REPORT OF THE
TECHNICAL SUB-COMMITTEE
OF THE
INTERNATIONAL GROUNDFISH COMMITTEE

Appointed by

The Second Conference On Coordination

Of Fisheries Regulations Between

CANADA

and the

UNITED STATES

Seventeenth Annual Meeting

June 23-25, 1976

Newport, Oregon

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APPENDICES

REPORT OF THE TECHNICAL SUB-COMMITTEE OF THE INTERNATIONAL GROUNDFISH COMMITTEE APPOINTED BY THE SECOND CONFERENCE ON COORDINATION OF FISHERIES REGULATIONS BETWEEN CANADA AND THE UNITED STATES

DATE: June 23 -25, 1976

PLACE: Newport, Oregon

PARTICIPANTS:

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UNITED STATES	
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INTERNATIONAL PACIFIC HALIBUT COMMISSION	S. Hoag (observer)

I. CALL TO ORDER

The 17th annual meeting of the Technical Sub-Committee was called to order at 0930, June 23, 1976 by Chairman G.S. DiDonato under

instructions set forth by the Parent Committee in 1959. The meeting was conducted according to the agenda shown in Appendix A.

II. APPOINTMENT OF SECRETARY

R. Demory from Oregon was appointed to act as recording secretary for the meeting.

III. APPROVAL OF AGENDA

The proposed agenda circulated by Chairman G. DiDonato was adopted with the following change: "status of other rockfish bibliography" added as item 6 under VII B.

IV. TERMS OF REFERENCE OF THE SUB-COMMITTEE

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

A. to review proposed changes in groundfish regulations affecting fisheries of common interest before they are implemented;

B. to review the effectiveness of existing regulations;

C. to exchange information on the status of groundfish stocks of mutual concern and to coordinate, wherever possible, programs of research;

D. to recommend the continuance and further development of research programs in order to provide a basis for future management of the groundfish fishery.

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. Canada

Three separate units at the Pacific Biological Station were conducting studies on groundfish during 1975.

1. Groundfish Investigations (1 scientist, 6 technical support):

This group has been in existence since the 1940's. Activities in 1975 included monitoring the commercial fishery and biological studies on Pacific cod, lingcod and rockfish. Emphasis of biological studies was directed toward Pacific cod that included both field work and analyzing and collating existing data on cod. Numerous reports were prepared.

2. Hydroacoustic Investigations (1 scientist, 1 technical support):

This group began work in 1974, and is applying digital echo-integration to determine distribution and abundance of hake, herring and pollock in the Strait of Georgia and off southwest Vancouver Island.

3. Hake and Pollock Investigations (1 scientist, 2 technical support):

This group also began work in 1974, and is studying the distribution, abundance and biology of hake and pollock in the Strait of Georgia.

C. United States

1. Alaska

At the present time Alaska has one biologist assigned to groundfish studies. Work so far has been devoted largely to catch

statistics.

2. 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.

a. Stock Assessment Unit (1 biometrician, 2 biologists). Three projects are included under this unit:

i) Marine Fish biometrics project is responsible for assisting the Marine Fish Program staff in the area of statistical and mathematical analyses;

ii) the Marine Fish Acoustics project involves hydro-acoustic survey techniques to determine population sizes of baitfish and groundfish species within Puget Sound and coastal waters; and

iii) 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. A major work on Pacific ocean perch was completed.

b. 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, S. pinniger* and other rockfish.

c. Marine Fish Enhancement Unit (2 biologists). This

unit develops and evaluates enhancement programs for important marine fish species, primarily fishing piers and artificial reefs designed for the recreational fishermen.

3. Oregon

The former Fish Commission of Oregon and the former Oregon Wildlife Commission were merged into the Oregon Department of Fish and Wildlife by legislative action effective July 1, 1975. A Marine region was formed which has the responsibility for all fishery management-assessment activities in marine and estuarine waters, excluding anadromous fish.

a. Stock Assessment Project (3 biologists, 1 technician [½ time]). Major emphasis of this project is to obtain management base data including population estimates, utilization rates, distribution of populations, and life history statistics. Major work has been directed toward pleuronectids (flatfish).

b. Groundfish-Shrimp Management Project (3 biologists, 1 technician [½ time]). Work on this project, in part, supplements and complements that of the stock assessment project. Fishery statistics are obtained, collated and analyzed. Findings of the assessment project are applied as appropriate.

c. Tuna-Marine Recreational Fish-Baitfish Project (2 biologists). Main objective is to obtain the same types of biological data as collected for traditional groundfish fisheries as well as to obtain better and more information on the fisheries.

d. Other projects. Participation is planned in the proposed N.E. Pacific synoptic rockfish survey coordinated by N.M.F.S. in FY 1977.

4. California

Marine work is partitioned into management and research units, but most groundfish work has been conducted by management units located at major coastal ports. Overall groundfish program coordination are responsibilities of the North and South Ocean Managers and the assistant to the North Ocean Manager. Monitoring, surveillance and assessments of commercial and sport fisheries for groundfish are major tasks performed.

5. National Marine Fisheries Service

The Division of Marine Fish and Shellfish at the Northwest Fisheries Center has been reorganized into two divisions; the Division of Resource Assessment and Conservation Engineering (RACE) and the Division of Resource Ecology and Fisheries Management (REFM). The latter division is responsible for the foreign fishery observer program, ecosystems dynamics, fishery management (foreign fishery analysis), and recreational fisheries. The RACE division is responsible for all resource assessment work and selective fishing gear and sampling gear development.

