North Pacific Fishery Management Council

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January 31, 1997

DRAFT AGENDA

126th Plenary Session
North Pacific Fishery Management Council
February 4-8, 1997
Anchorage Hilton Hotel
Anchorage, Alaska

The North Pacific Fishery Management Council will meet February 4-8, 1997 in the Aleutian Room at the Hilton Hotel in Anchorage, Alaska. On Tuesday, February 4, the Council will meet jointly with the Alaska Board of Fisheries, beginning at 9:00 a.m. The Council will begin their regular agenda at 8:00 a.m. on Wednesday, February 5. Other meetings to be held during the week are:

Committee/Panel	Beginning
Advisory Panel	10:30 a.m., Mon., Feb. 3 (Dillingham-Katmai Room)
Scientific and Statistical Committee	1:00 p.m., Mon., Feb. 3 **(King Salmon Room*)**
*The SSC will meet one room farther down the hall than their usual space.	
Enforcement Committee	Tues., Feb. 4, following Council recess for the day
Work Session on Essential Fish Habitat	7:00 p.m., Wed., Feb, 5 (Aleutian Room)
Ecosystems Committee Meeting	7:00 p.m., Thur., Feb. 6 (Aleutian Room)
NMFS Public Session on Essential Fish Habitat	7:00 p.m., Fri., Feb. 7 (Aleutian Room)

All meetings except Council executive sessions are open to the public. Other committee and workgroup meetings may be scheduled on short notice during the week. All meetings will be held at the hotel unless otherwise noted.

INFORMATION FOR PERSONS WISHING TO TESTIFY BEFORE THE COUNCIL

Sign-up sheets are available at the registration table for those wishing to testify before the Council on a specific agenda item. Sign-up must be completed **before** public comment begins on that agenda item. Additional names are generally not accepted **after** public comment has begun.

Submission of Written Comments/Testimony. Any written comments and materials to be included in Council meeting materials must be submitted to the Council office **by 5:00 p.m. on Wednesday of the week before the Council is scheduled to begin (i.e., January 29 for this meeting)**. Material received after the deadline may not be included in meeting materials. Materials provided **during** the meeting for distribution to Council members **should be provided to the Council secretary. A minimum of 18 copies is needed to ensure that Council members, the executive director, NOAA General Counsel and the official meeting record each receive a copy. If you wish copies to be available for the Advisory Panel (23), Scientific and Statistical Committee (13), staff (10) or the public (50), they must also be provided after the pre-meeting deadline.**

FOR THOSE WISHING TO TESTIFY BEFORE THE ADVISORY PANEL

The Advisory Panel has revised its operating guidelines to incorporate a strict time management approach to its meetings. Rules for testimony before the Advisory Panel have been developed which are similar to those used by the Council. Members of the public wishing to testify before the AP must sign up on the list for each topic listed on the agenda. Sign-up sheets are provided in a special notebook located at the back of the room. The deadline for registering to testify is when the agenda topic comes before the AP. The time available for individual and group testimony will be based on the number registered and determined by the AP Chairman. **The AP may not take public testimony on items for which they will not be making recommendations to the Council.**

FOR THOSE WISHING TO TESTIFY BEFORE THE SCIENTIFIC AND STATISTICAL COMMITTEE

The usual practice is for the SSC to call for public comment immediately following the staff presentation on each agenda item. In addition, the SSC will designate a time, normally at the beginning of the afternoon session on the first day of the SSC meeting, when members of the public will have the opportunity to present testimony on any agenda item. The Committee will discourage testimony that does not directly address the technical issues of concern to the SSC, and **presentations lasting more than ten minutes will require prior approval from the Chair.**

COMMONLY USED ACRONYMS

ABC	Acceptable Biological Catch
AP	Advisory Panel
ADF&G	Alaska Dept. of Fish and Game
BSAI	Bering Sea and Aleutian Islands
CDQ	Community Development Quota
CRP	Comprehensive Rationalization Program
EA/RIR	Environmental Assessment/Regulatory Impact Review
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
FMP	Fishery Management Plan
GOA	Gulf of Alaska
IBQ	Individual Bycatch Quota
IPHC	International Pacific Halibut Commission
ITAC	Initial Total Allowable Catch
MFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
MSY	Maximum Sustainable Yield
mt	Metric tons
NMFS	National Marine Fisheries Service
NOAA	National Oceanic & Atmospheric Adm.
NPFMC	North Pacific Fishery Management Council
OY	Optimum Yield
POP	Pacific ocean perch
PSC	Prohibited Species Catch
SAFE	Stock Assessment and Fishery Evaluation Document
SSC	Scientific and Statistical Committee
TAC	Total Allowable Catch
VBA	Vessel Bycatch Accounting
VIP	Vessel Incentive Program

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		Estimated Hours
A.	CALL MEETING TO ORDER	
	(a) Approval of Agenda	•
	(b) Approval of Minutes of Sept. '96 Mtg	•
B.	REPORTS	
	B-1 Executive Director's Report	•
	B-2 NMFS Management Report	•
	B-3 Alaska Sealife Center Progress Report	•
	B-4 Field research on estimating mortality of trawl bycaught halibut	•
	B-5 Ecosystems Committee Report	•
	B-6 Canadian IBQ Program	•
		(5 hours for A/B items)
C.	NEW OR CONTINUING BUSINESS	
	C-1 Halibut Issues	(2 hours)
	(a) Report on IPHC Annual Meeting.	
	(b) Catch sharing plan in Area 4: consider need for revisions.	
	(c) Seabird avoidance for halibut IFQ fishery.	
	(d) Halibut subsistence use: committee report and direction on further development.	
	C-2 Halibut Charterboat Management	(8 hours)
	Review analysis and approve for public review.	
	C-3 Magnuson-Stevens Act Mandates	(2 hours)
	(a) Central title registry: review development.	
	(b) IFQ/CDQ fee and loan programs: review development.	
	(c) National Academy of Sciences study of IFQ/CDQ programs: status report and make-up of Secretary's IFQ panel for western U.S.	
	C-4 Vessel Bycatch Allowances	(2 hours)
	Council discussion and direction for further development.	
	C-5 Research Priorities	(.5 hour)
	Final review for submission to NMFS.	
	C-6 Essential Fish Habitat	(1 hour)
	Comment on NMFS guidelines for describing and identifying essential fish habitat.	

C-7 Council SOPP (1 hour)
Approve revisions to Council operating procedures in response to Magnuson-Stevens Act amendments.

D. FISHERY MANAGEMENT PLANS

D-1 Crab Management Issues (1 hour)
(a) Summary of Board/Council consultation relating to crab.
(b) Discussion of issues raised by PNCIAC.

D-2 Gulf of Alaska Groundfish Issues (5 hours)
(a) Summary of Board/Council consultation relating to groundfish.
(b) Discussion paper on rolling closures at sablefish survey sites.

D-3 Staff Tasking (1 hour)

E. FINANCIAL REPORT

F. PUBLIC COMMENTS

G. CHAIRMAN'S REMARKS AND ADJOURNMENT

28.5 Total Agenda Hours

TIME SUMMARY

Total agenda hours	28.50 hours
Lunches - 5 days (1.25 ea)	6.25 hours
Breaks (4/day, 20 min ea)	6.50 hours
Total hours required:	41.25 hours

Meeting as follows: (Wednesday through Sunday)
8 am - 5:30 pm, 5 days x 9.5 hours = 47.5 hours

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Certified Hal Bendixen
Date 1/28/97

MINUTES
Scientific and Statistical Committee
December 9-12, 1996

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met December 9-12, 1996 at the Anchorage Hilton Hotel. All members were present:

Keith Criddle, Chair	Jack Tagart, Vice-Chair	Al Tyler
Rich Marasco	Harold Weeks	Jim Balsiger
Phil Rigby	Sue Hills	Marc Miller
Doug Larson	Terry Quinn	Seth Macinko (Alt.)

D-1 (a) State of Alaska Board of Fisheries Groundfish Actions

The SSC heard the staff presentation on the recent Board of Fisheries groundfish actions. The SSC received public testimony from Jay Stinson, Chris Blackburn, Brent Paine, Paul Seaton, Dorothy Childers, and Duncan Fields. Bill Bechtol (ADF&G) was present to answer questions.

