



FEB 27 2013

To All Interested Government Agencies and Public Groups:

An environmental review under the National Environmental Policy Act (NEPA) has been completed for the following action:

TITLE: Annual Catch Limits and Accountability Measures for Pacific Island Bottomfish in 2013 and 2014 (RIN 0648-XC351)

LOCATION: U.S. EEZ around American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and Hawaii

SUMMARY: NMFS will specify annual catch limits (ACLs) and accountability measures (AMs) for bottomfish stock complexes in American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), and Guam, and for the non-Deep 7 bottomfish stock complex in Hawaii. The ACLs and AMs will be applicable in fishing year 2013 (January 1 through December 31). The ACL and AM may also apply to future specifications for 2014. This action complies with provision of the Fishery Ecosystem Plans (FEP) for American Samoa, the Mariana Archipelago, and Hawaii. The FEPs and their implementing regulations require NMFS to specify ACLs for all stocks and stock complexes and to identify AMs to prevent ACLs from being exceeded and to mitigate overages should they occur. The ACL specifications and AMs were developed by the Western Pacific Fishery Management Council using the best available scientific information, and were coordinated with the public. The ACLs and AMs are intended to provide for long-term sustainability of bottomfish fisheries of the western Pacific.

NMFS prepared an environmental assessment (EA) to consider the effects of the proposed specifications on the environment. Review of the performance of each fishery and future evaluations of the fisheries and ACL adjustments are expected to prevent any of the fish stocks from being subjected to overfishing or becoming overfished.

The EA, proposed specifications, and other supporting documents are identified by NOAA-NMFS-2012-0226, and are available at www.regulations.gov or by mail from:

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The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared. A copy of the finding of no significant impact (FONSI), including the supporting EA, is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA and FONSI, we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the responsible official named above.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Patricia A. Montanio', is positioned above the printed name.

Patricia A. Montanio
NOAA NEPA Coordinator

Enclosure

Environmental Assessment

Annual Catch Limit Specifications and Accountability Measures for Pacific Islands Bottomfish Fisheries in 2013 and 2014

Including a Regulatory Impact Review

January 14, 2013

Responsible Agency: Pacific Islands Regional Office (PIRO)
National Marine Fisheries Service (NMFS)
National Oceanic and Atmospheric Administration (NOAA)

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Abstract

NMFS proposes to specify annual catch limits (ACL) and accountability measures (AM) for the multi-species bottomfish stock complexes in American Samoa, Guam, and the Northern Mariana Islands, and for the non-Deep 7 bottomfish stock complex in the main Hawaiian Islands (MHI). The ACLs and AMs would be applicable in fishing year 2013, which begins on January 1 and ends on December 31, 2013, which NMFS may re-specify again in fishing year 2014.

For American Samoa bottomfish, the proposed ACL is 101,000 lb and is associated with a 30 percent probability of overfishing in 2013 rising to 41 percent in 2014. For Guam bottomfish, the proposed ACL is 66,800 lb and ACL is associated with a 28 probability of overfishing in 2013 rising to a 40 percent probability in 2014. For CNMI bottomfish, the proposed ACL is 228,000 lb and is associated with a 28 percent probability of overfishing in 2013 rising to 39 percent in 2014. For the MHI non-Deep 7 bottomfish complex, the proposed ACL is 140,000 lb and is associated with a 26 percent probability of overfishing in 2013 and 2014. NMFS recently specified the ACL for the MHI Deep 7 bottomfish complex (77 FR 56791, September 14, 2012) so only the non-Deep 7 bottomfish are included in the Hawaii portion of this action.

Currently, near-real time catch data are not available in any western Pacific bottomfish fishery; therefore, the agency is not proposing an in-season AM (e.g. fishery closure in Federal waters) to prevent an ACL from being exceeded. Instead, NMFS proposes to continue the AMs it implemented in 2012 (77 FR 6019, February 7, 2012). The AMs require the Western Pacific Fishery Management Council (Council) to conduct a post-season review of catch as soon as possible after each fishing year to evaluate whether any fishery has exceeded its ACL. Additionally, consistent with regulations implementing the fishery ecosystem plans (FEP) for American Samoa, the Mariana Archipelago, and Hawaii, if landings exceed the specified ACL for a fishery in a fishing year, the Council would take action in accordance with 50 CFR 600.310(g) to correct the operational issue that caused the ACL overage. This may include a recommendation that NMFS implement a downward adjustment to the ACL in the subsequent fishing year, or other measures, as appropriate.

The Council recommended the ACLs and continuation of existing AMs at its 155th meeting held in October 2012 and developed its recommendations in accordance with the approved ACL mechanism described in the FEPs. The Council based its recommendations on the most recent bottomfish stock assessments and other information provided by NMFS Pacific Islands Fisheries Science Center, and in consideration of the best available scientific, commercial, and other information. The purpose of the action is to comply with provisions of the FEPs for American Samoa, the Mariana Archipelago, and Hawaii, which require NMFS to specify an ACL for western Pacific bottomfish fisheries, implement AMs that prevent ACLs from being exceeded, and correct or mitigate overages of ACLs if they occur.

This environmental assessment (EA) evaluates the potential environmental impact of the proposed ACL specifications and AMs in fishing years 2013 and 2014. The EA includes a description of the information and methods used by the Council to develop the proposed action. Based on the analysis in this EA, NMFS does not expect the proposed ACL specifications and AMs to result in a change to the conduct of any western Pacific bottomfish fishery, so there would be no large or adverse environmental effects on target, non-target, or bycatch species, or on protected species that may interact with these fisheries. The proposed ACLs and AMs are also not expected to conflict with ongoing fishery management activities or programs conducted by other federal agencies, local resource management agencies or communities, or result in any impacts to coastal or marine areas, including designated essential fish habitat, habitat areas of particular concern, critical habitat, marine protected areas, or unique areas. The specification of ACLs and implementation of AMs are part of a suite of management measures in the bottomfish fisheries of the western Pacific intended to provide for sustainable harvest of bottomfish fishery resources while preventing overfishing from occurring, which NMFS anticipates will have positive long-term impact on fishery resources, participants, and fishing communities.

NMFS solicited public comment on the proposed rule to specify ACLs and implement AMs for the bottomfish fisheries of the western Pacific for 2013 and 2014. Two comments were received: one commenter generally supported the proposed specifications, noting their importance in providing for sustainable fisheries, the second commenter felt that a free market would establish acceptable catch levels better than a government agency. No changes to the proposed action or EA ent were made as a result of public comments. The agency responded to the comments in the final specification.

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Acronyms

ABC – Acceptable Biological Catch
ACL – Annual Catch Limit
ACT – Annual Catch Target
AM – Accountability Measure
APA – Administrative Procedures Act
BMUS – Bottomfish Management Unit Species
CFR – Code of Federal Regulations
CNMI – Commonwealth of the Northern Mariana Islands
CPUE – Catch Per Unit of Effort
DAWR – Guam Division of Aquatic and Wildlife Resources
DMWR – American Samoa Department of Marine and Wildlife Resources
DFW – Northern Mariana Islands Division of Fish and Wildlife
EA – Environmental Assessment
EC – Ecosystem Component
EEZ – Exclusive Economic Zone
ESA – Endangered Species Act
FEP – Fishery Ecosystem Plan
FMP – Fishery Management Plan
FR – Federal Register
FRFA – Final Regulatory Flexibility Analysis
HDAR – Hawaii Division of Aquatic Resources
HMRFS – Hawaii Marine Recreational Survey
IRFA – Initial Flexibility Analysis
JEA – Joint Enforcement Agreement
MHI – Main Hawaiian Islands
MSA – Magnuson-Stevens Act – Magnuson-Stevens Fishery Conservation and Management Act
MFMT – Maximum Fishing Mortality Threshold
MMPA – Marine Mammal Protection Act
MRFSS – Marine Recreational Fisheries Statistics Survey
MSST – Minimum Stock Size Threshold
MSY – Maximum Sustainable Yield
MUS – Management Unit Species
NEPA – National Environmental Policy Act
Nm – Nautical Miles
NMFS – National Marine Fisheries Service
NOAA – National Oceanic and Atmospheric Administration
NRC – National Research Council
OFL – Overfishing Limit
OLE – Office of Law Enforcement
ONMS – NOAA Office of National Marine Sanctuaries
OY – Optimum Yield

P* - Probability or Risk of Overfishing
PIFSC – NMFS Pacific Islands Fisheries Science Center
PIRO – Pacific Islands Regional Office
RFA – Regulatory Flexibility Analysis
RIR – Regulatory Impact Review
SDC – Status Determination Criteria
SEEM – Social, Economic, and Ecological Considerations, or Management Uncertainty
SSC – Scientific and Statistical Committee
USCG – U.S. Coast Guard
USFWS – U.S. Fish and Wildlife Service
VMS – Vessel Monitoring System
WPacFIN – Western Pacific Fisheries Information Network

1 Background Information

The National Marine Fisheries Service (NMFS) and the Western Pacific Fishery Management Council (Council) manage fisheries for bottomfish management unit species (BMUS) in federal waters of the exclusive economic zone (EEZ; generally 3-200 nautical miles or nm) around the U.S. Pacific Islands through one of four fishery ecosystem plans (FEP) authorized by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Three of the FEPs are archipelagic-based and include the American Samoa Archipelago FEP, the Hawaii Archipelago FEP, and the Mariana Archipelago FEP (which covers federal waters around Guam and the Commonwealth of the Northern Mariana Islands or the CNMI). The fourth FEP covers federal waters of the U.S. Pacific remote island areas (PRIA) which include Palmyra Atoll, Kingman Reef, Jarvis Island, Baker Island, Howland Island, Johnston Atoll, and Wake Island. In each island area except the PRIA, bottomfish fisheries harvest an assemblage, or complex of species that include emperors, snappers, groupers, and jacks.

General federal regulations for western Pacific bottomfish fisheries in 50 Code of Federal Regulations (CFR) 665 include vessel identification and observer requirements and a prohibition on the use of bottom trawls and bottom set gillnets. In the CNMI, Federal regulations further require commercial fishermen to obtain a federal bottomfishing permit and report all catch, and prohibit fishing vessels greater than 40 ft in length from fishing within 50 nautical miles (nm) around the southern islands of Rota, Tinian and Saipan, and 10 nm around the island of Alamagan. Additionally, all commercial fishing is prohibited within 50 nm around the three northernmost islands, Uracus, Maug, and Asuncion in accordance with Presidential Proclamation 8335 establishing the Mariana Trench Marine National Monument. In Guam, federal regulations prohibit vessels greater than 50 ft in length from fishing for bottomfish management unit species (BMUS) in U.S. EEZ waters within 50 from shore. No bottomfish fishing occurs in the PRIA.

In Hawaii, bottomfish fishing managed under the Hawaii FEP only occurs in waters around the main Hawaiian Islands (MHI). Federal regulations require non-commercial bottomfish fishermen to obtain a federal permit and report all catch, and adhere to bag limits while commercial fishers are required to report all catch to the State of Hawaii pursuant to state law. Prior to 2010, the Northwestern Hawaiian Islands (NWHI) bottomfish fishery, which historically accounted for nearly half of the bottomfish landed in Hawaii, operated under a limited entry system with permit, reporting and observer requirements. However, in 2009, NMFS closed the NWHI fishery in accordance with Presidential Proclamation 8031 that established the Papahānaumokuākea Marine National Monument (Monument) and prohibited commercial fishing, although NOAA allows sustenance fishing for bottomfish to continue in accordance with Monument regulations (71 FR 51134, August 29, 2006).

In all island areas, federal requirements also direct NMFS to specify an annual catch limit (ACL) and implement accountability measures (AM) for each bottomfish stock and stock complex¹, as recommended by the Council, and in consideration of the best available scientific, commercial, and other information about the fishery for that stock or stock complex. On February 7, 2012 (77

¹ The Magnuson-Stevens Act defines the term “stock of fish” to mean a species, subspecies, geographic grouping, or other category of fish capable of management as a unit. Federal regulations at 50 CFR §660.310(c) defines “stock complex” to mean a group of stocks that are sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks is similar.

FR 6019), NMFS specified the 2012 ACLs for BMUS in American Samoa, Guam and the CNMI, and the ACL for the MHI non-Deep 7 bottomfish as follows: American Samoa bottomfish ACL = 99,200 lb, Guam bottomfish ACL = 48,200 lb, CNMI bottomfish ACL = 182,500 lb, and MHI non-Deep 7 bottomfish ACL = 135,000 lb. NMFS prepared an EA (NMFS, 2011) which describes the data, methods, and procedures considered by NMFS, the Council, and its Scientific and Statistical Committee (SSC) in developing the ACL specifications for 2012.

Overview of the ACL Specification Process

In accordance with the Magnuson-Stevens Act and the FEPs, there are three required elements in the development of an ACL specification. The first requires the Council's SSC to calculate an acceptable biological catch (ABC) that is set at or below the stock or stock complex's overfishing limit (OFL). The OFL is an estimate of the catch level above which overfishing is occurring and corresponds with the maximum fishing mortality threshold (MFMT). ABC is the level of catch that accounts for the scientific uncertainty in the estimate of OFL and other scientific uncertainty. To determine the appropriate ABC, the ACL mechanism described in the FEPs includes a five-tiered system of control rules that allows consideration of different levels of scientific information. Tiers 1-2 involve data rich to data moderate situations and include levels of scientific uncertainty derived from model-based stock assessments. Tiers 3-5 involve data poor situations and include levels of scientific uncertainty derived from ad-hoc procedures including simulation models or expert opinion.

When calculating an ABC for a stock or stock complex, the SSC must first evaluate the information available for the stock and assign the stock or stock complex into one of the five tiers. The SSC must then apply the control rule assigned to that tier to determine ABC. For stocks or stock complexes like bottomfish that have estimates of maximum sustainable yield (MSY) and other MSY-based reference points derived from statistically-based stock assessment models (Tier 1-3 quality data), the ABC is calculated by the SSC based on an ABC control rule that accounts for scientific uncertainty in the estimate of the OFL, and the acceptable level of risk (as determined by the Council) that catch equal to the ABC would result in overfishing. In plain English, ABC is the maximum value for which the probability or risk of overfishing percentile (P*) is less than 50 percent. In accordance with federal regulations, the probability of overfishing cannot exceed 50 percent and should be a lower value (74 FR 3178, January 9, 2011). Each FEP includes a qualitative process by which the P* value may be reduced below 50 percent by the Council based on consideration of four dimensions of information, including assessment information, uncertainty characterization, stock status, and stock productivity and susceptibility. The FEPs also allow the SSC to recommend an ABC that differs from the results of the ABC control rule calculation based on factors such as data uncertainty, recruitment variability, declining trends in population variables, and other factors determined relevant by the SSC. However, the SSC must explain its rationale.

The second element requires the Council to determine an ACL that may not exceed the SSC recommended ABC. The process includes methods by which the ACL may be reduced from the ABC based on social, economic, and ecological considerations, or management uncertainty²

² Management uncertainty occurs because of the lack of sufficient information about catch (e.g., late reporting, under reporting, and misreporting of landings).

(SEEM). An ACL set below the ABC further reduces the probability that actual catch will exceed the OFL and result in overfishing.

The third and final element in the ACL process is the inclusion of AMs. There are two categories of AMs, in-season AMs and post-season AMs. In-season AMs prevent an ACL from being exceeded and may include, but are not limited to, closing the fishery, closing specific areas, changing bag limits, or other methods to reduce catch. An annual catch target (ACT) may also be used in the system of AMs so that an ACL is not exceeded. An ACT is the management target of the fishery and accounts for management uncertainty in controlling the actual catch at or below the ACL. Post season AMs include a downward adjustments to an ACL if it is exceeded.

If the Council determines an ACL has been exceeded, the Council may recommend as an AM, that NMFS reduce the ACL in the subsequent fishing year by the amount of the overage. In determining whether an overage adjustment is necessary, the Council would consider the magnitude of the overage and its impact on the affected stock’s status. Additionally, if an ACL is exceeded more than once in a four-year period, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness. Figure 1 illustrates the relationship between the terms used in this section.