The groundfish assessment staff has been increased by 2 biologists and 1 computer operator-programmer during the past year. Fourteen biologists are now associated with the program.

a. Bering Sea Studies - In progress is a trawl survey of the demersal fish, shellfish, and epibenthic invertebrate resources of the eastern Bering Sea. This work will complete a two year study of the region.

b. Gulf of Alaska Studies - A MARINE RESOURCES MONITORING AND ASSESSMENT PROGRAM trawl survey in the eastern Gulf of

Alaska from Yakutat to Dixon entrance has just been completed. This was the final survey in a three year study to determine the distribution and abundance of groundfish species in the Gulf of Alaska with pollock being the species of primary interest.

c. Pacific Northwest Studies - During August-September 1976, the groundfish assessment program will participate in a cooperative pilot survey of rockfish resources off central California and in Queen Charlotte Sound. A bottom trawl vessel, a midwater trawl vessel and a vessel carrying hydroacoustic assessment system will be employed to identify problems associated with assessment of rockfish stocks in preparation for a projected two year synoptic survey of rockfish resources throughout the northeast Pacific Ocean.

d. Other Activities

i) NMFS continues to tag sablefish on an opportunistic basis, provide tagging supplies to cooperating agencies, and compile all release and recovery data.

ii) U.S. observers continue to be trained and deployed to Japanese and Soviet groundfish vessels operating in the eastern Bering Sea. One observer trip will occur on a Soviet trawler in the Gulf of Alaska. Observers will also board three Soviet hake vessels during the 1976 season. Observers including three each from Washington, Oregon, and California will work aboard 3-4 Polish vessels off the Pacific coast during 1976.

iii) The NWFC is continuing the development of a hydroacoustic assessment system in concert with the Applied Physics Laboratory of the University of Washington. The system will be employed in the forthcoming cooperative rockfish survey.

6. International Pacific Halibut Commission

Mr. Hoag described activities by the IPHC. The condition of the Northeast Pacific Halibut stock remains crucial, but long term prospects have improved. Reduced recruitment appears to be primarily responsible for the present low stock size. A recently completed study of the release mortality of halibut caught by Canadian and United States trawlers indicates an average mortality of about 50%.

VI. REVIEW OF THE NORTHEASTERN PACIFIC GROUNDFISH FISHERIES

A. 1975 NORTH AMERICAN FISHERIES

1. Total Landings

The 1975 Canadian and United States trawl landings from the northeast Pacific Ocean were 167.6 million pounds, up 7% from 1974 landings (Table 1). Total effort was about 195 thousand hours, an increase of 14% over 1974.

Canadian trawl landings amounted to 48.3 million pounds, an increase of nearly 25% over 1974. Groundfish landed by gear other than trawl was 4.7 million pounds.

The United States trawl catch was 119.4 million pounds, an increase of just over 1% from 1974. Catch by gear other than trawl was 18.5 million pounds.

2. Dover Sole

Coast wide landings of Dover sole in 1975 were 31.0 million pounds, an all time high. This was 10% above 1974 landings and 29% above the 1965-74 mean landings. International statistical Areas 1B, 1C, 2A, and 2B accounted for most of the total production.

a. Canada

The 1975 landings of Dover sole in Canada were 2.3

Table 1. Trawl landings (1000 lb) from the northeastern Pacific by Canadian and United States vessels in 1974, 1975 and mean for 1965-74.

Species	1974					1975					Mean
	B.C.	Wash.	Ore.	Calif.	Total	B.C.	Wash.	Ore.	Calif.	Total	1965-74
English sole	1,461	2,414	1,747	3,802	9,424	2,415	2,441	2,166	4,310	11,332	10,582
Rock sole	2,083	832	4	18	2,937	3,844	542	29	21	4,436	5,339
Petrale sole	1,508	3,012	2,692	3,426	10,638	972	3,355	2,649	3,252	10,228	8,094
Dover sole	1,813	1,314	5,604	19,081	27,812	2,270	1,230	4,780	22,683	30,963	21,892
Rex sole	301	364	1,300	1,381	3,346	215	300	1,024	1,639	3,178	3,174
Starry flounder	135	1,425	408	438	2,406	199	575	817	596	2,187	1,996
Other flatfish	817	507	581	1,524	3,429	2,104	312	1,013	1,373	4,802	2,633
Pacific cod	19,417	8,872	685	-	28,974	22,602	11,134	585	-	34,321	23,828
Lingcod	3,322	2,529	1,937	3,249	11,037	4,139	3,518	1,529	2,609	11,795	10,206
Sablefish	268	165	547	5,486	6,466	623	380	672	6,263	7,938	4,157
Pacific ocean perch	3,370	5,314	831	123	9,638	4,497	2,944	960	147	8,548	17,233
Other rockfish	2,016	8,444	2,545	15,937	28,942	2,157	6,885	2,469	17,775	29,286	26,156
Misc. species	301	486	59	334	1,180	629	93	32	391	1,145	708
Dogfish	705	-	12	-	717	1,057	414	4	-	1,475	739
Animal food	383	2,554	708	65	3,710	80	1,908	581	5	2,574	11,059
Reduction	603	5,369	-	-	5,972	465	2,970	-	-	3,435	9,271
Total	38,503	43,601	19,660	54,864	156,628	48,268	39,001	19,310	61,064	167,643	157,067
Percent of total	24.6	27.8	12.6	35.0	100.0	28.8	23.3	11.5	36.4	100.0	-
Total hours	23,808	44,978	27,258	75,278	171,322	34,058	46,816	28,468	85,271	194,613	159,489
Catch/effort (lb/hr (excludes dogfish)	1,588	969	721	729	914	1,386	833	678	716	861	985

million pounds, a 25% increase over landings of 1974 and 64% greater than the 1965-74 mean of 1.4 million pounds. Statistical area 5D accounted for 82% of the catch. CPUE (all interviewed landings) was 718 lb/hr, 30% less than in 1974.

b. United States

(1) Washington

Trawl landings of Dover sole in Washington were 1.2 million pounds in 1975, a decline of 6% from landings of 1974 and 13% from the 1965-74 mean. Statistical area 3B was the major catch area. CPUE was highest in Area 3C, at 258 lb/hr.

(2) Oregon

Landings of Dover sole in Oregon were 4.8 million pounds in 1975, a 14% decrease from 1974 landings. The decrease was due to catch limits imposed by buyers. Mean CPUE (all areas) declined from 511 lb/hr in 1974 to 336 lb/hr in 1975.

(3) California

California landings of Dover sole in 1975 were 22.7 million pounds, a new record. This was 59% above the 1965-74 mean, but only slightly greater than the former record catch of 1973. Areas 1B and 1C were the leading areas of production.