The SSC's discussion of this agenda item focused primarily on stock conservation. Gulf of Alaska Pacific cod is assessed as a single stock. Therefore, as noted in D-1(c), the SSC believes that all harvests of Pacific cod including those in State waters should count against the Gulf of Alaska Pacific cod ABC. Ideally, catches would be spatially and temporally allocated in proportion to the actual intra- and inter-annual distribution of biomass. Unfortunately, given the migratory nature of this species and data limitations, it is not possible to design such an allocation at this time. An analysis of the NMFS Gulf of Alaska trawl survey will only describe the summer biomass distribution and may not characterize stock distribution at the time the fishery is conducted. The new fishery in State waters may take place at different times, in different locations, and with different gear than has been characteristic of those fisheries that have generated the data included in the assessment model. Consequently, on-deck sampling will be very important. Besides monitoring catch and bycatch and gathering other biological and fishery information, it would be useful to conduct surveys that will delineate the spatial and temporal distribution of biomass.

The SSC notes the Board of Fisheries action places the burden of conservation on the Council, and that if a similarly large reallocation between fishing sectors was proposed within Federal waters an EA/RIR, including a socioeconomic analysis, would be required.

D-1(b) AMENDMENT 46—PELAGIC SHELF ROCKFISH

The Gulf of Alaska groundfish plan Amendment 46 was proposed because of concern for the over-harvest of a "nearshore" component of the pelagic shelf rockfish group. As described under Alternative 1 (status quo) there is a high risk of over-exploiting black rockfish. The ABC for the pelagic shelf rockfish group is based on survey estimates of one species, dusky rockfish, while the abundance of black rockfish, which are targets of a nearshore fishery, are unassessed.

Alternative 2 would separate pelagic shelf rockfish into two complexes (1) nearshore pelagic shelf rockfish (black and blue rockfish) and (2) offshore pelagic shelf rockfish (widow, dusky, and yellowtail rockfish). Management would continue under the Gulf of Alaska FMP and current TAC/ABC process and not require a plan amendment.

Alternative 3 would delegate management of black and blue rockfishes to the State, similar to demersal shelf rockfish. Stock assessment and in-season management would be delegated to the State, but formal ABC/TAC determination would remain under the Council process.

Alternative 4 removes black and blue rockfish from the Gulf of Alaska FMP, but under the reauthorized MFCMA the state could regulate harvest beyond three miles.

Alternatives 1 through 3 would require ABC determinations. Alternative 3 will require the determination of the nearshore ABC prior to plan amendment. One risk under Alternatives 1 through 3 is that the small ABC and OFL, if exceeded, could preclude other groundfish fisheries. Under Tier 6 of Amendment 44, OFL is set equal to the average catch from 1978 through 1995 and ABC is 75% of this value unless an alternative is established by the SSC. Under this rule, the team calculated a Central Area ABC (257mt) and OFL (342 mt) based on average area catches. Because of very limited harvests in the Eastern and Western Gulf of Alaska, the Plan Team suggested an expansion of the ABC and OFL based on an estimate of black rockfish habitat in the Western and Eastern Gulf of Alaska. This expansion resulted in a Gulf-wide ABC of 600 mt with a corresponding OFL of 800 mt. The SSC rejected the expansion because it assumes uniform densities of black rockfish across Areas. A habitat based method might be applied if better information on relative abundance by area became available. **The SSC recommends that, if options 2 or 3 are adopted, the nearshore component in the Central Gulf of Alaska be assigned an ABC of 260 mt and an OFL of 350 mt, and that the Western and Eastern Gulf of Alaska ABCs not be split between nearshore and offshore complexes.**

D-1(c) GULF OF ALASKA SAFE

GOA—Walleye Pollock

The SSC concurs with the Plan Team's recommendation for Gulf of Alaska pollock ABC and OFL. The recommended ABC for the Western and Central Gulf of Alaska is 74,400 mt with an overfishing level of 103,500 mt. The ABC is based on an $F_{40\%}$ fishing mortality rate adjusted by the ratio of 1997 spawning biomass to $B_{40\%}$ spawning biomass. The overfishing level is based on a similarly adjusted $F_{30\%}$ exploitation rate. The recommended ABC for the Eastern Gulf of Alaska is 5,580 mt with an OFL of 7,770 mt.

The SSC remains unconvinced that the Prince William Sound pollock fishery exploits a resource that is independent of the assessed Gulf of Alaska pollock population. Yet there is little information to indicate how Prince William Sound catches should be allocated between the Eastern and Central Areas. Consequently, we recommend that the state's anticipated 1997 fishery GHL of 2,050 mt, be applied against (subtracted from) the total Gulf of Alaska ABC. If the Council establishes TAC at the ABC level, this would leave a Western/Central Gulf of Alaska TAC of 72,500 mt and an Eastern Gulf of Alaska TAC of 5,430 mt. The Western/Central Gulf

of Alaska TAC would be partitioned among the Shumagin, Chirikof and Kodiak areas using a 25:42:33 split (18,125 mt, 30,450 mt and 23,925 mt, respectively).

The SSC suggests that the analysts explore an approach similar to that adopted in the Bering Sea and Aleutian Islands SAFE to avoid the over-parameterization that may arise from allowing annual changes in the selectivity coefficients.

GOA—Pacific Cod

The SSC supports the ABC of 81,500 mt suggested by the Plan Team and the analyst. The SSC commends the analyst for developing a formal risk analysis of the uncertainties around estimates of the natural mortality rate and the survey selectivity coefficients. Specification of these coefficients has been problematic. The current assessment has incorporated the 1996 survey results and suggests that the downward trend in recruitment may be changed by an above average 1995 year-class. In addition, the survey provided new data that supports an upward revision of estimates of year class strength for year-classes already in the fishery. However, the magnitude of increase suggested by the bottom trawl survey cannot be fully explained by recruitment or growth of young fish.

Findings from survey data regarding Pacific cod are not as clear as for some species because the fish tend to be found in small aggregations through-out the summer. This tendency to aggregate increases the error associated with stock estimates. The inclusion of several survey hauls taken inside aggregations could result in over-estimation of stock size. Alternatively, if survey hauls mostly fall between the aggregations, the biomass will be underestimated. In addition, portions of the aggregations are always above the head rope of the survey trawl, leading to a sampling error that causes biomass to be underestimated. The SSC suggests that the analysts attempt to address this type of survey uncertainty in the next assessment. However, the Committee realizes that this task will be challenging and may not be immediately feasible.

As noted in our discussion of the state waters Pacific cod fishery, **the SSC believes that the sum of all Pacific cod removals (including those from the directed halibut fishery, Prince William Sound, and State waters) should not exceed the Council's ABC.** In addition, the SSC was concerned with the overage that occurred in the 1996 fishery.

GOA—Flatfish

The SSC agrees with the ABC and OFL recommendations proposed by the Plan Team. As in the past years, the bottom trawl survey results were used to develop biomass estimates for species in this complex except for Greenland turbot and deepsea sole. Estimates for these latter two species were not developed because none were caught in the 1993 or 1996 surveys. No deep water stations were surveyed in either of these two years. ABCs and OFLs for this complex are:

Fishery	ABC	OFL
Deep water	7,170	9,440
Rex sole	9,150	11,920
Shallow water	43,150	59,540
Flathead sole	26,110	34,010
Arrowtooth	197,840	280,804

The corresponding fishing mortalities are:

	Species	F_{ABC}	F_{OFL}
Deep Water			
	Dover Sole	0.075	0.10
Shallow Water			
	Rock Sole	0.17	0.25
	Rex Sole	0.15	0.20
	Yellowfin Sole	0.15	0.20
	Other Flatfish (except Greenland turbot and deepsea sole)	0.15	0.20
Flathead Sole		0.15	0.20

The SSC supports the Plan Team recommendations that the ABCs for each group be apportioned among the three regulatory areas in proportion to biomass distributions in the 1996 trawl survey. The SSC suggests that, for next year, the analysts consider an averaging procedure similar to that used for other species groups.

