# North Pacific Fishery Management Council

Richard B. Lauber, Chairman Clarence G. Pautzke, Executive Director

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> > December 3, 1993

### DRAFT AGENDA

110th Plenary Session
North Pacific Fishery Management Council
December 7-10, 1993
Downtown Hilton Hotel
Seattle, Washington

The North Pacific Fishery Management Council will convene at 8:00 a.m. on Tuesday, December 7, 1993, in the Windward Room at the Downtown Hilton Hotel in Seattle, Washington. Other meetings to be held during the week are:

### Committee/Panel

December Agenda

Advisory Panel Scientific and Statistical Committee IFQ Implementation Information

\*Nominating Committee
Discards/Full Utilization Industry Mtg
\*Finance Committee

### Beginning

8:00 a.m., Monday, Dec. 6 (Taku-Chinook Rm) 8:00 a.m., Monday, Dec. 6 (Makani Room) 7:00 p.m., Monday, Dec. 6 (Place to be announced) 12:00 p.m., Wednesday, Dec. 8 7:00 p.m., Wednesday, Dec. 8 (Windward Room) In Executive Session

\*All meetings except Council executive sessions and the Nominating and Finance Committee meetings 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

Those wishing to testify before the Council on a specific agenda item must fill out a registration card at the registration table **before** public comment begins on that agenda item. Additional cards are generally not accepted **after** public comment has begun. A general comment period is scheduled toward the end of the meeting, time permitting, for comment on matters not on the current agenda.

Submission of Written Testimony During Council Meeting. Any written comments and materials provided during a meeting for distribution to Council members should be provided to the Council secretary. A minimum of 18 copies is needed to ensure that every Council member, the executive director, NOAA General Counsel and the official meeting record each receive a copy. Some agenda items may have a formal, published deadline for written comments. For those items, written comments submitted after the published deadline or at the Council meeting, other than simple transcripts of oral testimony, will be stamped "LATE COMMENT." They will not be summarized or analyzed in preparation for the Council meeting, nor will they be placed in Council member notebooks. All "LATE COMMENTS" will be placed in a special notebook, marked as such, and made available to Council members upon their request. Information on testifying before the Advisory Panel and Scientific and Statistical Committee is found on the next page.

### 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 <u>must</u> 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.

### 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

Acceptable Biological Catch	MMPA	Marine Mammal Protection Act
Advisory Panel	MSY	Maximum Sustainable Yield
Alaska Dept. of Fish and Game	mt	Metric tons
Bering Sea and Aleutian Islands	<b>NMFS</b>	National Marine Fisheries Service
Community Development Quota	NOAA	National Oceanic & Atmospheric Adm.
Comprehensive Rationalization Program	<b>NPFMC</b>	North Pacific Fishery Management
Environmental Assessment/Regulatory		Council
Impact Review	OY	Optimum Yield
Exclusive Economic Zone	POP	Pacific ocean perch
Fishery Management Plan	PSC	Prohibited Species Catch
Gulf of Alaska	SAFE	Stock Assessment and Fishery Evaluation
International Pacific Halibut Commission		Document
Initial Total Allowable Catch	SSC	Scientific and Statistical Committee
Magnuson Fishery Conservation and	TAC	Total Allowable Catch
Management Act		
	Advisory Panel Alaska Dept. of Fish and Game Bering Sea and Aleutian Islands Community Development Quota Comprehensive Rationalization Program Environmental Assessment/Regulatory Impact Review Exclusive Economic Zone Fishery Management Plan Gulf of Alaska International Pacific Halibut Commission Initial Total Allowable Catch Magnuson Fishery Conservation and	Advisory Panel  Alaska Dept. of Fish and Game Bering Sea and Aleutian Islands Community Development Quota Comprehensive Rationalization Program Environmental Assessment/Regulatory Impact Review Exclusive Economic Zone Fishery Management Plan Gulf of Alaska International Pacific Halibut Commission Initial Total Allowable Catch Magnuson Fishery Conservation and  MSY MSY MSY MSY MSY MSY NPFMC NOAA NOAA NOAA NPFMC POP Exclusive Economic Zone POP Fishery Management Plan SSC SAFE Magnuson Fishery Conservation and TAC

December Agenda hla/dec

### **DRAFT AGENDA**

# 110th Plenary Session North Pacific Fishery Management Council December 7-10, 1993 Downtown Hilton Hotel Seattle, Washington

		Estimated Hours
A.	CALL MEETING TO ORDER  (a) Approval of Agenda.  (b) Approve minutes of previous meeting.	•
B.	REPORTS	•
	B-1 Executive Director's Report	•
	B-2 Domestic Fisheries Report by ADF&G	
	B-3 NMFS Management Report (includes status of amendments and regulatory actions)	•
	B-4 Enforcement and Surveillance Report	(1.5 hours for A/B items)
C.	NEW OR CONTINUING BUSINESS	
	C-1 Committee Memberships Approve memberships on AP, SSC, & PNCIAC.	(0.5 hour)
	C-2 Observer Program  (a) Status report on North Pacific Fisheries Research Plan and review of NMFS fee collection plan. Consider NMFS-proposed changes to plan.  (b) Comment on regulatory adjustments for 1994.	(1 hour)
	C-3 Sablefish/Halibut IFQs Review of final rule and implementation plans.	(1.5 hours)
	C-4 Halibut Management Initial review of Atka proposal.	(1 hour)
	C-5 Comprehensive Rationalization Plan Progress Report; review elements and options.	(8 hours)
	C-6 Other Business	

Subtotal. . . . 13.5 hours

D.	FISHERY MANAGEMENT PLAN	S	
	D-1 Crab Management  (a) Status of action plan.  (b) Initial review of Norton proposals.	Sound superexclusive area	(2 hours)
	D-2 Groundfish Amendments  (a) Comment on regulatory  GOA trawl halibut PSC complexes and changing  (b) Status report on Salmon	amendment apportioning to shallow and deepwater BSAI flatfish season.  Bycatch Initiative.	(1 hour)
	D-3 Final Groundfish Specifications  (a) Approve final Stock Ass Evaluation (SAFE) report groundfish fisheries for  (b) Approve final Gulf of A bycatch specifications for  (c) Approve final SAFE report Aleutian Islands ground  (d) Approve final Bering Segroundfish and bycatch	essment and Fishery ort for Gulf of Alaska 1994. laska groundfish and r 1994. bort for Bering Sea and fish fisheries for 1994. a and Aleutian Islands	(8 hours)
	D-4 Staff Tasking		(1 hour)
E.	FINANCIAL REPORT Review Social Impact Analysis RFP.	. · ·	(0.5 hour)
F.	PUBLIC COMMENTS		
G.	CHAIRMAN'S REMARKS AND A	ADJOURNMENT	
		Total Agenda	Hours 26
	TIM	IE SUMMARY	
Luncl	agenda hours hes - 4 days = cs (4/day, 20 min ea)	26.0 hours 5.0 hours 5.0 hours	
Total	hours required:	36.0 hours	
Meet	ing as follows:		
	8 am - 5:30 pm, Tuesday-Thursday ( 8 am - 3:30 pm, Friday (7.5)	28.5)	

### **North Pacific Fishery Management Council**

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### DRAFT ADVISORY PANEL MINUTES SEPTEMBER 20-23, 1993 ANCHORAGE, ALASKA

The Advisory Panel for the North Pacific Fishery Management Council met on September 20-23, 1993, at the Anchorage Hilton Hotel. Members in attendance were:

Dave Benson
John Bruce, Chair
Al Burch
Steve Drage

Steve Drage
Dan Falvey
Dave Fraser

Kevin Kaldestad

Dave Little
Stephanie Madsen
Pete Maloney
Penny Pagels
Dean Paddock

Perfenia Pletnikoff John Roos John Sevier Harold Sparck Michael Stevens

Beth Stewart, Vice Chair

Robert Wurm

Minutes for the June 1993 meeting were approved.

### B-6 STELLER SEA LION SURVEY RESULTS

The AP commends the marine mammal lab for continuing its ongoing research on Steller sea lions and appreciates continued updates on marine mammals.

Furthermore, we support improved biomass estimates and distribution patterns of forage fish (capelin, etc.), in addition to other small fish that may be critical to sea lion survival. This information is critical particularly in the winter.

