

North Pacific Fishery Management Council


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MINUTES

North Pacific Fishery Management Council
Scientific and Statistical Committee
December 3-4, 1984
Anchorage, Alaska

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met in Anchorage on December 4-5, 1984. Members present were:

Donald H. Rosenberg, Chairman
Richard Marasco, Vice Chairman
William Aron
Bud Burgner
Larry Hreha
Al Millikan
Scott Marshall sitting in for John Clark
Jack Lechner
Steve Langdon

C-1 Comprehensive Fishery Management Goals

The SSC does not have any comments.

C-8 SSC Appointments

The SSC wishes to note to the Council that this was the last meeting for three of our members, Al Millikan, Washington Department of Fisheries; John Clark, Alaska Department of Fish and Game; and Jack Lechner, formally with the Alaska Department of Fish and Game. The SSC wishes to thank these individuals for their participation in and contributions to our past deliberations. The SSC request that Council send these individuals a letter of appreciation on behalf of the Council and the SSC.

All other members that were present at this meeting indicated their willingness to serve if reappointed.

C-9 Net Discard Regulation

The SSC reviewed a Council staff memo containing draft regulations relative to the disposal of fishing gear and other articles at sea. The SSC supports the sending out of this draft to other Councils for comment. The SSC recommends that prior to adoption of regulations, that the nature of the problem be closely examined and the costs and benefits of alternative measures evaluated.

D-1 Herring

The SSC reviewed the draft letter to the Secretary to provide data needed for plan development. The SSC has some suggested editorial comments which have been provided to Council staff.

D-2 Gulf of Alaska Groundfish

STATUS OF STOCKS

The SSC reviewed the plan team report on the status of stocks of the Gulf of Alaska groundfish stocks dated November 16, 1984. A summary of the SSC recommendations is provided in Attachment 1. Species by species discussion is as follows:

Pollock

The SSC recommends that the harvest levels not exceed 305,000 mt in the Western and Central area combined and 16,600 mt in the Eastern area. The SSC noted that the OY for the Western and Central area was set in 1984 at 400,000 mt using cohort analysis of the 1976-82 catch-at-age data.

The 1982 exploitable biomass was 2.6 million mt. The 1984 hydroacoustic trawl survey estimates that the exploitable biomass is now 1.7 million mt. The exploitable biomass is expected to decline to approximately 1.2 million in 1985 because of below average recruitment of age 3 fish.

The Team provided a forecast of the exploitable biomass for different levels of harvest for different recruitment values. The worst case shows that a harvest of around 300,000 mt in 1985 would require a substantial reduction in harvest in 1986 to prevent the stock from reaching a level where stock recovery would be hindered.

If there is average recruitment in 1985 the forecast shows that the exploitable biomass will only decrease slightly. The SSC recommends that the average recruitment forecast be used in setting this year's harvest levels. This would allow a harvest of approximately 300,000 mt in the Central and Western areas. The Council and industry should be aware that if recruitment is below average in 1985 then the 1986 harvest level will have to be reduced.

No information was provided which would cause a change in the ABC for the Eastern area.

Pacific Cod

The SSC noted the difference in the apportionments that are given by the various survey methods and we recommend that the Team address this issue during the next year. We note that the plan estimates the MSY to be between 88,000 mt and 177,000 mt based on an exploitable biomass ranging from 368,000 to 736,000 mt. There is no new information which would modify these MSY values. The current total OY is set at 60,000 mt. The OY was set at that level in previous years to minimize the bycatch of Pacific halibut. The SSC concurs with the team recommendation of no change in the OY or its distribution between the regulatory areas.

Atka mackerel

The SSC noted that the 1984 trawl survey indicates that the total biomass for Atka mackerel is 39,000 mt with 38,000 mt being located in the Western area and 1,000 mt in the Central area. The SSC also noted that the confidence interval in this data is large. The 1984 OY are 4,678 mt in the Western area, 20,836 mt in the Central area and 3,186 mt in the Eastern area.