The "F" value used to calculate the ABC for rock sole was $F_{40\%}$ and F = 75*M was used for all other flatfish except Greenland turbot, deepsea sole, and arrowtooth flounder. ABCs for Greenland turbot and deepsea sole were developed by setting ABC=0.75*OFL, where OFL is based on the average catch from 1978 to 1995. The ABC for arrowtooth flounder was determined by applying $F_{40\%} = 0.185$ to the projected 1997 exploitable biomass (age 3 + fish), 1,971,174 mt. The OFL for arrowtooth flounder was determined by applying $F_{30\%} = 0.271$. The stock synthesis model was used to estimate exploitable biomass.

Sablefish (GOA and BSAI Combined)

This assessment has been substantially revised from September's preliminary assessment due to: (1) incorporation of 1996 survey information; (2) correction of previous survey indices; and, (3) assessment of plausible levels of catch under-reporting in 1986-90 when this fishery was essentially unobserved. The SSC commends the assessment authors for the rapid incorporation of this additional information into the revised assessment. The assessment authors also provided ancillary information discussing trawl and longline survey and fishery length-frequency information, and fishery CPUE information. Bob Alverson provided testimony emphasizing the importance of gathering data on size or age structure of fishery catches through logbooks and port sampling, fishery CPUE, surveys in gully areas, and recruitment indices.

Compared to the September assessment, the revised assessment estimate of exploitable biomass is higher for the combined Gulf of Alaska and Bering Sea and Aleutian Islands management areas. However, this increase results from the technical adjustments to the model indicated above. All model scenarios indicate a declining trend in biomass due to low recruitment since 1981. Moreover, there is a significant chance that biomass will drop below the lowest observed levels (post 1979) by the year 2001.

The SSC received additional information from the assessment authors to the effect that both the Plan Team's ABC recommendation and an ABC based on the $F_{40\%}$ strategy adjusted by biomass would result in an effective increase in actual exploitation rate. This fact, combined with fifteen years of low recruitment, leads the SSC to agree with the assessment authors' recommendation for ABC. This is 17,200 mt for the combined Gulf of Alaska and Bering Sea and Aleutian Islands. The overfishing level is set by adjusted $F_{30\%}$ and is 35,950 mt. ABC and OFL are apportioned among management areas based on an exponentially weighted moving average of survey biomass distribution.

	Biomass (%)	ABC	OFL
Gulf of Alaska	84.45%	14,525	30,340
Eastern Bering Sea	7.60%	1,308	2,750
Aleutian Islands	7.95%	1,367	2,860
TOTAL	100%	17,200	35,950

The same exponentially weighted moving average method has been used by the Council to apportion ABC within the Gulf of Alaska. Applying these percentages to the Gulf of Alaska ABC results in the following distribution:

	GOA Biomass (%)	Presumed TAC (mt)
Western Gulf	12.79%	1,857
Central Gulf	44.15%	6,413
West Yakutat	16.61%	2,412
East Yakutat/SE Outside	26.45%	3,842
TOTAL	100%	14,525

The SSC underscores that future ABCs are expected to decline, and that it is important that all biological removals be accounted for, including catches within state waters.

We encourage future assessments to incorporate fishery-based information which, when adequate, may provide additional insights into this stock, including size by area, trends in CPUE and changes in species composition at differing locales. We encourage the use of State of Alaska fish ticket information as a means to assess size composition, and consideration of voluntary logbook information as an indicator of CPUE.

GOA—Rockfish

Pacific Ocean Perch

Chris Blackburn testified that the Kodiak trawl fleet desires a management strategy which provides for stable annual catches of POP.

The analysis is similar to last year's with two primary changes: (1) the 1996 trawl biomass estimates and length frequencies; and, (2) a new maturity schedule were incorporated. The magnitude of the increase for the 1996 survey biomass estimates could not be fully explained by recruitment or growth of young fish. The model places a low emphasis on survey estimates, while age and length frequencies are given greater emphasis. The revised maturity schedule increased the estimated productivity of the stock and modified the rebuilding objective. Because the estimated biomass of spawning females (B_{1997}=106,140 mt) is now above the rebuilding plan objective (90,000 mt), a downward adjustment of the exploitation rate is not applied.

The Plan Team recommended using Tier 3b of new ABC/OFL definitions rather than Tier 2 arguing that B_{MSY} and F_{MSY} could not be determined. The longterm spawner-recruit relationship was considered unreliable given environmental and other changes since 1960. Under Tier 3b, the F_{ABC} is equal to 0.056 (**ABC=12,990**). Since current spawning biomass (B_{1997}) is less than $B_{40\%}$, **OFL=19,760 mt ($F_{30\%}$=0.102)**. The 1990, 1993 and 1996 surveys were weighted as 4:6:9 to develop area ABC apportionments of Western (14.1%, 1,840 mt), Central (51.5%, 6,690 mt) and Eastern (34.4%, 4,460 mt). OFLs by area are Western (2,790 mt), Central (10,180 mt) and Eastern (6,790 mt).

Shortraker/Rougheye

The average of the three most recent surveys was updated with results of the 1996 survey biomass estimates. Shortraker ABC is now calculated under Tier 5 as 0.75 M, (0.75 X 0.3 = 0.023), rather than F=M. The recommended F_{ABC} =M = 0.025 is less than $F_{40\%}$ = 0.032 allowed under Tier 4. The group **ABC=1,590 mt** (375 mt shortraker plus 1,218 mt rougheye). This is a reduction from the 1996 ABC of 1,910 mt. The ABC was apportioned similarly to POP: Western (160 mt), Central (970 mt), and Eastern (460 mt).

Northern Rockfish

The recommended F_{ABC} = M = 0.06, is less that $F_{40\%}$ = 0.075 allowed under Tier 4. The exploitable biomass is 83,370 mt. Average survey biomasses are used to apportion the ABC (5,000 mt) by area: Western (840 mt), Central (4,150 mt), Eastern (10 mt). $F_{30\%}$ = F_{OFL} = 0.113 and OFL = 9,420 mt. **Given such a small Eastern area ABC, the Northern rockfish might be combined with other slope rockfish in this area to avoid management difficulties.**

Other Slope rockfish

Previously an F=M strategy was applied for all species within the group. This strategy was maintained for sharpchin F_{ABC} = M = 0.05. For the remaining species, the Tier 5 provision F=0.75 M is applied. The combined **ABC (5,260 mt)** apportionment by weighted average surveys is Western (20 mt), Central (650 mt), and Eastern (4,590 mt). **OFL=7,560 mt.**

Pelagic Shelf Rockfish

The ABC of 4,880 mt was calculated using F=M=0.09 applied to the exploitable biomass estimate of 54,220 mt for dusky rockfish, the predominant species. This was a similar approach to recent years but with the inclusion of the 1996 trawl survey estimates in the weighted average. The ABC apportionment by area is Western (570 mt), Central (3,320 mt), and Eastern (990 mt). OFL = 8,190 mt, where F_{OFL} = 0.15 = $F_{30\%}$ With regard to Amendment 46 the Plan Team recommended Alternative 4, which would remove the "nearshore" component (black and blue rockfish) from the plan. The Plan Team further recommends that if the Council chose Alternative 1 through 3, a separate ABC for the nearshore component of 600 mt be accepted which is based on 75% of the average Central area catch (Tier 6). The apportionment of ABC by the Plan Team was based on rough approximations of black rockfish habitat area. The OFL would be 800 mt.

The SSC did not agree with the apportionment method since very little information is available on black rockfish in the Eastern and Western areas and the method would have to assume equal density-per-unit area. If the Council chooses an Alternative other than 4, the SSC recommends a separate nearshore ABC and OFL only for the Central area. Based on the average catch, the Central area ABC and OFL are 257 mt and 342 mt, respectively.

Demersal Shelf Rockfish

The SSC accepts the Plan Team ABC of 950 mt (based on F = M = 0.02), which is more conservative that the $F_{40\%}$ value. The corresponding OFL is 1,450 mt (based on $F_{30\%}$). There is no new information about this complex. Consequently, these values are the same as those used in the past. The SSC notes that this fishery is managed by ADF&G in a manner similar to that proposed for nearshore pelagic rockfish under option 3 of Amendment 46.