We also recommend that the fisheries science section of the AFSC undergo independent peer review of its field science modeling program as does the marine mammal lab.

We urge further investigations into developing a multi-species approach into fisheries management so that interactions between species are understood and accounted for in stock assessments.

(This motion passed unanimously).

### C-2 OBSERVER PROGRAM

The AP strongly urges the Council to work for the earliest possible implementation of the research plan. The problems evidenced by Arctic Observers' letter are endemic and will only be fully resolved by the Research Plan.

(This motion passed unanimously).

The AP also recommends the Council and NMFS take whatever action is necessary to require 100% observer coverage on all trawlers and longliners over 60 feet fishing for directed fisheries for Pacific cod, and groundfish in BSAI areas 511, 517, and 509 until directed fishing for Pacific cod closes. This includes 30% coverage for vessels greater than or equal 55 feet, effective January 1, 1994.

(This motion passed 9-8).

### **Minority Report**

The following AP members recognize that the Pacific Cod fishery around Unimak Pass has bycatch and fish waste problems. Requiring 100% observer coverage may alter some fishing behavior as compared to unobserved vessels. The proposal passed by the AP imposes additional costs on the midwater pollock fishery operating at the same time as the Pacific cod fishery. The inclusion of vessels operating in a midwater pollock fishery will not produce better information than is already available for that fishery. The midwater pollock fishery should not be included in this additional coverage.

Further, we believe that NMFS should determine if there is a need for more observer coverage in various fisheries. Observer coverage distribution is better addressed through the North Pacific Research Plan and we urge implementation of that plan as soon as possible.

Signed:

Al Burch Steve Drage Stephanie Madsen Pete Maloney John Roos John Sevier Beth Stewart

### C-4 SABLEFISH & HALIBUT IFQs

The AP discussed a motion to recommend the Council adopt the partial/full block alternative with a 2 block limit and vessel size limits. This motion failed 4/11. The AP than voted 11/4 to take no further action.

### C-5 HALIBUT MANAGEMENT

The AP recommends that the Council announce a control date at the January Council meeting for a moratorium and establish a working group comprised of staff, industry, and charter operators to develop traditional management tools and identify alternatives for limited access. This group would report back

September 27, 1993

C-2

to the Council at the January meeting. The analysis should include a look at the actions of the Pacific Council, and other Councils.

(This motion passed 10-1).

### C-6 SCALLOP MANAGEMENT

After a staff report and public testimony, the AP engaged in a lengthy discussion before moving to recommend that the Council adopt Alternative 3, Option 2, with the following changes in the 8 elements and options, Category 1 (fixed in FMP), and Category 2 (Discretion of State):

### Elements and Options:

1) Qualifying Criteria

Beginning Dates

b. January 1, 1980 (coincides with groundfish moratorium)

**Ending Dates** 

b. January 20, 1993 (Control Date for scallop fishery)

### 2) Length of Moratorium

a. Until the Council rescinds or replaces; not to exceed 3 years from date of implementation, but Council may extend for two years if a permanent limited access program is imminent.

### 3) Crossovers During Moratorium

- b. Crossovers to other fisheries (groundfish, crab, or halibut) during the moratorium will not be allowed.
- 4) Reconstruction of Vessels During the Moratorium
  - a. Vessels may be reconstructed during the moratorium subject to limitations and conditions listed below.
    - 3. If physical reconstruction started on or after January 20, 1993, new size restricted to a 20% increase in vessel length; no more upgrades allowed.
- 5) Replacement of Vessels During the Moratorium
  - b. Qualifying vessels can be replaced with non-qualifying vessels as often as desired so long as the replaced vessel leaves the fishery or bumps another qualifying vessel out in the case of multiple transactions. Vessel size can be increased as many times as desired, but restricted to a 20% maximum increase in original qualifying vessel length.
- 6) A. Replacement of Vessels Lost or Destroyed During the Moratorium
  - b. Qualifying vessels can be replaced with non-qualifying vessels subject to a 20% maximum increase in vessel length. Replaced vessels cannot be salvaged and come back into the fishery.
  - B. Replacement of Vessels Lost or Destroyed Before the Moratorium

b. Qualifying vessels can be replaced with non-qualifying vessels subject to a 20% maximum increase in vessel length. Replaced vessels cannot be salvaged and come back into the fishery.

### 7) Small Vessel Exemption

a. Exempt small vessels from the moratorium. In the Gulf of Alaska, vessels 26 feet or less are exempted from the moratorium. In the Bering Sea/Aleutian Islands, vessels 32 feet or less are exempted from the moratorium.

### 8) Appeals Process

a. The appeals procedure will consist of an adjudication board of government persons and non-voting industry representatives.

### Additional Elements:

- 1) No pipeline exceptions.
- 2) Must have been a participant in 1991 or 1992 or any four (4) years of qualifying years.

### Proposed Management Measures:

C-4	Cotogogy 2
Category 1	Category 2

(Fixed in FMP) (Discretion of State)

Permit Requirements Legal Gear

Federal Observer Minimum Size Limits

Requirements

Reporting Requirements

Limited Access
(Moratorium, Guideline Harvest Levels

Individual Quotas)

In-season Adjustments

Closed Waters

Districts, Subdistricts and Sections

Fishing Seasons

State Observer Requirements

Registration Areas

Closed Waters

**Efficiency Limits** 

Other

#### <u>Rationale</u>:

**Bycatch Limits** 

Legal Gear - AP recommends placing this item in Category 2. The State is currently regulating this and has the expertise to continue.

Permit Requirements - AP recommends this remain in Category 1 since the State may have no authority over vessels fishing exclusively in the EEZ.

Federal Observer Requirements - AP recommends this stay in Category 1 so this fishery can be rolled into the Research Plan.

Closed Waters - AP recommends that closed waters be in Category 1 and 2. The State is in the best position to close State waters, however, the Council needs this authority to regulate this fishery in conjunction with other federal fisheries, particularly in response to bycatch concerns.

Bycatch Limits -AP recommends this item be moved to Category 1 because the scallop fishery bycatch of crab needs to be regulated in concert within the PSC limit system already in place.

Generally speaking, the AP supported developing an FMP because a large proportion, if not the majority, of this fishery takes place in the EEZ and because the crab bycatch must be addressed in concert with all other fisheries in the EEZ. The AP wants to see the appropriate elements of the EA/RIR drafted into an FMP for final review and action in December.

#### D-1 CRAB MANAGEMENT

The AP recommends that the Council and the State of Alaska form a working group to address the issues raised in this agenda item. It appears that the loss of institutional memory and awareness of the BSAI FMP has resulted in much of the dissatisfaction expressed. The AP makes no recommendation on any of the specific proposals except the recommendation that Norton Sound Super Exclusive Registration proposal be sent out for public review as a plan amendment with the earliest possible implementation date. The AP does strongly recommend an industry/management team be charged with drafting an operating agreement that spells out how regulations in each category will be developed.

(This motion passed 15-0 with 2 abstentions).

### D-2(A) GOA ROCKFISH REBUILDING

The AP listened to staff reports on this item. It is probably fair to say that while the AP members all understood that Alternative 1 was no longer a viable option, the remaining alternatives were less well understood. On a 9 to 8 vote, the AP supported Alternative 3. Those supporting Alternative 3 noted that POP stocks are still at less than 50% of MSY in spite of several commitments to rebuild them over the last 10 years. Recent information provided by NMFS indicates that bycatch considerations and the current low levels of POP may cause other groundfish harvests to be foregone to prevent localized depletion until POP are rebuilt. By choosing Alternative 3 the AP is recommending an aggressive rebuilding policy with the highest probability of success in the shortest time period.

(This motion passed 9-8).

The minority believes Alternative 2 is superior to Alternative 3 and that the rebuilding schedule built into the ABC determination under Alternative 2 is conservative policy. (Note that steady rebuilding has occurred under past policy which resulted in annual harvests more than double the ABC resulting from Alternative 2 policy - Table A2, page 73). The minority believes it is appropriate to maintain a buffer between ABC and TAC especially when ABC equals overfishing, however, the size of the buffer should be determined annually as with all other species in the setting of TAC. Alternative 2 does this and still allows providing for a bycatch only policy based on an annual assessment of needs of other fisheries. Alternative 3 dictates how the TAC buffer will be set for the duration of the rebuilding plan and will result in unnecessary levels of mandated discards.

