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WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Background Paper and Options to Address "Overfishing" in the Hawaii Bottomfish Fishery

I. Introduction

The Council is currently reviewing its responsibilities for sustainable fisheries under the Magnuson-Stevens Act, with respect to National Standard 1, which is to prevent overfishing.and keep resources from becoming overfished. Under the reference points adopted by the Council, bottomfish resources in Hawaii have been determined by the Secretary of Commerce to be experiencing overfishing. The determination is due to excessive fishing effort in the main Hawaiian islands (MHI). The Council now has one year to recommend management measures to reduce fishing effort in the MHI bottomfish fishery. Although, DAR instituted a series of MPAs and recreational catch limits for recreational fishermen in the MHI in 1998, the management regime has never been evaluated. The Council's Bottomfish Plan Team annually reviews the MHI fishery and has noted that fishing effort has been dropping over the past several years but further reductions are needed to remove excessive effort and prevent overfishing in the future. This paper intends to provide a basis for discussion with fishermen, public and fishery organizations that may be impacted by this initiative and for Council to consider action at its 127th meeting on May 31-June 2, 2005.

II. Background

The 1,200 mile long Hawaiian Archipelago is made up of 132 islands and atolls. The Main Hawaiian Islands (MHI) are the eight major inhabited islands from Hawai`i at the southeast end of the archipelago up through Kaua`i and Ni`ihau. The Northwestern Hawaiian Islands (NWHI) are the largely unpopulated islands, atolls, and reefs northwest of Kaua`i and Ni`ihau.

The Western Pacific Fishery Management Council manages Hawaii bottomfish resources in coordination with the State of Hawaii through its Bottomfish and Seamount Groundfish Fishery Management Plan. In general, the key bottomfish species, opaka, onaga, ehu, uku and hapuupuu, are healthy in the NWHI. These species are found throughout the Hawaiian Archipelago generally at depths of 50-150 fathoms. Although they can occasionally be caught deeper. They are considered to be part of the Hawaiian bottomfish fishery, which catches deep-slope dwelling snappers, groupers, and jacks with vertical handline gear, sometimes operated with electric or hydraulic reels, in depths of 91-274 m (50-150 fm). The opakapaka, the pink snapper, well-known in fine restaurants, is also caught in this fishery, as well as the Hapuupuu, the Hawaiian grouper.

Status of Hawaii Bottomfish Resources

The Council's Bottomfish Plan Team, which includes representatives from National Marine Fisheries Service (NMFS) and State of Hawaii Division of Aquatic Resources (HDAR), annually reviews the status of bottomfish resources in Hawaii which is reported in the Council's Bottomfish Annual Report. The method by which scientist and managers determine the status of fishery stocks has recently changed. Fishery scientist and managers must now assess the status of Hawaii's bottomfish resources using two key factors:

1) Overfishing.	Related to Fishing mortality which is tied to fishing effort. (Total number/pounds of fish that are caught in fisheries)
2) Overfished:	Related to the amount of fish that can support a sustainable harvest (Total amount of bottomfish in the water)

If it is determined that overfishing is occurring or a stock is overfished, the Council must initiate and consider management actions to adjust fishing effort and/or restore or "rebuild" the resource to safe levels.

Based on this new assessment method, the Hawaii bottomfish resource as a whole (archipelago-wide) has not been determined to be overfished. However, it has been determined that "overfishing" is occurring due to the excess and uncontrolled fishing effort in the main Hawaiian islands. Therefore, the Council now has one year to develop a plan to reduce fishing mortality/effort in the MHI fishery. In short, the total number of fish dying due to fishing must be reduced in the MHI.

Commercial and Recreational Monitoring

Throughout the WPR there are few fishermen who specialize in harvesting bottomfish. Most fishermen shift from fishery to fishery in response to weather conditions, seasonal abundance or fluctuations in prices. Furthermore, most vessel operators are part-time commercial fishermen and may combine commercial, recreational or subsistence effort in a single fishing trip.