Based on the 1984 trawl survey results the SSC concurs with the Team recommendation that the harvest levels for the Eastern and Central management areas be set at bycatch levels only. There is apparently no recruitment occurring in the Central area. There is no evidence that overfishing is responsible for the decline in abundance of Atka mackerel in these areas.

The SSC discussed the Team's recommendation of a bycatch level harvest in the Western area. The SSC noted that the 1984 survey indicated that a total biomass of 38,000 mt was present in the area. Knowledge of the size distribution taken in the survey corresponds with that associated with past fisheries, therefore the 38,000 mt can be considered as the exploitable biomass. In the past it was assumed that the exploitable biomass could be harvested at a 30% rate of exploitation. The SSC felt that a conservative estimates of allowable biological catch could be obtained by setting the exploitation rate at between 10% to 15% (3,800 mt to 5,700 mt). Since the current OY for this area falls within this range we therefore do not recommend any change in OY in the Western management area.

The SSC is hesitant to recommend a high harvest level because of changes in the catch length distribution toward larger old fish.

Sablefish

Historically, the team has developed its EY recommendations based on adjustments made to an MSY (25,000 mt) estimate obtained from a general production model. This model was developed from catch data for the time period up through the mid 1970s. Adjustments were developed by examining trends in CPUE data for the foreign longline fishery and the relative abundance estimates obtained from the joint US/Japanese longline survey.

EYs adopted by the Council in recent years have deviated from those which would have resulted from strict application of this methodology. In 1984, for example, the team's approach would have produced an EY range of from 16,760 mt to 18,425 mt. The EY range for 1983 was 10,965 mt to 12,630 mt. Because of uncertainties surrounding knowledge associated with the size of the biomass and production of the stock, the team decided not to recommend an increase above the 1983 level.

During 1984 the team decided to reexamine its approach to determining EY. Since new biomass estimates were available from the 1984 NMFS trawl survey, a decision was made to use these data along with recruitment estimates and age composition to determine the rate of exploitation that would result in an equilibrium yield. This rate was determined to be 10 percent of the exploitable biomass.

One problem that the team faced in developing their EYs was a divergence in the biomass estimates obtained from the NMFS trawl survey and the US/Japanese longline survey. Because of the lack of a more suitable alternative, the team decided to average the two estimates. Upon applying 10 percent to the average biomasses, new EYs were obtained for each of the management areas.

The SSC, in examining the various biomass estimates, noted that those obtained for the Yakutat area were within about 2,300 mt tons of each other. Other estimates were found to differ from each other by as much as 30,000 mt. The team was questioned to determine if they performed statistical tests to determine if the differences were statistically significant. The SSC was informed that the tests were performed and the differences were not significant. However, the results of these tests were not available to the SSC for examination.

The proposed new EY values do not deviate excessively from those currently in the plan, except that they do provide for a shift in the resource availability from area to area. The SSC did not have sufficient time nor was adequate information on this new method available to allow us to fully examine this issue. Since the proposed EYs are similar to those currently being issued, the SSC decided to not recommend a change in the EYs at this time. The SSC recommends that the new method pursued by the team be developed and fully documented and provided to the SSC for review.

Flounder

The SSC noted that there was no new information which would allow the determination of a new allowable biological catch. Currently the OY is set at 50% of ABC as a halibut savings measure. The team does not recommend any change in the OY, the SSC concurs with that recommendation.