Signed: Dave Benson

Al Burch Steve Drage Stephanie Madsen Pete Maloney Michael Stevens Beth Stewart

### D-2(B) EXCLUSIVE REGISTRATION

At the present, it seems that there is no consensus. There are two major issues being discussed. One is bycatch of halibut controlling TACs and the other is the exclusive registration's allocative effects with respect to pollock and cod in the Western Gulf.

This issue needs to be better developed within industry before the Council makes a decision. The AP has no recommendation on this issue.

### D-2(C) PRIBILOF ISLANDS TRAWL CLOSURE

The AP recommends the Council send this document out for public review after economic analysis is included.

- With the addition of Alternative 9.
- The closure be triggered when bycatch reaches 1% of the blue king crab population.

- An option for maintaining a closure of a smaller area approximating the 30 meter contour prior to triggering a cap (1% blue king crab pop; note to incorporate 1993 data).
- Alternative 11 include an alternative with a fixed cap of 20,000 blue king crab. (1993 data should not hold up review of this document).

(This motion passed unanimously).

### D-3(A-C) GOA GROUNDFISH

The AP recommends that the following TACs be sent out for public review:

Pollock 83,550 (W. Gulf/16,930; 620/18,250; 630/42,820; E. Gulf 5,500)
Pacific cod 52,700 (Plan Team ABC splits)
Flatfish, Deep Rex sole 8,000 (W. Gulf/500; Central/8,000; E. Gulf/500)
8,000 (W. Gulf/500; Central/7,000; E. Gulf/500)

All other TACs would be equal to 1993 TACs.

The AP was evenly split (7/7) on a motion to set the Pacific ocean perch TAC at 2,107. As the Council will recall, the AP was nearly evenly split on whether Alternative 2 or 3 was the appropriate method for setting ABCs for Pacific ocean perch.

The AP recommends using the 1993 specifications for initial PSC limits for halibut with 10 tons set aside for hook & line DSR (taken from third timesheet).

(This motion passed unanimously).

The AP has two further recommendations:

- The AP believes this document should contain a notice to the public that Rex sole and rockfish TACs in the GOA may be modified in December to prevent overfishing and localized depletions of Pacific ocean perch.

  (This motion passed unanimously).
- 2) The AP strongly recommends that the results of the 1993 Gulf trawl survey be incorporated in the document in time for review in December.

  (This motion passed 13-1).

### D-3(C-E) BSAI GROUNDFISH SPECS FOR 1993

The AP recommends that when Amendment 24 is approved the trimester apportionments be as follows:

		<b>Target</b>	Halibut PSC
1st Trimester	Jan 1 - Apr 30	90%	95%
2nd Trimester	May 1 - Aug 31	10%	5%
3rd Trimester	Sep 1 - Dec 31	Rollover	Rollover

In the event there is a rollover from the trawl fishery, 25% will be assigned to the second trimester, and the remainder into the third trimester.

The AP believes that this apportionment avoids fishing in the summer months when halibut bycatch is high. The 10% allocated to the second trimester is focused on the pot fishery.