Thornyheads

While the 1996 longline and trawl surveys indicated increased abundance, the length based synthesis model indicated a slightly declining abundance. Given the low M and slow growth of thornyheads, the model results, which incorporated the most recent survey data were used. **The SSC accepted the Plan Teams recommended ABC and OFL.** Under Tier 3a, $B/B_{40\%} > 1$, the ABC = 1,700 mt where $F_{40\%}$=0.062, and the OFL = 2,440 mt at $F_{30\%}$ = 0.089. The assessment of thornyheads has been limited by the lack of concerted deep-water survey effort.

GOA—Atka Mackerel

The SSC agrees with the assessment authors' recommendation of an ABC of 1,000 mt and an OFL of 6,200 mt. These recommendations are substantially lower than those presented in September. The Plan Team cited three sources of new information that influenced their revised recommendations: (1) updated catch information; (2) review of the 1996 survey data; and, (3) review of prior survey data. Large variances in survey catches led the Plan Team to conclude that there is no reliable biomass estimate, thus placing Atka mackerel into Tier 6 of the Council's overfishing definitions (Amendment 44). Based upon analysis of the potential for localized depletion and knowledge of past vulnerability of Atka mackerel to directed fishing effort, a more conservative approach to setting ABC than the 75% of OFL formula of Tier 6 is warranted. The assessment authors, plan team, and SSC recommend that Atka mackerel be designated a bycatch-only fishery in the Gulf of Alaska. However, the Plan Team set ABC equal to the 1996 catch which included approximately 1,300 tons from a directed fishery. The chapter authors and SSC recommend setting ABC to accommodate bycatch needs in other Gulf of Alaska groundfish fisheries, principally those for Pacific cod, rockfish, and pollock. Although bycatch in 1996 was about 300 tons, total bycatch in 1995 when there was no directed fishery was 700 tons, thus the assessment authors' recommendation of a 1,000 ton ABC.

The SSC is concerned about the lack of meaningful survey estimates of biomass and notes the importance of Atka mackerel in sea lion diets. **The SSC supports the plan team's suggestion that the Gulf of Alaska and Bering Sea and Aleutian Islands Atka mackerel assessments be combined in future years.** The SSC commends chapter authors for their fishery CPUE analysis. We encourage the authors to continue work on the effect of localized stock depletions on predators and on implications for management of this species.

D-1(e) BERING SEA ALEUTIAN ISLANDS SAFE

BSAI—Pollock
Eastern Bering Sea

The SSC received presentations on the status of Bering Sea pollock stocks from Drs. Loh Lee Low, Jim Traynor, and Vidar Wespestad. Dr. Low presented the Bering Sea Plan Team's deliberations on stock status and recommendations for ABC; Dr. Traynor discussed the results from the 1996 bottom trawl and hydroacoustic surveys of the Eastern Bering Sea; and, Dr. Wespestad reviewed the population dynamics models used to estimate current stock biomass. In addition, the SSC heard a report from Dr. Mikhail Stepanenko, TINRO Centre, Pacific Research Fisheries Center, Vladivostok, Russia. Dr. Stepanenko discussed hydroacoustic and bottom trawl surveys conducted in Russian waters during 1996 and presented estimates of landed catch and age composition of catches from the Cape Navarin and Eastern Bering Sea fisheries. Public testimony was provided by Dr. Don Ludwig, Ken Stump, Fred Munson, Fran Bennis, Paul Seaton, and, Vince Curry.

Projected 1997 Eastern Bering Sea stock biomass is estimated at 6.1 million mt and is effectively at the level that produces MSY. The SSC supports the Plan Team's proposal to set ABC based on the $F_{40\%}$ exploitation rate, which results in a projected 1997 yield of 1.13 million mt. The overfishing level associated with the recommended ABC is derived using an adjusted F_{MSY} exploitation rate and is equal to 1.98 million mt.

During the SSC's discussion of the status of the Bering Sea and Aleutian Islands pollock stocks we focused on the following issues: 1) choice of models used to estimate 1997 Eastern Bering Sea stock biomass, 2) the choice of fishing mortality rates upon which to base 1997 ABC, 3) the strengths and weaknesses of our forecast of incoming year-classes, 4) the effects of spatial distribution of the fishing fleet on the ecosystem, 5) utility of "banking" (foregoing) catch from the upcoming harvest cycle, 6) the impacts on Eastern Bering Sea stock of harvest in the Russian fishing zone, 7) ecosystem considerations, 8) uncertainty, and 9) recommendations for harvest levels in 1997.

The 1997 Eastern Bering Sea status of stocks was evaluated using two models: the familiar VPA model, and a new likelihood model using Bayesian priors to weight the model likelihood components. The new model uses a statistical approach to evaluate the information content of the model and represents a promising technique for improved future modeling. Nevertheless, because the likelihood model is new and has not yet undergone a full review, and because it did not incorporate some of the 1995 data, the SSC, following its past practices, chose the VPA model estimates of current and projected stock biomass.

Over the last few years, the SSC's selection of preferred fishing mortality rates for Eastern Bering Sea pollock have evolved. Before the development of a spawner-recruit relationship for this stock, $F_{0.1}$ was the standard rate used to set ABC. More recently, the SSC endorsed the F_{MSY} fishing mortality rate as the preferred exploitation strategy. In 1995, the SSC recommended the $F_{40\%}$ exploitation rate, a slightly more conservative harvest rate than F_{MSY}. **The choice of $F_{40\%}$ as the basis for setting ABC is in accordance with Amendment 44 and takes into account conservation concerns for stocks with highly variable annual recruitment. $F_{40\%}$ is the exploitation strategy recommended by the Plan Team and it is the rate that the SSC endorses for the current assessment.** The exploitation history of the Eastern Bering Sea pollock reveals a conservative annual harvest averaging 14% of the standing stock since 1979. While the exploitation rate is above average in recent years, approximately 16-18%, this rate is still considered low for a gadid species. Retrospective analysis of Eastern Bering Sea estimated biomass, reveals a history of underestimating stock biomass, although there is no guarantee that this trend will continue.

The current analysis indicates that the Eastern Bering Sea stock is supported by a limited number of year classes. Most fish found in the catch are 3-7 years of age. The fishery is dependent on the strong 1989 year class which is expected to become insignificant by 1998. As a result, but not unexpectedly, the future fishery will be increasingly dependent on incoming year classes. The stock assessment scientist's ability to predict year class strength is limited. A method has been developed which predicts the number of 3 year old pollock recruiting to the fishery as a function of the number of one year old pollock observed in the annual bottom trawl survey. Last year, the SSC requested that the analyst review statistical methods used to estimate the relationship between the bottom trawl index of age one fish and age three fish. The SSC suggests that a workshop be convened to evaluate alternative forecasting techniques and the utility of ancillary categorical variables to refine the predictive capability of this method. Recent work has indicated that environmental variables, sea surface drift for example, may be useful in predicting the likelihood of strong year classes.

Public testimony raised concern regarding the concentration of fishing effort in the Eastern Bering Sea. These concerns dealt with the effects of possible localized depletion, the seasonal distribution of fishing effort, and the impacts of intensive fisheries on marine mammals and birds. There is overlap between the size range of pollock preyed upon by stellar sea lions and the selectivity of the commercial fishery. Birds generally prey on juvenile pollock, and thus have little or no overlap with the fish taken in the commercial fishery. In contrast, age 3 pollock

are most frequently consumed by Steller sea lions. The SSC notes that current management measures, such as the "A" and "B" seasons and operational restrictions such as the CVOA, serve to distribute fishing effort spatially and temporally. The NMFS is reviewing issues associated with fisheries that concentrate in time and space.

The SSC discussed the relative merits of lowering the ABC, a strategy that we call "banking", as a means to promote improved future recruitment and/or to provide additional fish in subsequent years. Species such as pollock show a high natural mortality rate, therefore a large fraction of any forgone catch would die before it could contribute to the next spawning cycle or before it becomes vulnerable to the next fishing season. Although some forgone catch will survive to contribute to the spawning biomass, its contribution to new recruitment may be marginal. Recruitment is highly variable at all levels of spawning stock size, so the addition of a small increment in spawning biomass may have no discernible impact.