Pacific Ocean Perch Complex

It is recognized that POP stocks are at low levels of abundance. In recent years, catch levels have been below both OY and EY levels. Current OY values for the Western, Central and Eastern areas are 2,700, 7,900 and 875 mt, respectively. These values were obtained by reducing ABCs for the Western and Central areas by 50%. In the case of the Eastern regulatory area, ABC and OY were both set equal to 875 mt to promote rebuilding by Amendment #10. The intent of this action was to allow for a bycatch in other groundfish fisheries. Even though catch levels have been below OY, it has been stated that (Major, 1984 p.149), "There continues to be little firm evidence of any significant improvement in the condition of Pacific ocean perch stocks." It is noted that results of the tri-annual NMFS survey have not been examined in depth to determine if any rebuilding has occurred. While evidence of rebuilding is lacking, the data indicate that the stocks have stabilized at low levels.

Using data obtained during the 1984 NMFS GOA survey, ABCs have been estimated to be 1,736 mt (Western), 5,208 mt (Central) and 4,530 mt (Eastern). These values are below current OY levels for all but the eastern regulatory area.

The Council in the past has adopted conservative measures to promote rebuilding. The Team suggests that rebuilding would be facilitated most by allowing no targeting on this stock. If the Council were to adopt this approach, development of a directed domestic fishery would be precluded.

Several options are available to the Council. Two possibilities are:

1. Setting OY=ABC, or
2. Setting OY at some level below ABC.

Setting OY=ABC:

The NMFS, DAH survey indicates that 3,045 mt (Western), 7,278 mt (Central) and 1,136 mt (Eastern) of fish are projected to be needed to meet 1985 DAP requirements. Total projected DAP (11,459) is less than the new total ABC (11,474). However, region specific DAP projections exceed EYs for both the Western and Central areas.

Acceptance of this approach would constrain the operation of DAP, JVP and foreign fisheries in both the Western and Central areas. DAP and ABC estimates for the Eastern area would allow for fisheries other than DAP.

If under this option catches equal OY, rebuilding will not occur.

Setting OY at some level below ABC:

The primary motivation for doing this would be to promote rebuilding and to ensure that a conservative harvesting strategy is implemented. Considerable uncertainty is associated with our ability to rebuild POP stocks. The relationship between the number of spawners and recruitment is unknown. Recruitment to the fishable stock is considered to be variable. Growth of this species is also slow; characteristics associated with this stock suggest that rebuilding could take a long period of time.

Restricting OY to below ABC will affect all fisheries that either target on this stock or take it as a bycatch in other fisheries. The nature of this impact is dependent upon how far below the ABC, OY is set and how the OY is allocated among various user groups.

Other Rockfish

The current OY for other rockfish is 7,600 mt Gulf-wide. We currently have no information on which to base an ABC, the MSY range in the plan having been estimated from foreign catches. The SSC noted that the current catch in the foreign and joint venture fisheries is about 1,500 mt. We also were informed that the current directed fishery off Southeast is about 800 mt in the FCZ. We received testimony that directed fisheries were also starting on this resource off Southcentral Alaska and Kodiak. These new fisheries are currently within state waters, but could in the near future move into the FCZ. We also noted that in the Pacific region similar resources have, during these early stages of development, been overfished.

The team notes that at least 30 species comprise this resource complex and they are recommending an update of the plan to provide for more appropriate management. The SSC concurs with that recommendation. The team recommends that a cap be put on the harvest until a new management plan could be developed. The SSC noted that putting a cap on the current FCZ harvest (2,300 mt) would restrain the development of the westward fisheries. The SSC is concerned about allowing these new shore fisheries to develop unchecked, but we were unable to recommend what would be an appropriate ABC or how that ABC should be distributed by area.

Thornyhead, Squid and Other Species

The team recommends that their OY be left as is. There is no new information which allows for any modification. The SSC concurs with the team's recommendation.

USE OF POT VERSUS LONGLINE GEAR FOR CATCHING SABLEFISH IN THE GULF OF ALASKA

The SSC heard a presentation from several fishermen describing their desire to establish a longline fishery for sablefish throughout the Gulf. The fishermen making the presentation were told that the Council has an operational policy for handling management proposals. They were told that if they desired full consideration of their proposal that it should be submitted as quickly as possible to ensure consideration during the upcoming management cycle.