Species         Area         ABC         TAC         Cutch*         Plant Ream         SSC         Advisory Paul         Page 1784           ollock         W (61)         34,068         24,087         20,540         37320         16,930         16,930         16,930         16,930         16,930         16,930         16,930         16,930         16,930         16,930         16,930         16,930         16,930         18,250         18,250         18,250         18,250         18,250         18,250         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         24,282         22,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000         2,000		IIIIIai 1994 P	iaii ivaiii, 3.		endations and apportionments (metric tons			
Company   Comp	Snecies	Area	ABC	1993 TAC	Catch*	Plan Team 1994 ABC	SSC 1994 ABC	Advisory Panel 1994 TAC
C (62)   36,737   25,974   20,663   40,250   18,250   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   42,820   4								
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Total 160,400 114,400 87,219 184,250 83,550 183,550 C 38,750 18,700 18,700 18,700 18,355 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,400 17,4					-	·		
C   35,200   33,120   32,700   32,700   32,700   32,700   32,700   2,800   2,800   1,555   2,600   2,600   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52,700   52								
C 35.200 35.200 33.152 32.700 32.700	acific Cod	w	•		18,356	17,400	l i	17,400
E 2,800 2,800 1,555 2,600 2,500 2,500 2,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,50			-				32,700	32,700
Second   Color   Col				2,800	1,555		-	
C   35,580   15,000   5,917   20,680   20,680   8,000		Total	56,700	56,700	53,063	52,700	52,700	52,700
C 35,580 15,000 5,917 20,680 20,680 8,000   Total 45,530 19,740 6,365 26,410 26,410 9,000   Total 45,530 19,740 6,365 26,410 26,410 9,000   E included in deepwater flatfish	latfish, Deep	w	2,020	1,740	324	740	740	
ex sole  W  C included in deepwater flatfish E   1,280   1,280   500   E   1,280   1,280   500   E   1,280   1,280   500   E   1,280   1,280   500   E   2,940   1,912   1,912   500   E   5,040   3,000   7   5,040   5,040   E   1,740   1,740   5   1,740   1,740   E   2,980   5,000   1,803   3,830   3,830   E   1,740   1,740   5   1,740   1,740   E   1,740   1,740   5   1,740   1,740   E   2,980   5,000   1,852   38,880   38,880   38,880   E   2,980   5,000   1,852   38,880   38,880   38,80   E   2,980   5,000   1,852   38,880   38,880   3,000   E   2,980   5,000   18,321   321,290   30,000   E   2,980   5,000   813   29,080   29,080   20,000   E   2,980   5,000   813   29,080   29,080   3,830   E   2,980   5,000   1,945   3,830   3,830   3,830   E   2,980   5,000   3,545   3,830   3,830   3,830   E   2,980   5,000   3,545   3,830   3,830   3,830   E   2,980   5,000   3,547   3,640   3,640   E   2,980   5,000   3,547   3,640   3,640   E   2,980   5,000   3,547   3,640   3,640   E   2,980   5,000   3,547   3,640   E   2,980   3,033   3,330   4,561   3,830   3,830   3,830   E   2,980   3,330   4,561   3,830   3,830   3,830   E   2,980   3,330   3,330   4,561   3,830   3,830   3,830   E   2,980   3,330   3,330   4,561   3,830   3,830   3,830   E   2,980   3,330   3,330   4,561   3,830   3,330   3,330   E   2,948   3,948   3,948   3,948   E   2,980   3,980   3,980   3,980   3,980   E   3,486   3,486   3,486   3,486   3,486   E   4,486   4,486   4,486   4,486   4,486   E   1,676   1,270   511   1,670   1,670   1,270   E   1,676   1,270   511   1,670   1,670   1,720   E   1,676   1,270   1,161   1,190   1,2	-	С	35,580					l '
Ex sole W included in deepwater flatfish E		E	7,930				1	
C		Total	45,530	19,740	6,365	26,410	26,410	
B	ex sole							
Total    19,120			included in d	eepwater flat	tfish			
athead sole   W   12,580   2000   607   12,580   12,580   2,000   607   12,580   12,580   2,000   607   12,580   12,580   2,000   607   75   6040   3,000   75,040   5,040   3,000   75,040   607   75   6040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040   6,040								
C   31,830   5,000   1,803   31,830   5,000   5,040   5,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040   7,040		Total				19,120	ŀ	l .
C	athead sole	w	12,580		607	12,580		
Total 49,450 10,000 2,417 49,450 49,450 10,000 latrish, Shallow W 27,480 4,500 380 27,480 27,480 4,500 10,000 E 1,740 1,740 5 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740 1,740			31,830		1,803	1		
affish, Shallow			•				1	
C   21,260   10,000   4,820   21,260   10,000   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,740   1,74		Total	49,450				i	1
E	atfish, Shallow	w	27,480				1	•
Total 50,480 16,240 5,205 50,480 50,480 16,240   Trowtooth W 38,880 5,000 1,852 38,880 38,880 5,000   E 29,080 5,000 813 29,080 29,080 5,000   Total 321,290 30,000 18,321 321,290 321,290 30,000   Ablefish W 2,030 2,030 726 2,030 2,030 2,030   W. Yakutat 3,830 3,830 4,561 3,830 3,830   E. Yak./SEO 5,430 5,430 5,367 5,430 5,430 5,430   E. Yak./SEO 5,430 5,430 5,367 5,430 5,430 5,430   Total 20,900 20,900 22,599 20,900 20,900   acific Ocean W 753 341 492 760 760 341   erch C 949 949 1,177 950 950   E 1,676 1,270 511 1,670 1,670 1,270   Total 3,378 2,560 2,180 3,380 3,380 2,560   hortraker / W 100 90 135 100 100 90   hortraker / W 100 90 135 100 100 90   hortraker / W 330 214 444 330 3,380 2,560   hortraker / W 330 214 444 330 330 330 214   Cockfish W 330 214 444 330 330 330 214   Cockfish W 330 214 444 330 330 330 214   Cockfish W 330 214 444 330 330 330 214   Cockfish W 330 214 444 330 330 330 214   Cockfish W 1,000 1,000 798 1,000 1,000 1,000   Rockfish W 1,010 1,010 260 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,010 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,011 1,010 1,010 1,010   Rockfish W 1,010 1,010 260 1,011 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1				-				•
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Rockfish         W         330         214         444         330         330         214           Other Slope)         C         1,640         1,064         1,541         1,640         1,640         1,064           E         6,330         4,105         1,455         6,330         6,330         4,105           Total         8,300         5,383         3,440         8,300         8,300         5,383           orthern Rockfish         W         1,000         1,000         798         1,000         1,000         1,000           C         4,720         4,720         3,822         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         4,720         5,760         5,760         5,760         5,760         5,760         5,760         5,760         5,760         5,760         5,760         5,760         5,760         4,800         4,850 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Other Slope)         C         1,640         1,064         1,541         1,640         1,640         1,064           E         6,330         4,105         1,455         6,330         6,330         4,105           Total         8,300         5,383         3,440         8,300         8,300         5,383           Jorthern Rockfish         W         1,000         1,000         798         1,000         1,000         1,000           C         4,720         4,720         3,822         4,720         4,720         4,720           E         40         40         61         40         40         40           Total         5,760         5,760         4,681         5,760         5,760         5,760           Rockfish         W         1,010         1,010         260         1,010         1,010         1,010           (Pelagic Shelf)         C         4,450         4,450         1,773         4,450         4,450         4,450           E         1,280         1,280         1,058         1,280         1,280         1,280           Total         6,740         6,740         3,991         6,740         6,740         6,740	) oaktiek						ì	214
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Orthern Rockfish W 1,000 1,000 798 1,000 1,000 1,000 C 4,720 4,720 3,822 4,720 4,720 4,720 E 40 40 61 40 40 40 5,760 5,760 5,760 5,760 5,760 5,760 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,010 1,0								1
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Rockfish         W         1,010         1,010         260         1,010         1,010         1,010           (Pelagic Shelf)         C         4,450         4,450         1,773         4,450         4,450         4,450           E         1,280         1,280         1,280         1,280         1,280         1,280           Total         6,740         6,740         3,091         6,740         6,740         6,740           DSR         S.E. Out.         800         800         524         943         943         800           Thornyhead         Gulfwide         1,180         1,062         1,395         1,180         1,180         1,062           Atka mackerel         Gulfwide         with other species         3,258         4,800         4,800         4,800						5,760	5,760	5,760
(Pelagic Shelf)       C       4,450       4,450       1,773       4,450       4,450       4,450         E       1,280       1,280       1,280       1,280       1,280       1,280         Total       6,740       6,740       3,091       6,740       6,740       6,740         DSR       S.E. Out.       800       800       524       943       943       800         Thornyhead       Gulfwide       1,180       1,062       1,395       1,180       1,180       1,062         Atka mackerel       Gulfwide       with other species       3,258       4,800       4,800       4,800	Rockfish				260	1,010	1,010	1,010
E 1,280 1,280 1,058 1,280 1,280 1,280 6,740 6,740 6,740  DSR S.E. Out. 800 800 524 943 943 800  Thornyhead Gulfwide 1,180 1,062 1,395 1,180 1,180 1,062  Atka mackerel Gulfwide with other species 3,258 4,800 4,800 4,800							•	
Total 6,740 6,740 3,091 6,740 6,740 6,740  DSR S.E. Out. 800 800 524 943 943 800  Thornyhead Gulfwide 1,180 1,062 1,395 1,180 1,180 1,062  Atka mackerel Gulfwide with other species 3,258 4,800 4,800 4,800	(. ciagio diicii)						1,280	
DSR         S.E. Out.         800         800         524         943         943         800           Thornyhead         Gulfwide         1,180         1,062         1,395         1,180         1,180         1,062           Atka mackerel         Gulfwide         with other species         3,258         4,800         4,800         4,800							6,740	6,740
Thornyhead Gulfwide 1,180 1,062 1,395 1,180 1,180 1,062  Atka mackerel Gulfwide with other species 3,258 4,800 4,800 4,800	DSR			800	524	943	943	800
Atka mackerel Gulfwide with other species 3,258 4,800 4,800 4,800					1,395	1,180	1,180	1,062
14 (00				r species	3,258	4,800	4,800	4,800
			NA	14.602	9,299	NA	NA	14,602

\* Catch through August 21, 1993

### AP Recommended Initial 1994 BSAI Trawl Fisheries PSC Apportionments

### And Seasonal Allowances

Fishery Group	Assumed	Halibut	Herring	Red King Crab	C. baird	C. bairdi
-	Mortality\1	Mortality		(animals)		
		Cap (mt)	(mt)	Zone1	Zone1	Zone2
Yellowfin sole	70%	592	359	40,000	175,000	1,225,000
Rocksole/other flatfish	70%	588		110,000	475,000	200,000
Turbot/arrowtooth/sablefish	40%	137				
Rockfish Jan. 1 - Mar. 29 Mar. 30 - June 28 June 29 - Dec. 31	60%	201 0 81 120	9			25,000
Pacific cod	60%	1,000	27	10,000	175,000	400,000
Pollock/mackerel/"o. species"	60%	1,257	193	40,000	175,000	1,150,000
7 MW Pollock (Herring)			1,534			
TOTAL	<u> </u>	3,775	2,122	200,000	1,000,000	3,000,000

<sup>\1</sup> Mortality rates based on IPHC assumed mortality rates for 1993.

### AP Recommended1994 Non-Trawl PSC Bycatch Allowances

Fishery Group	Halibut Mortality	Seasonal Ap	Seasonal Apportion		
islicity diodp	(mt)	(mt)	%		
Pacific Cod	825				
Jan 1 - May 14		743	90		
May 15 - August 31		8	10		
Sept. 1 - Dec. 31		Rollover			
Other Non-Trawl*	75				
Groundfish Pot	Exempt				
TOTAL	900 metric to	ons			

<sup>\*</sup> Includes Hook & Line Sable Fish, Rock fish and Jig

# DRAFT

## Advisory Panal Recommendations for 1994 VIP Rate Standards

### **Incentive Program Rate Standards**

	Halibut	Zone 1Red King Crab
Fishery and quarter	(kg halibut/mt groundfish)	(# of crab/mt groundfish)
BSAI Midwater Pollock		<u>.</u>
First Quarter	1.0	n/a
Second Quarter	1.0	
BSAI Bottom Pollock		
First Quarter	7.5	
Second Quarter	5.0	
BSAI Yellowfin Sole		
First Quarter	5.0	2.5/mt
Second Quarter	5.0	2.5/mt
BSAI Other Trawl Fisheries		••
First Quarter	30.0	2.5/mt
Second Quarter	30.0	2.5/mt
GOA Midwater Pollock		
First Quarter	1.0	n/a
Second Quarter	1.0	
GOA Other Trawl Fisheries		
First Quarter	50.0	n/a
Second Quarter	50.0	