For more details on the specific elements of the ACL specification mechanism and process, see Amendment 1 to the PRIA FEP, Amendment 2 to the American Samoa Archipelago FEP, Amendment 2 to the Mariana FEP, Amendment 3 to the Hawaii Archipelago FEP, and the final implementing regulations at 50 CFR §665.4 (76 FR 37286, June 27, 2011).

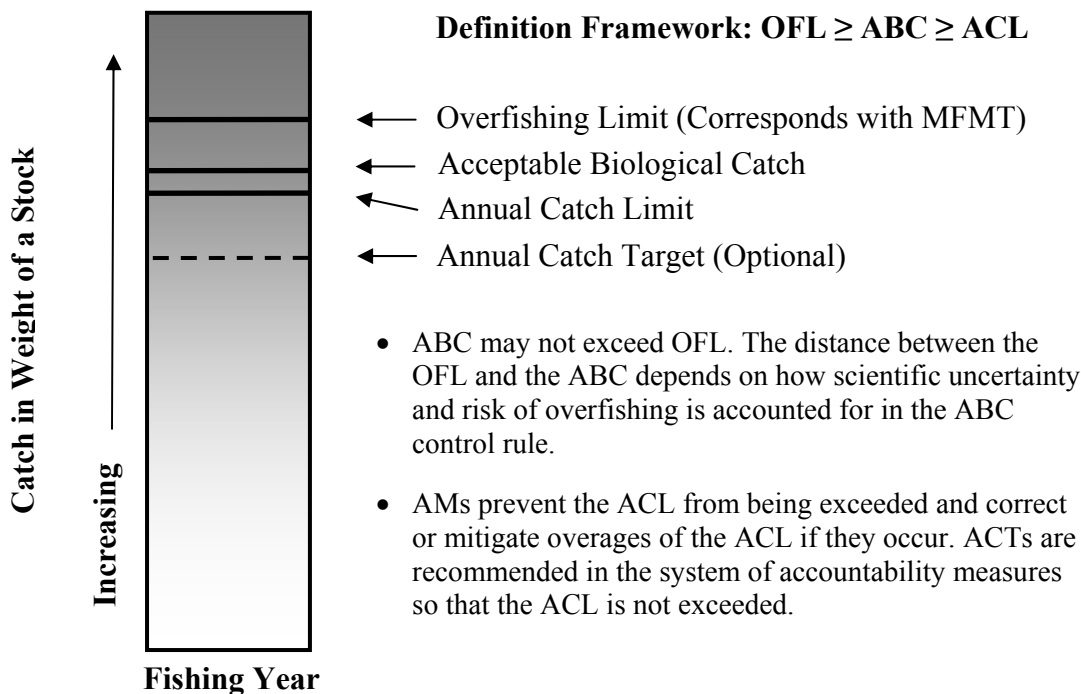


Figure 1. General relationship between OFL, ABC, ACL and ACT

1.1 Purpose and Need

ACLs are needed to comply with the Magnuson-Stevens Act and provisions of the FEPs for American Samoa, the Mariana Archipelago, and Hawaii, which require NMFS to specify an ACL for each stock and stock complex in western Pacific bottomfish fisheries. The fishery management objective of this action is to specify an ACL for all western Pacific BMUS that will prevent overfishing from occurring in 2013 and 2014, and ensure long-term sustainability of bottomfish resources while allowing fishery participants and the Nation to continue to benefit from their utilization. AMs also are needed to correct or mitigate overages of the ACL should they occur. In American Samoa, CNMI and Guam, BMUS are managed as a single multi-species stock complex. In the MHI, BMUS are managed as two separate stock complexes, the MHI Deep 7 stock complex³ and the MHI non-Deep 7 stock complex⁴. Consistent with the FEPs, NMFS proposes to specify ACLs for western Pacific BMUS at the stock complex level.

1.2 Proposed Action

NMFS proposes to specify an ACL for BMUS in American Samoa, the CNMI and Guam and for the non-Deep 7 BMUS in the MHI. The ACLs would be applicable in fishing year 2013, which begins on January 1 and ends on December 31, 2013, and could be re-specified again in fishing year 2014. The proposed ACLs are as follows: American Samoa bottomfish ACL = 101,000 lb, Guam bottomfish ACL = 66,800 lb, CNMI bottomfish ACL = 228,000 lb, and MHI non-Deep 7 bottomfish ACL = 140,000 lb. NMFS recently specified an ACL for the MHI Deep 7 bottomfish complex (77 FR 56791, September 14, 2012) so only the non-Deep 7 bottomfish are included in the Hawaii portion of this action.

In each island area, NMFS would begin counting catches towards the ACL for each bottomfish stock complex (except for the MHI Deep 7 bottomfish stock complex) starting on January 1 based on data collected by local resource management agencies through their respective fishery monitoring programs⁵, and by NMFS through federal logbook reporting. Pursuant to Federal fishing regulations at 50 CFR 665.4, when an ACL for a stock complex is projected to be reached, based on best available information, NMFS will restrict fishing for that stock complex in federal waters around the applicable U.S. EEZ to prevent the ACL from being exceeded. The restriction may include, but is not limited to, closure of the fishery, closure of specific areas or restriction in effort (76 FR 37286, June 27, 2011). However, in-season restrictions are not possible for any western Pacific bottomfish fishery at this time because catch statistics are generally not available until at least six months after the data have been collected (see Sections

³ MHI Deep 7 bottomfish include onaga (*Etelis coruscans*), ehu (*Etelis carbunculus*), gindai (*Pristipomoides zonatus*), kalekale (*Pristipomoides sieboldii*), opakapaka (*Pristipomoides filamentosus*), lehi (*Aphareus rutilans*), and hapuupuu (*Epinephelus quernus*).

⁴ MHI non-Deep 7 bottomfish include uku (*Aprion virescens*), white ulua (*Caranx ignobilis*), black ulua (*Caranx lugubris*), taape (*Lutjanus kasmira*), yellowtail kalekale (*Pristipomoides auricilla*), butaguchi (*Pseudocaranx dentex*) and kahala (*Seriola dumerili*).

⁵ Catch data for bottomfish fisheries in each island are collected at the lowest taxonomic level possible by state and territorial fisheries agencies in American Samoa, the CNMI, Guam, and Hawaii. The data are then expanded using algorithms developed by NMFS Pacific Islands Fisheries Science Center (PIFSC), Western Pacific Fisheries Information Network (WPacFIN) to generate estimates of total catches from both commercial and non-commercial sectors, except in Hawaii where total catch is based only on catch reported by the commercial fishing sector, as required under State law.

2.3.4 and 3.0 for more details on data collection). For this reason, NMFS proposes to implement the Council's recommended AM, which requires the Council to conduct a post-season accounting of the annual catch for a stock complex relative to its ACL immediately after the end of the fishing year or as soon thereafter as possible given the limitations in the data collection and processing methods. Additionally, if landings of any stock complex exceed the specified ACL in a fishing year, the Council would take action in accordance with 50 CFR 600.310(g) to correct the operational issue that caused the ACL overage. This may include a recommendation that NMFS implement a downward adjustment to the ACL in the subsequent fishing year, or other measures, as appropriate. As an additional performance measure specified in each FEP and Federal fishing regulations, if any ACL is exceeded more than once in a four-year period, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness. These AMs are a continuation of the current AM applied to the four fisheries.

At the time of printing of this document, 2012 bottomfish catch data were not available for any area. If post-season accounting of the 2012 catches (to be conducted by the Council in early 2013), reveal that a 2012 ACL was exceeded, and the Council recommends a downward adjustment to the 2013 and 2014 ACLs, such action could be implemented by NMFS through in-season rulemaking, subject to all applicable laws.

1.3 Decisions to be Made

After considering public comments on the proposed action and alternatives considered, NMFS will specify ACLs and AMs for BMUS in American Samoa, the CNMI, and Guam and for the non-Deep 7 BMUS in the MHI for fishing year 2013. The Regional Administrator of the NMFS Pacific Islands Regional Office (PIRO) will also use the information in this EA, which includes the impacts of making the same specification for the 2014 fishing year, to make a determination about whether the selected ACL specifications and AMs in 2013 and 2014 would be a major federal action with the potential to have a significant environmental impact that would require the preparation of an environmental impact statement.

1.4 Public Involvement

At its 155th meeting, the Council considered and discussed issues relevant to ACL and AM specifications for western Pacific bottomfish stocks and stock complexes in American Samoa, Guam, the CNMI, and Hawaii, including the ABC recommendations from the 111th SSC meeting, and the range of ACLs considered in this document. The 111th SSC and the 155th Council meetings were held October 24-26, 2012 and October 29-November 1, 2012, respectively. Both meetings were open to the public and advertised through notices in the Federal Register (77 FR 59902; October 1, 2012), local news media, and on the Council's website. NMFS is seeking public comment on the proposed rule to specify ACLs and implement AMs for the bottomfish fisheries in American Samoa, the CNMI, Guam and Hawaii. Instructions on how to comment on the proposed rule were found by searching on RIN 0648-XC351 at www.regulations.gov, or by contacting the responsible official or Council at addresses on the cover page.

NMFS solicited public comment on the proposed rule to specify ACLs and implement AMs for the bottomfish fisheries of the western Pacific for 2013 and 2014 (78 FR 6798; January 31, 2013). Two comments were received: one commenter generally supported the proposed specifications, noting their importance in providing for sustainable fisheries, the second commenter felt that a free market would establish acceptable catch levels better than a government agency. No changes to the proposed action or environmental assessment were made as a result of public comments. The agency responded to the comments in the final specification.

2 Description of the Alternatives Considered

The alternatives considered in this document are a range of ACLs for the multi-species bottomfish stock complexes of American Samoa, Guam, and the CNMI, and the non-Deep 7 bottomfish stock complex of the MHI. Although the estimate of OFL and calculation of ABC are part of the ACL mechanism, the establishment of these reference points is not part of the proposed federal action, but is described for informational purposes.⁶

2.1 Development of the Alternatives

The SSC and Council developed their respective ABC and ACL recommendations in accordance with the Magnuson-Stevens Act and Federal regulations at 50 CFR §665.4 that implement the ACL specification mechanism of the FEPs described in Section 1. This section summarizes the data, methods, and procedures the SSC and Council considered in their deliberations. Reports of the 111th SSC and 155th Council meetings can be obtained from the Council.

The ABC and ACL recommendations for bottomfish in American Samoa, Guam, and the CNMI are based on a 2012 bottomfish stock assessment (Brodziak et al., 2012) conducted by NMFS Pacific Islands Fisheries Science Center (PIFSC). The 2012 stock assessment applied the same production modeling as the previous 2007 assessment (Moffitt et al., 2007) and used data through 2010. A Bayesian statistical framework was applied to estimate parameters of a production model fit to a time series of annual catch per unit effort (CPUE) statistics. This approach provides direct estimates of parameter uncertainty for status determination. The surplus production model included both process error in biomass production dynamics and observation error in the CPUE. The assessment evaluated alternative models with differing prior assumptions about carrying capacity and the ratio of initial stock biomass at the beginning of the assessment time period to carrying capacity. The sensitivity of status determination results to catch data and model assumptions were also evaluated. For each island areas, the 2012 stock assessment also included stock projection results for a range of bottomfish catches that would produce probabilities of overfishing in fishing year 2013 and 2014 ranging from 0 percent to 100 percent at five percent intervals (Tables 15-17 in Brodziak et al., 2012, and shown in Appendix A). A brief summary of key model outputs is provided in Section 2.1.1 for American Samoa BMUS, Section 2.1.2 for Guam BMUS and Section 2.1.3 for CNMI BMUS.

The ABC and ACL recommendations for the non-Deep 7 bottomfish in the MHI are based on a combination of information sources including State of Hawaii commercial catch data, and information contained in the PIFSC 2011 stock assessment update for MHI Deep 7 bottomfish (Brodziak et al., 2011). This stock assessment used data through 2010 and included stock projections to determine catch limits and their associated probabilities of overfishing for the MHI Deep 7 bottomfish stock complex. The information in the 2011 assessment is used as a proxy for non-Deep 7 bottomfish population dynamics, catchability and other biological parameters, and to calculate potential annual catch limits and their associated probabilities of overfishing for the

⁶ OFL is an estimate of the catch level above which overfishing is occurring and was estimated in NMFS PIFSC's stock assessment for American Samoa, Guam and CNMI bottomfish stock complexes through 2010 (Brodziak, et al. 2012). ABC accounts for scientific uncertainty in the estimate of OFL and was calculated at the 111th meeting of the Council's SSC. OFL and ABC are biologically-based reference points and are not part of the federal action.

non-Deep 7 bottomfish stock complex in the MHI. A brief description of the 2011 MHI Deep 7 stock assessment and the rationale for applying its findings to the non-Deep 7 bottomfish stock complex by analogy is presented in Section 2.1.4.

2.1.1 American Samoa Bottomfish MUS

Estimation of OFL

According to the PIFSC 2012 bottomfish stock assessment (Brodziak et al., 2012), the long-term MSY for American Samoa bottomfish is estimated to be 76,200 ± 14,300 lb, which is lower than the previous MSY estimate of 109,000 ± 29,700 lb reported in the 2007 assessment by Moffitt et al. (2007). Stock projection results, which assumes the bottomfish catch limit would be harvested in its entirety in 2013 and again in 2014, indicate that an ACL set at approximately 108,000 lb would result in a 36 percent probability of overfishing in 2013, rising in 2014 to a 50 percent probability of overfishing (Table 1), the maximum risk allowable by law (74 FR 3178, January 9, 2011). Therefore, while 76,200 lb is the long-term estimate of MSY, 108,000 lb is considered to be the OFL proxy for the upcoming two year period. As a reference, estimated average annual total catch during the period 2007-2011 was 28,413 lb (Table 2). This past performance suggests the fishery would need to harvest nearly four times the recent average catch or 30,000 lb more than MSY in 2013 and again in 2014 for overfishing to occur.

Table 1. American Samoa probability of overfishing in 2013 and 2014 for a range of ACLs

ACL (lb)	% Probability of Overfishing (2013)	% Probability of Overfishing (2014)
33,000	0	0
60,000	5	5
73,000	10	12
81,000	15	18
89,000	20	26
90,200	21	27
91,400	22	29
92,600	23	30
93,800	24	32
95,000	25	33
96,200	26	35
97,400	27	36
98,600	28	38
99,800	29	39
101,000	30	41
102,200	31	43
103,400	32	44
104,600	33	46
105,800	34	47
107,000	35	49
108,000	36	50

Source: Values interpolated from Table 15 in Brodziak et al., (2012)

Stock Status

Under all the western Pacific FEPs, overfishing of bottomfish occurs when the fishing mortality rate (F) is greater than the fishing mortality rate that produces MSY (F_{MSY}) for one year or more. This threshold is termed the maximum fishing mortality threshold (MFMT) and is expressed as a ratio, $F/F_{MSY} = 1.0$. Thus, if the F/F_{MSY} ratio is greater than 1.0 for one year or more, overfishing is occurring. A stock is considered overfished when its biomass (B) has declined below the level necessary to produce MSY on a continuing basis (B_{MSY}). This threshold is termed the minimum stock size threshold (MSST) and is expressed as a ratio, $B/B_{MSY} = 0.7$. Thus, if the B/B_{MSY} ratio is less than 0.7, the stock complex is considered overfished. Whenever possible, status determination criteria (SDC) of MFMT and MSST are applied to individual species within the multi-species stock complex. When that is not possible, SDCs are applied to indicator species for a multi-species stock complex. With current data, neither approach is possible; therefore, for all island areas, SDCs are applied to the bottomfish multi-species stock complex as a whole.

In 2010, the most recent year for which stock status information is available, $F_{2010}/F_{MSY} = 0.09$, while $B_{2010}/B_{MSY} = 1.59$ (Table 12 in Brodziak et al., 2012). The production model results indicate that the American Samoa bottomfish complex was not overfished and did not experience overfishing at any point between the periods 1986 and 2010 (Figure 2). Based on risk projections in Table 1, an annual catch of 108,000 lb in 2013 and again in 2014 would be necessary to produce an F/F_{MSY} ratio of 1.0 (i.e., overfishing).