3. English Sole

Coastwide English sole landings for foodfish use in 1975 were 11.3 million pounds, a 20% increase over 1974 landings of 9.4 million pounds, and 7% above the 1965-74 mean of 10.6 million pounds. The most productive areas were 1B, 1C, 3B, 4A, and 5D where catches exceeded 1 million pounds.

a. Canada

Landings of English sole of 2.4 million pounds in 1975 were 65% and 50% greater than the 1974 catch and the 1965-74 mean respectively. Most Canadian landings came from northern Hecate Strait, Area 5D, where the catch totaled 2 million pounds. CPUE, based on a 20% qualification level, was 1,202 lb/hr, 5% less than in 1974.

b. United States

(1) Washington

Total foodfish landings in 1975 of 2.4 million pounds were the same as the 1974 catch level. Areas 3B and 4A accounted for respective catches of 1.1 and 1.3 million pounds. In Area 3B, catch and CPUE increased 33% and 30%, respectively, over those of 1974.

(2) Oregon

English sole landings in 1975 were 2.2 million pounds, an increase of 23% from the 1974 catch and equal to the 1965-74 mean. CPUE of 196 lb/hr was down from the 1974 CPUE of 225 lb/hr. The decrease in CPUE was due to declines in CPUE in areas 2B and 3A.

(3) California

The upward trend in English sole landings continued in 1975 when 4.3 million pounds were landed, an increase of 13% above that of 1974 and 4% above the 10-year mean. Catches increased in all areas off California and southern Oregon. Catches in areas 1B and 1C totaled 2.3 and 1.5 million pounds, respectively.

4. Petrale Sole

Coastwide petrale sole landings in 1975 were 10.2 million pounds, 4% below 1974 landings but 26% above the 1965-74 mean of 8.1 million pounds. Catches exceeded 1 million pounds in areas 1B, 2B, 3B,

and 3C.

a. Canada

Landings of 972 thousand pounds were 36% less than the 1974 catch and 5% less than the 1965-74 mean. Most (72%) of the Canadian catch came from Area 3C. Catches from the southern stock (areas 3A to 3C) were 702 thousand pounds, 45% less than the 1974 catch but 24% above the 1965-74 mean. CPUE of 186 lb/hr was 46% less than that of 1974 for the southern stock. Catches of northern stock (areas 3D to 5D) were 258 thousand pounds, 19% greater than in 1974 but 42% below the 1965-74 mean.

b. United States

(1) Washington

The 1975 catch of 3.4 million pounds was an 11% increase from 1974 and an increase of 75% above the 1965-74 mean.

Landings from the southern stock were 2.7 million pounds in 1975. This was the fifth year that production increased. Catches were 26% above those of 1974 and 133% above the 1965-74 mean. CPUE was down from 1974 in areas 3A, 3B, and 3C, but remained above the 1965-74 mean.

Landings from the northern stock were 661 thousand pounds, 24% below the 1974 catch and 13% below the 1965-74 mean.

Increases in mean length and age for both stocks suggest that recruitment of younger fish was low.

Spawning ground fisheries produced one million lbs in 1974-75; winter 1975-76 fisheries are expected to be about the same.

(2) Oregon

The 1975 catch of 2.6 million pounds was equal to

the 1974 catch and 30% above the 1965-74 mean. CPUE (all areas, 202 lb/hr) declined from the 1974 CPUE of 384 lb/hr.

(3) California

Petrale sole landings in 1975 were 3.3 million pounds, 5% below the 1974 catch but 4% above the 1965-74 mean. Catches increased from areas 1A and 2A but declined in the usual major production areas of 1B and 1C. In Area 1B the catch was 1.6 million pounds.

Winter catches were estimated at 1.2 million lbs for 1975-76. In 1974-75, winter catches were 1 million pounds.

5. Pacific Cod

Landings of Pacific cod by Canada-U.S.A. vessels totaled 34.3 million pounds, 29% greater than in 1974 and 24% greater than the 1965-74 mean.

a. Canada

Pacific cod was the principal species (47%) in the 1975 trawl landings. Total landings were 22.6 million pounds in 1975, 16% greater than in 1974 and 39% greater than the 1965-74 mean. Principal areas of catch were Areas 5C, 5D and 3C. CPUE in 1975 was 1,610 lb/hr, 27% less than in 1974.

b. United States

(1) Washington

Pacific cod was the dominant species in Washington trawl landings at 11.1 million pounds; an increase of 26% over 1974 and 56% over the 1965-74 mean. The bulk of the landings came from Areas 3C and 4A (Puget Sound).

(2) Oregon

Landings of cod in Oregon amounted to 0.6 million

pounds, down 11% from 1974. Oregon is a fringe area for Pacific cod distribution.

(3) California

There was no reported catch of Pacific cod from California.

6. Lingcod

Total 1975 Canadian and United States trawl landings of lingcod were 11.8 million pounds, an increase of 7% from 1974 and 9% above the 1965-74 mean. British Columbia and Washington continued their increases of recent years while Oregon and California showed decreases from higher levels of 1974. Area 3C was the major area of production.

a. Canada

Canadian landings of lingcod in 1975 were 6.3 million pounds, 13% greater than in 1974 and 10% more than the 1965-74 mean. Canadian landings from Area 3C (2.7 million lbs) were 26% more than in 1974. CPUE was 770 lb/hr, a decline of 2% from 1974 and the 1965-74 mean respectively (25% qualification level, Area 3C). Non-trawl landings amounted to 2.1 million pounds, mostly from Area 4B.

b. United States

(1) Washington

Trawl landings of lingcod in Washington were 3.5 million pounds, an increase of 35% over 1974 and the highest landings in seven years. In contrast to 1974, production and CPUE increased in Area 3C and declined greatly in Areas 5A and 5B. A redistribution of effort was probably the major factor. An unusually intensive fishery occurred on La Perouse Bank in July-August resulting in 634 thousand pounds being caught at the rate of 1100 lb/hr. Fishing was also

atypically good on Cape Flattery Spit grounds from May-August and coincided with the effort toward Pacific cod. Approximately 500 thousand pounds were landed by gear other than trawl.

(2) Oregon

Lingcod landings were 1.5 million pounds, a 21% decrease from 1974 but 15% above the 1965-74 mean.

(3) California

Trawl landings of lingcod were 2.6 million pounds, a 10% decrease from 1974, but 67% above the 1965-74 mean. Catch declined in all areas in 1975. Lingcod catches by other than trawl gear were 542 thousand pounds.

