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

SUBMITTED  
SEPTEMBER, 1962

Report of the Technical Sub-Committee of the Trawl Fishery Committee  
appointed by the Second Conference on Coordination of Fisheries  
Regulations between Canada and the United States.

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DATE: August 1 and 2, 1962.

PLACE: State Office Building, 1400 S.W. 5th Avenue, Portland, Oregon.

PARTICIPANTS: Canada - K. S. Ketchen (Chairman)  
J. A. Thomson

United States - Washington - D. E. Kauffman  
E. K. Holmberg

Oregon - S. J. Westrheim  
A. Magill

California - E. A. Best

P.M.F.C. - A. Kemmerich (Observer).

The third meeting of the Technical Sub-Committee was held in accordance with instructions of the parent Committee outlined and with the same terms of reference as those outlined in the minutes of the first meeting (1960 Report). The business of the meeting was guided by a prepared agenda which is attached to this report as Appendix A.

The meeting was called to order at 9:00 a.m. on August 1, and J. A. Thomson was appointed Secretary. The agenda was approved without alteration.

A. STATUS REPORTS ON IMPORTANT FISHERIES

(1) Petrале Sole

(a) General trends in the fishery. For the Pacific coast as a whole, production of petrale sole has varied between 7 and 11 million pounds during the past six years (see Table I). It has averaged about 8.8 million pounds, which represents about 7% of the total of all species landed by otter-trawlers.

Table I. Total petrale sole landings.

Year	Pounds
1956	7,365,000
1957	11,333,000
1958	7,826,500
1959	7,799,000
1960	8,731,500
1961	9,657,500

California reported increased catches in all areas in 1961. In northern California, catch per hour stayed close to the 1960 level, but dropped in southern California waters. This drop was primarily due to increased interest in rockfish.

Oregon reported a decrease in catch in all areas amounting to almost 20% of the 1960 total. Catch per unit of effort figures were not available.

Washington recorded a total landing in 1961 of 3.5 million, up one million from 1960. Catches off the Washington coast appear to be increasing without an increase in effort. The area between Estevan Point and the Cape Flattery Spit (Area 3C)\* produces about 40% of the total Washington landing. Here catch and

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\*A map showing the statistical areas used for the compilation of ground-fish records along the Pacific coast of North America appears as a frontispiece to this report.

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effort have increased but the catch per unit of effort has remained stable at slightly less than 300 lb/hr. The waters north of Estevan Point (Areas 3D to 5D) produce 47% of the total Washington landings. The stocks in these waters, excluding the Estevan Deep, seem to be declining; catch, effort, and catch per unit of effort are all declining. Percentages based on 7-year average, 1955-1961.

British Columbia trawlers landed just over 900,000 pounds of petrale sole in 1961. This was 50,000 pounds less than in 1960, but still higher than the average for the 1955-60 period. Catch per unit of effort in the southern region (Area 3C) showed no significant change from the three previous years. In the northern region the catch per hour was the lowest recorded since 1956, and the second lowest since 1945, when records were first maintained.

(b) The winter fishery for petrale sole, 1961-62 season. There is a closed season on petrale sole which applies to trawlers from Oregon, Washington and British Columbia. This closed season runs from late December to March 31. There is some variation in starting dates between the agencies concerned which is discussed in section C(1) below. The regulations governing this closed season make provision for a specified tolerance on incidental landings. To gain some impression of the extent of these incidental landings, data for the months of January through March, 1962, have been summarized in Table II, by area, by state or province, and by depth.

Californian trawlers, operating free of winter restrictions, landed 637,000 pounds of petrale sole from January to March, 1962. Some 423,000 pounds of this came from waters deeper than 100 fathoms.

Oregon trawlers landed about 333,000 pounds of petrale sole during the winter period. About a third of this came from waters deeper than 90 fathoms. The winter fishery for petrale sole in Oregon waters was, for the most part, incidental to a fishery for Pacific ocean perch and Dover sole. Several trips, however, appeared to be specifically in search of petrale sole.

During the winter fishing season, Washington trawlers landed 0.4 million pounds of petrale sole of which some 253,000 pounds came from waters deeper than 100 fathoms.

Table II. The winter fishery for petrale sole in 1962 (January-March).

Summary of landings by state, area and depth.