D-3 Bering Sea/Aleutian Island Groundfish

STATUS OF GROUND FISH COMPLEX

The SSC reviewed the status of the groundfish complex in the Bering Sea/Aleutian Island area. The SSC noted that the ABC for the groundfish complex equals 2.1 million mt. The plan restricted the OY to a maximum of 2.0 million mt. The SSC recommends that the OY level be set at 2.0 million mt.

The Council should note that their initial TACs will then be reduced by 15% to establish the reserve. The Regional Director then has the authority to move from the reserve back to the individual TAC any reasonable tonnage. Thus, detailed refinement of these numbers is not necessary at this time. The magnitude of initial values do provide guidance to the Director on how the Council wishes the fishery to be handled.

To assist the Council in setting initial TAC by species, the SSC would like to provide comments on specific species.

A Summary of our recommendations is provided in Attachment #2.

TOTAL ALLOWABLE CATCHES (TAC)

The SSC reviewed the TACs as proposed by the Council at the September 1984 meeting and the team report of November 12, 1984. Our comments on specific species are:

Pollock

It was brought to the attention of the SSC that the proposed TAC for pollock is 100,000 mt below that used in 1984. The current best estimate of biomass is 7.6 million mt and a harvest of 1.2 million mt represents a 14.5% exploitation rate (Note typo in team report). The SSC received a recommendation to move the TAC to 1.2 million mt. The SSC took no formal action on this request. Such an increase would increase the exploitation rate to 15.8%. In light of the fact the population is dominated by older fish and there is no evidence of a strong spawner/recruit relationship such an increase is not a source of concern.

Sablefish

The SSC would like to point out that the method of development of EY in the Bering Sea/Aleutian Islands is different than that for the Gulf of Alaska for this species. This is because in the past the nature of the fisheries has been different. For example, in the Gulf of Alaska, the demand has been for larger fish taken by longline gear, where as in the Bering Sea both small and large fish have been utilized by the foreign fisheries. The SSC notes that the demand by the domestic industry in the Bering Sea/Aleutian Islands is increasing. Therefore, the Council's guidance to the Regional Director may have to be calculated based on larger size fish in the future.

The latest calculation of EYs for these areas is determined by applying an exploitation rate of approximately 5% times the total biomass as determined from a trawl/longline survey. The old method provides for a different distribution of EY between the areas. The SSC was not able to resolve the difference between these methods and felt that the Council should have the range when they provide guidelines on the initial 1985 TAC.

Pacific Ocean Perch

The current ABC is determined by the most recent biomass estimate times an exploitation rate of approximately 5%. The 1984 TAC were set lower to promote rebuilding (50% in the Bering Sea, and 33% in the Aleutian Island). The SSC felt that the Council should have the current ABC when they set the initial 1985 TAC. The ABC are 1,360 mt in the Bering Sea and 11,400 mt in the Aleutian Islands. The SSC notes that because of the size of the stocks in the Aleutian Islands area, the chance of rebuilding these stocks is best.

Pacific Cod

The current survey shows that the biomass is still very high. The most recent (1984 summer) survey shows a shift in the distribution toward the north. The SSC believes that the best ABC is 347,400 mt.

The SSC received a presentation from Dr. Low describing how various levels of harvest would impact weak year classes. If a large spawning biomass is needed to produce good recruitment, then the Council would need to hold the harvest level down. There is no indication, however, that there is no strong spawner/recruit relationship and that a high level of harvest should not hurt the reproduction potential of the stocks. Likewise, if we do not harvest at a

high level, it will leave a larger biomass of old fish. From diet studies of cod, these old fish apparently feed predominantly on other fish whereas the younger fish seem to feed on shellfish.

Based on the above, the SSC does not see any adverse biological effects from a high harvest level of cod. Based on the shift in distribution, the Council may wish to encourage some of the harvest to be taken toward the north.