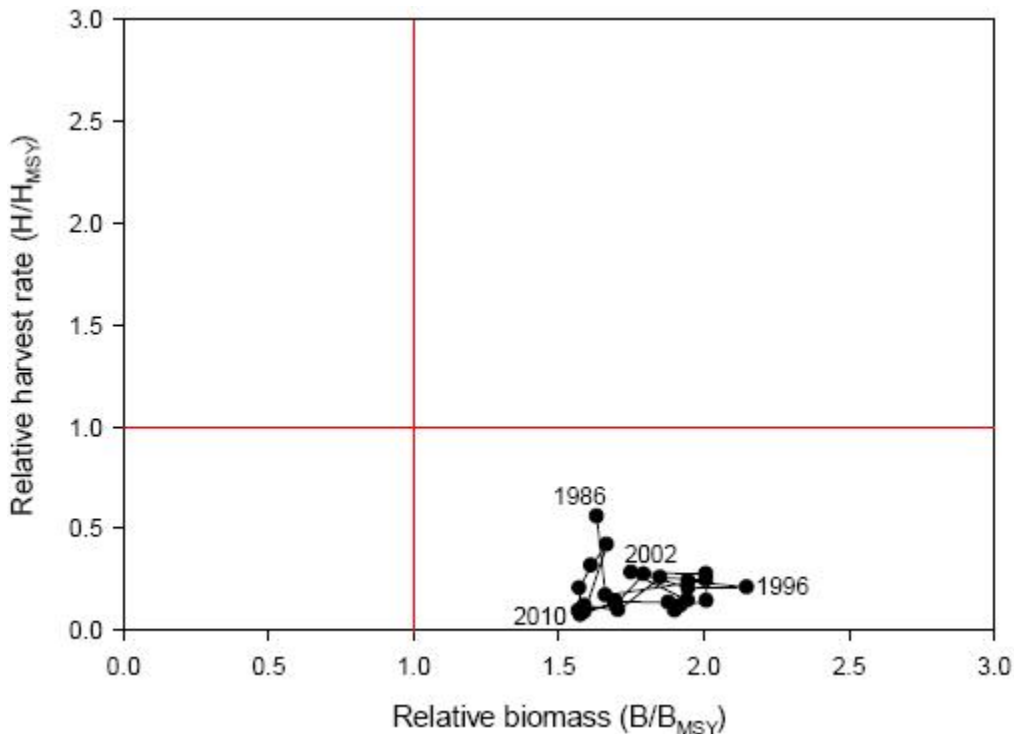


Figure 2. Kobe plot of relative biomass and relative exploitation rate from the best fitting production model for American Samoa, 1986-2010 (Source: Brodziak et al., 2012, Figure 25)

SSC's Calculation of ABC

Since the PIFSC 2012 stock assessment used statistical-based models to estimate OFL and uncertainty in OFL for the American Samoa bottomfish stock complex, the assessment qualifies

as a Tier 1-2 assessment.⁷ Therefore, in accordance with the Council’s ACL mechanism, the Council must advise the SSC on the acceptable probability of overfishing or P* to apply in the Tier 1-2 ABC control rule to calculate ABC. P* cannot exceed 50 percent and should be a lower value. However, the Council did not advise the SSC on an acceptable P*, so the SSC, at its 111th meeting held October 24-26, 2012 developed one independently whereby P* would be set below 50 percent based on consideration of four dimensions of information, including assessment information, uncertainty characterization, stock status, and stock productivity and susceptibility as required by the American Samoa FEP.

Upon evaluation of the PIFSC 2012 stock assessment, the SSC determined that catch equal to a P* of 41 percent applied in 2014 was appropriate for the fishery and presented its methodologies, rationale and findings at the 155th Council meeting (see Appendix B). Based on risk projections contained in Table 1, the SSC determined a catch of 101,000 lb corresponds to a P* of 30 percent in 2013 rising to 41 percent in 2014 and set the ABC for the American Samoa bottomfish stock complex at that level for both 2013 and 2014.

Council ACL and AM Recommendations

At its 155th meeting held October 29-November 1, 2012, the Council recommended setting the ACL for the American Samoa multi-species bottomfish stock complex equal to ABC at 101,000 lb for 2013 and 2014. In recommending the ACL for American Samoa BMUS, the Council also considered annual estimated catch between 2000 and 2011 (Table 2). The Council did not recommend reducing ACL from ABC for social, economic, or ecological reasons or management uncertainty (see the SEEM analysis process described in the American Samoa FEP) because based on catch history, the fishery is unlikely to reach the ACL in 2013 or 2014 (WPFMC 2012).

Table 2. Annual estimated catch of BMUS in American Samoa (2000-2011)

Year	Est. Total Catch (lb)¹	Est. Commercial Catch (lb)²	Percent Sold³
2000	19,816	13,319	67
2001	37,847	21,439	57
2002	34,149	16,603	49
2003	19,199	4,645	24
2004	17,206	11,469	67
2005	16,329	5,649	35
2006	7,913	5,252	66
2007	21,874	13,092	60
2008	34,812	24,585	71
2009	47,458	34,360	72
2010	9,509	8,667	91
2011	N/A	15,670	N/A
Average (2007-2011)	28,413	19,275	68

¹Source: Table 2 in Brodziak et al., (2012)

⁷ A “Tier 1-2” assessment refers to a stock assessment that has a moderate to high level of information available for a given fish stock. Each FEP describes the specified approach the SSC must use to calculate an ABC for stocks with a Tier 1-2 assessment (76 FR 14367, March 16, 2011).

² Source: NMFS WPacFIN website

http://www.pifsc.noaa.gov/wpacfin/as/Data/ECL_Charts/ae3cmain.htm (accessed 11/20/2012)

³ Percent sold is derived by dividing estimated commercial catch by estimated total catch

2.1.2 Guam Bottomfish MUS

Estimation of OFL

According to the PIFSC 2012 bottomfish stock assessment (Brodziak et al., 2012), the long-term MSY for Guam bottomfish is estimated to be 55,000 lb \pm 7,900 lb, which is slightly higher than the previous MSY estimate of 53,000 \pm 9,500 lb reported in the 2007 assessment by Moffitt et al. (2007). Stock projection results, which assume that each year the bottomfish catch limit would be harvested in its entirety in 2013 and again in 2014, indicate that an ACL set at approximately 70,400 lb would result in a 34 percent probability of overfishing in 2013, rising in 2014 to approximately a 49 percent probability of overfishing (Table 3), 1 percent below the maximum risk allowable by law (74 FR 3178, January 9, 2011). Therefore, while 55,000 lb is the long-term estimate of MSY, 70,400 lb is considered to be the OFL proxy for the upcoming two year period. As a reference, estimated average annual total catch during the period 2007-2011 was 33,489 lb (Table 4). This past performance suggests the fishery would need to harvest twice the recent average catch or 15,000 lb more than MSY in 2013 and again in 2014 for overfishing to occur.

Table 3. Guam probabilities of overfishing in 2013 and 2014 for a range of ACLs

ACL (lb)	% Probability of Overfishing (2013)	% Probability of Overfishing (2014)
22,000	0	0
44,000	5	5
51,000	10	11
56,000	15	17
61,000	20	26
61,800	21	28
62,600	22	30
63,400	23	31
64,200	24	33
65,000	25	35
65,600	26	37
66,200	27	38
66,800	28	40
67,400	29	41
68,000	30	43
68,500	31	45
69,200	32	46
69,800	33	48
70,400	34	49
71,000	35	51

Source: Values interpolated from Table 17 in Brodziak et al., (2012)

Stock Status

In 2010, the most recent year for which stock status information is available, $F_{2010}/F_{MSY} = 0.36$ while $B_{210}/B_{MSY} = 1.594$ (Table 14 in Brodziak et al., 2012). The production model results indicate that during the period 1982 through 2010, the Guam bottomfish complex has not been overfished and has not experienced overfishing, except perhaps in 2000 (Figure 3). Based on risk projections in Table 3, an annual catch between 70,400 lb and 71,000 lb in 2013 and again in 2014 would be necessary to produce an F/F_{MSY} ratio of 1.0 (i.e., overfishing).

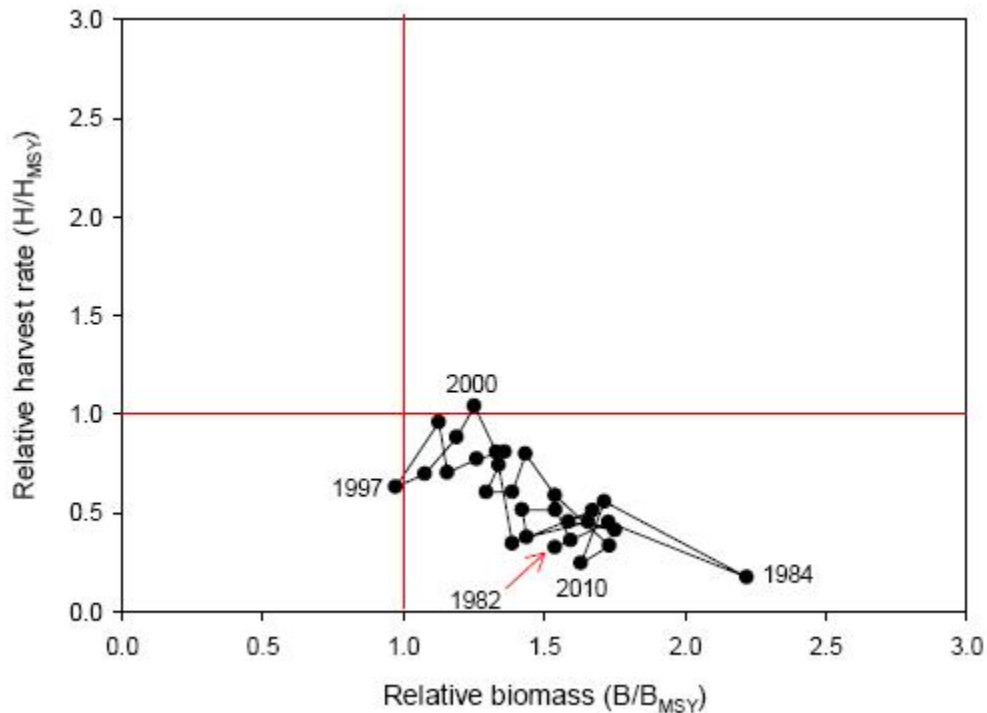


Figure 3. Kobe plot of relative biomass and relative exploitation rate from the best fitting production model for Guam, 1982-2010 (Source: Brodziak et al., 2012, Figure 39)

SSC's Calculation of ABC

Since the PIFSC 2012 stock assessment used statistical-based models to estimate OFL and uncertainty in OFL for the Guam bottomfish stock complex, the assessment qualifies as a Tier 1-2 assessment. Therefore, in accordance with the Council's ACL mechanism, the Council must advise the SSC on the acceptable probability of overfishing or P^* to apply in the Tier 1-2 ABC control rule to calculate ABC. P^* cannot exceed 50 percent and should be a lower value. However, the Council did not advise the SSC on an acceptable P^* , so the SSC, at its 111th meeting held October 24-26, 2012 developed one independently whereby P^* would be set below 50 percent based on consideration of four dimensions of information, including assessment information, uncertainty characterization, stock status, and stock productivity and susceptibility as required by the Mariana Archipelago FEP.

Upon evaluation of the PIFSC 2012 stock assessment, the SSC determined that catch equal to a P^* of 40 percent applied in 2014 was appropriate for the fishery and presented its methodologies, rationale and findings at the 155th Council meeting (see Appendix B). Based on risk projections

contained in Table 13, the SSC determined a catch of 66,800 lb corresponds to a P* of 28 percent in 2013 rising to 40 percent in 2014 and set the ABC for the Guam bottomfish stock complex at that level for both 2013 and 2014.

Council ACL and AM Recommendations

At its 155th meeting held October 29-November 1, 2012, the Council recommended setting the ACL for the Guam multi-species bottomfish stock complex equal to ABC at 66,800 lb for 2013 and 2014. In recommending the ACL for Guam BMUS, the Council also considered annual estimated catch between 2000 and 2011 (Table 4). The Council did not recommend reducing ACL from ABC for social, economic, or ecological reasons or management uncertainty (see the SEEM analysis process described in the Mariana Archipelago FEP) because based on catch history, the fishery would need to harvest twice the recent average catch (2007-2011) in 2013 and again in 2014 for overfishing to occur (WPFMC 2012).

Table 4. Annual estimated catch of BMUS in Guam (2000-2011)

Year	Est. Total Catch (lb)¹	Est. Commercial Catch (lb)²	Percent Sold³
2000	66,666	20,371	31
2001	54,352	23,690	44
2002	24,044	17,561	73
2003	43,253	10,841	25
2004	36,915	24,947	68
2005	36,529	23,002	63
2006	38,054	17,100	45
2007	27,459	16,074	59
2008	37,316	11,484	31
2009	40,222	15,867	39
2010	28,958	13,810	49
2011	N/A	15,985	N/A
Average (2007-2011)	33,489	14,644	44

¹Source: Table 2 in Brodziak et al., (2012).

² Source: NMFS WPacFIN website:

http://www.pifsc.noaa.gov/wpacfin/guam/dawr/Data/Landings_Charts/ge3c.htm (accessed 11/20/2012)

³ Percent sold is derived by dividing estimated commercial catch by estimated total catch

2.1.3 CNMI Bottomfish MUS

Estimation of OFL

According to the PIFSC 2012 bottomfish stock assessment (Brodziak et al., 2012), the long-term MSY for CNMI bottomfish is estimated to be 172,900 ± 32,200 lb, which is lower than the previous MSY estimate of 200,500 ± 40,500 lb reported in the 2007 assessment by Moffitt et al. (2007). Stock projection results, which assume that each year the bottomfish catch limit would be harvested in its entirety in 2013 and again in 2014, indicate that an ACL set at approximately 246,000 lb would result in a 34 percent probability of overfishing in 2013, rising in 2014 to

approximately a 50 percent probability of overfishing (Table 5), the maximum risk allowable by law (74 FR 3178, January 9, 2011). Therefore, while 172,900 lb is the long-term estimate of MSY, 246,000 lb is considered to be the OFL proxy for the upcoming two year period. As a reference, estimated average annual total catch during the period 2007-2011 was 36,279 lb (Table 6). This past performance suggests the fishery would need to harvest nearly seven times the recent average catch or 73,000 lb more than MSY in 2013 and again in 2014 for overfishing to occur.

Table 5. CNMI probabilities of overfishing in 2013 and 2014 for a range of ACLs

ACL (lb)	% Probability of Overfishing (2013)	% Probability of Overfishing (2014)
4,000	0	0
130,000	5	5
162,000	10	11
183,000	15	17
203,000	20	26
206,200	21	28
209,400	22	29
212,600	23	31
215,800	24	32
219,000	25	34
222,000	26	36
225,000	27	38
228,000	28	39
231,000	29	41
234,000	30	43
237,000	31	45
240,000	32	47
243,000	33	48
246,000	34	50

Source: Values interpolated from Table 16 in Brodziak et al., (2012)

Stock Status

In 2010, the most recent year for which stock status information is available, $F_{2010}/F_{MSY} = 0.09$ while $B_{2010}/B_{MSY} = 1.78$ (Table 13 in Brodziak et al., 2012). The production model results indicate that the CNMI bottomfish complex was not overfished and did not experience overfishing at any point between the periods 1986 and 2010 (Figure 4). Based on risk projections in Table 5, an annual catch of 246,000 lb in 2013 and again in 2014 would be necessary to produce an F/F_{MSY} ratio of 1.0 (i.e., overfishing).