7. Sablefish

Canadian and United States trawl landings of sablefish were 7.9 million pounds, a 23% increase from the 6.5 million pounds landed in 1974 and 91% greater than the 1965-74-mean. Principal areas of catch were Areas 1C and 3C.

a. Canada

Canadian landings of sablefish totaled 2.0 million pounds in 1975, an increase of 84% over 1974. Pot gear accounted for 51% of landings while trawl and line gear accounted for 31% and 18% respectively. Principal areas of catch were 5E (traps and longline) and 3C (trawl).

b. United States

(1) Alaska

The 1975 catch was 2.4 million pounds of which longlines contributed 66% (1.6 million pounds). Pot landings comprised 33% at 804 thousand pounds. This was a 682 thousand pound increase

(41%) over 1974.

The 1974 catch totaled 1.7 million pounds. Longlines comprised 62% at 1.1 million pounds, pots contributed 37% at 638 thousand pounds.

Longline landings are both incidental catch to the halibut fishery and the result of target fisheries in S.E. Alaska while the pot fishery targets specifically on sablefish.

(2) Washington

The 1975 landings of sablefish were 2.0 million pounds, nearly double the 1.1 million pounds landed in 1974. Traps (pots) accounted for 63% of the landings. The trawl catch was 380 thousand pounds, an increase of 128% over both the 1974 and the 1965-74 mean landings. Principal areas of production were 3C (trawl), 3A and 3B (traps and longline).

(3) Oregon

Landings of sablefish were 780 thousand pounds, an increase of 21% over 1974. The trawl catch was 672 thousand pounds, an increase of 23% over 1974. Pot gear accounted for 108 thousand pounds.

(4) California

Total landings of sablefish were 14.1 million pounds in 1975. The trawl catch was 6.3 million pounds, an increase of 14% over 1974 and 93% above the 1965-74 mean. The remaining 7.8 million pounds was taken mainly by pot gear. Principal areas of catch were 1B and 1C (trawl).

8. Pacific Ocean Perch

United States and Canadian landings of Pacific ocean perch in 1975 were 8.5 million pounds, down 11% from 1974 and down 50% from

the 1965-74 mean. The INPFC Charlotte area (Areas 5A and 5B) accounted for 75% of total production while Vancouver (Areas 3B, 3C and 3D) and Columbia (Areas 2C and 3A) accounted for 11% and 12% respectively.

a. Canada

Landings of Pacific ocean perch in 1975 were 4.5 million pounds, a 33% increase over 1974 and 34% greater than the 1965-74 mean. The majority (90%) of the catch was taken from Queen Charlotte Sound (Areas 5A and 5B). Canada verbally noted, that there has been a two-fold increase in mean tonnage of their fleet and in 1975, a subsidy was made to the fishery. Both of these factors would potentially result in increased catches.

b. United States

(1) Alaska

Alaska's total rockfish catch (not separated by species) in 1975 was 217 thousand pounds.

(2) Washington

The 1975 trawl landings of Pacific ocean perch were 2.9 million pounds, a 45% decrease from 1974, and 73% below the 1965-74 mean. This is the lowest catch recorded in the past 10 years. Production from Areas 5A-5B and 3B-3C accounted for most of Washington's catch.

(3) Oregon

Oregon's 1975 landings of Pacific ocean perch were nearly 1.0 million pounds, up 16% from 1974 but 65% below the 1965-74 mean. Area 2C was primarily responsible for the increased landings.

(4) California

The 1975 landings of Pacific ocean perch in

California increased 20% from 1974 to 147 thousand pounds.

9. Other Rockfish

Total 1975 Canadian and United States trawl landings of other rockfish were 29.3 million pounds, nearly identical to the 1974 landings and 11% over the 1965-74 mean.

a. Canada

The 1975 trawl catch of other rockfish was 2.2 million pounds, up 7% from 1974 and 46% greater than the 1965-74 mean. Queen Charlotte Sound (Areas 5A and 5B) was the major production area. In landings sampled for species composition, *Sebastes flavidus* was the dominant species (97%).

b. United States

(1) Alaska

Alaska's total rockfish catch (not separated by species) in 1975 was 217 thousand pounds.

(2) Washington

Washington trawlers landed 6.9 million pounds of shelf rockfish during 1975, 37% less than the mean landings for the previous 10 years, and 18% less than the 1974 catch. Queen Charlotte Sound (Areas 5A and 5B) continued to be the major area of production. The most important species components of Washington's shelf rockfish catch continue to be *S. flavidus*, *S. pinniger*, *S. brevispinis* and *S. paucispinis*.

(3) Oregon

Landings of other rockfish totaled 2.5 million pounds, equal to that of 1974 but 40% below the 1965-74 mean. The majority of the landings came from Areas 3A and 2B. Principal species

were *S. flavidus*, *S. pinniger*, and *S. melanops*.

(4) California

A record catch of 17.8 million pounds was taken in 1975 by California trawlers. This exceeded the 1974 catch by 12% and the 1965-74 mean by 71%. The major area of production was Area 1B. Major species caught were *Sebastes paucispinis*, *S. goodei* and *Sebastolobus alascanus*. Rockfish catches by other gears (line and gillnet) were 5.7 million pounds in 1975.

10. Rock Sole

Coastwide trawl landings of rock sole in 1975 totaled 4.4 million pounds, an increase of 34% from 1974, but 17% less than the 1965-74 mean.

a. Canada

Canadian landings accounted for 3.8 million pounds (86%) with Areas 5C & 5D as the main areas of production.

b. United States

Total landings of rock sole were 593 thousand pounds. Washington landings were 542 thousand pounds while landings from Oregon and California were 29 thousand and 21 thousand pounds respectively.

B. INTERNATIONAL FISHERIES OFF CANADA AND UNITED STATES

1. Soviet Fisheries

a. Gulf of Alaska (Jan.-Sept. 1975)

Soviet fishing in the Gulf of Alaska was primarily by stern trawlers operating off Albatross and Portlock Banks. Effort was rather constant with 5-10 trawlers fishing, except during February and September when the number of vessels increased to 20. Principal species in the catch were rockfish, pollock and Atka mackerel. An

estimated 55,000-65,000 m.t. of groundfish were taken in the Gulf of Alaska and along the Aleutian Islands.

b. Canada (1975)

There was no fishery off British Columbia, except for short-term scouting forays by one or two Soviet trawlers off S.W. Vancouver Island in late June and mid-August.

c. Washington - California (1975)

During late February the Soviet hake fleet began arriving off California. By March there were 52 stern trawlers, fishing near San Francisco along the 100 fm isobath. Fleet size reached a peak of 71 stern trawlers with fishing activity centered around the Farallon Island. In August the number of trawlers was reduced to 48 with most of those fishing along the Oregon coast. The Soviet hake fishery was terminated by the end of August; somewhat earlier than in previous years.