D-2 and D-3 DAP and JVP

The SSC did briefly discuss the DAP and JVP survey results. Because the values were being adjusted during this meeting, the SSC was unable to develop any recommendation. The SSC did request information on the initial DAPs for 1984 in order to compare them to actual or projected harvest. These values with harvest are provided in Attachment 3 and 4. The SSC did not have time to verify these numbers or to develop a recommendation to the Council based upon them.

D-2 and D-3 Management of O-TALFF and O-JVP

The SSC recognized that the Council in its desire to achieve OY for the Gulf of Alaska and Bering Sea/Aleutian Islands management areas will have to provide for bycatch of select non-target species. The SSC wishes to stress the following points:

1. Bycatch harvest must be counted against the Acceptable Biological Catch. This means that in the Bering Sea/Aleutian Islands area bycatch must be counted against the 2.1 million mt ABC for the groundfish complex. Because of the species by species approach used in the Gulf of Alaska the bycatch will need to be counted against the individual species ARC.
2. The SSC does not support wastage of this resource and therefore support retention of the catch.
3. The SSC received a summary of bycatch information which was completed by the Northwest and Alaska Fisheries Center. The SSC did not comment on these values. But the SSC does recognize that there are going to be operation problems encountered in any numbers that are accepted. These problems will be caused by fluctuations in availability of the resource and harvesting strategy of the fishing fleets. Therefore the Council must ensure that their bycatch management procedure has flexibility. The highest probability of having problems will be in the developing joint venture fishery.

E-1 Status of Contracts and Proposals

- (a) Contract 84-1: Sea Lion Pup Census. No report was received therefore, no action was taken.
- (b) Contract 84-2: Chinook Troll Data Analysis. Requirements of the contract have been met. Comments have been submitted and the author has agreed to make the necessary modifications. The SSC recommends final approval.

- (c) Groundfish Data Monitoring Funds. At its September meeting the SSC heard a report from Council staff that summarized activities of the Council's Interagency Workgroup on Alaska Groundfish Fishery Data Collection. It was indicated that the group had met several times and developed itemized data needs and collection methods. Staff indicated, that in order to facilitate plan development, two people from the Northwest and Alaska Fisheries Center, NMFS Regional Office and ADF&G be brought together to finalize the plan. Results of this effort were to have been given to the SSC at this meeting. Since no such report was received no action was taken.