The most reliable data for Hawaii come from a creel survey conducted on Oahu by the NMFS in 1990–91 which indicated that 66% of the bottomfish landed were not sold and thus could be considered recreational catch. The Hawaii Marine Recreational Fishing Survey (HMRFS) program, that was re-initiated in 2001, has not provided useful information on the bottomfish fishery because of the low number of intercept surveys conducted to date.

In Hawaii, fishermen who hold a Commercial Marine License (CML) are required to complete a HDAR Fish Catch Report. The form requires fishermen to report the type of fishing gear used (e.g., deep-sea handline, trolling, etc.), area fished, number and weight of each species caught and the weight sold.

Commercial fishermen participating in the Federally regulated NWHI bottomfish fishery are required to complete the HDAR NWHI Bottomfish Trip Daily Log. The daily log contains

provisions for reporting the gear used, number of lines, number of hooks, number and weight of various bottomfish and non-bottomfish species kept, number released, number damaged or stolen by marine mammals and sharks, area fished, length of trip, specific effort information and weather conditions. Sales information is reported on the HDAR NWHI Bottomfish Trip Sales Report. Additional commercial landings information on both the MHI and NWHI bottomfish fisheries is collected by the State Dealer Reporting program.

State of Hawaii Management Efforts

Two key species, onaga and ehu, are considered to be locally depleted (experiencing low abundance) in the MHI. In response to this status, in 1998 the State of Hawaii created a series of area closures throughout the MHI to help rebuild these stressed resources. These closures are centered on the 100 fathom contour and include about 20% of the bottomfish habitat in the MHI.

The State also instituted recreational "bag" limits for onaga and ehu. The rule limits non-commercial fishermen (those without a valid CML issued by HDAR) to a maximum of five onaga or ehu or a mix of both, per person per trip. Vessel owners must also register their vessels with DLNR to obtain an identification number and it is unlawful for any person to take or possess bottomfish species on an unregistered vessel. As of November 2003, a total of 3,300 owners have registered their vessels for bottomfishing. About 60% are commercial fishing vessels with the rest claiming to be recreational vessels. The lengths of registered vessels range from 8 - 65 feet, with an average at about 19 feet. In addition, the State continues to support ongoing mapping and monitoring efforts of bottomfish resources and habitat throughout the MHI. The effectiveness of the State's management measures has not been determined.

Public Outreach and Solicitation

The Western Pacific Regional Fishery Management Council held a series of fisher's forum and public meetings to solicit comments from fishermen and the public on the potential need to develop a rebuilding plan for MHI bottomfish fisheries. The Hawaii Division of Aquatic Resources also participated by reporting on the status of their 5 year review of the MHI bottomfish restricted fishing areas and management efforts. Meeting locations and dates were as follows:

Hale Oihana	Lihue, Kauai	July 30, 2003
Komohana Ag Complex	Hilo, Hawaii	August 1, 2003
King Kamehameha Hotel	Kailua-Kona, Hawaii	August 2, 2003
Maui Community College	Kahului, Maui	August 7, 2003
Honokohau Harbor	Kona, Hawaii	August 19, 2003
He'eia State Park	Kaneohe, Oahu	October, 1, 2003
Hawaii Convention Center	Honolulu, Oahu	March 23, 2004
Ala Moana Hotel	Honolulu, Oahu	June 23, 2004
Pagoda Hotel	Honolulu, Oahu	October 13, 2004

Naniloa Hotel	Hilo, Hawaii	May 13, 2005[1]
Council Office	Honolulu, Hawaii	May 19, 2005[1]

[1]Meeting to be held.

III. Options

The Council has one year to develop management measures to address botttomfish over capacity in the MHI. Two areas of concern are addressed by through the options presented here: 1) Establish a comprehensive fishery data collection regime to meet statutory monitoring and reporting requirements; and 2) Reduce fishing mortality in the MHI bottomfish fishery to prevent overfishing of MHI bottomfish resources.

