included under this unit: (1) the marine fish biometrics project is responsible for assisting the Marine Fish Program staff in the area of statistical and mathematical analyses; (2) the marine fish acoustics project involves hydroacoustic survey techniques to determine population sizes of baitfish and groundfish species within Puget Sound and coastal waters; and (3) the coastal rockfish assessment project is responsible for determining species composition, analysis of data on catch and effort by the trawl fishery, and establishment of proper harvest levels. Participation in the synoptic rockfish survey is proposed during September 1977.

Groundfish-Albacore Management Unit (4 biologists, 5 technicians).--This unit is responsible for development, implementation, and evaluation of regulations required to maintain a suitable harvest of groundfish species to

commercial and recreational fishermen. Major tasks included groundfish monitoring and management of Puget Sound trawl fisheries and bottomfish set net fisheries. Substantial effort was directed toward development of age determination techniques for Sebastes flavidus and other rockfish.

Marine Fish Enhancement Unit (2 biologists).--This unit develops and evaluates enhancement programs for important marine fish species, primarily in the form of fishing piers and artificial reef designs to create new opportunities for recreational fishermen.

(c) Oregon

Since the Technical Sub-committee meeting in June 1976, there has not been a major change in program direction, but a Biologist-3 position was added to the stock assessment project.

Stock Assessment Project.--The second of two groundfish surveys was completed off Washington in September 1976. Major emphasis was again on pleuronectids. In addition to the survey off Washington (86 tows), an additional 15 tows were made off Oregon between the Columbia River and Cascade Head seaward of 100 fathoms. A completion report covering both surveys off Washington is nearly finished.

Groundfish-Shrimp Management Project.--A major effort in this project was the completion and implementation of the automatic data processing system that provides coastwide-compatible groundfish statistics and CPUE by state and PMFC statistical areas. This project is also responsible for collection and summary of market sampling data. A total of 42 samples were taken in 1976.

Proposed Projects.--Projects proposed under P.L. 88-309 funding during FY 1978 are: (1) participation in the synoptic rockfish survey in September; (2) lingcod tagging off Newport, both inshore and offshore, with initial

tagging starting on inshore reefs in November 1977 and offshore tagging starting in summer 1978 (it is proposed, at present, that offshore tagging will take place from chartered commercial trawlers); and (3) English sole tagging in PMFC areas 2B and 2C, with tagging beginning in November or December to take place at two as yet undetermined locations.

(d) California

Groundfish research and management activities are conducted by the Marine Resources Region and Operations Research Branch.

Monitoring, surveillance, and assessments of commercial and sport fisheries for groundfish are major tasks performed by and supervised by unit managers of the region at major coastal ports. Major groundfish species were sampled for age, size, sex, and species composition. The total number of samples from commercial landings was 366.

In addition to commercial sampling, species composition of the rockfish catch from commercial passenger carrying vessels (partyboats) and from private vessels were obtained through sampling programs in southern and central California.

Considerable effort was devoted to preparation of groundfish management plans in 1976. Draft plans were prepared for flatfish, rockfish, sablefish, and lingcod.

Data acquisition and compilation are major tasks. The NORFISH computer system for trawl data has been tested with several month's data. Implementation of the system on 1976 data has been delayed due to a backlog of keypunching.

In April 1977, NMFS's Southwest Fisheries Center contracted with the California Department of Fish and Game to sample rockfish and associated species for length, age, and species composition.

Current programs of fishery monitoring, surveillance, and assessment will be continued. Analyses of rockfish fisheries in relation to mesh regulations were performed in 1977.

(e) National Marine Fisheries Service

Groundfish Assessment Task.—The Groundfish Assessment Task has been engaged in a number of assessment programs under the auspices of MARMAP II and under contract to the Bureau of Land Management for the provision of baseline information.

Chukchi Sea/Norton Sound Resource Assessment: A bottom trawl survey was conducted during September-October of 1976 to determine the distribution and abundance of groundfish, shellfish, and epibenthic invertebrate resources. Analysis of the results is in progress, and a final report will be available in September, 1977.

Bering Sea Groundfish Assessment: The second phase of a two-year program to survey the groundfish resources of the outer continental shelf and slope of the eastern Bering Sea was completed in 1976. The 1975 work has been reported to the Outer Continental Shelf Environmental Assessment Program (OCSEAP), and last year's results will be available in a report scheduled for completion in June 1977. During 1977, this activity will support a crab/groundfish survey to monitor the status of eastern Bering Sea populations and will utilize shrimp and halibut survey vessels to examine the feasibility of determining the relative abundance of pre-recruited pollock and juveniles of other species.

Gulf of Alaska Groundfish Assessment: A survey was conducted in the vicinity of Kodiak Island westward to the Semidi Islands during January-February, 1977 to determine the winter distribution of important groundfish resources.

Northeast Pacific Groundfish Assessment: The subtask continues to compile release and recovery information generated by the Cooperative Sablefish Tagging Program and is preparing a report on results to date. The program will continue to assist with the rockfish assessment studies and will utilize data generated by the 1977 synoptic survey to determine the current status of the Pacific hake population.

Rockfish Investigations: A pilot rockfish survey was completed in areas off Monterey, California, and in Queen Charlotte Sound, B.C., during the summer of 1976. That work has served to guide the development of plans for a two-year synoptic survey of the rockfish resources of the northeastern Pacific Ocean. The first phase will begin in July 1977 with a multi-vessel trawl/hydroacoustic survey of the region between Pt. Hueneme, California, and Cape Flattery, Washington.

Latent Resource Assessment.—A joint-industry-government venture will be launched in 1977 to assess and determine the feasibility of harvesting the clam resources of the eastern Bering Sea. A study will be conducted in the inside waters of southeastern Alaska during the summer of 1977 to examine the efficiency of sunken gillnets and traps in the capture of bottomfish (particularly Pacific cod) inhabiting untrawlable areas.

Pelagic Resource Assessment.—The hydroacoustic resource assessment system is in the final stage of development. It has been containerized and will be portable enough to be utilized on a variety of sea-going platforms. The system will be employed during the 1977-78 rockfish survey and will be used in the future to assess other semi-demersal forms such as hake and pollock.

