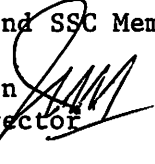


M E M O R A N D U M

TO: Council, AP and SSC Members

FROM: Jim H. Branson 
Executive Director

DATE: September 15, 1987

SUBJECT: Secretary's Draft Uniform Standards

ACTION REQUIRED

Review Draft Standards.

BACKGROUND

On September 11 I sent you the latest version of the revised Proposed 601 Regulations and 602/603 Guidelines. As noted in the cover letter from Robert Martin (Chairman, Mid-Atlantic Council) and Clarence Pautzke, the Proposed Regulations/Guidelines were drafted by three inter-Council teams and are intended as a working paper for review by a Council-NMFS Policy Team that will meet November 4-6 in Denver. Chairman Campbell will be attending a preparatory Council Chairmen's meeting October 9-10 in Seattle and will need your comments.

(Retyped from "faxed" Fougner--White memorandum, 8/21/87)

SUMMARY: How Well Council FMPs
Fit Threshold Standard

SEP 17 1987

Following is a summary by Council of the degree to which the
threshold standard of 0.5B_{msy} would fit current FMPs.

I. New England Council

- a. Northeast multi-species. Principal species—cod, haddock, yellowtail flounder, pollock.

The Council would argue strongly for use of a harvest rate threshold approach rather than an absolute stock level approach. Most major stocks are below the 0.5B_{msy} level. The Council's approach allows continued fishing at low stock levels, but at low harvest rates to protect against recruitment overfishing. Data are sufficient for computing harvest targets and absolute biomass for major stocks.

- b. American lobster.

The Council would likely propose a threshold based on spawning biomass or reproductive potential rather than on the total biomass. The Council is managing with the goal of increasing the landed size of individuals to increase spawning biomass and yield per recruit. It is estimated the stock is below the level needed to achieve the FMP's objective. Data are sufficient to estimate relative but not absolute abundance for this stock.

- c. Sea scallops.

As with lobster, the Council likely would propose a threshold based on spawning biomass or reproductive potential rather than on total biomass. The Council's management strategy is to increase yield per recruit and spawning potential. It is estimated the stocks (three stocks) are currently below the level necessary to achieve the FMP's objectives. Data are sufficient to estimate relative but not absolute abundance for the stocks.

II. Mid-Atlantic Council

- a. Atlantic mackerel, squid, and butterfish.

The use of a threshold based on MSY would not pose significant difficulties as this FMP generally equates OY with MSY. It is estimated the stocks are at or near target levels. Data are sufficient to estimate both absolute and relative abundance for mackerel and butterfish, while recruitment is estimated for squid.

b. Surf clam and ocean quahog.

It is possible that a threshold based on MSY could be applied in this fishery as the FMP generally equates OY with MSY and data are sufficient to estimate relative abundance and for ocean quahog absolute abundance based on surveys. However, the Council could propose a threshold based on reproductive capacity. Stocks are estimated to be at target levels under the FMP.

III. South Atlantic, Gulf of Mexico, and Caribbean Councils

The Southeast Center reports (B. Brown memo to D. White, August 21, 1987) that the only resource for which the $0.5B_{msy}$ cutoff could be examined is king mackerel. In that instance, it was concluded that if the threshold had been set at the $0.5B_{msy}$ level, the stock probably would have been protected. For other stocks and fisheries, however, it would not be possible to have a viable estimate of the cut-off point relative to B_{msy} . For many resources (shrimp, stone crab, spiny lobster, corals) MSY may be completely inappropriate. For others, there are few (if any) data to begin approaching estimates of MSY or B_{msy} . The Center does not indicate whether the threshold concept would be adaptable in alternate terms in these fisheries.

IV. Pacific Council

- a. Pacific groundfish. Principal species--
- Roundfish (ling, cod, sablefish, whiting);
 - Flatfish (Dover, English, Petrale sole); and
 - Rockfish (Pacific ocean perch, canary, yellowtail, chilipepper, and other).

Using a threshold value at $0.5B_{msy}$ would pose no major difficulties. Of the principal species in the fishery, only Pacific ocean perch is below this threshold (based on available data), and the Council would be able to demonstrate that allowing incidental catch in the mixed species trawl fishery is an appropriate strategy. Data are sufficient for qualified estimates of absolute and relative abundance of major stocks.

- b. Salmon. Principal species--chinook, coho.

Applying a threshold value of $0.5B_{msy}$ (or any other measure based on MSY) would not be useful. The Council would likely define the threshold in terms of minimum spawning escapement targets for different runs of each species, and then would set seasons, quotas or other measures expected to allow the necessary ocean escapement to occur, based on the estimated size of the run expected in the spring or summer. Due to the inability to predict ocean survival and return rates as well as harvest rates with great reliability, the risk of not meeting escapement goals is offset by flexibility in making in-season management changes. The Council could argue that 3- or 4-year average

escapement thresholds are more practical and useful than single-year thresholds.

V. Western Pacific Council

a. Bottomfish. Principal species--Opakapaka, Onaga, Uku, Hapu'upu'u, Ulua.

The threshold value of $0.5B_{msy}$ appears to be a reasonable standard for this fishery. None of the species is believed to be at or below this level at this time, although there may be some fishing grounds (islands, banks) where concentrations are small due to heavy fishing. The bottomfish complex is being fished at or near the estimated MSY in aggregate.

b. Crustaceans. Principal species--Spiny lobster, slipper lobster.