A. Data Collection Measures

To address number 1 above, the following five options are presented to collect data from the Hawaii recreational bottomfish fishery:

1. No Action
2. Expand the Hawaii Marine Recreational Fishery Survey
3. Implement "Drop box" reporting
4. Require Federal permit and logbooks
5. Conduct targeted survey of Hawaii recreational bottomfish fishermen using the State's bottomfish management registry

1. No action

"No Action" refers to making no changes and not implementing any new system or upgrading current systems.

2. Expand the Hawaii Marine Recreational Fishery Survey

Expanding HMRFS means providing additional financial and administrative support. At this time, bottomfish intercept surveys are "rare events" and thus do not provide reliable information on the bottomfish fishery. Improvements to the program may include increasing the number of days interviews are conducted, modifying the time period that sampling is done, and assessing the appropriateness of the ports sampled.

3. Drop box reporting

Under the "Drop-Box Reporting" system, individual fishermen or boat owners would pick up, complete and drop off catch report forms in collection boxes located at each harbor facility. Form pick-up and drop-boxes would be conveniently located (eg. near wash down facilities) to provide fishermen easy access and delivery of forms. Forms could also be designed to allow fishermen the option of mailing the form to the National Marine Fisheries Service.

This program could be administered on a voluntary or mandatory basis. A mandatory program can be designed similar to the Hawaii hunting program where hunters are required to sign-in at a hunting station before entering a hunting area. As hunters end their activities and leave, they return to the hunting station and complete a survey detailing their activities and take. The fishery program could work in a similar manner because bottomfish vessels are tied to known boat ramps and ports. Sign-in stations could be established at the ports requiring fishermen to provide their vessel registration number and trailer license plate number before

leaving. Upon return, fishermen would sign-out and complete a survey form detailing their catch and effort, location fished, discards, etc. Enforcement could be done by randomly comparing sign-in logs to trailer license plate numbers at the port. The program could be implemented as a pilot program with a limited duration, followed by an evaluation of its effectiveness.

4. Federal Permits and logbooks by recreational bottomfish fishermen

A federal permit from the NMFS would be required for vessel operators that target bottomfish species without a Hawaii CML. NMFS would also administer a logbook program to collect fishery information from these fishermen.

5. Conduct targeted surveys of Hawaii recreational bottomfish fishermen using the State's bottomfish management registry

The State of Hawaii bottomfish monitoring program now requires fishermen in the MHI to register with HDAR if they target bottomfish species. This registration program now identifies all (commercial and recreational) vessel owners who participate in the bottomfish fishery.

Under this option, a survey would be developed to target a representative sample of recreational participants from the State registry to gather information and better understand the recreational bottomfish sector. The survey could be conducted in the form of telephone interviews or a survey form that would be mailed to all persons in the registry. If a survey form is to be mailed, a self addressed envelope and return postage could be provided. This program would be conducted independently of the HMRFS program. The program could be implemented as a pilot program with a limited duration, followed by an evaluation of its effectiveness.

To facilitate fishermen to record their fishing activities (for personal records), water proof note books with logbook-type fields could be distributed all registered fishermen. This could help fishermen recall their past fishing activity if called by the survey.

A voluntary sub-sample of the registered recreational fishermen could be solicited to participate in a logbook program. Information obtained through this group could be later compared to the results from the survey.

Options	Improve Data?	Impact on User?	Impact on Management?	Administration?	Cost?
No Action	No, recreational bottomfish data gap will continue to persist.	None	Does not improve decision making	Does not meet federal requirements to collect complete information	None
HMFRFS: Expand program to capture recreational bottomfish information	Yes, if enough interviews of bottomfishers are conducted	Program is voluntary. Fishermen need time to complete the survey.	Provide information on recreational bottomfsih sector for improved decision making	Program already ongoing. Need to expand hours/day surveys conducted and number of days/month. Safety issues for surveyors working odd hours. Data entry system in place.	Will require more survey hours. Additional staff.
Drop box	If voluntary, will have problems with participation and confidence in data collected. If mandatory, information may be as reliable as logbook reporting.	Voluntary program will allow those interested to participate. Mandatory program will add new burden to recreational fishermen who now do not have to report	Voluntary program provide qualitative information to help inform decision making. Information from mandatory program improves decision making	Will require coordination with harbor staff and other agencies to help distribute and collect forms and increased NMFS staff to monitor and administer program. No data entry system in place. Need to install distribution and collection boxes.	Cost for additional staff to administer program. Cost for materials to fabricate pick up stations and drop boxes.
Permit and report	Yes, logbooks are effective in collecting fishery data.	Significant new burden on recreational fishing sector.	Provides for improved decision making	New data collection and monitoring program will need to implemented and maintained. .	Cost for additional staff to support program. Cost to create logbooks, administer permits.
Targeted Surveys	Yes, if survey is properly designed.	Minimal. Surveys will be voluntary and completed when fishermen have time	Provides for improved decision making.	Program can done under contract or outside the agency.	Cost for developing survey material and conducting surveys.