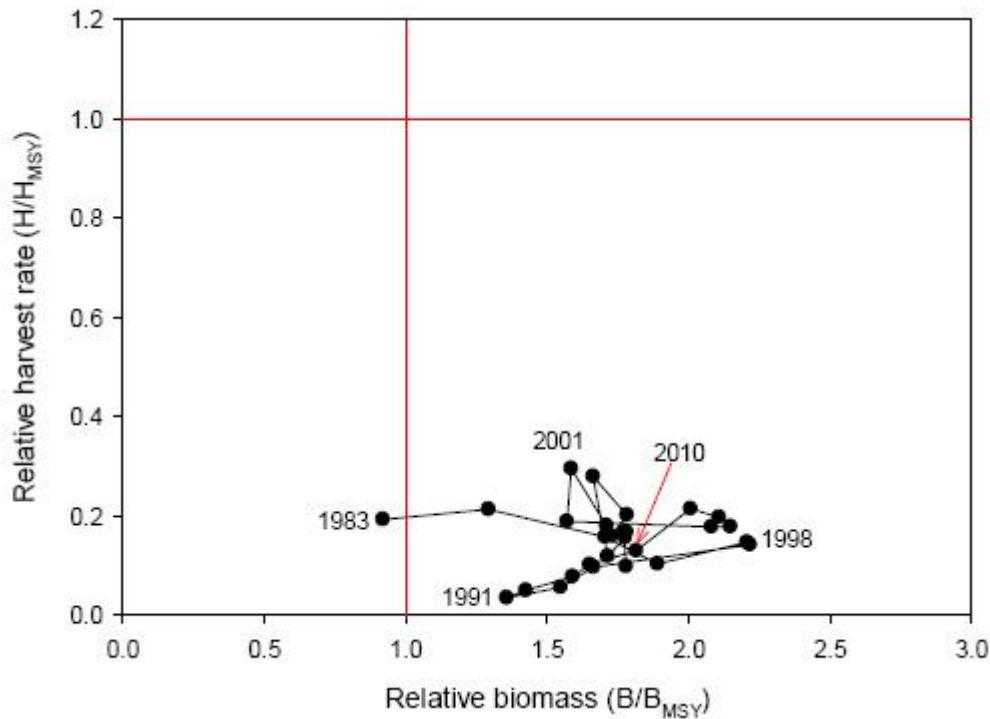


Figure 4. Kobe plot of relative biomass and relative exploitation rate from the best fitting production model for CNMI, 1983-2010 (Source: Brodziak et al., 2012, Figure 32)

SSC's Calculation of ABC

Since the PIFSC 2012 stock assessment used statistical-based models to estimate OFL and uncertainty in OFL for the CNMI bottomfish stock complex, the assessment qualifies as a Tier 1-2 assessment. Therefore, in accordance with the Council's ACL mechanism, the Council must advise the SSC on the acceptable probability of overfishing P^* to apply in the Tier 1-2 ABC control rule to calculate ABC. P^* cannot exceed 50 percent and should be a lower value. However, the Council did not advise the SSC on an acceptable P^* , so the SSC, at its 111th meeting held October 24-26, 2012 developed one independently whereby P^* would be set below 50 percent based on consideration of four dimensions of information, including assessment information, uncertainty characterization, stock status, and stock productivity and susceptibility as required by the Mariana Archipelago FEP.

Upon evaluation of the PIFSC 2012 stock assessment, the SSC determined that catch equal to a P^* of 39 percent applied in 2014 was appropriate for the fishery and presented its methodologies, rationale and findings at the 155th Council meeting (see Appendix B). Based on risk projections contained in Table 15, the SSC determined a catch of 228,000 lb corresponds to a P^* of 28 percent in 2013 rising to 39 percent in 2014 and set the ABC for the CNMI bottomfish stock complex at that level for both 2013 and 2014.

Council ACL and AM Recommendations

At its 155th meeting held October 29-November 1, 2012, the Council recommended setting the ACL for the CNMI multi-species bottomfish stock complex equal to ABC at 228,000 lb for 2013 and 2014. In recommending the ACL for CNMI BMUS, the Council also considered annual estimated catch between 2000 and 2011 (Table 2). The Council did not recommend reducing ACL from ABC for social, economic, or ecological reasons or management uncertainty (see the SEEM analysis process described in the Mariana Archipelago FEP) because based on catch history, the fishery would need to harvest nearly seven times the average recent catch (2008-2010) in 2013 and again in 2014 for overfishing to occur (WPFMC 2012).

Table 6. Annual estimated catch of BMUS in CNMI (2000-2011)

Year	Est. Total Catch (lb)¹	Est. Commercial Catch (lb)²	Percent Sold³
2000	45,258	14,968	33
2001	71,256	25,303	36
2002	46,765	18,816	40
2003	41,903	18,063	43
2004	54,475	12,973	24
2005	70,404	16,538	23
2006	29,340	12,262	42
2007	39,476	18,606	47
2008	42,070	18,389	44
2009	41,176	20,418	50
2010	22,395	14,729	66
2011	N/A	16,930	N/A
Ave. Catch 2007-2011	36,279	17,814	49

¹Source: Table 2 in Brodziak et al., (2012).

² Source: NMFS WPacFIN website

http://www.pifsc.noaa.gov/wpacfin/cnmi/Data/Landings_Charts/ce3c.htm (accessed 11/20/2012)

³ Percent sold is derived by dividing estimated commercial catch by estimated total catch

2.1.4 Hawaii non-Deep 7 Bottomfish MUS

Estimation of OFL

In 2011, NMFS Pacific Islands Fisheries Science Center completed a stock assessment for the Deep 7 bottomfish stock complex using data from 1949-2010 and produced stock projection results of a range of commercial catches of Deep 7 bottomfish that would produce probabilities of overfishing ranging from zero percent to 100 percent, and at five-percent intervals in fishing year 2011-12, and in 2012-13 (Brodziak et al., 2011, Table 19.1 and shown in Appendix C). The 2011 stock assessment used similar commercial fishery data as in the previous 2008 stock assessment that assessed the entire Hawaii multi-species bottomfish stock complex as a whole (Brodziak et al., 2009); however, the 2011 assessment includes a modified treatment of unreported catch and CPUE standardization, as well as new research information on the likely life history characteristics of Deep 7 bottomfish (A. Andrews, PIFSC, unpublished 2010 research).

According to the 2011 bottomfish stock assessment, the Catch 2/CPUE 1 scenario combination represents the best approximation (with a 40 percent probability) of the true state of the bottomfish fishery and Deep 7 bottomfish population dynamics. Under the Catch 2/CPUE 1 scenario combination, the long-term MSY of the MHI Deep 7 bottomfish stock complex is estimated to be 417,000 lb. The assessment model also estimates that the commercial catch associated with a 50 percent probability of overfishing the MHI Deep 7 bottomfish complex in fishing year 2011-12 and again in fishing year 2012-13 is 383,000 lb. Therefore, while the long-term MSY for the Deep 7 bottomfish fishery is 417,000 lb, the overfishing limit (OFL) for the 2011-12 and 2012-13 fishing years is estimated to be 383,000 lb.⁸

The 2011 MHI Deep 7 bottomfish stock assessment does not include an evaluation of stock status or the risk of overfishing for any of the remaining BMUS in the MHI. Therefore, biological reference points, including estimates of MSY and OFL for the MHI non-Deep 7 bottomfish are unknown. However, the stock assessment projection results for the MHI Deep 7 bottomfish stock complex can be used to develop an OFL proxy for the MHI non-Deep 7 bottomfish stock complex, and a range of commercial non-Deep 7 bottomfish catches that would produce probabilities of overfishing ranging from zero percent to 100 percent. This approach relies on the assumption that population dynamics, catchability and other parameters of the non-Deep 7 bottomfish are similar in relative scale to the Deep 7 bottomfish (Brodziak, pers. com. March 31, 2011). In general, MHI non-Deep 7 bottomfish are coral reef associated species and are more productive compared to MHI Deep 7 bottomfish. However, non-Deep 7 bottomfish are also harvested by a greater range of gear methods, which results in levels, and rates of exploitation that have not been assessed quantitatively or qualitatively in any previous stock assessment.

While a separate stock assessment for MHI non-Deep 7 bottomfish is the preferred approach, until one is produced, estimating a proxy for OFL and probabilities of overfishing for this stock complex based on projection results for MHI Deep 7 bottomfish is an appropriate approach given the fact that only catch data are available for the non-Deep 7 stock complex. Additionally, this catch data indicate that reported commercial catches of MHI Deep 7 bottomfish in proportion to the total reported commercial catches of all MHI bottomfish (Deep 7 + non-Deep 7) are relatively stable over time as reported in Tables 5 (estimates of total Deep 7 catches) and Table 6 (estimates of total bottomfish catches) contained in Brodziak et al. (2011). Therefore, reported commercial catches of MHI non-Deep 7 bottomfish in proportion to total reported commercial catches of all MHI bottomfish are also stable over time.

Table 7 summarizes the average proportion of the reported commercial catches (C) of MHI Deep 7 bottomfish relative to the total reported commercial catches of all MHI bottomfish for three time periods: (1) 1949-2010; (2) 2000-2009; and 2008-2010 as presented in Tables 5 and 6 in Brodziak et al. (2011). The proportion of MHI Deep 7 catch (P_{DEEP7}) to the total MHI bottomfish catch is also provided and is calculated using the following equation:

$$P_{DEEP7(t)} = C_{DEEP7(t)} / C_{Total\ BMUS(t)}$$

⁸ The results of the 2011 MHI Deep 7 bottomfish stock assessment remain the best available information until a new assessment is conducted.

These three time periods were chosen because they reflect the nature of the Hawaii bottomfish fishery over (1) the entire available catch history; (2) the recent decade; and (3) three recent years when the fishery operated under a catch limit system. The results summarized in Table 6 clearly demonstrates that the proportion of Deep 7 to the total reported commercial catches of all MHI bottomfish (Deep 7 + non-Deep 7) has been relatively stable over time with ranges from 67 percent to 72 percent. Conversely, this demonstrates the proportion of non-Deep 7 bottomfish to the total MHI bottomfish catch ranged from 33 percent to 28 percent.

Table 7. Proportion of reported commercial catches of MHI Deep 7 and total reported commercial MHI bottomfish catch over time under Catch 2/CPUE 1 scenario

	t = 1949-2010	t =2000-2009	t =2008-2010
Catch of Deep 7 bottomfish¹	281.3	234.3	221.5
Catch of Total BMUS²	422.1	325.3	330.7
Proportion of Deep 7 (P_{DEEP7})	0.666	0.720	0.700

¹ Source: Table 5 in Brodziak et al., (2011)

² Source: Table 6 in Brodziak et al., (2011)

Because two Hawaii BMUS, taape (*Lutjanus kasmira*) and kahala (*Seriola dumerili*), are specifically excluded from the NMFS Hawaii bottomfish stock assessment parameters, their catch information is not included in the total bottomfish estimates used in Table 6 of Brodziak et al. (2011).

To estimate an OFL proxy for the MHI non-Deep 7 bottomfish stock complex and a range of commercial non-Deep 7 bottomfish catches that would produce probabilities of overfishing ranging from zero percent to 100 percent, the commercial catch values for MHI Deep 7 bottomfish associated with Catch 2/ CPUE Scenario 1 as presented in Table 19.1 of Brodziak et al., (2011), and shown in Appendix C can be divided by the P_{DEEP7} values in Table 7 above. The results of this calculation will derive the total commercial catch equivalent of all MHI bottomfish (Deep 7 + non-Deep 7) and the corresponding probabilities of overfishing all MHI bottomfish.

To derive the level of catch that would produce the corresponding probability of overfishing for MHI non-Deep 7 bottomfish (excluding taape and kahala), the level of catch for MHI Deep 7 bottomfish is simply subtracted from the level of catch for all MHI bottomfish. Table 8 summarizes the results of this calculation for the time period 1949-2010. This time period is identical to the time period used to produce stock projection results for the Deep 7 stock complex and is the baseline for impact analyses.

Table 8. Commercial catch (in1000 pounds) of MHI Deep 7 BMUS, MHI non-Deep 7 BMUS and all MHI BMUS combined that would produce probabilities of overfishing from 0 through 99% based on 1949-2010 catch data ($P_{DEEP7} = 0.666$)

Probability of Overfishing¹	Catch of MHI Deep 7 BMUS¹	Catch of All MHI BMUS (Deep 7 + non-Deep 7)²	Catch of MHI non-Deep 7 BMUS²
0	11	17	6
5	147	221	74
10	197	296	99
15	229	344	115
20	255	386	131
25	277	415	138
30	299	449	150
35	319	479	160
40	341	512	171
45	361	542	181
50	383	575	192
55	407	611	204
60	429	644	215
65	455	683	228
70	481	722	241
75	513	779	266
80	549	824	275
85	597	896	299
90	665	998	333
95	783	1176	393
99	1001	1503	502

¹ Source: Table 19.1 in Brodziak et al., (2011)

² Excludes Hawaii BMUS taape (*Lutjanus kasmira*) and kahala (*Seriola dumerili*)

Based on Table 8 above, the catch limit associated with a 50 percent probability of overfishing the MHI Deep 7 bottomfish complex in fishing year 2011-12 and again in fishing year 2012-13 is 383,000 lb. The catch limit associated with a 50 percent probability of overfishing the MHI non-Deep 7 bottomfish complex in fishing year 2012 and again in 2013 is 192,000 lb and is the OFL proxy. These estimates will continue to apply in future fishing years until a new Deep 7 stock assessment update and associated stock projection analysis is conducted or a separate non-Deep 7 assessment is prepared.

SSC's Calculation of ABC

At its 111th meeting held October 24-26, 2012, the SSC considered the use of the 2011 MHI Deep 7 bottomfish stock assessment and risk projections to establish by analogy, the ABC for non-Deep 7 bottomfish for 2013 and 2014. However, because this approach is based on analogy, and MSY-based reference points have not been derived specifically for non-Deep 7 bottomfish, the SSC also considered setting ABC in accordance with the Tier 5 ABC control rule as described in the Hawaii FEP.

The Tier 5 ABC control rule directs the SSC to multiply the average catch from a time period where there is no quantitative or qualitative evidence of declining abundance (“Recent Catch”) by a factor based on a qualitative estimate of relative stock size or biomass (B) in the year of management. When it is not possible to analytically determine B relative to the biomass necessary to produce the maximum sustainable yield (MSY) from the fishery (B_{MSY}), the process allows for an approach based on informed judgment, including expert opinion and consensus-building methods. Table 9 provides a summary of the Council’s default ABC control rule for data poor stocks.

Table 9. Tier 5 ABC Control Rule (Data poor, Ad hoc Approach to Setting ABCs)

If estimate of B is above B_{MSY}	ABC = 1.00 x Recent Catch
If estimate of B is above minimum stock size threshold (MSST), but below B_{MSY}	ABC = 0.67 x Recent Catch
If estimate of B is below MSST (i.e. overfished)	ABC = 0.33 x Recent Catch

In defining “Recent Catch” to apply in the ABC control rule, the SSC considered two methods: (1) average catch over the past five years (2007-2011) shown in Table 10; and (2) catch corresponding with the 75th percentile of the available time series (1966-2011) shown in Table 11.

Method 1: Average Recent Catch

Table 10 provides a time series of reported commercial catch of each species of the non-Deep 7 species from the MHI between the years 1966-2011. Prior to 1982, the commercial data collection program did not distinguish various species of Carangids (jacks) such as butaguchi, (*Pseudocaranx dentex*), black ulua (*Caranx lugubris*), and white ulua (*Caranx ignobilis*); therefore catches for these species prior to 1982 are zero. Similarly, the data collection program likely did not distinguish yellowtail kalekale (*Pristipomoides auricilla*) from kalekale (*Pristipomoides sieboldii*) prior to 2001. Based on this approach, the total average catch of all MHI non-Deep 7 species combined for the last five years (2007-2011) was 117,420 lb ($\pm 20,308$ lb).