Area	Agency	Less than	Greater than	Total
		100 fathoms	100 fathoms	pounds
1A	California	25,000	61,000	86,000
1B	"	126,000	125,000	251,000
1C	"	61,000	237,000	298,000
2A	"	1,000	1,500	2,500
2A	Oregon*	5,500	...	5,500
2B	"	31,200	63,500	94,700
2C	"	21,400	6,500	27,900
2C	Washington	100	...	100
2D	Oregon	155,500	47,400	202,900
2D	Washington	...	1,400	1,400
3A	Oregon	...	2,500	2,500
3A	Washington	8,300	7,600	15,900
3B	"	29,200	11,100	40,300
3C	"	13,900	67,200	81,100
3C	Canada	4,200	...	4,200
3D	Washington	9,700	165,700	175,400
3D	Canada	2,200	...	2,200
4A	Washington	700	...	700
4B	Canada	...	...	...
5A	Washington	39,000	...	39,000
5A	Canada	2,800	...	2,800
5B	Washington	8,500	...	8,500
5B	Canada	2,300	...	2,300
5C	Washington	100	...	100
5C	Canada	...	...	...
5D	Washington	1,400	...	1,400
5D	Canada	21,000	...	21,000

\*Oregon reports landings as greater or less than 90 fathoms.

The Canadian fishery for petrale sole during the winter season is almost negligible and is totally a shallow water fishery. During the 1962 winter closed season, total landings were only 32,000 pounds. Most of this came from northern Hecate Strait (Area 5D).

Due to changes in the duration of the closed period it is almost impossible to make any valid comparisons by area or depth with landings in previous years. However, the total landings by Oregon, Washington and British Columbia during the closed period (January through March) in 1962 were slightly over 0.7 million pounds, as compared with 0.3 million pounds for the same period in 1961.

(2) Pacific (true) Cod

Total true cod production in 1961 was only 7 million pounds, lower than any annual total since 1950. There has been a steady decline in landings since 1958 when a peak production of over 22 million pounds was landed. Washington reports a decline in catch, effort and catch per unit of effort in all waters from Area 3A northward, except in territorial waters of Georgia Strait and Puget Sound (Area 4A) where catch per hour was slightly higher. Since the decline was widespread, Washington feels that it was due to some factor in the natural environment, possibly the abnormally warm water in 1958, rather than to fishing pressure.

British Columbia also recorded reduced catches and reduced catch per unit of effort in all areas. The lower west coast of Vancouver Island (Area 3C), normally a good producer of true cod, had its worst year with respect to catch per hour since records were first taken in 1951. Current research suggests that the decline is due to poor recruitment in several consecutive years. Early reports on the fishery in 1962 have not shown any indication of a reversal of this downward trend.

True cod are of negligible importance in Oregon and California.

(3) Lingcod

In contrast to the landings of true cod, those of trawl-caught lingcod have increased. In 1961, total production for the Pacific coast of North America was over 9 million pounds. This was slightly higher than in 1960 and well above the annual production of 6 million pounds recorded in 1956, 1957 and 1958. This increase is almost totally due to increased effort by Washington and British Columbia trawlers. Washington reports that catch per unit of effort is stable on grounds off the Washington coast (Area 3B) but is showing a slight decline off Vancouver Island (Area 3C). Canada reports no decline in catch per unit of effort associated with increasing catches in the latter area. At present there does not seem to be any cause for concern regarding the condition of the fishery. Further discussion appears below in section C(1).

(4) Pacific Ocean Perch

In 1961, total production was over 12 million pounds, somewhat higher than in 1960. Since 1956 the average annual catch has been about 9 million pounds. Much of the increase can be attributed to the failing true cod fishery and the transferring of effort to ocean perch, and to the discovery by the John N. Cobb on new grounds. Both these factors apply particularly to Washington trawlers. There is some indication that fish on established banks, i.e., Willapa Deep (Area 3B?), are smaller than those found on the newer grounds. Queen Charlotte Sound (Area 5B) continues to be the largest producer, supplying 44% of the Washington catch and all of the Canadian catch. There are indications that the 1962 production will be larger than ever and as yet there are no signs of a drop in catch per unit of effort.

B. SUMMARY OF RECENT TAGGING PROJECTS

(1) Petrале Sole

Table III presents a summary of recent taggings conducted along the west coast of North America and Table IV summarizes the recaptures by area up to August 1, 1962.