2. Japanese Fisheries

a. Gulf of Alaska (Jan.-July 1975)

The same number of trawlers and longline-gillnetters were licensed to fish in the northeast Pacific Ocean as in recent years. Preliminary information indicates that 65,680 m.t. of groundfish were taken, a 24,465 m.t. decrease from the catch made during the same period in 1974. Catch was 36% Pacific ocean perch, 21% blackcod, 15% pollock, 13% other rockfishes and 16% other species. There was a slight increase in the herring catch over 1974, but decreases were recorded for all other species.

b. Canada (1975)

A total of 14 longliners and eight trawlers fished

off British Columbia for sablefish, Pacific ocean perch and other rockfish. Longline vessels fished throughout the year and their major fishing area was off N.W. Vancouver Island and Queen Charlotte Sound. Trawlers fished from February through November. Principal fishing areas were off northwest Vancouver Island and Queen Charlotte Sound during February-June and off southwest Vancouver Island during September-November.

c. Washington - California (1975)

During January, three Japanese longliners fished off northern Washington. In June, two stern trawlers appeared off San Francisco and fished off California and Oregon through September. Four longliners fished for blackcod off the northern Washington coast during November and December.

3. Polish Fisheries

a. Gulf of Alaska (Jan.-Sept. 1975)

Two Polish stern trawlers fished in the central Gulf of Alaska for the first time in late 1974 and through February 1975. The target species was Pacific cod. Total catch was estimated at 3,500 to 4,000 m.t.

b. Canada (1975)

A total of 11 Polish trawlers fished off British Columbia (southwest Vancouver Island) during June-November, primarily for hake and rockfish other than Pacific ocean perch.

c. Washington - California (1975)

Three Polish stern trawlers appeared off San Francisco in January, but were not observed fishing. In March, eight stern trawlers began fishing for hake, mainly off San Francisco.

Fleet size increased throughout the spring and in June reached a peak of 15 stern trawlers which fished from Oregon to La Perouse Bank. Some fishing shifted to northern California later in the summer, but by November only one vessel remained.

4. South Korean Fisheries

a. Gulf of Alaska (Jan.-Sept. 1975)

Five South Korean stern trawlers fished along the edge of the continental shelf from the Shumagin Islands to Albatross Bank during July-Aug. The trawl catch along the Aleutian Islands and in the Gulf of Alaska was estimated to be 15,000 and 18,000 m.t. and was composed primarily of rockfish, sablefish, and pollock. Longline fishing for sablefish was sporadic but involved as many as 10 vessels, operating primarily off southeastern Alaska. Total catch for the Aleutian and Gulf of Alaska areas was estimated at 1,500-2,000 m.t.

b. Canada (1975)

Seven South Korean longline vessels operated intermittently throughout the year, principally off Vancouver Island. Target species were sablefish and rockfish.

c. Washington - California (1975)

In January, three longliners were fishing for blackcod off Oregon. In May, two vessels carrying pots joined longliners off Washington and Oregon. As many as eight blackcod vessels were present during July. On one occasion a longliner was observed hauling with an approximate 40% success rate for blackcod.

5. Other Fisheries

a. Gulf of Alaska (Jan.-Sept. 1975)

A single Taiwanese longline vessel fished

primarily in the eastern Gulf of Alaska, Aug-Sept., but was seized Sept. 9 for violation of the U.S. contiguous fishery zone. There were 5 m.t. of sablefish aboard.

b. Canada (1975)

Two East German trawlers fished off S.W. Vancouver Island in December for herring.

c. Washington - California (1975)

In February, two West German stern trawlers were observed off northern California and Oregon. These vessels fished for hake and rockfish through early June.

In July, a single East German stern trawler was observed off Oregon. It was joined by a second vessel in August and both fished for hake off Heceta Bank. These vessels were present through December when they fished for herring off northern Washington.

C. ALL-NATION CATCH OF MAJOR SPECIES

1. Pacific hake

Total removals of hake were 221,968 m.t. of which the Soviets caught 154,322 m.t. Poland caught 57,246 m.t. and Japan and Germany (East and West) caught 4,400 m.t. and 6,000 m.t. respectively. The bulk of the catch was taken off Oregon and California.

2. Sablefish

Total catch of sablefish in the northeast Pacific amounted to 44,305 m.t. with the largest share going to Japan. Bulk of the catch (68%) occurred in the Gulf of Alaska.

3. Rockfish

Total catch of rockfish in the northeast Pacific was estimated at 66.6 million pounds (30,210 m.t.) of which Poland caught

41% from the INPFC Vancouver Area.

D. NORTH AMERICAN GROUNDFISH REGULATIONS

1. Changes Implemented Since 1975 Technical Sub-Committee Meeting

There were no major changes in groundfish regulations by any agency. Oregon added bag limits to the recreational fishery for groundfish, and California described codend regulations for California halibut. The 7.5-in mesh codend must not be less than 29 meshes long and 47 meshes in circumference.

2. Regulation Changes Under Current Consideration

Alaska, Washington and Oregon reported that no changes were being considered. Canada is considering removal of the winter fishing closure on petrale sole. California is considering changes affecting groundfish gillnetters that would: (1) move the gillnet fishery to deeper waters and (2) specify mesh size and twine size.

E. INTERNATIONAL FISHERIES AGREEMENTS

1. Canada

The Canada-U.S.A. Reciprocal Fishing Privileges Agreement effective as of April 24, 1970 has been extended without change and is currently in effect. The agreement will terminate upon implementation of extended jurisdiction.

Canada-U.S.S.R. agreement of 1971 has been extended and is currently in effect, with minor modifications. The agreement addresses prohibition of Soviet trawling on Big Bank; fishing off Queen Charlotte Islands; loading; ports of call; and scientific exchange of information.