B. Fishing Mortality Reduction Measures

To address number 2 above "Reduce fishing mortality in the MHI bottomfish fishery to prevent overfishing of MHI bottomfish resources," the following options are presented:

1. No Action

Under this alternative, no further management measures would be implemented. Although, DAR instituted a series of MPAs and recreational catch limits for recreational fishermen in the MHI in1998, the management regime has never been evaluated to determine its effectiveness to restore the bottom abundance. The Council's Bottomfish Plan Team annually reviews the MHI fishery and has noted that fishing effort has been dropping over the past several years. If nothing is done, this trend may or may not continue.

2. Incorporate the State's main Hawaiian islands bottomfish management regime into federal regulations

This option will federalize the existing State bottomfish management regime which includes 20 bottomfish area closures throughout the MHI and recreational catch limits. Some of the existing closures are in Federal waters, such as the closure on Penguin Banks, but most are located in State waters. By establishing federal regulations that mirror State rules, federal enforcement can be used to assist in ensuring compliance. This measure may help reduce effort by eliminating illegal fishing within closures, if non-compliance is a problem. In addition to the closures, Federal regulations would also mirror State recreational catch limits for onaga and ehu.

3. Establish new bottomfish area closures in Federal EEZ waters in the MHI in addition to state closures

a. Close Penguin Banks to bottomfish fishing

This option would prohibit targeting and catching of bottomfish species on Penguin Banks within Federal waters. Forty percent of the MHI bottomfish landing are reported from the Penguin Bank statistical areas. Closing Federal EEZ water in this area will eliminate most all the bottomfish habitat on Penguin Banks. This area is important to both recreational and commercial bottomfish fisheries.

b. Close Middle Bank to bottomfish fishing

This option would prohibit targeting and catching of bottomfish species at Middle Bank, located north of Kauai. Middle Bank represents about 2-3% of the bottomfish habitat in the MHI. Only a small fraction of bottomfish landings are reported from this area, due to its distant and remote location. Mau Zone vessels may occasionally fish the Middle Bank area. .

4. Establish a control date.

Creating a control date, effective the date of the Council meeting, will act to put fishermen in the MHI on notice that future management actions may occur that could restrict their future participation in the fishery. Those participating in the fishery prior to the control date may be better positioned to remain in the fishery should restrictions occur.

5. Establish a limited entry fishery in the MHI fishery.

This option would limit the total number of participants in the fishery to some determined level as to prevent overfishing. Determining the number of participants in limited access programs is generally based on historical participation in the fishery**.** Commercial participation in the fishery has been well documented. Information regarding recreational participation is limited to the total number of licenced fishermen through the State's "BF" registration program. Currently, there are over 3500 registered vessels with about 40% claiming to be recreational. No fishery information is collected through this program.

6. Establish individual fishing quotas for MHI bottomfish fishermen.

Individual quotas or a total fishery quota could be used to control total fishing mortality. Quatas could theoretically be based on past commercial participation and reported landings through the DAR's permit and reporting system. However, because of the large number of potential participants and status of monitoring programs, this option would be very difficult to administer in a fair and timely way.

7. Establish a Federal permit and reporting program for all fishermen targeting bottomfish on Penguin Bank and Middle Bank.