Table III. Recent petrale sole taggings.

Project	Area of tagging	Depth (fath.)	Tagging date	No. tagged	No. re-covered	Agency
1	2B Heceta Bank	68-210	Feb-Mar '60	5,040	294	Oregon
2	3C Cape Flattery	65	May '60	174	57	Washington
3	1B Halfmoon Bay	165-250	Nov-Dec '60	2,378	91	California
4	3C La Perouse Bank	40-50	May-Jun '61	53	15	Washington
5	1C-2A Eureka-Mack Arch	45-136	Apr '62	441	32	California-Oregon
6	3A Willapa Deep	190	Feb '62	4,461	61	Washington
7	3B Destruction Island	190	Feb '62	55	0	Washington
8	5A Cape Scott	45-55	Jun-Jul '60	751	132	Canada

Table IV. Summary of petrale sole tag returns by area to August 1, 1962.

Underlined numbers indicate area of tagging.

Project	1A	1B	1C	2A	2B	2C	2D	3A	3B	3C	3D	5A	5B	5C	5D	?	Total
1	...	...	13	3	<u>159</u>	59	19	...	17	4	2	...	...	...	...	18	294
2	...	...	...	...	1	...	1	...	5	<u>34</u>	...	...	...	...	...	16	57
3	...	<u>91</u>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	91
4	...	...	...	...	...	...	...	...	...	<u>11</u>	...	...	...	...	...	4	15

continued...



Table IV (continued)

Project	1A	1B	1C	2A	2B	2C	2D	3A	3B	3C	3D	5A	5B	5C	5D	?	Total
5	...	...	<u>31</u>	1	...	...	...	...	...	...	...	...	...	...	...	...	32
6	...	...	...	...	...	...	1	<u>35</u>	8	6	...	...	...	...	...	11	61
7	...	...	...	...	...	...	...	0	...	...	...	...	...	...	...	...	0
8	...	...	...	...	...	1	1	1	7	5	10	<u>88</u>	10	2	...	7	132

(2) Dover Sole

Table V

Project	Area	Depth (fath.)	Tagging date	No. tagged	No. re- covered	Agency
1	2C Stonewall Bank	85-272	May-June, 1961	4,319	77	Oregon
2	2D SW Columbia R.	50-300	June, 1961- June, 1962	3,451	21	Oregon
3	1C-2A Eureka to Mack Arch	45-136	April, 1962	2,396	91	Oregon- California

All recoveries were made in the areas of tagging.

(3) Pacific (true) Cod

Table VI

Project	Area	Depth (fath.)	Tagging date	No. tagged	No. re- covered	Agency
1	5D SW White Rocks	50	February, 1960	1,228	280	Canada
2	5D SW White Rocks	50	February, 1961	1,033	245	Canada

continued...

Table VI (continued)

Project	Area	Depth (fath.)	Tagging date	No. tagged	No. re- covered	Agency
3	3C Firing Range	38-48	May-June, 1961	1,050	236	Canada
4	3C Firing Range	38-48	May-June, 1962	157	6	Canada
5	4B Victoria	45-55	April, 1960	230	44	Canada

Project 1 produced 4 recoveries in Area 5C, the remainder coming from the tagging area. One recovery from project 3 came from inside waters of the Strait of Georgia (Area 4B). All the rest came from the tagging area. Projects 2, 4 and 5 have not yielded any recoveries outside the respective tagging areas.

(4) Lingcod

Table VII

Project	Area	Depth (fath.)	Tagging date	No. tagged	No. re- covered	Agency
1	3C 40-Mile Bank	40	June, 1960	436	280	Washington
2	3C La Perouse Bank	40-50	May-June, 1961	549	158	Washington
3	4B Victoria	45-55	October, 1960	187	37	Canada

All recoveries were made in the areas of tagging.

(5) Other Species

During May and June, 1961, Oregon tagged 115 Pacific ocean perch on the Stonewall Bank, Area 2C, in 85-120 fathoms. There have been no recoveries to August 1, 1962.