There is considerable speculation regarding the effect of fishing in the Russian Eastern Bering Sea. The possible increase in harvest taken in this zone in recent years may reduce the strength of incoming year classes to the US Eastern Bering Sea pollock stock. The SSC expressed this concern in 1995. Eastern Bering Sea pollock are thought to migrate back and forth across the US/Russian provisional boundary, although the propensity for the US stock to enter Russian waters is unknown. Younger aged fishes, 1-4 years of age, are thought to make up the portion of the stock traversing the transboundary area. Changing environmental conditions may regulate the magnitude of migration into Russian waters. Results of the 1996 NMFS surveys indicated that the distribution of pollock has shifted to the northwest. Reported catches from Navarin area have averaged about 450,000 mt annually since 1976; some fraction of that catch is attributable to Eastern Bering Sea stock, the remainder to Western Bering Sea stock. Because the Eastern Bering Sea stock moves back and forth from the Russian fishing zone, exploitation in that area affects the Eastern Bering Sea stock. However, the absolute effect of Russian harvest on year class strength of the Eastern Bering Sea stock is not evident.

In summary, there are both positive and negative signals about the future abundance of the Eastern Bering Sea pollock stock. Uncertainty in estimates of future recruitment is a function of population biomass, variability in environmental conditions affecting young pollock, an unquantifiable level of removals of Eastern Bering Sea fish in the Russian zone, and variability in the assumed linear relationship between age 1 pollock in the bottom trawl survey and recruitment of pollock at age 3. **If pollock biomass continues to decline, the Council's management policy under Amendment 44 will increasingly adjust fishing mortality downward in the spirit of conservative management.** Fortunately, the combined hydroacoustic trawl survey that will take place in 1997 will strengthen the stock assessment done next year and provide a critical watchpoint in the status of this important population.

Aleutian Islands

The SSC requested that available biological data for the Aleutian Island pollock stock be compiled and, if possible, analyzed in an age-structured assessment of stock size. The SSC is pleased to note that such an analysis was undertaken. Age distributions from the Aleutian Islands stock were available from 1978 to 1982, 1984 to 1985, and 1991 to 1995. Ancillary data in the form of biomass estimates were available from the triennial bottom trawl surveys, 1980 to 1994. Catch data span the period 1977 to 1996. Survey selectivity was assumed knife edged at age 3; fishery selectivity was assumed asymptotic and constant over time. Recruitment was variable with the largest year class estimated to occur in 1978. The 1989 year class appears to be supporting the fishery at present. pollock are selected to the fishery at older ages in the Aleutian Islands than in the Eastern Bering Sea, with 50% selectivity occurring between age 6 and 7. The analysts report that 1997 stock biomass was estimated to be 100,000 to 200,000 mt.

The Plan Team has recommended that the ABC be set at 28,000 mt based on an $F_{40\%}$ exploitation rate (F=0.38) applied against the low end estimate of stock abundance, 100,000 mt. The SSC concurs with this recommendation. In future assessments of this stock the SSC requests that the analyst provide a full suite of assessment information, a complete description of the model configuration, and an analysis of sensitivity to model assumptions.

Bogoslof

The 1996 Bogoslof survey estimates a biomass of 682,000 mt contrasted with the 1995 estimate of 1.1 million mt. The Plan Team has recommended an ABC of 115,000 mt based on $F_{40\%}$ applied to a projected 1997 biomass of 558,000 mt. **The SSC believes the Bogoslof ABC should be reduced by the ratio of current biomass (B_{97}) to target biomass, where target biomass is assumed to be 2 million mt. Consequently, the SSC recommends a 1997 Bogoslof ABC of 32,100 mt.** The corresponding overfishing level, 43,800 mt, is estimated from the $F_{30\%}$ adjusted by the ratio of current to target biomass.

BSAI—Pacific Cod

The revised assessment incorporates 1996 survey fisheries data. In addition, the length-based synthesis models used in the Bering Sea and Aleutian Islands and Gulf of Alaska assessments are now similar in configuration. In response to a SSC request, the authors have provided a risk-analysis addressing uncertainty in natural mortality and catchability coefficients. The SSC heard public testimony from Ken Stump.

The recommended value of 306,000 mt for ABC suggested by the author's model is lower than the ABC suggested by the risk-averse approach, suggesting that the model result itself is reasonably risk averse. Consequently, **the SSC supports the Plan Team's recommendations for ABC (306,000 mt) and OFL (418,000) but notes that the model projects decreases in ABC for the years following 1997.**

Notes to the analyst: The SSC is pleased with the risk-averse Bayesian approach and encourages its further use. As this approach is fairly new to the Council process, it is highly desirable to make this approach as understandable as possible. To this end, the SSC has the following suggestions and comments.

1. While the choice of the prior is necessarily subjective, the analysts should explain the rationale for the specific values used and the consequences of choosing a more diffuse prior.

2. The mean value for q from the data is greater than 1 in the Gulf and less than 1 in the Bering Sea. The analysis should explain what mechanisms could account for such disparate results. Can this result be interpreted as overestimation of survey abundance in the Gulf and underestimation in the Bering Sea, or does selectivity have to be factored in?

3. The posterior distributions for q or M have means that are not intermediate between the values for the prior and likelihood. This result is counterintuitive and requires further clarification.

BSAI—Flatfish

Yellowfin Sole

The SSC supports the Plan Team's ABC recommendation for this species. ABC, 233,000 mt, was calculated by applying $F_{40\%}$= 0.11. OFL, 338,900 mt, was determined by applying $F_{30\%}$ =0.16. Stock synthesis was used again to produce an estimate of exploitable biomass, 2,117,860 mt. The synthesis analysis provided an estimate of age-7+ fish of 2,530,000 mt. Asymptotic selectivity was assumed in the model. Survey biomass estimate is up from 1995 level, 2,009,700 mt versus 2,298,600 mt. Average to above average recruitment from the 1986-88 year-classes is expected to maintain abundance at high levels in the near future.

Greenland Turbot

The Plan Team's ABC recommendation was based on a stock synthesis analysis of the status of this resource. It was indicated in the SAFE that the yield for this species is sensitive to the relative contributions of the longline and trawl fisheries to total fishing mortality. In recent years, the longline catch has reported to represent about 80% of the total catch. For this reason, submodel "A" ($F_{40\%}$=0.346) was used in the determination of ABC (16,800 mt). The SSC notes that the current female spawning biomass for this species (58,000 mt) is below the $B_{40\%}$ level, 62,000 mt. In such cases, Amendment 44 requires that the exploitation rate be adjusted by multiplying the rate by the ratio of the current estimate of the female spawning biomass and the $B_{40\%}$ female spawning biomass (0.94). This was not done by either the Plan Team or the assessment author. Since this adjustment would have lowered the exploitation rate only slightly, the Plan Team chose not to make the adjustment. The SSC believes that these adjustments should be made in all cases.

The SSC notes that it is difficult to predict the percentages of total catch for the two gear types that catch this species. For this reason, the SSC believes that submodel "B" (50/50 split) should be used in the development of the ABC. This assumed split dictates that an $F_{40\%}$=0.253, adjusted by the ratio of the current female spawning biomass and the $B_{40\%}$ female spawning biomass, be used to determine ABC. The application of this adjusted rate to the projected 1997 exploitable biomass results in an ABC of 14,400 mt. Because of the status of this resource the SSC believes that this ABC should be phased in over a two year period. **Therefore, given that the 1996 ABC recommended by the SSC for this species was 10,300 mt, the 1997 ABC suggested by the SSC is 12,350 mt, using $F_{30\%}$=0.56. The OFL is 22,600 mt.**

The SSC heard public testimony from John Winther to the effect that participants in the longline fishery have recently observed increases in the abundance and average size of Greenland turbot and requested that the TAC be set at 8,000 mt. The SSC notes that the assessment of this stock is hampered by the lack of recent deep-water surveys.

