

Gulf of Alaska TAC Concept

EXAMPLE: Determination of TAC for cod.

Source

PT ABC_{cod} = 500,000 mt
 PT TAC_{sablefish} = 10,000 mt
 PT Expected bycatch rate = 1% (based on foreign, JV,
 survey)
 Council Acceptable bycatch level_{sablefish} = 2,000 mt

$$\text{Target Quota}_{\text{cod}} = \frac{2,000}{.01} = 200,000 \text{ mt}_{\text{cod}}$$

To rebuild cod population 400,000 mt

To protect sablefish 200,000 mt = TQ_{cod}

We would select the TQ_{cod} at 200,000 mt since it is the most constraining and by doing so meet both objectives.

$$\text{TAC}_{\text{cod}} = \text{TQ}_{\text{cod}} + \text{Incidental Catch}_{\text{cod in other fisheries}} + [\text{Reserve}]$$

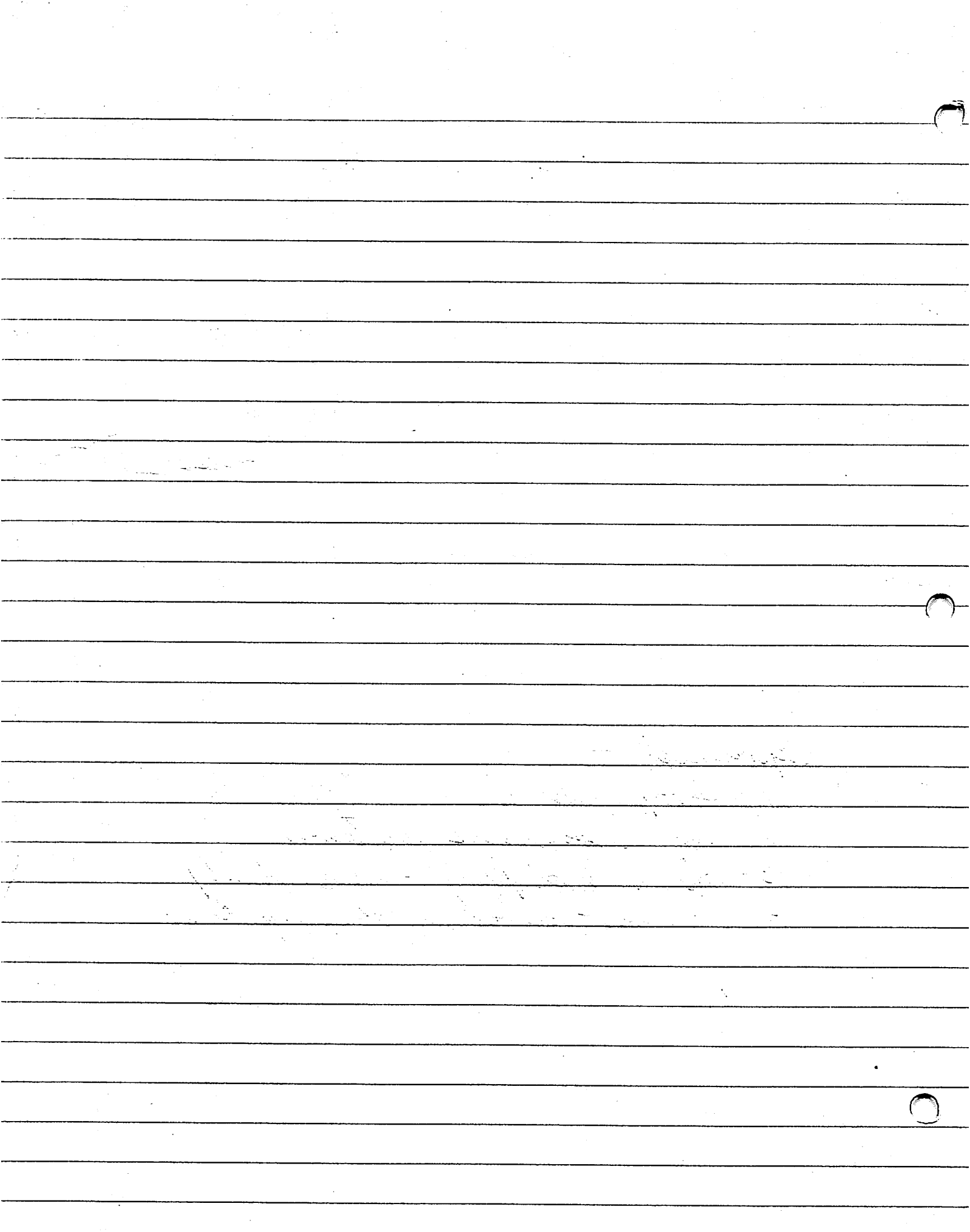
Reserve = ? amount of cod that can be released to either