Table 10. Reported commercial catch of MHI non-Deep 7 Species (1966-2011)

Fishing Year	Uku	Butaguchi	Black ulua	White ulua	Yellowtail kalekale	Total (lb)
1966	57,833	0	0	0	0	57,833
1967	58,540	0	0	0	0	58,540
1968	49,664	0	0	0	0	49,664
1969	57,526	0	0	0	0	57,526
1970	47,405	0	0	0	0	47,405
1971	48,697	0	0	0	0	48,697
1972	48,064	0	0	0	0	48,064
1973	66,857	0	0	0	0	66,857
1974	77,918	0	0	0	0	77,918
1975	61,722	0	0	0	0	61,722

Fishing Year	Uku	Butaguchi	Black ulua	White ulua	Yellowtail kalekale	Total (lb)
1976	62,115	0	0	0	0	62,115
1977	67,951	0	0	0	0	67,951
1978	83,702	0	0	0	0	83,702
1979	87,031	0	0	0	0	87,031
1980	74,651	0	0	0	0	74,651
1981	84,859	0	0	481	0	85,340
1982	100,860	2,175	0	5,694	0	108,730
1983	131,631	1,255	0	13,673	0	146,559
1984	138,276	2,921	117	20,553	0	161,867
1985	49,251	4,034	902	9,868	0	64,055
1986	104,019	19,414	363	14,774	0	138,570
1987	56,725	1,698	61	7,458	0	65,942
1988	343,177	6,026	354	22,643	0	372,201
1989	207,734	10,454	503	19,744	0	238,434
1990	97,235	6,840	62	13,375	0	117,512
1991	90,266	7,895	24	6,806	0	104,991
1992	88,389	2,229	93	7,075	0	97,786
1993	69,948	3,760	68	2,891	0	76,667
1994	71,802	4,678	169	2,691	0	79,340
1995	62,456	6,264	186	3,214	0	72,121
1996	53,237	3,260	52	6,210	0	62,759
1997	67,957	5,923	192	2,203	0	76,276
1998	61,088	1,943	315	3,715	0	67,061
1999	90,968	1,946	12	2,976	0	95,901
2000	83,318	2,947	73	4,044	0	90,382
2001	58,436	1,814	122	4,199	5	64,576
2002	57,155	1,659	421	4,183	1	63,420
2003	45,704	1,635	1,180	12,873	0	61,391
2004	76,815	1,394	1,034	14,112	43	93,399
2005	63,505	1,493	453	11,213	25	76,688
2006	59,569	298	267	9,076	32	69,241
2007	68,953	880	773	26,722	0	97,328
2008	92,872	1,193	405	15,856	6	110,331
2009	87,175	1,083	549	13,794	35	102,636
2010	123,250	772	3,348	17,986	27	145,383
2011	109,497	1,385	1,554	18,904	51	131,391
Ave. 2007-2011	96,349	1,063	1,326	18,652	30	117,420
StDev07-11	20,877	244	1,214	4,826	19	20,308

Source: WPFMC 2012

Figures 5-9 illustrate the reported commercial catches of uku (*Aprion virescens*) and all non-Deep 7 bottomfish, butaguchi, (*Pseudocaranx dentex*), black ulua (*Caranx lugubris*), and white ulua (*Caranx ignobilis*) over the available time series. Figure 5 clearly illustrates uku is the primary stock harvested in the fishery.

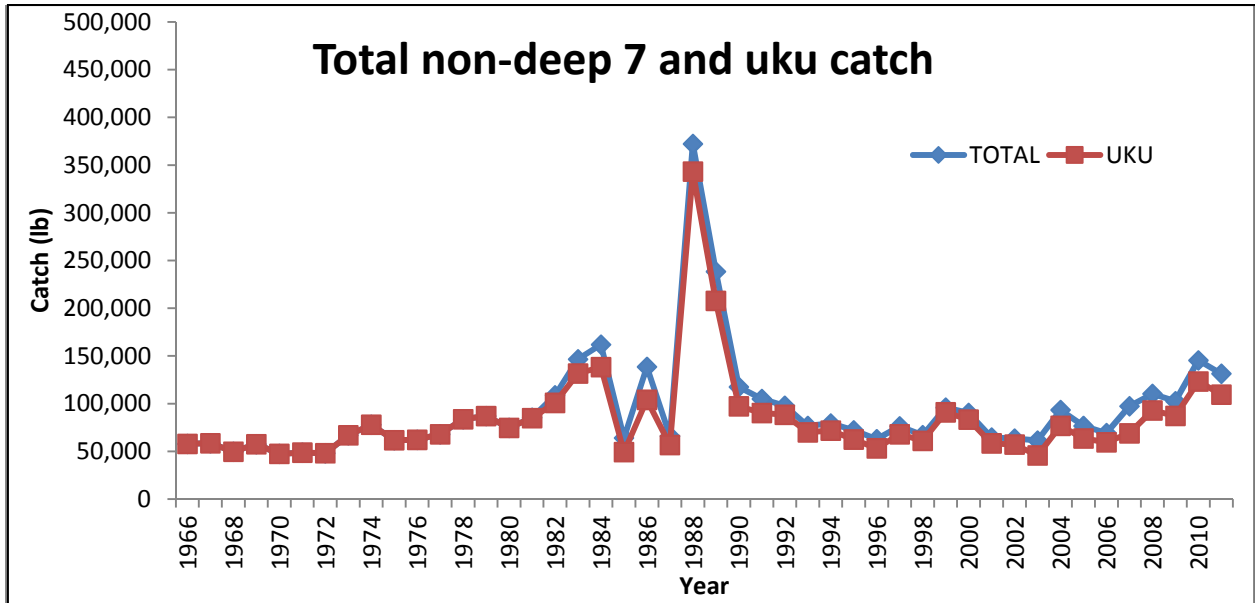


Figure 5. Reported catches of all MHI non-Deep7 bottomfish and uku (1966-2011)
Source: WPFMC 2012

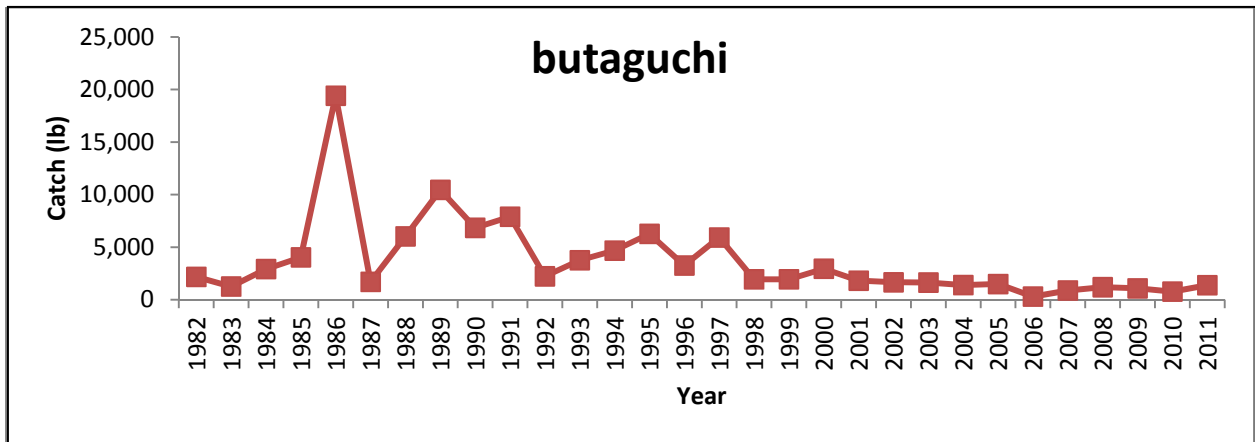


Figure 6. Reported catches of butaguchi in the MHI (1982-2011)
Source: WPFMC 2012

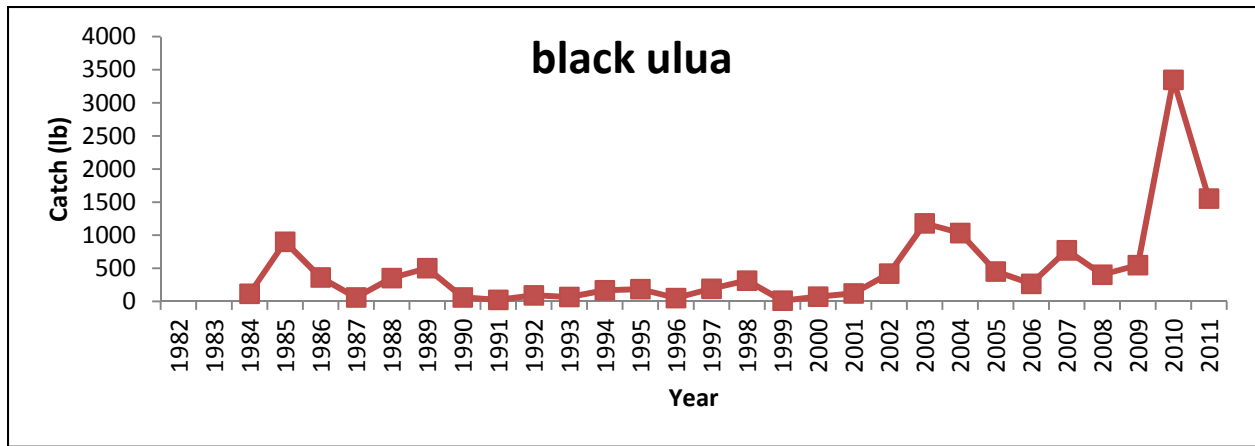


Figure 7. Reported catches of black ulua (1982-2011)

Source: WPFMC 2012

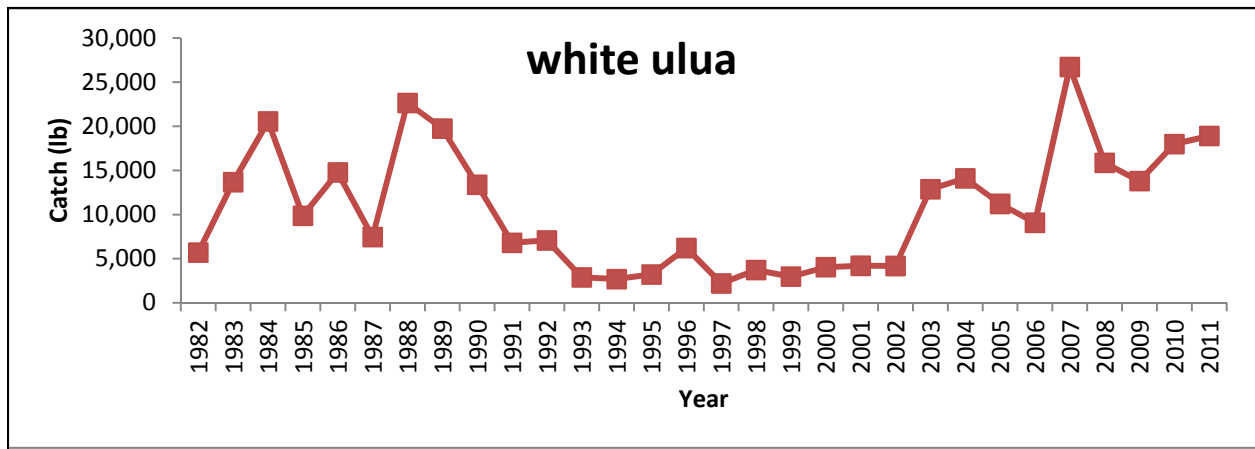


Figure 8. Main Hawaiian Islands catches of white ulua (1982-2011)

Source: WPFMC 2012

Method 2: 75th Percentile Approach

Table 11 provides the 75th percentile of the catch for each non-Deep 7 bottomfish individually and for the MHI non-Deep 7 bottomfish stock complex as a whole based on data from 1966-2011. The 75th percentile is the value of an array (in this case the level of catch in terms of pounds) below which 75% of the observations may be found. In setting the 2012 ABC for the fishery, the SSC (at its 108th meeting held October 17-19, 2011) noted that the 75th percentile is a non-parametric approach, that is, a distribution free method and does not rely on assumptions that the data are drawn from a given probability distribution. At that meeting, the SSC also noted that non-parametric measures are a better way to summarize data with considerable inter-annual variability as opposed to averaging (Chambers et al., 1983; Cleveland 1993).

As noted previously, prior to 1982, the commercial data collection program did not distinguish various species of Carangids (jacks) such as butaguchi, black ulua, and white ulua; therefore catches for these species from which the 75th percentile was derived included data from 1982-2011 only. For similar reasons, catches for yellowtail kalekale were estimated using the catch records between 2001 and 2011.

Table 11. 75th Percentiles for the non-Deep7 bottomfish catch from 1966 to 2011

Species	75 th Percentile Catch (lb)
Uku	89,797
Butaguchi	4,517
Black ulua	514
White ulua	14,443
Yellowtail kalekale	35
Total non-Deep 7 catch	109,306

Upon reviewing the approaches and methods described above, the SSC noted that it had no basis for choosing one approach over another. Hence, the SSC recommended taking an average of the following three ABC estimates: 1) ABC associated with the 50% probability of overfishing (OFL proxy) of entire catch time series (1949-2010) using the analogy method; 2) ABC from 1* mean of recent catch (2007-2011); and (3) ABC from the 1*75th percentile of the catch (1966-2011).

The SSC noted the ABCs could be derived using three different approaches and gave equal weight to each of the three methods. The SSC also determined it applicable to “model average” the estimates to derive an overall estimate that explicitly takes into account the uncertainty associated with the three estimates. This approach is known as multi-model inference (Burnham and Anderson 2002) and is consistent with the approached they previously used in setting the ABC for the MHI non-Deep 7 bottomfish stock complex in 2012.

Applying the multi-model inference approach, the SSC set the ABC for the MHI non-Deep 7 bottomfish stock complex at 140,000 lb (Table 12) for 2013 and 2014. Based on projection results for the Deep 7 stock complex shown in Table 8, the ABC for non-Deep 7 bottomfish is associated with a 25-30 percent probability of overfishing.

Table 12. Results of SSC multi-model inference approach for MHI non-Deep 7 Bottomfish

Method	Associated Catch (lb)
1. 50% probability of overfishing (1949-2010)	192,000
2. Average Catch (2007-2011)	117,420
3. 75 th percentile of catch (1966-2011)	109,306
Average	139,575 \approx 140,000 \pm 45,582

Council ACL and AM Recommendations

At its 155th meeting held October 29-November 1, 2012, the Council recommended setting ACL for the MHI non-Deep 7 bottomfish stock complex equal to ABC at 140,000 lb (WPFMC 2012). Applying the Deep 7 bottomfish stock assessment risk projections by analogy, the Council noted that catch at 140,000 corresponds to less than a 26 percent probability of overfishing in 2013 and 2014 (Table 14).

For the purpose of ACL specifications for Hawaii non-Deep 7 bottomfish, taape (*Lutjanus kasmira*) and kahala (*Seriola dumerili*) are not included as they were specifically excluded from

the 2008 and 2010 NMFS Hawaii bottomfish stock assessment parameters. Instead, ACLs for these species are included under the ACL specifications for Coral Reef Ecosystem (CRE) MUS (77 FR 6019, February 7, 2012). Specifically, catches of taape are included in the CRE ACL specification for the family Lutjanidae (coral reef-associated snappers) while catches of kahala are included in the CRE ACL specification for the family Carangidae (coral reef-associated jacks).

2.2 ACL Alternatives for Bottomfish MUS in 2013 and 2014

Features common to all alternatives

The alternatives considered in this document are limited to ACLs and AMs as they are the management measures to be applied to the fisheries for BMUS in American Samoa, Guam, the CNMI and Hawaii. The ACLs and AMs will be applied in fishing year 2013 and could be re-specified again for 2014. In accordance with the Magnuson-Stevens Act and the ACL mechanism described in all western Pacific FEPs, the ACL specification may not exceed the ABC recommendation made by the Council's SSC.