This option considers creating federal permit and reporting requirements for anyone who targets bottomfish species on Penguin Bank and Middle Bank. Penguin Banks is geographically isolated lending itself to a well defined management area. The majority of the fishermen fishing for bottomfish on Penguin Banks is from the island of Oahu. Fishermen also travel from Molokai, Maui and Lanai, but in much fewer numbers. This option will allow the Council and NMFS to better understand and control fisheries in the single most important bottomfish fishery in federal water in the MHI**.**

8. Establish seasonal closures for targeting and landing of bottomfish from the MHI

This option would prohibit the harvest of bottomfish species during an annual seasonal closure from July to September. Commercial and recreational harvest of bottomfish species from waters around the MHI would be prohibited during this time. Bottomfish landing from the NWHI would be allowed to continue through the limited entry programs now in place. Bottomfish species in Hawaii are thought to have an extended spawning period from July to October. Summer months is generally a time of low bottomfishing effort due to local targeting of tuna species. This proposed 3 month closure could potentially remove up to 15% of the total effort in the MHI.

Options	Reduce fishing mortality?	Impact on User?	Impact on Management?	Administration?
No Action	No. However, 7 year decline in commercial effort after state program	no change	no change	No change
Incorporate State MPAs and bag limits with cooperative enforcement for those within state waters	Maybe, if illegal fishing is occurring it might help reduce illegal fishing	Improved compliance Heightened monitoring	Bring federal enforcement Require state/USCG/NMFS coordination	Added enforcement requirements
New area closures in Fed Waters to bottomfishing **1) Close PB** **2) Middle bank**	1) Reduce fishing mortality by upto 40% 2) Reduce fishing mortality upto 2-3%	1) Huge impact on Oahu/Molokai fishers 2) Minimal impact overall; Kauai and potentially NWHI fishery greater impacts	1) Remove upto 40% mortality (harvest) 2) 2-3% of fed mhi bot habitat protected	Added enforcement requirements
Control Date	No direct effect on effort; Step in process to limit effort	Recreational and commercial users could be restricted in the future	Prevents gold rush should limited entry or quotas be considered in the future.	Minor
Limited Entry	Direct limit of effort. Could cap effort at long term goal.	Some users, recent or those who have never participated, would be prohibited to fish	Improve monitoring and management capabilities by creating known pool of users.	Establish and monitor limited entry program.
Quotas	Commercial IFQ will control fishing mortality	Some users, recent or those who have never participated, would be prohibited to fish	Program to monitor quotas on timely basis would need to established	Admin nightmare; annual harvest determination is problem
Federal Permit and reports for PB & MB	May indirectly reduce some effort due to additional burden	New burden on recreational and commercial fishermen	Improve information for monitoring and management; Reinforce state comm. reporting.	Require on water enforcement

Annual Seasonal Closure for bottomfish in MHI during July - Sept; Do not include UKU	Will reduce effort only extent that fishermen don't shift times they fish. Species don't include uku.	Marginal impact because this is time of low effort. However, it is also time of good bottomfishing weather	Protect during breeding season. Remove 15-20% of MHI effort.	State will have to cooperate and establish similar rules NWHI fishery continues
Prohibit use of traps for bmus except taape	Minor harvest of BMUS using deep water traps. Minor effort reduction	Few fishermen use deepwater traps. May become more popular.	Preventative measure Minimize impact to habitat	Minor

V. More Opportunities

The Council will host a Fishers' Forum on June 1, 2005 at the Ala Moana Hotel, Honolulu, Hawaii from 6:00 - 9:00 p.m. The Forum is being held as part of the 127th Council meeting that will be held from May 31 - June 2, 2005. The Forum is open to the public and bottomfish fishermen are strongly urged to participate. A summary of the options presented in the paper will be provided and discussed. The goal of the Forum is to improve the options presented or develop new options.

For more information regarding this paper or the upcoming Fisher's Forum, contact Mark Mitsuyasu at the Council office at phone (808)522-86040; FAX (808) 522-8226 or email at mark.mitusyasu@noaa.gov