TQ_{cod} or IC_{cod} as needed.

$$\text{TAC}_{\text{cod}} + \text{TAC}_{\text{sablefish}} + \text{TAC}_{\text{pollock}} + \text{TAC} \dots = \text{Gulf of Alaska OY for a given year.}$$

Depressed -

- 1 - Stop fishing
- 2 - no economic returns
- 3 - do not defuse - no utility
- 4 - below level producing MSY



GULF OF ALASKA GROUND FISH PLAN TEAM
SUBGROUP MEETING REPORT

July 29-31, 1985
Northwest and Alaska Fisheries Center
Seattle, Washington

A subgroup of the Gulf of Alaska Groundfish Plan Team met in Seattle on July 29-31, 1985 to prepare an outline and a revision schedule for frameworking the Gulf of Alaska Groundfish FMP. The subgroup also discussed issues where specific Council objectives are needed and recommendations were given to the Council's Goals Subcommittee.

In attendance were plan team members Gary Stauffer and Joe Terry, NWAFC; Ron Berg, NMFS; Steve Hoag, IPHC; and Steve Davis, NPFMC. Advisors to the subgroup were Fred Gaffney, ADF&G; Loh-lee Low, NWAFC; Bill Robinson and Kate King, NMFS; and Ron Rogness, NPFMC. Members of the public in attendance were Jay Hastings, Japan Fisheries Assn.; Paul MacGregor, Japanese Longline and Gillnet Assn.; and Steve Dickenson, Japan Deep Sea Trawlers Assn., Hokuten Trawlers Assn.

A. REVIEW OF CURRENT FMP AND DEVELOPMENT OF A NEW PLAN OUTLINE

The subgroup reviewed the current plan, its history of amendments, and potential problem areas, and agreed that the FMP is terribly outdated and administratively cumbersome. The subgroup believes that it can be improved operationally by frameworking management measures where possible. In addition, the chapters containing background information are of little use to managers and are not necessary as source documents for harvest, economic and biological data as these are provided elsewhere. The Magnuson Act requires certain historical data but these could be placed into an Appendix.

The subgroup recommends using the following outline to revise the Gulf of Alaska Groundfish FMP:

- I. Introduction
- II. Goals and Objectives (including operational definitions of terms)
- III. Management Measures (both framework and conventional)
- IV. Appendix (a non-operational part of FMP with descriptive material only)

Integral to the new plan will be an annual Resource Assessment Document (RAD) that provides data necessary for determining optimum yield. The RAD will be referred to in the plan and will not require formal amendments.

B. IDENTIFICATION AND DISCUSSION OF MEASURES TO BE FRAMEWORKED

Five management measures are amendable to being frameworked:

1. setting annual harvest levels;
2. apportioning harvest to DAP, JVP and TALFF;
3. PSC adjustments/bycatch measures;
4. setting fishing seasons; and
5. inseason adjustment flexibility (i.e., F.O. authority).

Other measures such as gear restrictions and allocations, reporting requirements, and permits, are difficult to framework, will probably never be exempt from OMB review, and will likely always require formal amendment and the attendant detailed impact analyses. Approaches to frameworking the plan are discussed below.

1. The Setting of Harvest Levels

In designing approaches to setting OY the subgroup assumed that the Council will want the flexibility to authorize a small incidental harvest to minimize the economic impacts on the industry even though some stocks are in low abundance. The subgroup then identified five different strategies for determining OY and evaluated each against several criteria (Table 1).

OY Set by Annual Amendment. This is the method now used to set OYs annually for each of 10 species or complexes. The Council uses biological information to determine Acceptable Biological Catch (ABC) and Equilibrium Yield (EY) then, if necessary, to rebuild stocks for socioeconomic considerations, modifies the ABC/EY to set OY. The primary disadvantage of this method is that it requires formal amendment to change harvest levels.