In each island area, the fishing year begins January 1 and ends on December 31. NMFS would begin counting catches towards the ACL for each bottomfish stock complex starting on January 1 based on data collected by local resource management agencies through their respective fishery monitoring programs, and by NMFS through federal logbook reporting. Pursuant to 50 CFR 665.4, when an ACL for any stock or stock complex is projected to be reached, based on best available information, NMFS will restrict fishing for that stock or stock complex in federal waters around the applicable U.S. EEZ to prevent the ACL from being exceeded. The restriction may include, but is not limited to, closure of the fishery, closure of specific areas, or restriction of effort (76 FR 37286, June 27, 2011). However, in-season restrictions are not possible for any western Pacific bottomfish fishery at this time because, catch statistics are generally not available until at least six months after the data have been collected (see Sections 2.3.4 and 3.0 for more details on data collection). For this reason, under all ACL alternatives considered, NMFS proposes to implement the Council's recommended AM, which requires the Council to conduct a post-season accounting of the annual catch for a stock complex relative to its ACL immediately after the end of the fishing year or as soon thereafter as possible given the limitations in the data collection and processing methods. Additionally, if landings of any stock complex exceed the specified ACL in a fishing year, the Council as an AM, would take action in accordance with 50 CFR 600.310(g) to correct the operational issue that caused the ACL overage. This may include a recommendation that NMFS implement a downward adjustment to the ACL in the subsequent fishing year, or other measures, as appropriate. As an additional performance measure specified in each FEP, if any ACL is exceeded more than once in a four-year period, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness. These AM are a continuation of the current AM applied to the four fisheries.

Each alternative also assumes continuation of all existing federal and local resource management laws and regulations, including non-regulatory monitoring of catch by the local resource management agencies with assistance from NMFS PIFSC, Western Pacific Fisheries Information Network (WPacFIN).

2.2.1 Alternative 1: No Action (Status Quo)

In a final rule published on February 7, 2012 (77 FR 6019), NMFS specified the 2012 ACLs for BMUS in American Samoa, Guam and the CNMI, and the ACL for the MHI non-Deep 7 bottomfish. The No-Action alternative assumes continuation of the current management regime; therefore, under this alternative, the ACL for 2013 and 2014 would be identical to the 2012 specifications. Tables 13 and 14 list the ACLs under the no action alternative and their associated probabilities of overfishing in 2013 and 2014.

For American Samoa bottomfish, the 2013 and 2014 ACL would be 99,200 lb and is associated with a probability of overfishing in 2013 between 28 and 29 percent, rising in 2014 to a probability of overfishing between 38 and 39 percent.

For Guam bottomfish, the 2013 and 2014 ACL would be 48,200 lb and is associated with probability of overfishing in 2013 between 5 and 10 percent, rising slightly in 2014 to probability of overfishing between 5 and 11 percent.

For CNMI bottomfish, the 2013 and 2014 ACL would be 182,500 lb and is associated with a probability of overfishing in 2013 between 10 and 15 percent, rising slightly in 2014 to a probability of overfishing between 11 and 17 percent.

For MHI non-Deep 7 bottomfish, the 2013 and 2014 ACL would be 135,000 lb and is associated with a 20 to 25 percent probability of overfishing in both years.

NMFS prepared an EA (NMFS, 2011) which describes the data, methods, and procedures considered by NMFS, the Council, and its SSC in developing the ACL specifications for 2012. Alternative 1 serves as the baseline for this environmental impact assessment.

2.2.2 Alternative 2: Specify Council Recommended ACLs (Preferred)

Under Alternative 2, NMFS would specify the 2013 and 2014 ACL at the level recommended by the Council at its 155th meeting and described above. Tables 13 and 14 list the ACLs under Alternative 2 and their associated probabilities of overfishing in 2013 and 2014.

For American Samoa bottomfish, the ACL would be 101,000 lb and is associated with a 30 percent probability of overfishing in 2013, rising to a 41 percent probability of overfishing in 2014.

For Guam bottomfish, the ACL would be 66,800 lb and is associated with a 28 percent probability of overfishing in 2013, rising to a 40 percent probability of overfishing in 2014.

For CNMI bottomfish, the ACL would be 228,000 lb and is associated with a 28 percent probability of overfishing in 2013, rising to a 39 percent probability of overfishing in 2014.

For MHI non-Deep 7 bottomfish, the ACL would be 140,000 lb and is associated with a 26 percent probability of overfishing in 2013 and 2014.

2.2.3 Alternative 3: Specify ACLs Lower than Council Recommendation

Under Alternative 3, NMFS would specify the 2013 and 2014 bottomfish ACL in each island area at a level lower than the Council recommendation. Tables 13 and 14 identify the range of ACLs under Alternative 3 and their associated probabilities of overfishing in 2013 and 2014.

For American Samoa bottomfish, the 2013 and 2014 ACL would be set at a level between 33,000 lb and 99,800 lb. An ACL set at 33,000 lb is associated with a zero percent probability of overfishing in 2013 and 2014. An ACL set at 99,800 lb is associated with a 29 percent probability of overfishing in 2013, rising to a 39 percent probability of overfishing in 2014.

For Guam bottomfish, the 2013 and 2014 ACL would be set at a level between 22,000 lb and 66,200 lb. An ACL set at 22,000 lb is associated with a zero percent probability of overfishing in 2013 and 2014. An ACL set at 66,200 lb is associated with a 27 percent probability of overfishing in 2013, rising to a 38 percent probability of overfishing in 2014.

For CNMI bottomfish, the 2013 and 2014 ACL would be set at a level between 40,000 lb and 225,000 lb. An ACL set at 40,000 lb is associated with a zero percent probability of overfishing in 2013 and 2014. An ACL set at 225,000 lb is associated with a 27 percent probability of overfishing in 2013, rising to a 38 percent probability of overfishing in 2014.

For MHI non-Deep 7 bottomfish, the 2013 and 2014 ACL would be set at a level between 6,000 lb and 138,000 lb. An ACL set at 6,000 lb is associated with a zero percent probability of overfishing in 2013 and 2014. An ACL set at 138,000 lb is associated with a 25 percent probability of overfishing in both years.

2.3 Alternatives Not Considered in Detail

2.3.1 Specification of ACLs Higher than Council Recommendation

Pursuant to federal law, NMFS cannot specify an ACL that exceeds ABC. Therefore, NMFS will not consider in detail any ACL that exceeds the fishing level recommendation of the SSC described in Section 2.1. However, Tables 13 and 14 identify a range of ACLs for each island area that are higher than ABC and the Council's ACL recommendations, and which have a probability of overfishing of up to 50 percent, the maximum risk allowed under federal law. If bottomfish catch in 2013 or 2014 exceeds the proposed ACLs described in Alternative 2 and falls within this range, NMFS does not expect overfishing would occur.

2.3.2 Specification of ACLs for PRIA BMUS

Although required by the PRIA FEP, the Council did not recommend and NMFS will not specify an ACL for BMUS in the PRIA because Presidential Proclamation 8336, which established the Pacific Remote Island Marine National Monument (74 FR 1565, January 12, 2009), prohibits commercial fishing out to 50 nautical miles (nm), and there is no habitat to support a bottomfish fishery beyond the monument boundaries. Additionally, pursuant to Proclamation 8336, NMFS shall not allow removal of any feature of the monument, including fishery resources, but may

permit non-commercial fishing at specific locations. The Council is separately working on an amendment to the PRIA FEP containing management measures that would allow non-commercial fishing in certain areas of the PRIA Marine National Monument, and manage non-commercial fishing as a sustainable activity. Therefore, the current provisions of Proclamation 8336 prohibiting NMFS from allowing removal of monument resources serves as a functional equivalent of an ACL of zero for BMUS in the PRIA. Currently, there is no bottomfish fishing in the PRIA.

2.3.3 Specification of ACLs for Seamount Groundfish at Hancock Seamount

The Council did not recommend and NMFS will not specify an ACL for the three Hawaii seamount groundfish MUS, pelagic armorhead (*Pseudopentaceros wheeleri*), alfonsin (*Beryx splendens*), and raftfish (*Hyperoglyphe japonica*). Within the U.S. EEZ, these MUS are found exclusively at the Hancock Seamounts, which is located at the northwestern edge of the Northwestern Hawaiian Islands. Although no domestic fishery has ever targeted these stocks, prior to the passage of the Fishery Conservation and Management Act of 1976 (now called the Magnuson-Stevens Act), foreign vessels harvested and depleted the pelagic armorhead stock throughout its range, which includes the Emperor Seamount Chain and the Hawaiian Ridge Seamount Chain (within which the Hancock Seamounts are found).

To aid in recovery of pelagic armorhead, NMFS established four consecutive 6-year fishing moratoria for the three seamount groundfish at the Hancock Seamounts starting in 1986. In 1997, NMFS officially declared pelagic armorhead to be overfished. In 2010, NMFS implemented a permanent fishing prohibition on all three seamount groundfish MUS at the Hancock Seamounts until the pelagic armorhead stock is rebuilt. Alfonsin and raftfish were included in the prohibition because armorhead may be caught while fishing for these species. Since fishing for seamount groundfish at Hancock Seamounts will remain prohibited until NMFS determines armorhead is rebuilt, the prohibition serves as a functional equivalent of an ACL of zero for all three Hawaii seamount groundfish MUS.

2.3.4 Specification of In-Season AMs

To prevent ACLs from being exceeded, federal regulations implementing western Pacific FEPs in 50 CFR 665.4 state that when any ACL is projected to be reached, the Regional Administrator shall inform permit holders that fishing for that stock will be restricted on a specified date. Restrictions may include, but are not limited to, closing the fishery, closing specific areas, changing bag limits, or otherwise restricting effort or catch. However, near-real time processing of catch information cannot currently be achieved in any western Pacific bottomfish fishery except for the MHI Deep 7 bottomfish fishery, which is not included in this action. Therefore, in-season AMs to prevent an ACL from being exceeded (e.g., fishery closures in federal waters) for the four fisheries affected by the proposed specifications are not possible at this time.

While federal permit and reporting is required for commercial bottomfish vessels in CNMI, non-commercial bottomfish vessels in Hawaii and all bottomfish vessels greater than 50 ft in length in Guam, federally permitted bottomfish vessels comprise only a small portion of the total estimated vessels participating in bottomfish fisheries of the western Pacific. Specifically, of the

40 estimated vessels participating in the CNMI bottomfish fishery in 2011, only 11 were federally permitted. In Guam, only 6 estimated 300 bottomfish vessels were large vessels (greater than 50 ft), thus requiring federal permits in 2011. Of the estimated 781 vessels (468 commercial and 313 non-commercial) that participated in the 2011-12 MHI bottomfish fishery, only 25 were federally permitted. See the overview of fisheries in Sections 3.1 – 3.4 for more information pertaining to vessel participation in bottomfish fisheries of the western Pacific). For these reasons, NMFS relies primarily on the fishery data collection programs administered by the respective local resource management agencies to obtain bottomfish catch and effort data. However, these agencies presently do not have the personnel or resources to process catch data in near-real time, and so fisheries statistics are generally not available until at least six months after the data have been collected. While the State of Hawaii has the capability to monitor and track the catch of seven preferentially-targeted bottomfish species (i.e., Deep 7 bottomfish) in near-real time towards their specified catch limits, additional resources would be required to extend these capabilities to non-Deep 7 bottomfish. Substantial resources would also be required to support the establishment of near-real time in-season monitoring capabilities in American Samoa, Guam and the CNMI. Until resources are made available, NMFS anticipates continuing to use only AMs that consist of non-in-season management measures.

Table 13. ACL Alternatives and Probabilities of Overfishing Bottomfish Stock Complexes in American Samoa, Guam and the CNMI in 2013 and 2014

	American Samoa Bottomfish			Guam Bottomfish			CNMI Bottomfish		
	<i>MSY = 76,200 ± 14,300 lb</i>			<i>MSY = 55,000 lb ± 7,900 lb</i>			<i>MSY = 172,900 ± 32,200 lb</i>		
	<i>Ave. Catch (2007-2011) = 28,413 lb</i>			<i>Ave. Catch (2007-2011) = 33,489 lb</i>			<i>Ave. Catch (2007-2011) = 36,279 lb</i>		
	<i>ACL (lb)</i>	<i>Probability of Overfishing in 2013 (%)</i>	<i>Probability of Overfishing in 2014 (%)</i>	<i>ACL (lb)</i>	<i>Probability of Overfishing in 2013 (%)</i>	<i>Probability of Overfishing in 2014 (%)</i>	<i>ACL (lb)</i>	<i>Probability of Overfishing in 2013 (%)</i>	<i>Probability of Overfishing in 2014 (%)</i>
Alternative 1 <i>(Status Quo)</i>	99,200	28-29	38-39	48,200	5-10	5-11	182,500	10-15	11-17
Alternative 2 <i>(Preferred)</i>	101,000	30	41	66,800	28	40	228,000	28	39
Alternative 3 <i>(Lower than Preferred)</i>	33,000	0	0	22,000	0	0	40,000	0	0
	60,000	5	5	44,000	5	5	130,000	5	5
	73,000	10	12	51,000	10	11	162,000	10	11
	81,000	15	18	56,000	15	17	183,000	15	17
	89,000	20	26	61,000	20	26	203,000	20	26
	90,200	21	27	61,800	21	28	206,200	21	28
	91,400	22	29	62,600	22	30	209,400	22	29
	92,600	23	30	63,400	23	31	212,600	23	31
	93,800	24	32	64,200	24	33	215,800	24	32
	95,000	25	33	65,000	25	35	219,000	25	34
	96,200	26	35	65,600	26	37	222,000	26	36
	97,400	27	36	66,200	27	38	225,000	27	38
	98,600	28	38						
99,800	29	39							
Not Considered in Detail <i>(Higher than Preferred)</i>	102,200	31	43	67,400	29	41	231,000	29	41
	103,400	32	44	68,000	30	43	234,000	30	43
	104,600	33	46	68,500	31	45	237,000	31	45
	105,800	34	47	69,200	32	46	240,000	32	47
	107,000	35	49	69,800	33	48	243,000	33	48
	108,000	36	50	70,400	34	49	246,000	34	50

Source: Values interpolated from Table 15-17 in Brodziak et al., (2012)

Table 14. ACL Alternatives and Probabilities of Overfishing Non-Deep 7 Bottomfish in the Main Hawaiian Islands in 2013 and 2014

MHI Non-Deep 7 Bottomfish			
<i>MSY = Unknown</i>			
<i>Ave. Catch (2007-2011) = 117,420 lb</i>			
	<i>ACL (lb)</i>	<i>Probability of Overfishing in 2013 (%)</i>	<i>Probability of Overfishing in 2014 (%)*</i>
Alternative 1 <i>(Status Quo)</i>	135,000	20-25	20-25
Alternative 2 <i>(Preferred)</i>	140,400	26	26
Alternative 3 <i>(Lower)</i>	6,000	0	0
	74,000	5	5
	99,000	10	10
	115,000	15	15
	131,000	20	20
	138,000	25	25
Not Considered In Detail <i>(Higher)</i>	142,800	27	27
	145,200	28	28
	147,600	29	29
	150,000	30	30
	152,000	31	31
	153,000	32	32
	154,000	33	33
	155,000	34	34
	160,000	35	35
	162,200	36	36
	164,400	37	37
	166,600	38	38
	168,200	39	39
	171,000	40	40
	173,000	41	41
	175,000	42	42
	177,000	43	43
	179,000	44	44
	181,000	45	45
	183,200	46	46
185,400	47	47	
187,600	48	48	
189,800	49	49	
192,000	50	50	

Source: Values interpolated from Table 8 of this document.

3 Potentially Affected Environment and Potential Impacts of the Proposed ACL specifications

This section describes the potentially affected fisheries, fishery resources, protected species, and habitats and the impacts of the proposed ACL and AM specifications on these resources. Climate change and environmental justice are considered, along with potential impacts to fishing communities, special marine areas and other resources, and fishery administration and enforcement.

Bottomfish fishery resources managed under the Fishery Ecosystem Plan (FEP) for American Samoa, the Mariana Archipelago (Guam and the CNMI) and the Hawaii Archipelago are included in the proposed action to specify ACLs and AMs. In American Samoa, Guam, and the CNMI, bottomfish fisheries generally target 17 bottomfish management unit species (BMUS) which comprise both shallow and deepwater bottomfish species listed in Tables 15, 19 and 23, respectively. In Hawaii, the bottomfish fishery harvests an assemblage, or complex, of 14 species that include nine snappers, four jacks (trevally) and a single species of grouper listed in Table 27. The target species of the MHI bottomfish fishery and the species of primary management concern are six deep-water snappers and the grouper. Termed the “Deep 7 bottomfish,” NMFS recently specified ACLs for these seven species (77 FR 56791, September 14, 2012) so they will not be included in this action. Only non-Deep 7 bottomfish will be included in the Hawaii section of this action.