Canada-Poland agreement was established on March 4, 1976.

The agreement includes prohibition of Polish vessels from a certain area on Big Bank; definition of target species (hake and rockfish other than Pacific ocean perch); catch quotas (hake, 7,500 m.t. and other rockfish, 8,000 m.t.); vessel limits; provision, on request, of catch, effort and biostatistical data on fishing operations; boarding privileges; and permission to load and offload within the territorial sea.

2. United States

Under the terms of the Extended Fisheries Jurisdiction Act, Governing Interim Fishery Agreements (GIFA's) must be signed by all countries wishing to apply for fishing permits in 1977. GIFA's will supercede and void existing bilateral agreements.

The U.S.-Poland agreement contained few changes pertaining to Polish fishing in the Gulf of Alaska. Significant changes pertain to Polish fishing off Washington, Oregon and California. No more than 7 vessels may operate during June 1 to October 31 from 47°30'N - 38°30'N. No trawling is to occur south of 38°30'N to the California-Mexican border. Poland also agreed to discontinue the hake fishery after catching 26,000 m.t. or expending 936 vessel days. After either condition is met, Poland will not fish east of 125°40'W Longitude. All bottom trawl fishing was to be discontinued as of October 1, 1975 and special provisions have been agreed to for reducing the impact of trawling on resources of the continental shelf.

The U.S.-U.S.S.R. Bilateral Agreement on Certain Fisheries Problems in the Northeastern part of the Pacific Ocean and off the Coast of the United States was renegotiated in July, 1975. The U.S.S.R. agreed to refrain from fishing in three areas in the Gulf of Alaska during the halibut season and in two areas (147°-151°W

and 155°-157°W) from February 16 to May 15. There were some minor changes in loading zones and fishing privileges within the CFZ along the Aleutian Islands. There will be no Soviet trawling between 48°30' and 47°45' to protect Pacific ocean perch stocks off Washington. In addition, there will be no Soviet trawling south of 38°10' to the U.S.-Mexican border. November 1 - June 30 closures off the Klamath and Columbia Rivers were secured to protect blackcod pot gear of U.S. fishermen. Quotas agreed to in the Gulf of Alaska in 1976 are: pollock 40,000 m.t.; rockfishes 10,000 m.t.; others 30,000 m.t. and off Washington, Oregon, and California; rockfishes 2,500 m.t. (incidental catch only); hake 150,000 m.t., and others, 3,000 m.t. (incidental catch only). The new agreement also imposes new controls on the taking of incidental catches of Continental Shelf Fishery Resources and calls for improved fishery statistics. The U.S.S.R. will provide monthly estimates of catches no later than two months after the month to be reported.

Scientific meetings

U.S. representatives met with Republic of Korean (ROK) officials in Seoul during November, 1975 to discuss fishery matters of mutual concern. Discussions included the exchange of fishery statistics, with emphasis on improving quality.

In spite of expressed U.S. concern about overfishing of pollock and sablefish stocks, the ROK indicated they would seek to increase their 1975 pollock catch of 420,000 m.t. to 550,000 m.t. in 1976 and will add six more pot vessels to a sablefish fleet consisting of 13 longline and 4 pot vessels. They agreed to avoid U.S. pot sanctuaries.

VII. GROUNDFISH RESEARCH STUDIES

A. Stock Assessment

1. Pacific Ocean Perch Stock Assessment

An update of the status of stock of Pacific ocean perch report was submitted to the Technical Sub-Committee and is appended to this report as Appendix B.

2. Pacific Cod Research

Mr. Westrheim discussed Pacific cod research being conducted by the Pacific Biological Station. Diet studies will be necessary to understand movements of populations. Also specific fishing grounds will need further delineation to enhance analysis of catch statistics. In this view Mr. Westrheim proposed that simultaneous stock assessment studies be conducted on lingcod, Pacific cod and rock sole, by ground, in Queen Charlotte Sound and that simultaneous stock assessment studies be conducted on lingcod, Pacific cod and petrale sole, by ground, off southwest Vancouver Island and Washington State.

B. Special Studies

1. Other Rockfish Species Composition Studies

Mr. Fraidenburg reported that a re-examination of time, area and depth stratification of the Washington catch of shelf rockfish species has been completed. Results indicate that complete time by depth stratification, within major production areas, is an adequate technique for estimating species composition. Mr. Fraidenburg proposed that Canada-U.S. scientists update INPFC Document No. 1789 on other rockfish species composition.

2. Washington Coast Cooperative Groundfish Survey

Mr. Demory reported on the cooperative groundfish survey conducted off Washington in September 1975. Estimates of biomass for all principal species were reported. Estimates of yield for six major species of flatfish were given. A more formal report will be distributed to those in attendance at the meeting by August 1, 1976.

3. United States Trawl Fishery Data Compatability

Dr. Bledsoe reported on progress being made with California trawl catch statistics and logbook information. Similar work, by NORFISH, is also occurring with data from Oregon.

4. Cooperative Rockfish Survey

Dr. Pereyra reported on the forthcoming synoptic rockfish survey in the N.E. Pacific. Planning for the pilot studies in Queen Charlotte Sound and off Monterey California during summer of 1976 is nearly complete. The first phase (Monterey) is scheduled to begin July 23, 1976.

5. Puget Sound Bottomfish Setnet Fishery

Mr. Pedersen reported on the setnet fishery for bottomfish in Puget Sound. One fishery is principally for Pacific cod, and the other for dogfish. Landings of 250 thousand pounds of cod were reported for 1976. Only 4,200 pounds of other fish were caught, mostly cabezon, sole and rockfish. A total of 33 vessels participated in the cod fishery. To date about one million pounds of dogfish have been landed, and incidental catches of other species have been very low.

6. Status of Other Rockfish Bibliography

Mr. Westrheim reported that final review be completed by August 1, 1976, so that publication can ensue.

C. Cooperative Research Programs With Other Nations

1. Canada

There were no cooperative programs in 1975. Canada (Pacific Biological Station) will participate in the pilot rockfish survey with U.S. agencies in September 1976, in Queen Charlotte Sound.