Arrowtooth Flounder

Results of a Stock Synthesis analysis were present in last years SAFE. The model results were used in the development of the ABC recommendation. The exploitable biomass estimate used is 489,800 mt. The projected age 1+ biomass estimate is 587,000 mt. The recommended ABC (108,000 mt) is based on an $F_{40\%}$ = 0.22. The 1997 OFL is 167,00 mt and was developed using $F_{30\%}$ = 0.34. **The SSC agrees with the Plan Team recommendations for ABC and OFL.** The SAFE indicates that recruitment observed during four of the last five years is below the 25 year average. However, good recruitment from the 1981, 1984, 1986 and 1987 year classes should maintain overall population abundance at a stable level for the near future

Rock Sole

The stock synthesis approach was used again this year to assess the status of this species. The 1997 projected age 2+ biomass is 2,390,000 mt. The exploitable biomass for 1997 is estimated to be 1,917,280 mt. Under tier 4, $F_{40\%} = 0.15$ was used to calculate an Aleutian Island and Bering Sea ABC (296,200 mt). The OFL is 426,700 mt ($F_{30\%} = 0.22$). **The SSC supports the Plan Team's recommendation for this species.** A biomass-based ratio expansion factor for the Aleutian Islands was included in the ABC calculation. Based on the 1983, 1986, 1989 and 1991 Aleutian Islands trawl surveys, less than 3% of the total biomass is located in the Aleutian Islands region. Good recruitment from the 1983, 1985 and 1987 year classes has maintained this stock at high levels.

Other Flatfish

The SSC agrees with the Plan Team's recommendation for this complex. The recommended 1997 ABC (97,500 mt) is based on an $F_{40\%}$ strategy (with $F_{40\%} = 0.20$ for Alaska Plaice and 0.16 for other species in the complex). Using $F_{30\%}$ values of 0.31 for Alaska plaice and 0.23 for other members of the complex, the 1997 OFL is 150,000 mt. Last year the annual Bering Sea trawl survey was believed to provide the best information regarding the condition and abundance for species in this complex. In the present assessment, a biomass-based cohort analysis and an age-based stock synthesis analysis were used to assess the Alaska plaice, the major species in the complex. The projected 1997 estimate of total biomass was 555,400 mt for Eastern Bering Sea Alaska plaice (616,000 mt, with inclusion of the Aleutian Islands). The projected exploitable biomass is 434,700 mt. Using survey results to estimate the exploitable biomass (60,200 mt) for the remaining species in the complex results in a total exploitable biomass of 494,900 mt for the complex.

Flathead Sole

The SSC supports the Plan Team's recommended 1997 ABC (101,000 mt) that is based on an $F_{40\%} = 0.16$ harvest rate. The OFL (145,000 mt) was developed by applying $F_{30\%} = 0.23$. The annual Bering Sea shelf trawl survey provides the best information concerning the condition and abundance of this resource. The 1996 point estimate is 616,400 mt. Since the non-exploitable fraction of the population is small, this was considered to be the exploitable biomass for this portion of the stock. After adjusting for the Aleutian Islands, the estimate increased to 632,000 mt.

BSAI—True POP

A synthesis model was again used to estimate exploitable biomass. **The SSC accepted the team's ABCs, OFLs, and spawning biomass estimates for Eastern Bering Sea and Aleutian Islands stocks.**

Eastern Bering Sea

Under Tier 3b, F_{ABC} for 1997 was calculated as $F_{44\%}$x($SPB_{1997}/SPB_{44\%}$-0.05)/1-0.05. SPB_{1997} was 37,900 mt and F_{ABC}=0.044. The ABC is 2,800 mt. The OFL is 5,400 mt.

Aleutian Islands

The analysts and team chose an ABC of 12,800 mt based on analysis of long-term yields. This ABC is lower than an ABC of 16,400 mt, calculated using $F_{44\%}$=0.063, suggested by the analysts and team. **For 1997, the SSC accepted the team's F_{ABC}=0.063x12,800/16,400=0.049. The OFL is 25,300 mt, calculated under Tier 3a using an $F_{30\%}$ value of 0.10.**

The SSC requests that for next year, the analysts and team consider the applicability of a revised maturity schedule and exploitation rates as used in the Gulf of Alaska POP assessment for 1997. The SSC expressed concern over the lack of assessment surveys of the slope where large proportions of some rockfish species are found.

BSAI—Other Rockfish

For the following groups, the ABC's were calculated under Tier 5 using 75%M and averaged exploitable survey biomass estimates. **The SSC accepted the Plan Team recommendations.**

Species Group	M	Biomass	ABC	OFL
Aleutians				
Northern/Sharpchin	0.06	96,800	4,360	5,810
Shortraker/Rougheye	0.027	45,600	938	1,250
Other rockfish	0.070[1]	13,600	714	952
Eastern Bering Sea				
Other red rockfish	0.047	29,700	1,050	1,400
Other rockfish	0.070	7,100	373	497

BSAI—Atka Mackerel

The SSC concurs with the Plan Team's recommendation for an ABC of 66,700 tons and an OFL of 81,600 tons. These recommendations are substantially lower than 1996 levels. The reduction is due to three major factors: (1) decline in biomass; (2) model changes regarding the timing of peak spawning; and, (3) application of the Amendment 44 overfishing definitions. The SSC supports tuning the synthesis model to the timing of peak spawning. Public testimony was heard from Ken Stump and John Gauvin.

Although a discussion of localized depletion is not included in the Bering Sea and Aleutian Islands Atka mackerel chapter, during the staff presentation Dave Witherell reported that chapter co-author Lowell Fritz had extended his Gulf of Alaska localized depletion analysis to the Bering Sea and Aleutian Islands and had found substantially the same result. This analysis is one of the few examples of analysis of localized depletion due to a fishery, but the SSC cautions that additional information, such as distribution of unfished aggregations of Atka mackerel and age specific foraging areas for Steller sea lions is needed for interpretation of effects of localized depletion on predator populations. However, even with the current partitioning of the fishery in space and time, localized depletions are observed. Therefore, the SSC encourages further work addressing the relationship between the directed Atka mackerel fishery and predator populations and the implications for the current management regime.

The SSC also encourages further research on the seasonality of terms in the model that reflect the timing of recruitment, spawning, and fishing. Public testimony suggested industry support for a proposal by Dr. Susan McDermit (University of Washington) for a survey designed to assess Atka mackerel biomass.

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[1] Shortspine thornyhead M

BSAI—Squid and Other Species

The SSC accepts the Plan Team's recommendation for Acceptable Biological Catch and overfishing levels as follows:

	ABC	OFL
Squid	1,970	2,620
Other Species	25,800	138,000

SAFE Ecosystems Chapter

The SSC heard the staff report from Dave Witherell. Several new sections have been added: an expanded and clearer section on ecosystem-based management, a history of previous ecosystem-based management actions by the Council, a description of recent seabird declines, an examination of localized depletion in the Aleutian Islands Atka mackerel fishery, a discussion of the effects of fishing gear on habitat, and a summary of the Council's Ecosystems Committee's meeting in Sitka in September 1996. The SSC suggests that a section summarizing other on-going programs and research, such as the Southeast Bering Sea carrying capacity project, would be a welcome addition to future chapters. The SSC heard public testimony from Tom Okey and Fred Munson.

The SSC suggests that the Council use the Ecosystem Committee to clarify the assumptions, questions, and interpretations brought to the Council process by industry, managers, scientists, and the public. The SSC encourages the Council to take an active role in incorporation of ecological information into its management measures and cautions that the enormity and complexity of this effort, combined with the limited time and resources available can easily lead to frustration and inaction. It would be preferable for the Committee to concentrate on small focused projects. Areas of endeavor which strike us as potentially valuable to the resource and all participants in the Council process include:

1) Formulating testable hypotheses appropriate to adaptive management and the evaluation of Council actions such as: a) the effects of localized depletion of stocks such as Atka mackerel and pollock; and, b) the effects of the trawl closures in Bristol Bay.

2) Examination of the feasibility of incorporating multispecies interactions into stock assessment models.

The SSC commends the Plan Teams for their formation of a committee to examine ways to collect local knowledge and summarize it for inclusion in future SAFE documents.

General SAFE Issues

The SSC commends the analysts and Plan Teams for their improved stock assessments, especially in working through the additional difficulties imposed by Amendment 44 in setting ABCs and OFLs. In addition, we are grateful for the Plan Teams responses to our questions from the September meeting. The clarifications offered will lead to further improvements. The SSC intends to raise research issues related to these responses when we consider research priorities in February.