## DRAFT

• INITIAL 1994 BERING SEA/ALEUTIAN ISLANDS GROUNDFISH SPECIFICATIONS

1994 Plan Team, SSC and AP Recommendations (mt)

1994 Plan Team, SSC and AP Recommendations (Int.)				Plan Team	SSC	Seasonal	Advisory Panal			
de la constant		Area	ABC 1993	TAC 1993	ABC 1994	ABC 1994	Allowance	TAC	ITAC	CDO
Species		EBS	1,340,000	1,300,000	1,340,000	1,340,000		1,300,000	1,105,000	97,500
Pollock		Roe	1,040,000	,,000,000	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		45% of ITAC		497,250	43,875
i		Non-Roe					55% of ITAC		607,750	53,625
		Al	58,700	51,600	58,700	58,700		51,600	43,860	3,870
l l		518	42,000	1,000	156,000	32,000		1,000	850	75
1		310	42,000	1,000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	·			0	
	_	BS/AI	164,500	164,500	183,000	183,000		183,000	155,550	
Pacific co	0	DO/AI	104,500	.0.1,000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				0	j
N 11 - 27 -	1-	BS/AI	238,000	220,000	238,000	238,000	1	111,000	94,350	}
Yellowfin	SOIB	DOM	238,000	220,000			1		이	
	4	BS/AI	7,000	7,000	18,800	7,000		7,000	5,950	
Greenland	turbot :	DO/AI	7,000	7,000	,,,,,,,		1		0	1
	t flammalan	BS/AI	72,000	10,000	72,000	72,000	l	10,000	8,500	ľ
Arrowtoot	h flounder	DOM	72,000	10,000	, 2,000				0	İ
1		BS/AI	185,000	75,000	185,000	185,000		75,000	63,750	l
Rock sole	)	DO/AI	165,000	75,000	.00,000				O	ŀ
		DC/AL	191,000	79,000	191,000	191,000		79,000	67,150	ì
Other flat	risn	BS/AI	191,000	73,000	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	101,000		ì	0	
1		EBS	1,500	1,500	1,500	1,500	1	1,500	1,275	
Sablefish		Al	2,600	2,600	2,600	2,600		2,600	2,210	
		AI	2,000	2,000	]	]	`		0	
1	•					Į	Ì		o	
POP com		EBS	3,330	3,330	3,330	3,330		3,330	2,831	
True PC			1,400	1,200	1,400	1,400		1,200	1,020	
	OP complex		13,900	13,900		13,900		13,900	11,815	
True PC		Al	5,670	5,100		5,670		5,100	4,335	
Sharp/N		Al	1,220	1,100	· ·	1,220		1,100	935	
Short/F	Rougheye	Al	1,220	1,100	,,	,,,,,,			o	
<b>1</b>	1. <i>1</i> 7 - 1.	EBS	400	360	400	400		360	306	
Other roo	Kiisn	Al	925	830	1	925		830	706	
		Al	323	000					0	
1		BS/AI	117,100	32,000	245,000	122,500		122,500	104,125	
Atka mad	ckerei		117,100	32,000	109,000	53,900		53,900	45,815	
ľ		W			109,000		1	55,125	46,856	
		C			27,000	1 '		13,475	11,454	
		Ε			[ 27,500	'5,410	` <b>1</b>	·	o	
<b>.</b>		DC (4 )	3,400	2,000	3,400	3,400	.	2,000	1,700	
Squid		BS/AI	3,400	2,000	3,400	5,700		_,	0	
		DC/4:	00.000	26,600	26,600	26,600	, l	26,600	22,610	
Other sp	ecies	BS/AI	26,600	20,600	20,300	20,000		,		
20:11.55	TA:		2 475 245	1,998,620	2,748,445	2,490,145	<del></del>	1,998,620	1,698,827	101,445
BS/AI TO	IAL		2,476,245	1,330,020	2,, 40,440					<u> </u>

# **DRAFT**

### D-4 GROUNDFISH REGULATORY AMENDMENTS

The AP recognizes that there is a problem with the current DFS in that they are difficult to understand and to enforce. The AP believes that Alternative 2 or 3 may not fully address the problems in the current DFS, the AP recommends that NMFS and Council staff work together to create a matrix system for determining bycatch by species, gear type, and area. This matrix would be updated as necessary on the NMFS bulletin board. Bycatch rates would be set against all possible target species but would only be allowed against a species that was open for directed fishing. There would be no bycatch rate against other bycatch species. Rates would be formulated at 1%, 5%, 10%, 20%, and subject to in-season change.

An industry group will meet with NMFS to develop the grid and numbers to be included in the document before it goes out for public review.

### D-5 OTHER GROUNDFISH ISSUES

The AP received a report from the Salmon Foundation working group and strongly encourages the continuing development of this program.

# North Pacific Fishery Management Council

Richard B. Lauber, Chairman Clarence G. Pautzke, Executive Director

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Certified: Acu Bendiker.

Date: 12-1-93

# MINUTES Scientific & Statistical Committee September 20-22, 1993

The Scientific and Statistical Committee of the North Pacific Fishery Management Council met September 20-22, 1993 at the Hilton Hotel in Anchorage. All members were present except for F. H. Bud Fay and Marc Miller:

Terrance Quinn, Chair William Clark, Co-chair William Aron Keith Criddle Doug Eggers Dan Huppert Richard Marasco Phil Rigby Jack Tagart Harold Weeks

### B-5 BERING SEA ECOSYSTEM RESEARCH

The SSC received a report from Dr. David Policansky of the National Research Council on the Bering Sea Ecosystem study being initiated at the request of the U.S. Department of State. The Department of State has expressed several concerns regarding the health of the Bering Sea ecosystem, as indicated by the declines in some marine mammal, marine bird, and fish populations. These have an important bearing on international marine resource policy issues, especially with the Russian Confederation and Japan.

Dr. Policansky reviewed the composition of the study committee and outlined its task statement. The Committee is to review and synthesize existing information on the Bering Sea ecosystem, and address whether conclusions can be drawn regarding the structure and function of the ecosystem, the declines of certain components, and whether our understanding recommends alternative management and research approaches.

The Committee is meeting in Anchorage on September 22 - 24 and in Seattle on December 1 - 3. The Committee's report is expected in fall 1994.

The SSC is willing to assist the Committee in the accomplishment of its task.

### **B-6** STELLER SEA LIONS

Richard Merrick, NMML, AFSC reported on the status of the recovery plan (published December 1992) and the designation of critical habitats for sea lions.

Merrick reported on late winter and spring surveys for sea lions from the Eastern Gulf to the Western Aleutians. Distributions from this survey show differences with previous summer surveys in that the Central GOA and Eastern Aleutian Islands have shown a disproportionate decrease, while surrounding areas have increased proportionately. Pup surveys for the area from SE Alaska to the Eastern Aleutians for 1990-91 and 1992-93 were compared. A 20% decline of pup production was reported ranging from 0.0% in the Eastern Gulf to a 32.6% decline in the Central Gulf. Big declines may reflect disappearance of the 1987-1988 year class of females: only 15 of 414 female pups were observed to return to Marmot Island during 1991-93 breeding seasons.

Merrick also reported on his and Anne York's viability analysis modeling for sea lions. Depending on a variety of key assumptions, the analysis suggests rookeries will begin to disappear in some areas in about 20 years and extinction for the population as a whole could occur in 100-160 years, if trends continue.

Merrick also reported on recent studies, included in the SAFE document, showing importance of pollock as a dominant food item for sea lions in the 1970s-1980s in all areas, apart from Kodiak in the 1970s when capelin were about equal importance to pollock. Prime prey are 1-3 year old pollock. Scat samples in Aleutians show importance of Atka mackerel with importance increasing from east to west.

### C-4 SABLEFISH AND HALIBUT IFQs

Alaska Commercial Fishery Entry Commission staff summarized the analyses of the "Sitka Block" and "Full Partial Block". During the presentation it was indicated that administration costs could either increase or decrease, transaction costs would increase, monitoring/enforcement costs would increase, and the costs of harvesting fish would likely be higher. The SSC agrees with these conclusions.

Restrictions on transferability of quota share, such as the block proposals, are sure to entail some costs even if they cannot be estimated. As indicated in our June minutes:

"Whenever the government limits the choices of vessel operators, the most efficient choices are ruled out for some operators. It is not possible to say who will be hurt, small operators or large, but there are sure to be some adverse effects because some operators will not be able to adjust their holdings of quota share quickly and easily to match the needs of there operations."