Descriptions of traditional fishing practices indicate that indigenous U.S. Pacific Island cultures harvested the same bottomfish species and used some of the same gears and techniques employed today (WPFMC, 2009a; WPFMC, 2009b; WPFMC, 2009c). Generally, the eteline snappers (*Etelis* and *Pristipomoides spp.*) are found along high-relief, deep slopes, ranging from 80-400 m and are fished with a vertical handline described below, while other species such as jacks, emperors, and lutjanid snappers are caught at shallower depths. The gray jobfish (*Aprion virescens*) can also be caught by vertical handline, but they are frequently fished for by drifting or slowly trolling over relatively flat-bottom areas. Bottomfish fishers generally employ a vertical hook-and-line method of fishing in which weighted and baited lines are lowered and raised with electric, hydraulic, or hand-powered reels. The main line is typically 400–450-pound test, with hook leaders of 80–120-pound test monofilament. The hooks are circle hooks, generally of the Mustad (conventional scale) sizes 11/0, 12/0 and 13/0, and a typical rig uses six to eight hooks branching off the main line. The terminal weight is typically 5–6 pounds. The hook leaders are typically 2–3 feet long and separated by about 6 feet along the main line. Depending on island area, hooks may be baited with fish such as the big eye scad (*Selar crumenophthalmus*); however, squid is the bait typically used. Lines are also sometimes supplemented with a chum bag containing chopped fish or squid suspended above the highest hook. Bottom trawls, bottom gillnets, explosives, and poisons are prohibited. In each island area, commercial and non-commercial fisheries for bottomfish occur primarily in nearshore waters from 0-3 nm, except in Hawaii where approximately half of the available the bottomfish habitat is found in the U.S. EEZ 3-200 nm offshore.

Overview of fishery data collection systems in American Samoa, Guam and the CNMI

In American Samoa, the CNMI and Guam, bottomfish fisheries information is collected by local resource management agencies, with assistance from NMFS PIFSC Western Pacific Fisheries Information Network (WPacFIN) through three primary fisheries monitoring programs. They include: (1) the boat-based creel survey program; (2) the shore-based creel survey program, and (3) the commercial purchase system or trip ticket invoice program.

Boat-based creel survey program

The boat-based creel survey program collects catch, effort, and participation data on offshore fishing activities conducted by commercial, recreational, subsistence and charter fishing vessels. Surveys are conducted at boat ports or ramps, and data collection consists of two main components - participation counts (trips) and fisher interviews. Survey days are randomly selected and the number of survey days range from 3-8 per month. Surveys are stratified by week-days, weekend-days and day- and night-time. Data expansion algorithms are applied by NMFS WPacFIN to estimate 100% “coverage” and are based on port, type of day, and fishing method (Impact Assessment, 2008).

Shore-based creel survey program

The shore-based creel survey program was established to randomly sample inshore fishing trip information and consists of two components - participation counts and fishers interviews. Participation counts are based on a ‘bus route’ method, with predefined stopping points and time constraints. Survey days are randomly selected, and range from 2-4 times per week. Data expansion algorithms are applied by NMFS WPacFIN to estimate 100% “coverage” and are based on island region, type of day (e.g. weekday/weekend) and fishing method (Impact Assessment, 2008). The shore-based creel surveys cover fishing by persons engaged in commercial, recreational, and subsistence fishing activities.

Commercial purchase system

The commercial purchase system or “trip ticket invoice” monitor fish sold locally and collects information submitted by vendors (fish dealers, hotels and restaurants) who purchase fish directly from fishers. Each invoice usually compiles daily trip landings. Only American Samoa has mandatory requirements for vendors to submit invoice reports. All other islands have voluntary programs (Impact Assessment, 2008).

Overview of fishery data collection systems in Hawaii

In Hawaii, the majority of bottomfish fisheries information is collected from the commercial fishing sector through a mandatory license and monthly reporting system administered by the State of Hawaii. Under state law, anyone who takes marine life for commercial purposes is required to obtain a commercial marine license (CML) and submit a catch report (popularly known as a “C3” form) on a monthly basis. Required information collected includes day fished, area fished, fishing method used, hours fished per method, and species caught (number/pounds caught and released).

Recreational catch information for some bottomfish fisheries are also opportunistically collected through the Hawaii Marine Recreational Fishing Survey (HMRFS) and annual catch amounts are

reported through NMFS Marine Recreational Fisheries Statistics Survey (MRFSS) at <http://www.st.nmfs.noaa.gov/st1/index.html>. However, a 2006 review of MRFSS by the National Resource Council (NRC) noted that the catch estimation method was not correctly matched with the catch sampling survey design, leading to potential bias in the estimates. Based on this finding, the Council in 2006 recommended that that MRFSS catch estimates not be used as a basis for management or allocation decisions. In 2008, NMFS established the National Saltwater Angler Registry Program as part of the Marine Recreational Information Program to improve recreational fisheries information (73 FR 79705, December 30, 2008).

Except for HMRFS data, NMFS WPacFIN obtains all bottomfish fisheries information in the western Pacific in accordance with cooperative agreements with the state and territorial fisheries agencies in American Samoa, the CNMI, Guam, and Hawaii and provides access to this data on their website <http://www.pifsc.noaa.gov/wpacfin>. Generally, with the exception of the Deep 7 bottomfish MUS which are more comprehensively tracked, complete data for non-Deep 7 bottomfish catches during a calendar year are not available until at least 6 months after the data have been collected.

In 2008, NMFS established federal permit and reporting requirements for non-commercial bottomfish fishing in federal waters around the MHI (73 FR 18451, April 4, 2008). Vessel operators are required to submit catch information to NMFS within 72 hours after landing.

Overview of federal permit and reporting requirements

In 2006, NMFS established federal permit and reporting requirements for large vessels greater than 50 ft in length fishing in the U.S. EEZ around Guam (71 FR 64474, November 2, 2006). Federal permit and reporting requirements are also in place for all commercial bottomfishing vessels fishing in the U.S. EEZ around the CNMI (73 FR 75615, December 12, 2008). In Hawaii, federal permits and reporting is required for all non-commercial bottomfishing vessels. All permitted vessel operators are required to submit catch information to NMFS within 72 hours after landing. In 2012, 11 vessels in the CNMI have a federal commercial bottomfishing permit while only seven vessels have a federal non-commercial bottomfish permit in Hawaii. In Guam, no large vessel bottomfish permits have been issued in 2012. (NMFS PIRO website: http://www.fpir.noaa.gov/SFD/SFD_permits_index.html; accessed on 11/29/2012). Federal permit or reporting is not required in American Samoa. As previously noted in Section 2.3.4, federally permitted bottomfish vessels comprise only a small portion of the total estimated vessels participating in bottomfish fisheries of the western Pacific.

Overview of the proposed ACL management system

Once the proposed ACL specifications are implemented, catches of all BMUS would be counted toward the BMUS ACL regardless of whether catch occurred in federal or local waters. However, as noted in Section 2.3, local resource management agencies presently do not have the personnel or resources to process catch data in near-real time, and so fisheries statistics are generally not available until at least six months after the data has been collected. Therefore, in-season AMs (e.g., fishery closure) are not possible at this time. However, as an AM, post-season accounting of catch towards every ACL specification would occur, and if an ACL is exceeded and affects the sustainability of that stock or stock complex, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council, which could

include a downward adjustment to the ACL for that stock or stock complex in the subsequent fishing year.

3.1 American Samoa Bottomfish Fishery, Marine Resources and Potential Impacts

The Samoa Archipelago is located in the western portion of the South Pacific Ocean and consists of seven major volcanic islands, several small islets and two coral atolls. The largest islands in this chain are Upolu (approximately 436 square miles) and Savaii (approximately 660 square miles) which belong to the Independent State of Samoa with a population of approximately 178,000 people. The Territory of American Samoa includes Tutuila (approximately 55 square miles of land), the Manua Island group of Ofu, Olosega and Tau (with a total land area of less than 20 square miles), and two coral atolls (Rose Atoll and Swains Island). The largest island, Tutuila, is the center of government and business and features Pago Pago Harbor, the deepest and one of the most sheltered bays in the South Pacific. More than 90 percent of American Samoa's population (approximately 68,000 people) lives on Tutuila.

The U.S. EEZ around American Samoa is approximately 156,246 square miles and extends from 3-200 nm from shore with data collection responsibilities shared by various territorial and federal agencies. Because of the steepness of the offshore slope around Tutuila and other islands, most of the available benthic habitat is composed of fringing coral reefs, a limited reef slope, and a few offshore banks (Craig et al., 2005).

Bottomfish fishing in federal waters around American Samoa is managed in accordance with the FEP for the American Samoa Archipelago (WPFMC 2009a), developed by the Council, and implemented by NMFS under the authority of the MSA. Bottomfish fisheries occurring from 0 to 3 nm from shore are managed by the Territory of American Samoa. The management structure of the FEP emphasizes community participation and enhanced consideration of the habitat and ecosystem, and other elements not typically incorporated in fishery management decision-making. Enforcement of federal fishery regulations is handled through a joint Federal-Territorial partnership and the Council is required to produce an annual performance report on the fishery.

Overview of American Samoa's Bottomfish Fishery

The American Samoa bottomfish fishery consists of fewer than 30 part-time relatively small commercial vessels landing between 6,000–35,000 lbs annually. Most vessels are aluminum *alia* (pronounced ah-lee-ah) catamarans less than 32 feet long, outfitted with outboard engines and wooden hand reels that are used for both trolling and bottomfish fishing. Because few boats carry ice, they typically fish within 20 miles of shore (WPFMC, 2009a). In 2009, American Samoa was struck by a tsunami causing large-scale damage and impacts to the territory's bottomfish fishing fleet resulting in the territorial government requesting disaster assistance under Sections 312 and 315 of the Magnuson-Stevens Act. In 2010, 16 vessels participated in the fishery, dropping in 2011 to just 12 vessels (Carroll et al., 2012).

At the present time there is no federal permit or reporting requirements for bottomfish fishing in federal waters around American Samoa. Therefore, monitoring of the American Samoa bottomfish fishery is dependent on data voluntarily provided by fishermen to the American Samoa Department of Marine and Wildlife Resources (DMWR), through the boat-based creel survey program. Additionally, monitoring includes review of commercial sales data provided to

DMWR by fish dealers through the mandatory commercial purchase system. Currently, because of limited DMWR staff resources, catch information is not available until at least 6 months to a year after the fishing year has ended.

Table 2 shows that between 2007 and 2011, the American Samoa bottomfish fishery caught an average of 28,413 lb of BMUS annually of which 68 percent (19,275 lb) was sold. Assuming that on average, 68 percent of the total American Samoa bottomfish catch is sold annually, and 15,670 lb was sold in 2011, the American Samoa bottomfish fishery likely caught a total of 23,044 lb of BMUS in that year. The 2011 commercial price per pound for BMUS in American Samoa ranged from \$2.64 for tafauli or black jack (*Caranx lugubris*) to \$3.82 for palu-loa or onaga (*Etelis coruscans*) with the average price per pound for all BMUS combined at \$2.99 (PIFSC Internal Report IR-12-041).

Based on the 2011 commercial catch estimate of 15,670 lb and the average price of all BMUS at \$2.99 per pound, the annual commercial value of the American Samoa bottomfish fishery in 2011 was \$46,853. Assuming participation and effort were equal throughout the 12 vessel fleet in 2011, each vessel would have sold approximately 1,305 lb of bottomfish valued at \$3,902.

Potential Impacts of the Proposed ACL specification and AM on American Samoa's Bottomfish Fishermen

Alternative 1: No Action (Status Quo)

Under the no-action alternative, fishing for American Samoa BMUS would be subject to an ACL of 99,200 lb for fishing years 2013 and 2014. This is the same ACL specified for 2012. Between 2000 and 2010, the greatest estimated total annual catch of BMUS in American Samoa occurred in 2009 at 47,458 lb while the average total annual catch for the period 2007-2011 is 28,413 lb (Table 2). Both the average recent catch (2007-2011) and the 11 year record high catch of 47,458 lb in 2009 are below the ACL proposed under this alternative.

After 2009's devastating tsunami effects on American Samoa's bottomfishing fleet, the estimated total catch in 2010 dropped to 9,509 lb, rebounding in 2011 to an estimated 23,044 lb. Assuming some rebuilding of the fleet continued in 2012, bottomfish catch is likely to continue increasing; however, it is unlikely that total catch in 2013 or 2014 would approach the historically high 2009 level (47,458 lb), which is less than half the ACL proposed under this alternative.

Because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, under all alternatives considered, including the no action alternative, the AM for the American Samoa bottomfish fishery would require a post-season review of the catch data to determine whether the bottomfish ACL for American Samoa was exceeded. If the ACL is exceeded, NMFS, as recommended by the Council, would take action to correct the operational issue that caused the ACL overage. This could include a downward adjustment to the bottomfish ACL in the subsequent fishing year to help ensure the fishery remains sustainable. NMFS cannot speculate on operational measures or the magnitude of the overage adjustment that might be taken; therefore, the fishery and environmental impacts of

future actions such as changes to the ACL or AM would be evaluated separately, once details are available.

NMFS does not expect the ACL and AMs proposed under this alternative to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. Consequently, NMFS does not expect implementation of Alternative 1 to adversely affect American Samoa bottomfish fishermen.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for American Samoa BMUS would be subject to an ACL of 101,000 lb for the 2013 and 2014 fishing years as recommended by the Council. This specification would allow catch slightly higher than the current status quo (Alternative 1). Given the current state of American Samoa’s bottomfish fleet, it is unlikely that total catch in 2013 or 2014 would approach the proposed ACL. Because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, the AM under this alternative would be the same as those described under Alternative 1. Therefore, the impacts to fishermen would be similar to those described in Alternative 1.

Alternative 3: Specify ACLs Lower than Council Recommendation

Under Alternative 3, fishing for American Samoa BMUS would be subject to an ACL between 33,000 and 99,800 lb for the 2013 and 2014 fishing years. Based on past fishery performance shown in Table 2, it is within the realm of possibility that the fishery could exceed an ACL set lower than 50,000 lb as 47,458 lb was taken in 2009. However, after 2009’s devastating tsunami effects on American Samoa’s bottomfishing fleet, bottomfish catch is likely to gradually increase, but may take several years to return to levels seen in 2009.

Therefore, over the next two years, the fishery is not expected to attain a catch between 33,000 lb and 99,800 lb and an ACL within this range is not expected to result in a race to the fish. Additionally, because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, an ACL under this alternative is not expected to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. In short, impacts to fisheries participants would be generally the same as those described under the Alternative 1 and no adverse economic impact to fishery participants would likely result from implementation of any ACL under Alternative 3.

3.1.1 Target, Non-target and Bycatch Species in American Samoa

The bottomfish fishery in the American Samoa generally targets 17 bottomfish management unit species (BMUS) which comprise both shallow and deepwater bottomfish species (Table 15).

Table 15. American Samoa Bottomfish MUS

American Samoa Bottomfish MUS		
Scientific Name	English Common Name	Samoan Name
<i>Aphareus rutilans</i>	red snapper/silvermouth	palu-gutusaliva
<i>Aprion virescens</i>	gray snapper/jobfish	asoama

American Samoa Bottomfish MUS		
Scientific Name	English Common Name	Samoan Name
<i>Caranx ignobilis</i>	Giant trevally/jack	sapoanae
<i>Caranx lugubris</i>	Black trevally/jack	tafauli
<i>Epinephelus fasciatus</i>	blacktip grouper	fausi
<i>Variola louti</i>	lunartail grouper	papa, velo
<i>Etelis carbunculus</i>	red snapper	palu malau
<i>Etelis coruscans</i>	red snapper	palu-loa
<i>Lethrinus amboinensis</i>	ambon emperor	filoa-gutumumu
<i>Lethrinus rubrioperculatus</i>	redgill emperor	filoa-paomumu
<i>Lutjanus kasmira</i>	blueline snapper	savane
<i>Pristipomoides auricilla</i>	yellowtail snapper	palu-i'usama
<i>Pristipomoides filamentosus</i>	pink snapper	palu-'ena'ena
<i>Pristipomoides flavipinnis</i>	yelloweye snapper	palu-sina
<i>Pristipomoides seiboldii</i>	pink snapper	palu
<i>Pristipomoides zonatus</i>	snapper	palu-ula, palu-sega
<i>Seriola dumerili</i>	amberjack	malauli

Current impacts of the fishery: target, non-target and bycatch species

The information used in developing the proposed ACL for the American Samoa bottomfish stock complex is based on the most recent bottomfish stock assessment (Brodziak et al., 2012) conducted by the NMFS Pacific Islands Fisheries Science Center (PIFSC) using data through 2010. Key points from the discussion in Section 2.1.1 is that PIFSC estimated MSY to be 76,200 ± 14,300 lb and that the production model results indicate that the American Samoa bottomfish complex was found to be healthy, was not overfished and did not experience overfishing between the period 1986 and 2010. Between 2007 and 2011, total harvest of American Samoa BMUS averaged 28,413 lb annually or about 37% of the long term MSY.