From June, 1961, to June, 1962, Oregon tagged 577 sablefish in Area 2D. The tagging was done during cruises which ran southwest from the Columbia River. Depth of water ranged from 50 to 300 fathoms. So far there have been no recoveries. Washington has also tagged sablefish. In February, 1962, 130 sablefish were tagged on the Destruction Island Deep (Area 3B) in 190 fathoms of water. There has been one recovery to date and that was made in the tagging area.

Canada tagged 1,509 rock sole during June and July, 1960, on the Cape Scott Bank (Area 5A) in 45-55 fathoms. There have been 221 recoveries to date, of which 211 came from the tagging area. Out of the 10 tags remaining, 6 were recovered from Area 5B, one came from Area 3D, and 3 were plant recoveries without information as to area of capture.

In April, 1960, Canada tagged 282 English sole off Victoria (Area 4B) in 45 fathoms of water. By August 1, 1962, 67 tags had been recovered. Dispersion was widespread, one tag coming from Area 2C, far to the south. Twenty-six tags were recovered in Area 3B, and 25 from the tagging area. There were 4 recoveries from Area 4A and 8 unknown as to area.

### C. FISHERY REGULATIONS

#### (1) Winter Closure on Petrale Sole

(a) Current regulation. In December, 1961, the Trawl Fishery Committee approved the Technical Sub-Committee's recommendation to change the period of winter closure to January 1 to March 31 (as opposed to December 20 to April 15). The proposal was subsequently adopted by Oregon, but Washington adopted a closing date of December 23 rather than January 1. As yet, Canada is taking action to modify the original regulation (December 20 to April 15).

Oregon, Washington and British Columbia have a uniform tolerance limit of 3,000 pounds of petrale sole per trip during the closed period (Washington abolished the 8% tolerance on March 17, 1962). Except in the case of Oregon the two-trip limit on incidental landings has been retained.

(b) Effectiveness of the regulation. The regulation appears to be effective in discouraging heavy fishing on spawning concentrations of petrale sole. As shown in Table II, landings from waters fished by Oregon, Washington and British Columbia, and from depths greater than 100 fathoms, were relatively small. Landings from the Estevan spawning ground (Area 3D) were less than one-tenth of those made in a comparable period in 1957, the year before the winter closure came into effect.

Nevertheless, complete protection of these stocks is difficult to maintain. Without complete protection the benefits of the regulation may not be evident. In Oregon and Washington there were a number of cases in which the incidental landings exceeded the 3,000-pound limit per trip, or the 8% maximum (Washington only). There were several reports of landings being deliberately misidentified as to species. As far as the Canadian fishery is concerned, no difficulty has been encountered since negligible deepwater fishing occurs in the winter months.

The original basis for the regulation was not as illogical as the problem of proving the benefit makes it appear. The inshore summer fishery for petrale sole was declining. The deepwater spawning grounds were discovered, and an intense fishery commenced upon these concentrated and highly vulnerable stocks. Tagging showed an interchange of fish to and from the inshore and deep stocks. Rather than wait for the depletion of the stocks, regulation was enacted. The inshore stock, north of Vancouver Island, continued to decline, although there was no drastic reduction in catch comparable to the intensity of the removal of spawning fish, especially in 1957.

At times (one year in the last six) ocean perch and Dover sole occur on the grounds where petrale sole concentrate for spawning and hence the winter closure on the latter species does not discourage fishing on those grounds. When this occurs, the capture of petrale sole is to a large extent unavoidable. Amounts in excess of the allowable limit per trip are presumably returned to the sea, but little information is available on the chances of survival.

(c) Future action. The Sub-Committee is concerned with proving the value of the regulation as a conservation measure. It has been pointed out that the heavy removal of spawning fish during the 1957 season had no demonstrated effect on the success of fishing in the succeeding spring and summer fisheries. Also, it is too early to demonstrate that the protection of the spawning stock since the winter of 1958 has resulted in an increase in recruitment to the fisheries.

The removal of stock unintentionally and intentionally as a result of the regulation could mask the effects of the regulation as it is uncertain how many of the fish are killed when returned to the sea.

Quite aside from the conservation requirements for petrale sole, there is the question of what effect the winter closure has in reducing the efficiency of fishing for other species, which, in the broad picture, figure more prominently in the economy of the trawl fishery.