Adoption of either of these proposals will reduce the economic benefits that will accrue from ITQ's, but the actual magnitude of the reduction cannot be quantified at present. Further, while the proposals do restrict the maximum potential consolidation of the fleets, it is not known whether or not social gains are large enough to compensate for the reduction.

#### C-6 SCALLOP MANAGEMENT

The SSC reviewed the revised analysis of management alternatives, which contained additional information on scallops and the fishery as the Committee had requested in June. Public testimony was received from both the Wanchese Fish Company and the Kodiak Fish Company in support of a moratorium, the inclusion of scallops under an FMP under Alternative 2 or 3, and other measures to limit and rationalize the fishery.

While the total potential of scallops in the Council area is not well known, the SSC believes that the estimate of about 1 million pounds per year given in Appendix B of the document is correct, given the available information. In other words, an ABC set by the Council would probably be about 1 million pounds. This yield could be taken by a small number of scallop vessels.

The primary reason for placing scallops under an FMP is to allow for a moratorium and eventually a form of limited access. While this requires Council management, the SSC believes that the nature of the fishery makes it desirable that the State continue to perform management functions, including special permits and in-season management. The Committee therefore recommends shared Federal-State management akin to the crab FMP.

Preparing a separate FMP for scallops would be simpler than amending the groundfish FMP's to cover scallops. In addition to a moratorium, or in place of one, a scallop FMP could include limited access from the outset. The SSC recommends consideration of an IQ scheme at the earliest opportunity.

#### C-7 COMPREHENSIVE PLANNING

Council staff presented a review of progress on the analysis of groundfish and limited access systems. The presentation and our comments are divided into (1) Data Base Compilation, (2) Economic Models, and (3) the Request for Proposals (RFP) for social impact assessment.

### **Data Base Compilation**

Council staff described a very ambitious effort to compile and utilize data from many sources concerning the fishing industry, harvesting activities, and processing activities. The SSC has not yet reviewed the actual data bases and cannot yet assess their completeness or accuracy.

We had concerns about the proposal procedure for establishing cost estimates for the 24 classes of vessels and processors. We understand that the "focus group" consensus estimates may avoid difficulties associated with much-criticized "OMB Survey" used for the onshore/offshore analysis. However, this method of estimation does not yield data subject to standard scientific assessment of accuracy and precision. The use of "typical" cost information will limit the utility of the models. We suspect that the models using this data will be adequate for a relatively rough assessment of net economic benefits from an ITQ system. Because that data will not support more sophisticated predictions of changing production and cost relationships, it is unlikely that they will provide adequate information to assess the relative merits (in terms of net economic benefits) of alterative ITQ options that the Council may consider.

### Models

The SSC has not yet had an opportunity to review completed descriptions of: (1) the linear programming model; (2) the economic base model; or (3) the fisheries economic assessment model. Although we have received various preliminary and incomplete documentations, the basic concerns that we expressed in our June minutes have not been addressed. We repeat that statement:

The SSC feels it is necessary to obtain more explicit documentation of the model, including the logical foundations for the model structure, a concise mathematical description of the model, the sources and magnitudes of key model parameters, and explanation of plans for addressing management issues with the model.

Although the above statement specifically addressed the lack of documentation of the linear programming model, it is equally valid with respect to the economic base model and the fisheries economic assessment model. We find it difficult to address the scientific merit of these models without adequate documentation.

For the economic base models we require a detailed description of the variables to be considered for inclusion in the regression model along with discussion of model specification tests to be used in refining the model and a description of tests that will be used to validate the model.

A subcommittee of the SSC met in July with Council staff and with Matt Berman to discuss progress towards the development of the linear programming model. The subcommittee reviewed a prototype of the linear programming model specification and draft documentation of the model. SSC members expressed some concerns over the structure of the LP model. We have not received a revised description of the linear programming model.

In addition to our concerns about progress in the theoretical development of the models, the SSC is concerned about how the output of these models will be interpreted. In particular, the linear programming model, as presently contemplated, is suitable for demonstrating the correct order of magnitude of overall long-run benefit to the nation that can be expected to result from an QS program. However, the models as currently envisioned are not sufficiently detailed to permit meaningful comparisons of the relative benefits of alternative QS allocation schemes. Moreover, because the organization of production will change once a QS program is implemented, the character of the fishery will differ from the predictions of the linear programming model, even in the long run. In the short run, vessels will economize individually and there may be little or no change in the number of vessels active in the fishery.

### RFP for Social Impacts

The SSC notes that the current version of the RFP contains a logical conundrum: It asks the contractor to assess the Council's preferred alternative, while the Council presumably wants to use the resulting assessment to select a preferred alternative. The language of the RFP should be amended to eliminate this problem.

Specifications of "Baseline Profiles" is more detailed than is specification of the "impact assessment". The RFP clearly states (p.4) that the contractor is to assess potential changes in social-cultural patterns resulting from changes in employment. The SSC suggests that a clearer definition of sociocultural variables be provided; which specific impacts is the Council most concerned with?

The RFP calls for assembling information into twelve industry sectors rather than into geographic regions and communities. We suggest that the data collection be structured so that Council staff and other users can determine how these twelve sectors are distributed among regions and communities with varying levels of dependence on the fishery.

The SSC is unsure that the study can be completed within budget, administrative, and time constraints. Delays in completion of this work may impinge upon the Council's time schedule for comprehensive planning, since analysis of specific Council options must await delivery of this contract report. The SSC suggests that the RFP specifically require that the contractor present the results before the AP, SSC and Council.

### **D-1** CRAB MANAGEMENT

The SSC received comments by the Alaska Crab Coalition expressing their concern about actions of the State of Alaska regarding Bering Sea Aleutian Islands crab management, including GHL's, pot limits and annual reviews of scientific data. The SSC is willing to review GHL's if the Council so desires. The SSC notes that these management measures are delegated to the State of Alaska and that a formal annual review of the State's actions by the Council would require a plan amendment. The SSC notes the Team's ranking of plan amendment proposals #3 (establish a super exclusive registration area for the Norton Sound crab fishery) and proposal #9 (review and clarify framework-type management measures outlined in category 2) as high priority. The SSC heard a report of the PAAG Committee's review of amendment proposals and agrees with the PAAG Committee's recommendation that the Council consider measures other than a plan amendment to address these concerns. These measures may include memorandum of understanding between agencies and/or an annual meeting between Council and Board of Fisheries to review actions taken under the plan.

### D-2(a) PACIFIC OCEAN PERCH (POP) REBUILDING

The SSC received presentations on POP rebuilding analysis from Jim Ianelli, a plan team report from Anne Hollowed, and a discussion of management implications by Jesse Gharrett. Public testimony was provided by Mike Syzmanski with particular reference to the benefits of rapid versus slower rebuilding alternatives, the ability to measure changes in POP stock status, and the need to consider displacement of vessel components prior to council action. Ms. Gharrett informed the SSC that the Central Gulf of Alaska ABC for POP had been exceeded by the end of the third quarter because of bycatch in the deep-water flatfish and rockfish fisheries. A further complication which will impact the council's ability to rebuild POP stocks is that NMFS cannot close those fisheries with POP bycatch until the Gulf wide overfishing level (presently 3378 mt) is projected to be exceeded. Such unrestricted take would reduce savings expected under a rebuilding plan. Greater discard of POP would be expected under the more restrictive rebuilding alternatives.

The May 20, 1993 EA/RIR for POP rebuilding had only minor changes from the rebuilding document reviewed by the SSC in April. Reiterating from the April minutes, the SSC endorsed the procedure of fitting a stochastic spawner-recruit relationship as a means of choosing an optimal exploitation rate and for forecasting the effect of alternative rebuilding strategies. Although the spawner recruit data were highly variable, the data set was large and well distributed over a wide range of spawning stock sizes. Since the pattern of points was not sensitive to the tuning of the synthesis model used to reconstruct stock history, the SSC agreed that the data provided an accurate reflection of reproductive potential. The spawner-recruit analysis in the rebuilding EA/RIR includes an estimate of F<sub>msy</sub> (0.08). F<sub>msy</sub> adjusted by the ratio of the current spawner biomass to the target biomass, this exploitation rate was used by the council to determine the 1993 ABC for POP of 3,378 mt. Note, this procedure represents status quo (Policy Alternative 2).