The threshold value of $0.5B_{msy}$ appears to be reasonable, but the Council would likely choose to define the threshold in terms of spawning biomass or reproductive capacity, which is the basis for setting size limits and other measures. Neither species appears to have been fished down to a level of $0.5B_{msy}$, although some fishing grounds have been fished more heavily than others.

c. Pelagic species. Principal species--Billfish (marlin, swordfish, spearfish), mahimahi, wahoo, sharks.

The threshold value of $0.5B_{msy}$ would not be useful or usable in this fishery. So small a portion of the stocks oceanwide actually occurs in the EEZ, and fishing in the EEZ cannot affect the status of the stocks. The Council would argue that no threshold value need be set for conservation purposes under these circumstances.

d. Precious corals.

It would be impossible to apply a $0.5B_{msy}$ threshold in this fishery based on current information. While there is a potential for estimating MSY based on estimated growth rates and yield curves for one or two species of coral, there is virtually no information on the size and location of coral beds. Until and unless exploratory fishing occurs, little new information will be obtainable. The "minimum conservation standard" likely would be defined as the exploratory area quota for each area in most cases.

VI. North Pacific Council

a. Groundfish of the Bering Sea and Aleutians. Principal species--Alaska pollock, Pacific cod, rockfish, flatfish, sablefish, and Pacific ocean perch (POP).

Application of the threshold concept would be possible but the limitation of the data base in assessing actual abundance

relative to the threshold must be acknowledged. Based on available data, only POP is estimated to be below the $0.5B_{msy}$ level at this time. A threshold based on MSY should not pose any problems in principle because the FMP generally equates OY with MSY.

b. Groundfish of the Gulf of Alaska. Principal species-- Alaska pollock, Pacific cod, rockfish, flatfish, sablefish, Pacific ocean perch.

As with the Bering Sea FMP, application of a threshold based on MSY may not pose difficulties in principle, but the limitations of the data base would make it difficult in practice. Available data suggest that none of the principal species is below the level $0.5B_{msy}$, although POP may be close.

c. King crab.

Application of a threshold based on MSY would not fit this fishery. Management has been directed at protecting reproductive potential by restricting the harvest of female crabs, and quotas are set based on estimates of the amount of crab which can be legally taken given the established size limits and abundance estimates. Setting absolute minimum biomass or spawning biomass levels would not be relevant.

SUMMARY

1. The concept of a threshold probably can be applied in almost all fisheries.
2. A threshold based on biomass relative to the biomass which will produce MSY will not be appropriate in the majority of cases. Exceptions would be sought (and likely could be justified for:
 - a. Crustaceans (including corals)
 - b. Salmon
 - c. Species/fisheries for which data do not permit calculation of MSY
 - d. Some or all large migratory pelagics (billfish, sharks, mahimai, wahoo)
3. Where a threshold based on MSY does fit, the initially proposed $0.5B_{msy}$ appears to be acceptable, although a lower threshold could be justified for highly variable, short-lived stocks (e.g., anchovy).
4. The Secretary's "peer review" group could be very busy giving its blessings/rejections to requests for exceptions unless some intermediate step exists to allow NMFS/NOAA to limit the numbers of cases going to the group; for example, maybe only those cases in which a Council and the Administrator cannot agree on a threshold definition would go the review group.

SCIENTIFIC AND STATISTICAL COMMITTEE (SSC) STATEMENT ON REVISED
PROPOSED 601 REGULATIONS AND 602/603 GUIDELINES

The SSC considers this to be an extremely important document which requires careful examination. The SSC was not able to undertake this examination because of the lateness of the receipt of the document and hopes the Council process will allow sufficient time for further SSC comment, preferably at the November Council meeting.

The SSC does, however, have some immediate salient comments as follows.

1. On page 23, section 3 (c)(1)(i), the SSC recommends the responsibility for producing the SAFE report be clearly designated as being the responsibility of a council. The following alternate wording is suggested:

A Council may call on any combination of talent from federal, state, university, or other sources to acquire and analyze data and produce the SAFE report.

2. The information listed (page 24, et. seq.) that should be included in a SAFE report will, in the SSC's opinion, not necessarily be needed in all situations. It is important to specify in advance that this list of "shoulds" must not be used as a check list by reviewers as a measure of the adequacy of the SAFE report in lieu of an examination of the tone and content of the SAFE report as a whole. Such a checklist form of review could delay and hinder the Council management processes.
3. For the definition of acceptable biological catch (ABC) (page 59), the SSC suggests these modifications.

- a. For section (d)(1), add the words "by a council" between the words "set" and "to." The sentence now reads:

ABC is a harvest rate or level set by a council to recognize explicitly the status of the stocks, environmental conditions, and relevant ecological factors.

- b. For section (d)(2), delete the second sentence of this paragraph. In the fourth sentence, add the word "biological" between "incorporate" and "safety." This section now reads:

Specification of ABC is the first step in deriving optimum yield from maximum sustainable yield (MSY). It may be expressed in numeric and/or non-numeric terms. The ABC should incorporate biological safety factors and risk assessment due to uncertainty. The ABC is calculated by multiplying the MSY exploitation rate by the size of the biomass for the relevant time period unless other biological information justifies a different method of derivation. The ABC, however, must equal zero when the stock is at or below its threshold.

These changes reflect the SSC's view that social and economic factors should be considered in the optimum yield determination.