For these reasons, the Sub-Committee has reservations about the efficacy of the present regulation. However, no action should be taken until the results of current investigations have been thoroughly analyzed. Current investigations consist of market sampling to determine the age composition of the petrale sole catch, which in turn provides a measure of the recruitment or entry of young fish into the fishery. This study is being conducted by the Fisheries Research Board of Canada.

(2) Minimum Size Limit on Lingcod

(a) Current regulation. In Canada there is a minimum size limit of 3 pounds (dressed, head off) on lingcod, while in Washington State there is no limit. Canadian fishermen state that, for conservation reasons, United States agencies should adopt a similar size limit. However, the main reason for their complaint is that lingcod which are below the Canadian minimum size limit are being shipped into Canada from the State of Washington (the exact extent of this practice is unknown).

(b) Efficacy of the size limit. The Canadian size limit was instituted many years ago and on the basis of economic rather than biological considerations.

It so happens, however, that results of recent studies in the Strait of Georgia (which may or may not be applicable to offshore waters - specifically, Area 3C) show that a minimum size close to that now in force would be in the interest of maximum sustainable yield from a given recruitment. This conclusion presupposes a selective method of fishing which allows undersized fish to escape unharmed (e.g., a large mesh size or large hook size). Small lingcod are vulnerable to capture by conventional trawling gear and an unknown percentage of these are returned to the sea in a dead or dying condition. If the percentage is high, then a minimum size limit would serve no useful purpose, except to the extent that it would discourage fishing in areas where undersized lingcod abound.

The Sub-Committee lacks information needed for evaluation of the current Canadian regulation and therefore is unable to give an opinion on the need for international uniformity. In the area of conflict (Area 3C) there is as yet no evidence that the stock of lingcod is declining, in spite of greatly increased fishing.

#### D. REVIEW OF PROCEDURES FOR COMPILATION AND PUBLICATION OF CATCH STATISTICS

The Sub-Committee viewed with satisfaction the publication of the trawl fishery statistics in the 14th Annual Report of the Pacific Marine Fisheries Commission. A unanimous vote of commendation was passed to the Pacific Marine Fisheries Commission for the publication of trawl catch statistics by month and area from 1956-60.

In view of the forthcoming change in Executive Directors of P.M.F.C., Canada again offered to compile the statistics for 1961 for publication in the next annual report of P.M.F.C.

The map of the statistical areas as published in the 14th Annual Report was amended by the addition of degrees of latitude of the various boundaries.

Some errors were rectified and a conflict between Washington and Oregon was temporarily settled. The corrected version appears in the frontispiece of this report.

E. EFFORT STATISTICS AND THE STANDARDIZATION OF CATCH PER UNIT OF EFFORT

California tabulates effort in minutes by P.M.F.C. area by month, assigned to depth groupings. Data are available from 1960 on.

Oregon has data from 1958 on, in hours by P.M.F.C. area and by trip on a monthly basis.

Washington has effort statistics assigned to the 10 most important species - by P.M.F.C. area, but can provide total effort by month by P.M.F.C. area. Data available from 1955 on.

Canada has effort statistics based on various gear and vessel classes by month by P.M.F.C. area from 1954 on.

All agencies agreed to supply total hours of fishing time by month by P.M.F.C. area, starting with 1959. Canada agreed to handle the compilation of the statistics and to arrange for publication of the basic data.

F. REVIEW OF RESEARCH PROGRAMS AND FUTURE NEEDS

California has five men working on trawl fish, the same as last year. Sampling of Dover, English and petrale sole is continuing. Special sampling to determine the species composition of rockfish landings and landings of fish destined for animal food is being maintained. The log-book system is continuing. One man is currently working on the life histories of the ten most important species of rockfish. A tagging trip for petrale sole is planned for October-November, 1962, in Area 1A.

Oregon has four full-time staff members plus summer assistants. Log-book coverage plus general sampling is continuing. Special attention is directed

towards Dover sole (age and length) and to the species composition of rockfish and animal food landings. Under contract with the Atomic Energy Commission, 4 cruises a year are currently underway. The cruise track runs SW from the Columbia River from 50 to 450 fathoms. Tagging of sablefish and Dover sole is conducted on each cruise. Oregon hopes to tag about 5,000 fish a year for the duration of the contract (5 years). A lingcod tagging experiment, off the Columbia River, is a possibility.