The economic analysis only estimates gross revenue for each of the four rebuilding policy options. Average wholesale price by size was applied to the estimated annual catches. Because fishing cost data are unavailable, net revenue and profitability of individual operations cannot be calculated. Net revenue differences among policy options would be less than indicated by gross revenue calculations. Possible impacts on other groundfish fisheries, reduced costs from increased abundance, and non-market benefits are other socio-economic factors which could not be determined.

Alternative Policy 1 consists of an adjusted  $F_{35\%}$  (fully selected F=0.11) exploitation rate. The analysts noted that this option has the least near-term loss in gross earnings. Estimated time required

to reach the target spawning biomass (based on median value of simulations) is greater than 30 years. This is no longer an option because it exceeds the overfishing definition.

Alternative Policy 2 is based on an adjusted optimal harvest rate ( $F_{msy}$ ). The fully selected F=0.08 adjusted to 0.036. As the status quo, projected rebuilding time is 26 years.

Alternative Policy 4 is an adjusted fishing rate based on the estimated unavoidable bycatch for 1992 (initially F = 0.023). Alternative Policy 3 is an intermediate exploitation rate between Policies 2 and 4. Both Policies 3 and 4 have similar projected rebuilding periods of 19 and 16 years, respectively.

The SSC has no preferred alternatives among Alternatives 2, 3, and 4; the rebuilding rate is basically a Council choice on how fast it wishes to rebuild the POP resource.

The SSC is concerned about the increased bycatch of POP in the Central Gulf of Alaska and its potential effects on rebuilding. The Council should consider options to prevent POP catch from exceeding ABC in the Central Gulf. At present, bycatch of POP in Central Gulf fisheries exceeds ABC. This has resulted in wastage, and it will prevent rebuilding at the rates implicit in any of the Alternatives 2-4. The Council could consider one of three actions to solve this problem:

- (i) TAC's in the bycatch fisheries or allowable bycatch rates could be reduced, other management measures such as time-area closures could be investigated, or the overfishing limit could be applied on an area basis.
- (ii) The Council's overfishing definition could be liberalized to provide a buffer between ABC and the overfishing limit. The stock will rebuild to B<sub>msy</sub> at any fishing mortality rate up to F<sub>msy</sub>, so that increasing the overfishing limit need not prevent rebuilding. This would require a plan amendment, and it would not achieve the rebuilding rate implicit in Alternative 2, but would reduce waste.
- (iii) The Council could choose to treat POP as a minor species in the Central Gulf and let it be overfished as bycatch. This would require formal and compelling justification, as specified in the section 602 guidelines.

### D-2(c) PRIBILOF ISLAND TRAWL CLOSURE

The SSC received a report from David Ackley of ADF&G on the revised analysis of Amendment 21a for a trawl closure around the Pribilof Islands. The analysis presents a new alternative (#8) which would protect the core distribution of blue king crab and essential habitat for juvenile crab of cobble and shell hash between the 20 and 30 m depth contours. The proposed closure area would also provide protection to hair crab in the vicinity of the Pribilof Islands, as well as to some nesting and foraging seabirds.

Mr. Ackley reported that the Advisory Panel has proposed an additional alternative which would permit trawling within the protection area, until a king crab bycatch cap of 1% of the blue king crab population is attained - at which time the protection area would be closed to further trawling.

The SSC feels that the revised analysis meets its recommendation made at the December 1992 meeting for a protection area based on blue king crab distribution and habitat requirements. The Committee recommends that the analysis be released for public review with the incorporation of (1) the Advisory Panel suggestion and (2) a time series of blue king crab population numbers and bycatch

in the proposed protection area. With the incorporation of the AP's suggestion, the new alternative could provide substantial protection to blue king crab and other marine resources while minimizing costs imposed on the groundfish fishery.

If the Council wishes to discontinue consideration of the original suite of alternatives (#2 - #7) at this time, the SSC recommends that the new analysis be edited to read as a stand-alone document. If original alternatives 2 through 7 are to be retained for consideration, the EA/RIR's should be merged before release to the public.

### GROUNDFISH SPECIFICATIONS **D-3**

The SSC reviewed the preliminary GOA and BS/AI SAFE reports. For most stocks the assessment methods will not change, and the revised ABC and overfishing determinations will not be done until the November Team meetings. For those stocks, the preliminary specifications are last year's values. Stocks for which revised assessments were available at this meeting are discussed below.

The SSC and Team chairs consulted briefly on the outline of SAFE chapter, which had been the subject of correspondence during the year. Some, but not all, chapters followed the SSC recommendations. The SSC requested that the Teams discuss the SAFE chapter guidelines at their November meetings and the SSC guidelines on the basis of this year's experience. The aim is to achieve standard usage and provide adequate information, whether by the SSC guidelines or some alternative.

### Gulf of Alaska - Pollock

The SSC reviewed an updated stock assessment for GOA pollock. New information provided in this analysis include (1) egg-production estimates of spawning biomass, (2) 1993 Shelikof Strait hydroacoustic survey biomass estimate, (3) length frequency data from the 1992-93 acoustic surveys, (4) length frequency data from the 1992 and last quarter 1993 fisheries, (5) catch-at-age from the 1992 fisheries, and (6) updated catch and discard.

The analysis used 3 model scenarios, with the preferred scenario being Model C. This model incorporates the egg-production biomass estimates as a new likelihood component and reduces the number of years for which year specific fishery selectivity parameters are estimated. The latter adjustment addresses the SSC's previous concern for excessive parameterization of the model by reducing the number of model parameters. The SSC concurred with the authors and Plan Team that Model C was the preferred model.

Projected stock biomass in 1994 is 726,000 mt and regarded as healthy. The 1994 spawning biomass is 719,000 mt, a level of biomass which has produced strong recruitment in the past. The Plan Team has recommended an optimal fishing mortality rate, F=0.36, based on a simulation of projected stock size derived from a probabilistic recruitment model with low probability (0.20) of strong recruitment, and an optimization function evaluating yield against the risk of spawning biomass falling below a designated threshold (386,000 mt). The SSC notes that the Plan Team's recommended optimal fishing mortality rate is a conservative rate, being less than either  $F_{0.1}$  or  $F_{35\%}$ .

The Plan Team's recommended ABC for the Central and Western Gulf was 172,000 mt. However the Plan Team was concerned about a number of factors which they felt should be considered for TAC's. The SSC is similarly concerned, but prefers to reflect these concerns as ABC considerations. The SSC notes that stock biomass continues a declining trend which began in 1983. Although 1994 spawning biomass is regarded as healthy, spawning biomass is projected to approach historic lows by 1995 and may fall below threshold by 1996 if harvested at F<sub>opt</sub>. Moreover, the current fishery is largely supported by a single dominant 1988 year class with no signs of incoming strong year classes in the immediate future. In light of these trends, and overall concerns for the GOA ecosystem, the SSC can find no compelling reason to increase the ABC above the value obtained at the historic 10% rate of exploitation or 78,000 mt for the Western/Central Gulf. The SSC acknowledges that its recommended ABC results in foregone catch and revenue when compared to the Plan Team's ABC. The value of the foregone catch is something less than the estimated potential revenues from that catch.

The SSC concurs with the Plan Team's recommendation that the ABC be partitioned between Western and Central Gulf management areas (Western 16,930 mt, Central: (62) 18,250 mt (63) 42,820 mt), and with the scaling of the Eastern Gulf ABC proportionate to the W/C Gulf (5,550 mt). The overfishing for a total of 83,550 mt level is taken from the Team's report and is calculated from the  $F_{30\%}$  exploitable rate.

### Gulf of Alaska - Pacific Cod

The SSC concurs with the Team's recommendations, based on a straightforward update of last year's SRA. The assessment also includes a preliminary report of a length-based stock synthesis estimate of stock size, which is expected to replace the SRA next year.

### Gulf of Alaska - Flatfish

No new analyses were presented. The Plan Team presented ABC's unchanged from the prior year, except that for the deepwater flatfish complex a separate ABC for rex sole was calculated. This separation provides for greater flexibility in managing the bycatch of rockfish within the Dover and rex sole fisheries. The SSC concurred with the Team's recommendations.