WORKSHEET
 GULF OF ALASKA

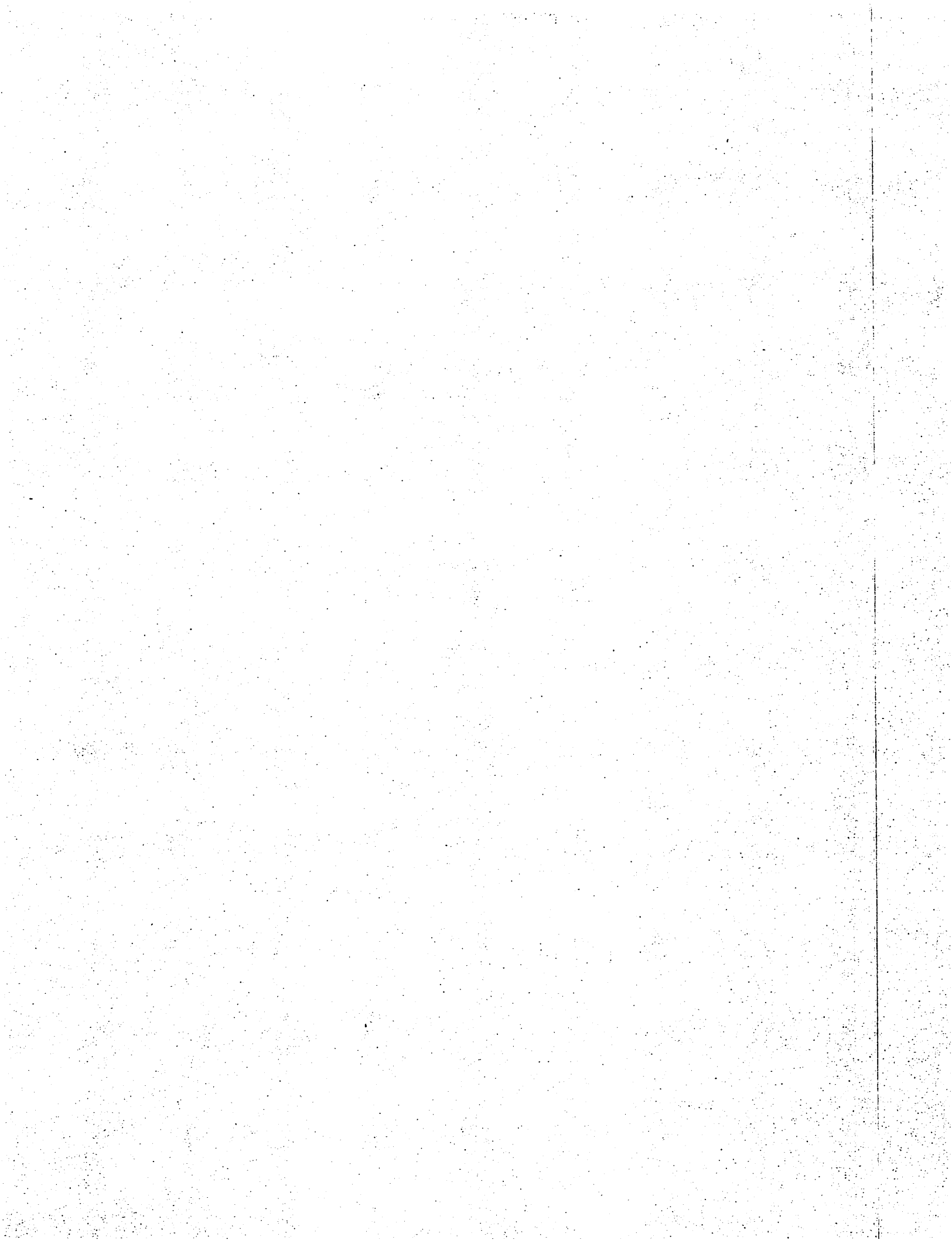
| <u>SPECIES</u> | | | <u>NOTES</u> |
|-----------------------|------------------------|-------------------|---|
| <u>Pollock</u> | | | |
| Western & Central | 305,000 | | Harvest level not to exceed. Harvest level not to exceed. |
| Eastern | 16,600 | | |
| <u>Pacific Cod</u> | | | |
| Western | 16,500 | | No change in OY. |
| Central | 33,540 | | |
| Eastern | 9,900 | | |
| <u>Atka Mackerel</u> | | | |
| Western | 4,678 | | OY - we recommend no change to the plan. Bycatch amounts only. Bycatch amounts only. |
| Central | -- | | |
| Eastern | -- | | |
| | <u>EY</u> | <u>Current OY</u> | |
| <u>Sablefish</u> | | | |
| Western | 2,225 | 1,670 | The SSC recommending no change for EY. The SSC notes that the current OY are 75% of EY for the purpose of rebuilding. |
| Central | 4,075 | 3,060 | |
| W. Yakutat | 2,240 | 1,680 | |
| E. Yakutat | 1,135-1,510 | 851-1,133 | |
| Southeast (all) | 1,290-2,580 | 968-1,935 | |
| <u>Flounder</u> | | | |
| Western | 10,400 | | No change from current OYs. |
| Central | 14,700 | | |
| Eastern | 8,400 | | |
| <u>POP Complex</u> | | | |
| Western | 1,736 | | ABC - See SSC Minutes. |
| Central | 5,208 | | |
| Eastern | 4,530 | | |
| <u>Other Rockfish</u> | | | |
| Gulfwide | Current OY is 7,600 mt | | See SSC Minutes. |
| <u>Thornyhead</u> | | | |
| Gulfwide | 3,750 | | OY |
| <u>Squid</u> | | | |
| Gulfwide | 5,000 | | OY |
| <u>Other Species</u> | | | |
| Gulfwide | 5% of Total | | OY |