Some criticisms of our SAFEs were vocalized in public testimony by Don Ludwig (University of British Columbia). His report is available and may warrant consideration by the Plan Teams. One of his comments is that better presentation of uncertainty is desirable. To this end, we suggest that all stock assessment documents,

if possible, contain biomass and yield projections for an $F_{40\%}$ harvest strategy under varying assumptions regarding recruitment and for other relevant exploitation rates.. **If possible, standard errors or confidence intervals should be given for key parameters such as most recent exploitable biomass. Sensitivity analyses should be conducted for key parameters and input assumptions.** Weightings given to individual data components should be reported and justified. While many assessments already do this, such efforts should be expanded and continued. In the future, it appears that greater energy may need to be devoted to risk analyses.

D-1(d) Halibut Bycatch Discard Mortality Rates

Greg Williams (IPHC) briefed the SSC on the revised halibut bycatch discard mortality rates. The SSC also heard Public Testimony from Janet Smoker and Paul Seaton. The SSC recognizes that the specification of halibut bycatch discard mortality rates is inevitably problematic given the Council's rapidly changing fisheries and changes in the relative abundance and distribution of target and nontarget species.

D-3(b) Forage Fish Amendment

Kaja Brix (NMFS-AKR) presented the EA/RIR for a plan amendment to create and manage a forage fish species category in the Gulf of Alaska and Bering Sea and Aleutian Islands groundfish fishery management plans. The EA/RIR has been modified and updated from that initially presented in September 1995 to present options for the management of five designated forage fish groups rather than a blanket prohibition on harvest. Chris Blackburn provided testimony suggesting that the EA/RIR incorporate an additional option to preclude the sale, trade, barter or other commercial use, or use as bait, of forage fish. She also suggested that the scope of the EA/RIR be expanded to include euphausiid crustaceans.

The SSC concurs with these suggestions, and recommends that the scope of the EA/RIR be expanded to also include the fish families Gonostomatidae (bristlemouths or lightfish), Stichaeidae (pricklebacks) and Pholidae (gunnels), we also suggest that the designations of groups as forage fish be made at the taxonomic level of family or higher for purposes of consistency and ease of enforcement. With the incorporation of these changes, the SSC recommends that the EA/RIR be released for public review.

D-4 Essential Fish Habitat

Tamra Farris, (NMFS-AKR) briefed the SSC on the "essential" habitat requirements of the Magnuson-Stevens Act. NMFS needs to develop the criteria for identifying "essential" habitat by April 1996. The identification of essential habitat must be completed by October 1998 for all Council managed stocks.

North Pacific Fishery Management Council

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DRAFT AP MINUTES

Certified by _____

Date_____

ADVISORY PANEL MINUTES
DECEMBER 9 - 12, 1996
ANCHORAGE, ALASKA

Advisory Panel members in attendance:

Alstrom, Ragnar	Highleyman, Scott
Bruce, John (Chair)	Jones, Spike
Benson, Dave	Lewis, John
Burch, Alvin	Madsen, Stephanie (Vice-Chair)
Cotton, Bruce	Nelson, Hazel
Cross, Craig	Paddock, Dean
Falvey, Dan	Roos, John
Fanning, Kris	Sevier, John
Fraser, Dave	Wurm, Robert
Fuglvog, Arne	Yeck, Lyle
Gundersen, Justine	Yutrzenka, Grant

The AP approved their September 1996 meeting minutes unanimously.

C-1 Seabird Protection

The AP recommends the Council adopt Alternative 2, Option 2 for final action at this meeting. With respect to the alternative, we recommend:

1. The offal discharge provision be clarified as applying only during retrieval.
2. These measures be required at all times when baited hooks are being set.
3. Any birds brought aboard alive would be released alive.

Further, the AP recommends this regulatory amendment be expedited so as to be in effect by March 15, 1997 or sooner, and a letter be sent to the IPHC requesting implementation of similar regulations in the halibut fishery. Motion carries unanimously.

The AP recommends the Council request the appropriate agencies review the number of takes allowed considering the following information and the sources of all information:

1. state water or state managed fisheries including salmon and crab
2. halibut fishery
3. increased awareness and reporting
4. switch to extrapolated data
5. impact of foreign fisheries

Motion carries unanimously.

C-2 Observer Program

The AP, without opposition, reiterates their September 1996 motion. The AP recommends the Council request the Observer Advisory Committee to revisit the fee-based observer program. The AP believes we need to re-examine the intent of the observer program versus duties as assigned today, i.e., data collection versus compliance and enforcement. The audit results should provide recommendations on sampling design of the observer program as well as observer coverage levels. Motion carries 16/3.

MINORITY REPORT
C-3 OBSERVER PROGRAM

We, the undersigned members of the Advisory Panel, are concerned about the narrow action taken by the AP. The language in the motion leaves the fee-based system as the only system to address the observer program. We feel that the AP and Council should have the full set of options to use in developing an effectuating observer program, these options should include fee-based, pay-as-you-go, modified pay-as-you-go, or combinations of these.

Signed Craig Cross
Kris Fanning
Grant Yutrzenka

C-4 BSAI Opilio PSC Caps

The AP recommends the Council adopt the crab negotiating committee's recommendation effective January 1, 1998. For 1997, the same agreement will be in effect with the following changes:

1. all of areas 514, 521 and 523 bycatch will be included in the total PSC count, and
2. floating bycatch percentage of abundance cap will be increased by 10% for 1997 only.

The AP further recommends the Council retain the ability to apportion the opilio PSC cap among the same fisheries as in the other crab PSCs for 1998. The cap would not be apportioned among fisheries in 1997.

For the record, the following members of the negotiating committee were not present in the AP when this action was taken (12/9/96): Vince Curry and Gordon Blue.

Motion carries 12/1/4 abstentions.

C-5 Improved Retention/Improved Utilization (IR/IU)

The AP recommends the Council endorse the "Integrated" Gulf of Alaska IR/IU Problem Statement as stated below:

> The objective of the Council in undertaking improved retention and utilization regulations for Gulf of Alaska groundfish fisheries centers on the same basic concern that motivated an IR/IU program in the BSAI groundfish fisheries - that is, economic discards of groundfish catch at unacceptably high levels. AN IR/IU program for the GOA would be expected to "provide incentives for fishermen to avoid unwanted catch, increase utilization of fish that are taken, and reduce overall discards of whole fish," consistent with current Magnuson-Stevens Act provisions.
>
> In addition, the Council recognizes the potential risk of preemption of certain existing GOA groundfish fisheries which could occur in response to economic incentives displacing capacity and effort from BSAI IR/IU fisheries. This risk can be minimized if substantially equivalent IR/IU regulations are simultaneously implemented for the GOA.

The motion carries unanimously.

The AP further recommends the Gulf of Alaska program should substantially mirror the Bering Sea program. Motion carries unanimously.

Limited Processing

The AP did not have sufficient time to resolve some issues, but encourages the Council to identify species to be included and create a problem statement for Limited Processing for the purpose of moving ahead with an EA/RIR.

The AP further recommends the problem statement not be exclusively tied to IR/IU. Finally, the AP recommends no option should allow exemption from IR/IU.

Motion carries 12/1.

D-1(a) Review Alaska Board of Fisheries (BOF) Action to Initiate State Pacific cod fishery in GOA

The AP recommends removals in the state Pacific cod fisheries for 1997 be counted against the federal groundfish ABCs.

The AP further recommends the Council respectfully petition the BOF to revisit the decision of a state managed Pacific cod fishery in order to discuss the possibility of addressing the BOF needs through the federal process. To foster cooperative management of groundfish resources, we further recommend the Council request the BOF establish a groundfish committee to work on joint management concerns including, but not limited to, the following:

1. crab rebuilding efforts/bycatch and handling mortality in the cod pot fishery,
2. efforts to reduce overcapitalization
3. localized depletion

4. impacts on sea lions
5. lack of at-sea monitoring/observer coverage
6. enforcement difficulties
7. unaccounted mortality of halibut bycatch in the jig fisheries
8. displacement of historical users of a fully exploited species
9. inability to achieve OY if the state cod quota is not fully harvested, and
10. concern of small boat operators to allow an entry level P. cod fishery.

The AP further recommends the Council request NMFS evaluate and release the portion of uncaught TAC by October 1 that is not likely to be taken by the state managed fishery.

Finally, the AP recommends the Council request the State of Alaska consider adopting similar bycatch controls in state groundfish fisheries as they are developed by the Council for federal fisheries. Motion carries 16-5.