### Gulf of Alaska - Slope Rockfish

### <u>POP</u>

The SSC concurs with the Plan Team's recommended ABC (3,380 mt) and the proposed regional allocation: Western (760 mt), Central (950 mt), and Eastern (1,670 mt). The SSC recommends that the overfishing level (3,380 mt) be determined by reducing  $F_{msy}$  (0.08) by the ratio of current female biomass (70,800 mt) to the optimum female biomass (150,000 mt). It is noted that ABC = overfishing level. The SSC also agreed with the Team majority that the overfishing definition remain a Gulf-wide limit, because there is not sufficient information currently available to conclude that different stocks exist in the different areas. However, since rockfish are known to have small home ranges, localized depletions of the rockfish resource could occur if ABC is exceeded in an area.

### Gulf of Alaska - Pelagic Shelf Rockfish

The SSC concurs with the Team's ABC and overfishing level recommendations and notes that they are consistent with our December values. In 1993 the Plan Team recommended separating black rockfish from the pelagic shelf complex because of indications that a target fishery had developed for that species. The SSC recommended against this action pending improved biomass estimates and catch data. As of late August a fishery has not materialized and the Team recommends leaving black rockfish in this complex for 1994. The SSC continues to support the inclusion of this species in the complex.

### Gulf of Alaska - Demersal Shelf Rockfish

The SSC agrees with the Team's recommended ABC for this complex, 968 mt. This value was obtained by applying F=M=0.02, the natural mortality for yelloweye rockfish, to the lower 90% confidence limit for the yelloweye biomass estimate from line transect data for the Southeast Outside District. The result obtained was adjusted upward by 15% (the ratio of yelloweye to other DSR in the catch) to get the ABC. This modification was made to account for other species included in this complex. Overfishing (1,683 mt) is defined as  $F_{30\%}=0.04$  applied the yelloweye biomass estimate.

### Bering Sea Aleutian Islands - Pollock

The SSC agrees with the Plan Team's recommendation of 1,340,000 mt for the Eastern Bering Sea Shelf and 58,700 mt for the Aleutian Islands. New data from 1992 commercial catch-at-age will result in updated estimates in December.

In the Bogoslof area, new survey information suggests a 1993 biomass of 600,000 mt. Uncomfortable with the Team's assumption of recruitment balancing mortality, the SSC assumed that no recruitment will occur between 1993 and 1994. The projected biomass in 1994 using M=0.2 is then 491,000 mt. As it has done in the past, the SSC then calculated the  $F_{35\%}$  exploitation rate of 0.26 and adjusted this rate downward by the factor 1/4 to reflect the ratio of current biomass to optimal biomass. Multiplying this result (0.065) by 1994 projected biomass results in an ABC of 32,000 mt. This ABC is also the overfishing limit. This approach has been accepted by the Council in the past.

### Bering Sea Aleutian Islands - Pacific Cod

The biomass estimate is now derived from the length-based stock synthesis fit that appeared earlier this year in the Pacific cod allocation analysis. Owing to uncertainty about the maturity schedule, the exploitation strategy is F=M rather than  $F_{35\%}$ .

The SSC accepts the preliminary ABC from the stock assessment, but requests further clarification of a few points:

- (i) Why were the specific emphasis factors chosen, particularly the high values for survey size composition and biomass?
- (ii) How was the value of M estimated (.35 vs. .29 before)?
- (iii) Why are the exploitable biomass figures on pp. 2-11 and 2-15 different?

### Bering Sea Aleutian Islands - Flatfish

Except for one species, no new analyses were presented for Bering Sea flatfish. Excepting Greenland turbot, the SSC agrees with the Plan Team's ABC's which were unchanged from the prior year. A new synthesis model was presented for Greenland turbot which replaced the stock reduction analysis (SRA) previously presented. The new analysis, which incorporates new information, provides for an increased ABC estimate of 18,000 mt. The SSC agrees with the use of the synthesis approach. However, continued poor recruitment and stock abundance lead the SSC to recommend a continuation of the present 7,000 mt ABC for this species. This conservatism was shared by the Team which recommended a reduction in TAC to 7,000 mt rather than a reduced ABC. Some members of the SSC felt that the new ABC based on  $F_{35\%}$  and the new biomass estimate from the

synthesis model was appropriate. Yet, because this was the first use of this model for Greenland turbot, the full SSC agreed to retain the present ABC unless new information from the 1993 survey provides more optimistic recruitment information.

### Bering Sea Aleutian Islands - Atka Mackerel

The SSC accepts the Team's determination that the best estimate of ABC given information now available is 245,000 mt. While accepting the Team's ABC determination, the SSC is concerned that the series of trawl surveys is short and inconsistent in their extent of coverage. We are also in apprehensive about the possible environmental problems that may result from an increased catch of the magnitude implied by the Team's ABC estimate. Atka mackerel is a prey species of northern fur seals and steller sea lions. During their migrations, northern fur seals (a depleted species) feed heavily on Atka mackerel as they move through the Aleutian passes.

Continuing the approach accepted in the past, the SSC recommends continuing to phase in the new higher ABC over a six-year period, adopting the current biomass estimates and raising the exploitation rate in steps from M/6 in 1992, M/3 in 1993, M/2 in 1994, to M in 1997. According to the schedule, the recommended ABC for 1994 is (0.30/2)\* 816,000 mt = 122,500 mt. A new survey estimate will be available next year, which will allow evaluation of this phase-in policy.

### D-3(b) EXCLUSIVE AREA REGISTRATION PROPOSAL

The SSC reviewed the exclusive area registration proposal and heard public testimony from Chris Blackburn and Paul MacGregor. The analysis has not changed materially from that presented for our review in December 1992. We reaffirm our assessment of the methodology reported in the SSC minutes. Paraphrasing those minutes, we were pleased with the performance of the choice model used to forecast changes in the distribution of fishing effort. However, we were and continue to be dissatisfied with the documentation and performance of the fisheries economic assessment model.

There are two principal areas of concern to the SSC: (1) The data used to formulate the choice model are out of date. Although the model is based on 1991 data, we anticipate that the qualitative predictions would be conserved even if more recent data were used. (2) The circumstances of the fishery have changed since the EA/RIR/IRFA was completed. The analysis does not consider measures such as PSC allocations that might solve current problems at a lower cost to industry. Furthermore, the re-released amendment proposal does not recognize the current problem as presented by industry.

### D-5(a) SALMON VIP

The SSC heard a report from Sue Salveson on discussion and development of salmon bycatch management measures for the BS/AI trawl fisheries. The agency has taken action to make retention of salmon bycatch mandatory and to publish the bycatch rates of trawl vessels. However, the agency does not believe that a rate-based or number-based VIP program is feasible.

### D-5(b) TRAWL MESH

The SSC reviewed a discussion paper on a proposed requirement for 8" mesh in trawling for Pacific cod. The SSC agrees that lacking data on mesh selectivity and escapement mortality in the North Pacific operations, there is no way to assess the utility of a mesh regulation. The SSC supports mesh selection studies.

### D-6(a) 1993 GROUNDFISH PROPOSALS - PAAG REPORT

The SSC received a report summarizing results of the meeting of the PAAG Committee. It supports the categorization and rankings developed by the PAAG. Overcapitalization continues to be a serious issue confronting fisheries under the Council's jurisdiction. Many issues addressed in proposals submitted are the result of too many vessels pursuing too few fish. The SSC recommends that top priority continue to be assigned to development of the Comprehensive Rationalization Plan. Proposal #1, "Require actual weighing of all harvested levels, is considered to be of highest priority of the proposals submitted, followed by #8. These proposals complement the CRP.

If a decision is made to fully develop the season change proposal, it is recommended that consideration be given to the modification of the TAC specification cycle as an alternative. Initial review of the SAFE would take place during the June meeting with final TAC specifications set during the September meeting. This approach would facilitate the publication of groundfish ABC and TAC specifications and the processing of scientific information.

The SSC learned that interest was expressed in the PAAG meeting in changing the overfishing definition, an issue last considered by the SSC in January of 1993.

Since a national committee on overfishing is planning to issue a report on this topic in early 1994, the SSC recommends deferring this issue until the report is received.