WORKSHEET
 BERING SEA/ALEUTIAN ISLANDS

| <u>SPECIES</u> | <u>TAC</u> | <u>NOTES*</u> |
|----------------|-------------|------------------------|
| Pollock/BS | 1,100,000 | |
| Pollock/AI | 100,000 | |
| POP/BS | ? | ABC = 1,360 |
| POP/AI | ? | ABC = 11,400 |
| Rockfish/BS | 1,120 | |
| Rockfish/AI | 5,500 | |
| | | 1983 1984 |
| Sablefish/BS | ? | ABC = 4,400 - 2,600 |
| Sablefish/AI | ? | ABC = 1,755 - 3,360 |
| Pacific Cod | ? | ABC = 347,400 |
| Yellowfin sole | 288,700 | Can be used to balance |
| Turbots | 50,000 | |
| Flatfish | 139,840 | Can be used to balance |
| Atka mackerel | 37,700 | |
| Squid | 10,000 | |
| Other species | 46,700 | Can be used to balance |
| TOTAL | 2,000,000** | |

*This is the current best estimate of a harvest guideline.

**The SSC recommends that the Council set OY at 2.0 million mt. ABC is 2.1 million mt.



GULF OF ALASKA

| <u>Species</u> | <u>Initial 1984 DAP</u> | <u>1984 Harvest through Nov. 3</u> |
|---------------------------|---------------------------------|--|
| Pollock (Western/Central) | 9,000 | 330 |
| Pollock (Eastern) | 300 | 0 |
| Pacific cod (Western) | 500 | 25 |
| Pacific cod (Central) | 11,700 | 2,080 |
| Pacific cod (Eastern) | 120 | 32 |
| Flounders (Western) | 0 | 0 |
| Flounders (Central) | 100 | 243 |
| Flounders (Eastern) | 300 | 64 |
| POP (Western) | 0 | 86 |
| POP (Central) | 620 | 0 |
| POP (Eastern) | 460 | 3 |
| Rockfish | 395 | 584 |
| Sablefish (Western) | 100 | 271 |
| Sablefish (Central) | 1,360 | 3,099 |
| Sablefish (Eastern) | 4,414 | 5,194 |
| Atka mackerel (Western) | 400 | 0 |
| Atka mackerel (Central) | 1,500 | 0 |
| Atka mackerel (Eastern) | 0 | 0 |
| Squid | 100 | 0 |
| Thornyheads | 150 | 17 |
| Other species | 100 | tr |

BERING SEA/ALEUTIAN ISLANDS

| <u>Species</u> | <u>Initial 1984 DAP</u> | <u>Projected 1984 Harvest</u> |
|----------------|---------------------------------|---------------------------------------|
| Pollock (BS) | 18,200 | 3,000 |
| Pollock (AI) | 500 | 300 |
| Yellowfin sole | 1,360 | 200 |
| Turbots | 20 | 0 |
| Flatfish | 1,360 | 100 |
| Pacific cod | 104,400 | 60,000 |
| POP (BS) | 550 | 1,360 |
| POP (AI) | 550 | 100 |
| Rockfish (BS) | 50 | 50 |
| Rockfish (AI) | 50 | 5 |
| Sablefish (BS) | 2,540 | 1,000 |
| Sablefish (AI) | 50 | 50 |
| Atka mackerel | 230 | 0 |
| Squid | 20 | 0 |
| Other species | 3,000 | 1,000 |