2. United States

A cooperative program with the U.S.S.R. was completed during early 1976 on a hake egg and larval survey off southern California and off Baja California. A visiting scientist from South Korea observed resource assessment techniques at the N.W. Fisheries Center and in the Bering Sea. Poland is urging for cooperative programs, but commitments to specific studies have not been made.

VIII. 1975 INTERNATIONAL GROUNDFISH COMMITTEE RECOMMENDATIONS

A. Special U.S. Report on the Status of Pacific Hake

A report on the status of hake was given by Mr. Dark of NMFS. The history of the Soviet fishery was described noting that since 1973 there has been a change in fishing strategy with increasing effort directed to the south earlier in the year (February). Consequently, younger and smaller fish comprise a significantly greater proportion of the total catch. Analysis of catch and effort statistics indicates declining CPUE. It was noted that results from egg and larval surveys show a drastic reduction in the incidence of hake larvae in the spawning areas. All indications are that the total catch in 1977 should not exceed 150,000 m.t. If 1977 larval surveys indicate continued low abundance, the 1977 catch level could be adjusted downward. Furthermore, additional steps may have to be taken to reduce the catch of juvenile hake.

B. Extended Jurisdiction Impact on Technical Sub-Committee (oral discussion)

It was recognized that extended jurisdiction would have an impact on the Technical Sub-Committee. The degree of impact would in part, depend on the type and magnitude of the problem at hand. The need to communicate about common concerns was deemed essential by the Sub-Committee, thus the need for a body like the Sub-Committee would still remain. It was noted that if the Technical Sub-Committee increases its efforts and takes the initiative when a problem area is recognized the danger of becoming a more formal group would be lessened.

C. Informal Discussion on Bilateral Negotiation Philosophies to Species Common off both Countries (oral discussion)

This discussion was characterized, not by divergent philosophies, but by nearly unanimous agreement between philosophies. The view was expressed that foreign fishing be allowed provided there is an excess of stock(s) to be harvested. Catch limits, however, must be translated into effort limitations because a straight quota system has not worked. It was pointed out that under United States extended jurisdiction the optimum sustainable yield concept would allow evaluation of the impact of foreign fishing on other species, either in established fisheries or developing fisheries.

Agreement was reached regarding joint management of stocks of mutual concern and that prior consultation take place prior to bilateral negotiations. This is an area where a body like the Technical Sub-Committee would be essential.

Agreement was also apparent in two other aspects: there should be a limit to the number of countries that can participate in available fisheries; and that catch and effort statistics be mandatory and in the detail the Technical Sub-Committee deems necessary. In

addition the U.S. and Canada should use similar data forms and codes in obtaining foreign fishery observer data so that this data base would be compatible between the two countries.

IX. 1976 TECHNICAL SUB-COMMITTEE RECOMMENDATIONS

A. Future Work

1. 1976-76 Sablefish market condition

The Technical Sub-Committee requests that the National Marine Fisheries Service and Canada Department of Environment obtain existing information regarding the market situation that developed for sablefish in 1975-76. Other agencies are requested to gather information from fishermen and processors as appropriate and at the November 1976 International Groundfish Committee meeting.

2. Lingcod, Pacific cod and rock sole stock assessment

The Technical Sub-Committee recommends that a working group be formed to conduct simultaneous stock assessments for lingcod, Pacific cod and rock sole, by grounds, in Queen Charlotte Sound. A final report would be provided at the 1978 meeting of the Technical Sub-Committee.

3. Lingcod, Pacific cod, petrale stock assessment

The Technical Sub-Committee recommends that a working group be formed to conduct simultaneous stock assessments for lingcod, Pacific cod and petrale sole, by ground, off southwest Vancouver Island and Washington state. A final report would be provided at the 1978 meeting of the Technical Sub-Committee.

4. Species composition of "other rockfish" landings

The Technical Sub-Committee recommends that INPFC Document No. 1789 (Other Rockfish Species Composition) be updated

through 1975 for aggregate United States and Canadian fishery and submitted to the November 1976 meeting of the International North Pacific Fisheries Commission. Every attempt will be made to augment this update by including all domestic and foreign commercial catches of other rockfishes. It may also include other data (such as biological data) which may shed additional insight into stock condition. The Washington State Department of Fisheries shall collate the various sections from contributing authors to produce a single document for both countries.

5. Status of stock of NE Pacific sablefish

In light of the recent increases in sablefish landings and intensification of fishing effort, particularly foreign effort, directed at this species together with signs that stock condition may have deteriorated substantially, the Technical Sub-Committee recommends that increased efforts be directed at determining the status of the NE Pacific sablefish stocks.

As a first step a discussion of the new NMFS summary report on sablefish (Status of Major Demersal Fishery Resources of the Northeastern Pacific: Bering Sea and Aleutian Islands, by Loh Lee Low) should be undertaken at an interim meeting of the Technical Sub-Committee in November 1976 with the intent of delineating gaps in information essential to a precise stock assessment.

B. Parent Committee

1. Pacific ocean perch

The Technical Sub-Committee recommends to the Parent Committee that fishing for Pacific ocean perch be prohibited south of 52°23' N lat. for vessels from all nations except Canada and the

United States.

The Technical Sub-Committee further recommends that the Canada-United States landings of Pacific ocean perch from the Vancouver and Columbia Areas not exceed those of 1974---287 m.t. from the Vancouver Area and 111 m.t. from the Columbia Area.

The Technical Sub-Committee requests of the Parent Committee approval of the joint report on Pacific ocean perch stock assessment as submitted, May 1976.

2. Coordinated rockfish survey

The Technical Sub-Committee strongly supports the concept of a coordinated rockfish survey as a means of gaining a better understanding of the condition of the rockfish stocks and urges both countries to seek adequate ship time and other support required to accomplish such a coordinated survey during 1977 and 1978.

3. Rockfish statistics

The Technical Sub-Committee recommends to the Parent Committee that they encourage, to the fullest extent possible, collection of accurate rockfish catch statistics by species from each nation fishing off the Canadian and United States coasts.

4. Standardized procedures

The Technical Sub-Committee recommends to the Parent Committee that standardized procedures be developed for collecting and recording statistical and biological data obtained by Canadian and United States nationals with respect to foreign fishing vessels operating in the respective areas of extended jurisdiction.