OY Ranges for Each Species. Under this method the Council would determine an OY range for each species and then set annual OYs. As long as the annual OY falls within the range, no plan amendment is necessary. Annual OYs thus could be set through rule-related notices which would shorten the implementation schedule considerably. It also provides to the industry information on expected yields from each species category. A disadvantage is that there is little flexibility in addressing anticipated needs. For example, the estimated bycatch and targeted quota may in total exceed a narrow OY range.

Unspecified OY Range. This strategy proposes not specifying a numeric OY range in the FMP. Instead only a procedure would be incorporated in the FMP wherein the Council would annually determine total harvest levels (THCs) for each species category and the OY would be the sum of all THCs less bycatch. The disadvantage of the system is that absent a specified OY range, formal amendments and full analysis will be required by NMFS and OMB. The annual amendment will lock the Council into a single OY estimate and any perceived flexibility with this strategy will be lost. The advantage is that expected bycatch removals will be deducted before setting THC.

OY Determined as in the BS/AI Groundfish FMP. This method is attractive given the Council's, NMFS', and the industry's familiarity with the procedure and the plan. Its advantages are that the TACs are set annually without formal

TABLE 1. OPTIMUM YIELD STRATEGY EVALUATION

<u>Method of Determining OY</u>	<u>Mechanism</u>	<u>Timeliness</u>	<u>CRITERIA</u>			
			<u>Documentation</u>	<u>Fully-Utilized Species Problem</u>	<u>OMB Review Exemption</u>	<u>Absolute Species Quotas</u>
1. Annual FMP Amendments to OY (status quo).	Plan Amend.	1 year	EA, RIR	not effective	No	Yes
2. Individual OY ranges for each species.	Mgmt. Adj.	3 months	1 time EA, RIR	less effective	Yes	Yes
3. Unspecified OY range; Σ quotas = OY for GOA.	Reg. Amend.	5 months +	EA, RIR	effective	No	No
4. Pre-specified OY range for GOA; Σ TACs fall within range (BS/AI).	Mgmt. Adj.	3 months	1 time EA, RIR	effective	Yes	No
5. Modified BS/AI OY approach; OY for GOA expressed in terms of probability; quotas set for each species or complex; species specific reserve.	Mgmt. Adj.	3 months	1 time EA, RIR	effective	Yes	Yes

amendment and there is some flexibility to adjust harvest levels using the unspecified reserves. The OY range is explicit and the sum of TACs is free to fall within that range without amendment or OMB review.

A disadvantage of this approach is that changing the OY range requires a formal amendment which could, if not processed quickly, constrain the harvest in years of high abundance. The subgroup was concerned that there would be a temptation to use the unspecified reserve to augment the harvest quota for a stock in high demand which could lead to conservation problems.

Modified BS/AI OY Approach. The subgroup believes that the fifth strategy shows the most promise in providing administrative ease and management flexibility while still protecting each species category, and recommends the following approach:

Preamble

Set annual TAC and target quotas at the December Council meeting based on annual assessment of the status of stocks presented in a Resource Assessment Document (RAD) prepared by the plan team in September and updated in November.

A. Species and Species Groups

Species with individual TAC values and target quotas include pollock, Pacific cod, sablefish, and Atka mackerel. Species groups with one TAC and target quota for the complex include flatfish, POP complex, shelf demersal rockfish, and slope rockfish (including thornyhead rockfish). The "other species" group will have a TAC calculated as a percentage of the OY for the major species. Squid should be added to the "other species" category.

The list of species and species groups that would come under the TAC concept could be changed annually based on the following criteria:

1. A new target fishery develops.
2. Species in a species complex become depressed and require protection or rebuilding not provided previously.

B. TAC Concept

TACs will be set annually after reevaluating ABC, protection factors, and other socioeconomic factors. TAC will be calculated as follows:

$$\text{TAC} = \text{ABC} - \text{Protection} - (+) \text{Other Socioeconomic Factors}$$

where protection includes rebuilding of depressed TAC species, and/or measures to reduce the incidental catch of prohibited species. Target quotas for each species category would be determined using the guideline:

$$\text{Target Quota} = \text{TAC} - \text{Incidental Catch} - \text{Reserve}$$

Reserves will be some percentage of TAC and set aside for release to JVP once DAP can be accurately projected for the year. Suggested percentages are 10, 15, or 20%.

C. OY Determination

The optimum yield (OY) is the sum of the TACs for the major groundfish species or species groups. The "other species" TAC category is 5% of the summed TACs.