MINORITY REPORT
D-1(a) BOF ACTION TO INITIATE STATE P. COD FISHERY

We strongly object to the Alaska Board of Fisheries (BOF) action regarding Pacific cod in the Gulf of Alaska. The last twenty years has seen the State of Alaska relinquish management control of groundfish to the NPFMC and NMFS. The federal government has borne the cost of the surveys, management, enforcement and development of these fisheries. The BOF action constitutes a serious erosion in the ability of NPFMC to effectively manage this resource. The NPFMC and NMFS have established management experience, science, enforcement, and observer coverage that the State is lacking. We feel this could lead to increased overcapitalization and an allocation shift of a fully utilized fishery that does not have the Council safeguards of social and economic impact statements. We ask the Council to request NMFS to preempt the BOF action.

Signed: David Benson
Lyle Yeck
Craig Cross
Bruce Cotton

D-1(b) GOA Pelagic Shelf Rockfish - Amendment 46

The AP recommends the Council adopt Alternative 4. Motion carries 12/5.

D-1 (c) GOA SAFE

The AP recommends the Council approve, for public review, the 1997 Stock Assessment and Fishery Evaluation (SAFE) report for the Gulf of Alaska groundfish fisheries. Motion carries unanimously.

D-1(d) GOA 1997 Specifications

TACs

The AP recommends the Council adopt the SSC's ABCs and set the TACs at those ABC levels except for:

Pacific cod: The AP recommends the TAC be set at ABC less 15% in the western and central Gulf. In the eastern Gulf, the TAC would be ABC less 25%.

Flathead sole: The AP recommends the TAC be set at the 1996 TAC for the western and central Gulf.

Shallow flats: The AP recommends the TAC be set at the 1996 TAC for the western, central and eastern Gulf.

Arrowtooth: The AP recommends the TAC be set at the 1996 TAC for western, central and eastern Gulf.

Other slope rockfish: The AP recommends the TAC be set at 1,500 mt for the eastern Gulf.

Main motion passed 17/2.

PSC Limits for Halibut

The AP recommends the Council adopt hook and line, trawl gear season apportionments and the trawl shallow and deep water apportions as presented on page 2.

Trawl gear			**Hook and Line**		
1st quarter	600 mt	(30%)	1st trimester	250 mt	(86%)
2nd quarter	400 mt	(20%)	2nd trimester	15 mt	(5%)
3rd quarter	600 mt	(30%)	3rd trimester	25 mt	(9%)
4th quarter	400 mt	(20%)	DSR	10 mt	
	2,000 mt			300 mt	

Quarter	Shallow water Complex	Deep water Complex	Total
1	500 mt	100 mt	600 mt
2	100 mt	300 mt	400 mt
3	200 mt	400 mt	600 mt
4	No apportionment		400 mt

The AP recommends the Council ask NMFS and ADF&G review the halibut bycatch in the DSR fishery for accuracy.

Motion carries 18/0/1 abstention.

Halibut Discard Mortality Rates

The AP recommends the Council adopt Table 5 of the IPHC report as presented for 1997. Motion carries 16/0.

D-1(e-f) BSAI SAFE and Specifications

The AP recommends the Council approve, for public review, the 1997 Stock Assessment and Fishery Evaluation (SAFE) report for the Bering Sea/Aleutian Islands (BSAI). Motion carries unanimously.

TACs

The AP recommends the Council approve the SSC's ABCs and set TACs at the ABC levels except for:

Pollock: The AP recommends Bogoslof pollock TAC be set at 1,000 mt - bycatch only. The AP also recommends the pollock A/B season remain 45/55.

Pacific cod: The AP recommends the TAC be set at 270,000 mt.

Yellowfin sole: The AP recommends the TAC be set at 230,000 mt.

Greenland turbot: The AP recommends the TAC be set at 9,000 mt.

Arrowtooth: The AP recommends the TAC be set at 20,760 mt.

Rocksole: The AP recommends the TAC be set at 97,185 mt.

Flathead sole: The AP recommends the TAC be set at 43,500 mt.

Other flatfish: The AP recommends the TAC be set at 50,750 mt.

Sablefish: The AP recommends the TAC be set at last years TAC: BS at 1,100 mt and AI at 1,200 mt.

The AP recommends the Council request the cooperation of trawl companies who fish in the Russian zone (western Bering Sea) pollock fishery to share their catch information and biological data to NMFS and the Alaska Fishery Science Center. Motion carries unanimously.

MINORITY REPORT
D-1 (f) BSAI SPECIFICATIONS - Pollock TAC

We, the undersigned, support a pollock TAC in 1997 of 1 million metric tons. While we acknowledge the work of NMFS and the Plan Team in setting an ABC, it is the job of the Council (and the AP as its advisors) to use our own caution, instincts, and experience to set catch limits. A more conservative catch level may be warranted to take into account Russian harvest of the eastern Bering Sea stock in the Navarin Basin (reported and unreported), the pollock fisheries increasing reliance on a single year class, the poor recruitment information we currently have, and the increased concentration of pollock catch in the eastern Bering Sea.

Signed: Scott Highleyman
Dave Fraser
Dan Falvey
Kris Fanning
John Lewis

DRAFT AP MINUTES

1997 Seasonal Apportionments

Fixed Gear TAC and PSC

The AP recommends the Council adopt the following seasonal apportionment for the fixed gear Pacific cod TAC:

1st	85,000 mt	73%
2nd	26,500 mt	23%
3rd	5,545 mt	4%

Reserves: Reserves of 20,655 mt to be apportioned as above, 77 % to first and third trimesters, 23% to second trimester.

Rollovers: Excess cod TAC rolls from first to third trimester.

The AP further recommends the following Longline 1997 Halibut PSC apportionment:

BSAI Halibut PSC	
Cod	840 mt
Turbot	60 mt
Total	900 mt

Seasonal Apportionment BSAI Cod Halibut PSC	
1st	495 mt
2nd	40 mt
3rd	305 mt
Total	840 mt

Rollover: Excess halibut PSC rolls from the first to the third trimester.

Trawl 1997 PSC Apportionments

The AP recommends the Council adopt the industry proposed PSC apportionment chart, with the following changes:

1. Herring: will be set at 1,579 mt and apportioned among fisheries the same as in 1996.

2. Rocksole: king crab PSC split:

Inside 56° - 56°10'	26,250 animals
Outside	48,750 animals

3. Previous action requested no apportionment for opilio cap for 1997.

The AP additionally recommends the Council request NMFS to prepare to use hot spot authority for the cod trawl fishery during the April/May period for halibut in the Horseshoe area. Motion carries unanimously.

D-2(a) Slime and Ice

The AP recommends the Council adopt a modified Alternative 2 — 0% or 2% standard deduction for slime and ice — for both IFQ halibut and IFQ sablefish. Motion carries 16/1/2 abstentions.

D-2(b) Electronic Reporting

The AP strongly supports the development of an electronic reporting system and recommends the Council move forward at this time with approval of a framework to require electronic reporting. Electronic reporting of weekly processor and check-in reports would be required of processors in 1998. The AP further recommends the Council form an Implementation Committee comprised of industry representatives, NMFS, and other agencies including technical experts, to work out the implementation details that remain unresolved between the industry and NMFS. Such implementation details include: software and electronic communication requirements, transfer medium technologies, access to data by home offices, encryption, and file access requirements. Motion carries unanimously.

D-3 Forage Fish Amendment

Th AP recommends the Council release the EA/RIR for public review and especially solicit comments from the Board of Fisheries and Alaska Department of Fish & Game. Additionally, the AP recommends adding the following paragraph as Option 4 to Alternative 2:

> The sale, barter, trade and other commercial commerce of forage fish as defined in this amendment is prohibited. Also, the processing forage, fish, as defined in this amendment, in a commercial processing facility is also prohibited.

The AP recommends the Council adopt the SSC's recommendation of labeling on family levels and adding the following families: (1) gunnels, (2) pricklebacks, (3) bristlemouths, and (4) euphasids.

The AP recognizes some forage fish are harvested in subsistence activities and it is not our intent to negatively impact or prohibit subsistence take of the forage fish in traditional barter and trade.

The motion carries unanimously.