5. Shelf rockfish, Pacific cod and lingcod stock assessment

The Technical Sub-Committee acknowledges that

significant efforts directed towards shelf rockfish and Pacific cod stock assessments are being implemented to various degrees by member agencies. The Technical Sub-Committee reaffirms its request to the Parent Committee, however, to continue its efforts to seek funding support for lingcod stock assessment studies and for Pacific cod stock assessment studies in the United States in order that this high priority work may be fully implemented by all agencies (see Appendix C of the 1974 Technical Sub-Committee Report).

X. OTHER BUSINESS

A. Tagging Studies

Mr. Jow proposed that exchanges of summaries of tagging experiments be brought up to date. Mr. Jow agreed to contact each agency regarding completed tagging experiments or summaries of tagging experiments underway.

B. Statistical Boundary Changes

The Technical Sub-Committee approved changes in statistical boundaries as requested by the state of Alaska. The changes are: change PMFC boundary lines separating PMFC Areas 6B and 7A and PMFC boundary lines separating PMFC Areas 7A and 7B to conform with INPFC boundary lines.

XI. SCHEDULE OF MEETINGS

A. The 1976 International Groundfish Committee Meeting

The International Groundfish Committee meeting will be held in Renton, Washington the week of November 15, 1976 in conjunction with the annual PMFC meeting.

B. 18th Annual Meeting of the Technical Sub-Committee

The 18th Annual meeting will be held in June or possibly

July 1977 in Seattle, Washington. Exact dates will be declared at a later time.

XII. ELECTION OF CHAIRMAN

Mr. S.J. Westrheim was elected as chairman for 1977-78.

XIII. ADJOURNMENT

The meeting was adjourned at 1400 hrs., June 25, 1976.

APPENDIX A

AGENDA

TECHNICAL SUB-COMMITTEE OF THE
INTERNATIONAL GROUNDFISH COMMITTEE
NEWPORT, OREGON, JUNE 1976
17th ANNUAL MEETING

I. CALL TO ORDER

II. APPOINTMENT OF SECRETARY

III. APPROVAL OF AGENDA

IV. TERMS OF REFERENCE OF THE SUB-COMMITTEE

V. REVIEW OF AGENCY GROUNDFISH PROGRAMS

A. Reports Completed or in progress

VI. REVIEW OF THE NORTHEASTERN PACIFIC GROUNDFISH FISHERIES

A. 1975 North American Fisheries

1. Total Landings (Chairman)
2. Dover sole (ODFW)
3. English sole (CDFG)
4. Petrale sole (CDFG)
5. Pacific cod (CDE)
6. Lingcod (CDE)
7. Sablefish (NMFS)
8. Pacific ocean perch (WDF)
9. Other rockfish (WDF)
10. Rock sole (CDE)

B. International Fisheries off Canada and United States During 1975 (CDE and NMFS)

1. Soviet Union
2. Japan
3. Poland
4. South Korea
5. Other Countries

C. All-Nation Catch of Major Species

1. Pacific hake (NMFS)
2. Sablefish (NMFS)
3. Rockfish (CDE)

D. North American Groundfish Regulations

1. Changes Implemented Since 1975 TSC Meeting
2. Regulation Changes Under Current Consideration

E. International Fisheries Agreements

1. U.S.-Canada Agreement (CDE)
2. Other Canada Bilaterals (CDE)
3. Other United States Bilaterals (NMFS)

VII. GROUNDFISH RESEARCH STUDIES

A. Stock Assessment

1. Pacific Ocean Perch Stock Assessment - J. Westrheim (CDE)
2. Pacific Cod Research - J. Westrheim (CDE)

B. Special Studies

1. Other Rockfish Species Composition Studies - M. Fraidenburg (WDF)
2. Washington Coast Cooperative Groundfish Survey - B. Demory (ODFW)
3. United States Trawl Fishery Data Compatibility - S. Bledsoe (UW)
4. Cooperative Rockfish Survey - T. Dark (NMFS)
5. Puget Sound Bottomfish Setnet Fishery - M. Pedersen (WDF)
6. Status of Other Rockfish Bibliography - J. Westrheim (CDE)

C. Cooperative Research Programs with Other Nations

1. Canada - J. Westrheim (CDE)
2. United States - T. Dark (NMFS)

VIII. 1975 INTERNATIONAL GROUNDFISH COMMITTEE RECOMMENDATIONS

A. Special U.S. Report on the Status of Pacific Hake by NMFS

B. Extended Jurisdiction Impact on TSC (oral discussion)

C. Informal Discussion on Bilateral Negotiation Philosophies Relating to Species Common off both Countries (oral discussion)

IX. 1976 TECHNICAL SUB-COMMITTEE RECOMMENDATIONS

A. Future Work
B. Parent Committee

X. OTHER BUSINESS

A. Tagging Experiment
B. Statistical Boundary Changes

XI. SCHEDULE OF MEETINGS

A. The 1976 International Groundfish Committee Meeting
B. 18th Annual Meeting of the Technical Sub-Committee

XII. ELECTION OF CHAIRMAN

XIII. ADJOURNMENT

APPENDIX B

THE STATUS OF PACIFIC OCEAN PERCH (*SEBASTES ALUTUS*) STOCKS OFF BRITISH COLUMBIA, WASHINGTON, AND OREGON IN 1974

Note: Appendix pages B-1 through B-49 distributed under separate cover.

APPENDIX C

DISTRIBUTION OF THE REPORT OF THE TECHNICAL SUB-COMMITTEE

TECHNICAL SUB-COMMITTEE		TOTAL
Canada	J. Westrheim, B. Leaman, J. Smith	3
United States		
NMFS	T. Dark	1
California	T. Jow	2
Oregon	J. Robinson, R. Demory, J. Lukas	3
Washington	G. DiDonato, M. Pedersen, M. Fraidenburg	3
Alaska	P. Rigby	2
INTERNATIONAL GROUNDFISH COMMITTEE		
Canada	K. Pitre	4
United States	J. Harville	4
ADVISORS AND OTHERS		
Canada	K. Ketchen, W. Hourston	4
United States	C. Fullerton (2), J. Baxter - California	3
	J. Donaldson, W. Hublou - Oregon	2
	D. Moos - Washington	2
	D. Johnson, D. Alverson, H. Larkins - NMFS	3
International Pacific Halibut Commission	S. Hoag	1
Spare copies		5
		42