The OY for the TAC groundfish species excluding the "other species" category is expected to range between 300,000 and 450,000 mt annually, based on annual harvests for 1977-1985. In 20% of the years (or 2 out of 10 years) the OY is expected to fall outside of this range but still within 150,000 to 600,000 mt. If the OY falls outside the wider range in any particular year then the OY will be changed by regulatory amendment. The OY is expected to fluctuate annually depending on the productivity of individual species such as pollock, the dominant species in the Gulf of Alaska groundfish fisheries. The ABC of pollock can be expected to exceed 200,000 mt following periods of above-average recruitment, and fall below 200,000 mt when recruitment has been below average. ABC could approach zero for years following extremely poor stock production. The OY can also change if the Council modifies its rebuilding schedule for particular stocks or changes its policy on incidental catches of prohibited species by the groundfish fisheries. If protection measures for Pacific halibut were relaxed, for example, the TAC for Pacific cod and the flatfish complex could increase thereby increasing OY.

TAC and OY would be implemented annually by rule-related notice through the Alaska Regional Director.

All of the advantages of the Bering Sea plan would be retained with this approach. Additional advantages include the designation of a target quota which will not exceed the TAC less incidental catch and Reserves. The Reserves are species specific, thereby preventing transfer of "paper fish" from one species to another. The OY is also free to fall within an expected range based on nine years experience with a wide and narrow OY range specified in terms of probability. It is also hoped that the framework can be designed to allow a change in the mix of species managed as a complex.

Strategy #5 shares some of the disadvantages of the BS/AI approach by requiring an amendment if the OY ever falls outside the wider range specified in the plan.

2. Harvest Apportionments

This management measure has already been frameworked through the approval of Amendments 7 and 11. Amendment 7 implemented the processor preference amendment where DAH and OY are defined as:

DAH = DAP + DNP(bait) + JVP; Reserve = 20% OY
OY = DAH + Reserve + TALFF

Amendment 11 modified this measure by redefining DAH as the previous year's domestic catch, plus amounts necessary to accommodate projected domestic industry requirements. Unused DAH and domestic reserves can be reapportioned to JVP and TALFF during the year if not needed by the domestic industry. The amendment also established an annual rule-related notice procedure for the specification of DAH and apportionment of OY to DAH, JVP and TALFF. It is the subgroup's intention to continue use of the apportionment framework with modification as necessary to fit the eventual OY scheme.

3. PSC Adjustments/Bycatch Measures

Amendment 14 described a framework procedure for the annual determination of halibut bycatch limits. From an administrative standpoint, the subgroup recommends that this procedure also be used for setting salmon and crab bycatch limits. This framework can be tailored to meet whatever objectives the Council adopts for treatment of incidentally caught species. Currently, incidentally caught species are treated as "prohibited species" and discarded. If a Council objective were to eliminate wastage and allow retention of incidentally caught halibut, salmon or crab, the framework could be modified appropriately.

4. Fishing Seasons

The subgroup believes that this management measure should be frameworked in anticipation of changes to existing seasons as groundfish become fully-utilized by the domestic fleet. The framework approach designed for Tanner crab might provide the foundation for this measure. The plan team will need Council guidance in the form of criteria that will be considered when evaluating proposed season changes.

5. Inseason Management Flexibility (Field Order Authority)

Currently the Regional Director may only use time/area closures if, based on information gathered during the fishing year, he determines that inseason conservation measures are needed to protect stocks. Under existing regulations, the Regional Director cannot use inseason groundfish closures to protect salmon or crab or make adjustments based on pre-season information (e.g. surveys). Field orders are limited to conservation considerations. Socioeconomic factors are not to be considered. The subgroup intends to expand inseason management flexibility by addressing the above weaknesses of the field order authority.

C. PROPOSED SCHEDULE FOR PLAN REWRITE

It is the team's desire to place the revised plan on the Council's annual groundfish amendment cycle. The following schedule is being proposed:

<u>Month</u>	
August 12-14, 1985	Present subgroup to Council; obtain necessary direction.
September 9-13	Develop further OY framework; make writing assignments.
mid-November	Review working draft; continue development.
December 9-13	Present working draft to SSC for initial review.
January 12-16, 1986	Present working draft to Council for initial review.
March 19-21	Present draft FMP, EA and RIR to Council for public review.
April	Public review.
June 22-26	Council final approval.
November	Implement in FMP.