Washington has a staff of three men plus half-time help of one man. The interview system is continuing with reduced but adequate sampling in order to provide time for more market sampling. Proposed field trips include a tagging trip to Area 3B for true cod, English sole and petrale sole, and true cod tagging in inshore waters of Puget Sound. A study of the mortality of small lingcod is also planned.

Canada has a staff at present of five men, with four more due to be added. This increase is to take care of the distant seas' operations with the new 177' research trawler (G. B. Reed). Interviewing and sampling are conducted full time at Vancouver, and on an intermittent basis at Prince Rupert. Field studies include sampling of inshore stocks of English sole and other species to assess the effect of the new trawl mesh regulation (Appendix C, 1961 report); a trip to the Swiftsure Bank (Area 3C) in September, 1962, to tag petrale sole; and an exploratory trip in February and March with the new vessel, extending from Areas 3D to 5C. There is a possibility of a summer trip to Area 5D to study and tag true cod and rock sole.

#### G. OTHER BUSINESS

(1) The Sub-Committee recommends to its own members the following projects:

(a) The compilation of a catalogue of market sampling techniques. This will facilitate the exchange of data on age and length analysis of stocks of fish of mutual concern.



(b) The early publication in simple form of the results of tagging programs to make the basic data available to all agencies as soon as possible.

(c) The early publication of a map of the P.M.F.C. trawl fishery statistical areas (similar to that incorporated as frontispiece to this report).

(d) The need for information on physical properties (e.g., buoyancy) of the eggs of important demersal species was discussed, and it was agreed that, where possible, information would be collected by the various agencies.

(e) Determination of a conversion factor for lengths of flatfish measured from "frames" and whole fish.

(2) Mr. D. E. Kauffman of Washington State Department of Fisheries was elected Chairman of the Sub-Committee to replace Dr. K. S. Ketchen.

(3) The members of the Sub-Committee agreed to an early-summer (June) rather than a late-summer date for the next meeting.

#### H. CONCLUSIONS REGARDING THE STATUS OF IMPORTANT TRAWL FISHERIES

(a) Petrale sole. The fishery in waters of northern British Columbia (Areas 3D to 5D) is now at the lowest level on record, while further to the south (Area 3C) there has been some evidence of improvement since 1955. Still farther to the south (off the U. S. coast) stocks appear to be in a relatively stable condition.

(b) True cod. The current crisis in the cod fishery off Canada and Washington (catches have dropped from 22 million to 7 million pounds in three years) appears to be the result of a failure in recruitment, from natural causes. There is no evidence that the fishery has been a major factor.

(c) Lingcod and ocean perch. To offset declining production of true cod, fishing intensity on lingcod and ocean perch has increased greatly in the past few years. There is as yet no indication that the abundance of these species is declining.

I. RECOMMENDATIONS

The Sub-Committee recommends:

(1) that the current closed season on petrale sole (January 1 to March 31 in Oregon and British Columbia; December 23 to March 31 in Washington) remain unchanged for the winter of 1962-63. Also, that no change be made in the tolerance limits or trip limitation on petrale sole landed during the closed season;

(2) that further study be given to the question of minimum size limits on lingcod before any action is taken to achieve uniformity of regulations between the United States and Canada;

(3) that no action be taken to regulate the fishery for true cod, as the current critical state of the fishery appears to be due to uncontrollable natural factors.

APPENDIX A

AGENDA

THIRD MEETING OF THE TECHNICAL SUB-COMMITTEE  
OF THE  
INTERNATIONAL TRAWL FISHERY COMMITTEE

AUGUST 1 and 2, 1962

PORTLAND, OREGON

- I Call to order
- II Appointment of Secretary
- III Approval of the agenda
- IV Status reports
  - (a) Petrale sole: (i) General; (ii) Winter fishery
  - (b) True cod (British Columbia - Washington coast)
  - (c) Lingcod (British Columbia - Washington coast)
  - (d) Ocean perch (all areas)
- V Tagging results
  - (a) Petrale sole
  - (b) Other
- VI Fishery regulations
  - (a) Discussion of the current regulation on petrale sole
  - (b) Minimum size limits on lingcod
- VII Review of procedures for compilation and publication of catch statistics
- VIII Effort statistics and the standardization of catch per unit of effort
- IX Review of research programs and future needs
- X Other business
- XI Recommendations
- XII Adjournment