While the boat-based and shore-based creel survey programs administered by DMWR provide for the collection of bycatch information, detailed information is not currently available. This may indicate that most of the fish that are caught are retained. However, like other Pacific Islands, discards, if they occur, are usually due to legal requirements, cultural reasons (i.e., taboo), or practical reasons such as toxicity (e.g., ciguatera poison), or shark damage. Bottomfish fishing is fairly target-specific and to date neither the Council nor the American Samoa DMWR have brought forward any concerns about bycatch in the fishery. NMFS does not have any information to indicate that there are unresolved issues about bycatch in the American Samoa bottomfish fishery.

Potential Impacts of the Proposed ACL specification and AM on Target, Non-target and Bycatch Species in American Samoa

Alternative 1: No Action (Status Quo)

Under the no-action alternative, the ACL for 2013 and 2014 would be set at 99,200 lb. This is the same ACL specified for 2012. The fishery would continue to catch bottomfish in the manner that is described above, and catches would continue to be monitored through fisheries monitoring programs administered by the DMWR with assistance from WPacFIN. The level of catch under

this alternative is expected to continue as it has in recent years with average total catch estimated to be 28,413 lb for the period 2007-2011.

While an ACL of 99,200 lb would exceed the long-term MSY, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, an ACL of 99,200 lb would result in a 29 percent probability of overfishing in 2013, rising in 2014 to a 39 percent probability of overfishing. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 1. Monitoring of catch would be conducted annually by the DMWR with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for American Samoa BMUS would be subject to an ACL of 101,000 lb for the 2013 and 2014 fishing years as recommended by the Council. While this ACL exceeds the long-term MSY of 76,200 lb, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, this ACL would have a 30 percent probability of causing overfishing in 2013, rising in 2014 to a 41 percent probability of overfishing.

Based on past fishery performance shown in Table 2 fishery would need to harvest more than double the 2009 record catch of 47,458 lb in 2013 and 2014 to attain the ACL and more than 7,000 lb over the ACL for overfishing to occur. This level of catch is highly unlikely given that the 2010 post-tsunami catch totaled only 9,509 lb rising in 2011 to an estimated 23,044 lb. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 2. Monitoring of catch would be conducted annually by the DMWR with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Alternative 3: Specify ACL Lower than Council Recommendation

Under Alternative 3, fishing for American Samoa BMUS would be subject to an ACL between 33,000 and 99,800 lb for the 2013 and 2014 fishing years. While some of the ACLs in this alternative would exceed the long-term MSY of 76,200 lb, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, none would result in a probability of overfishing greater than 40 percent. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 3. Like Alternatives 1 and 2, monitoring of catch would be conducted annually by the DMWR with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Under all alternatives considered including the preferred alternative, no new monitoring would be implemented; however, a post-season review of the catch data would be conducted as soon as possible after the fishing year to determine whether the ACL was exceeded. If the ACL is exceeded and affects the sustainability of the stock, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council, which could include a downward adjustment to the ACL in the subsequent fishing year. While the lack of in-season catch monitoring ability precludes in-season measures (such as a fishery closure) to

prevent the ACL from being exceeded, none of the ACLs considered have greater than a 41 percent probability of overfishing American Samoa bottomfish in 2013 and 2014.

3.1.2 Protected Resources in American Samoa

A number of protected species are known or believed to occur in the waters around American Samoa and there is, therefore, the potential for interactions with the bottomfish fishery. The bottomfish fisheries of the western Pacific region have been evaluated for impacts on protected species and are managed in compliance with the requirements of the MSA, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act, and other applicable statutes. Detailed descriptions of these potentially affected species and their life histories can be found in section 3.3.4 of the Fishery Ecosystem Plan (FEP) for the American Samoa Archipelago (WPFMC 2009a).

Listed species and ESA review of American Samoa Bottomfish Fisheries

Table 16 identifies species listed as endangered or threatened under the ESA known to occur or could reasonably be expected to occur in marine waters around American Samoa and which may have the potential to interact with fisheries. They include a number of whales, five sea turtles, and a seabird. There is no critical habitat designated for ESA-listed marine species around American Samoa.

Table 16. Endangered, and threatened marine species and seabirds known to occur or reasonably expected to occur in waters round the American Samoa Archipelago

Endangered, and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the American Samoa Archipelago				
Common name	Scientific Name	ESA listing status in American Samoa	Occurrence in American Samoa	Interactions with the American Samoa bottomfish fishery
Listed Sea Turtles				
Green sea turtle (laumei enaena and fonu)	<i>Chelonia mydas</i>	Threatened	Frequently seen. Nest at Rose Atoll. Known to migrate to feeding grounds.	No interactions observed or reported.
Hawksbill sea turtle (laumei uga)	<i>Eretmochelys imbricata</i>	Endangered	Frequently seen. Nest at Rose Atoll and Swain's Island.	No interactions observed or reported.
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Very rare in American Samoa. One recovered dead in experimental longline fishing.	No interactions observed or reported.
Olive ridley sea turtle	<i>Lepidocheilyls olivacea</i>	Threatened	Uncommon in American Samoa.	No interactions observed or reported.

Endangered, and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the American Samoa Archipelago				
Common name	Scientific Name	ESA listing status in American Samoa	Occurrence in American Samoa	Interactions with the American Samoa bottomfish fishery
			Three sightings.	
South Pacific Loggerhead sea turtle Distinct Population Segment	<i>Caretta caretta</i>	Endangered	Not known to occur in American Samoa	No interactions observed or reported.
Listed Marine Mammals				
Blue whale	<i>Balaenoptera musculus</i>	Endangered	No known sightings.	No interactions observed or reported.
Fin whale	<i>Balaenoptera physalus</i>	Endangered	No known sightings.	No interactions observed or reported.
Humpback whale (tafola or i'a manu)	<i>Megaptera novaeangliae</i>	Endangered	Most common during Sept. and October. Southern humpback whales mate and calve from June – Sept.	No interactions observed or reported.
Sei whale	<i>Balaenoptera borealis</i>	Endangered	No known sightings.	No interactions observed or reported.
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Occurs in all months except Feb. and March.	No interactions observed or reported.
Listed Sea Birds				
Newell's Shearwater	<i>Puffinus auricularis newelli</i>	Threatened	Uncommon visitor	No interactions observed or reported.

Applicable ESA Coordination – American Samoa Bottomfish Fisheries

In a biological opinion covering the Fishery Management Plan (FMP) for Bottomfish and Seamount Groundfish Fisheries of the Western Pacific, dated March 8, 2002, NMFS determined that bottomfish and seamount groundfish fisheries of the western Pacific region (including the bottomfish fishery of American Samoa) that operate in accordance with regulations implementing the FMP were not likely to adversely affect ESA-listed species or their designated critical habitat.

In 2009, the Council recommended and NMFS approved the development of five archipelagic-based fishery ecosystem plans (FEP) including the American Samoa Archipelago FEP. The FEP incorporated and reorganized elements of the Council's species-based FMPs, including the Bottomfish and Seamount Groundfish Fisheries FMP into a spatially-oriented management plan (75 FR 2198, January 14, 2010). All applicable regulations concerning bottomfish fishing were

retained through the development and implementation of the FEP for American Samoa. No substantial changes to the bottomfish fishery around American Samoa have occurred since the FEP was implemented that have required further consultation under the ESA.

Marine Mammals

Several whales, dolphins and porpoises occur in waters around American Samoa and are protected under the Marine Mammal Protection Act (MMPA). Table 17 provides a list of marine mammals known to occur or reasonably expected to occur in waters around American Samoa.

Table 17. Marine mammals known to occur or reasonably expected to occur in waters around American Samoa

Marine mammals known to occur or reasonably expected to occur in waters around American Samoa		
Common Name	Scientific Name	Interactions with the American Samoa bottomfish Fishery
Humpback whale* (tafolā or i`a manu)	<i>Megaptera novaeangliae</i>	No interactions observed or reported.
Sperm whale*	<i>Physeter macrocephalus</i>	No interactions observed or reported.
Blue whale*	<i>Balaenoptera musculus</i>	No interactions observed or reported.
Fin Whale*	<i>Balaenoptera physalus</i>	No interactions observed or reported.
Sei whale*	<i>Balaenoptera borealis</i>	No interactions observed or reported.
Blainville’s beaked whale	<i>Mesoplodon densirostris</i>	No interactions observed or reported.
Bottlenose dolphin	<i>Tursiops truncatus</i>	No interactions observed or reported.
Bryde’s whale	<i>Balaenoptera edeni</i>	No interactions observed or reported.
Common dolphin	<i>Delphinus delphis</i>	No interactions observed or reported.
Cuvier’s beaked whale	<i>Ziphius cavirostris</i>	No interactions observed or reported.
Dwarf sperm whale	<i>Kogia sima</i>	No interactions observed or reported.
False killer whale	<i>Pseudorca crassidens</i>	No interactions observed or reported.
Fraser’s dolphin	<i>Lagenodelphis hosei</i>	No interactions observed or reported.
Killer whale	<i>Orcinus orca</i>	No interactions observed or reported.
Melon-headed whale	<i>Peponocephala electra</i>	No interactions observed or reported.

Minke whale	<i>Balaenoptera acutorostrata</i>	No interactions observed or reported.
Pygmy killer whale	<i>Feresa attenuata</i>	No interactions observed or reported.
Pygmy sperm whale	<i>Kogia breviceps</i>	No interactions observed or reported.
Risso's dolphin	<i>Grampus griseus</i>	No interactions observed or reported.
Rough-toothed dolphin	<i>Steno bredanensis</i>	No interactions observed or reported.
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	No interactions observed or reported.
Spinner dolphin	<i>Stenella longirostris</i>	No interactions observed or reported.
Spotted dolphin (Pantropical spotted dolphin)	<i>Stenella attenuata</i>	No interactions observed or reported.
Striped dolphin	<i>Stenella coeruleoalba</i>	No interactions observed or reported.
Longman's beaked whale	<i>Indopacetus pacificus</i>	No interactions observed or reported.

*Species is also listed under the Endangered Species Act.

Sources: NMFS PIRO and PIFSC unpublished data; Council website: <http://www.wpcouncil.org>

Marine Mammal Protection Act Coordination

The MMPA prohibits, with certain exceptions, taking of marine mammals in the U.S., and by persons aboard U.S. flagged vessels (i.e., persons and vessels subject to U.S. jurisdiction). NMFS classifies the American Samoa bottomfish fishery as a Category III fishery under Section 118 of the MMPA (76 FR 73912, November 29, 2011). A Category III fishery is one with a low likelihood or no known incidental takings of marine mammals. Because the proposed action would not modify vessel operations or other aspects of any fishery, NMFS does not anticipate that these fisheries, as conducted under the proposed action, would affect marine mammals in any manner not previously considered or authorized by the commercial fishing take exemption under section 118 of the MMPA.

Sea Turtles

There are five Pacific sea turtles designated under the Endangered Species Act (ESA) as either threatened or endangered (Table 16). Green and hawksbill sea turtles are most likely to frequent nearshore habitat when foraging around American Samoa. The breeding populations of Mexico's olive ridley sea turtles (*Lepidochelys olivacea*) are currently listed as endangered, while all other olive ridley populations are listed as threatened. This species is rare in American Samoa but one dead olive ridley turtle was found to have been injured by a shark and may have previously laid eggs. Leatherback sea turtles (*Dermochelys coriacea*) and hawksbill turtles (*Eretmochelys imbricata*) are also classified as endangered. Green sea turtles (*Chelonia mydas*) are listed as threatened (the green sea turtle is listed as threatened throughout its Pacific range, except for the endangered population nesting on the Pacific coast of Mexico), and loggerhead (*Caretta caretta*) sea turtles in the South Pacific Ocean were recently identified as a distinct population segment

and listed as endangered. These five species of sea turtles are highly migratory, or have a highly migratory phase in their life history (NMFS 2001). There have been no reported or observed interactions with sea turtles in the American Samoa commercial bottomfish fishery.

Seabirds

Seabirds found on and around American Samoa that could potentially interact with fisheries are listed in Table 18.

Table 18. Seabirds occurring in American Samoa

Residents (i.e., breeding)		
Samoan name	Common name	Scientific name
ta'i'o	Newell's shearwater	<i>Puffinus auricularis newelli</i> (ESA:Threatened) (uncommon visitor)
ta'i'o	Wedge-tailed shearwater	<i>Puffinus pacificus</i>
ta'i'o	Audubon's shearwater	<i>Puffinus lherminieri</i>
ta'i'o	Christmas shearwater	<i>Puffinus nativitatis</i>
ta'i'o	Tahiti petrel	<i>Pterodroma rostrata</i>
ta'i'o	Herald petrel	<i>Pterodroma heraldica</i>
ta'i'o	Collared petrel	<i>Pterodroma brevipes</i>
fua'o	Red-footed booby	<i>Sula sula</i>
fua'o	Brown booby	<i>Sula leucogaster</i>
fua'o	Masked booby	<i>Sula dactylatra</i>
tava'esina	White-tailed tropicbird	<i>Phaethon lepturus</i>
tava'e'ula	Red-tailed tropicbird	<i>Phaethon rubricauda</i>
atafa	Great frigatebird	<i>Fregata minor</i>
atafa	Lesser frigatebird	<i>Fregata ariel</i>
gogouli	Sooty tern	<i>Sterna fuscata</i>
gogo	Brown noddy	<i>Anous stolidus</i>
gogo	Black noddy	<i>Anous minutus</i>
laia	Blue-gray noddy	<i>Procelsterna cerulea</i>
manu sina	White tern / Common fairy-tern	<i>Gygis alba</i>

Source: WPFMC 2003 (updated in WPFMC 2009a).

Newell's shearwater (*Puffinus auricularis newelli*) is listed as threatened under the ESA. Generally known with other shearwaters and petrels as ta i`o in Samoan, this species breeds only in colonies on the main Hawaiian Islands. Newell's shearwater has been sighted once in American Samoa and appears to be an uncommon visitor to the archipelago. Additionally, there have been no reports of interactions between the American Samoa bottomfish fishery and seabirds. Since the proposed action would not modify fishing operations, NMFS expects that the fishery, as conducted under the proposed action, would not affect ESA listed seabirds.

Potential Impacts to Protected Resources in American Samoa

None of the alternatives considered would modify operations of the American Samoa bottomfish fishery in any way that would be expected to affect endangered or threatened species or critical habitat in any manner not considered in previous ESA or MMPA consultations.

The fishery is currently operating under annual catch limits and AMs. All alternatives would result in the continued specification of ACLs and the continuation of the post-season accounting of the catch relative to the ACL to promote long term sustainability of the fishery stock. The lack of in-season data to conduct in-season tracking of catch towards an ACL precludes the implementation of in-season closures. Without a closure, participants in the American Samoa bottomfish fishery would continue to operate as they currently do under the current management regime. However, because this fishery is currently sustainably managed and subject to conservation measures in accordance with various resource conservation and management laws, and because no change would occur in the way fishing is conducted, none of the alternatives would result in a change to distribution, abundance, reproduction, or survival of ESA-listed species or increase interactions with protected resources.

On September 22, 2011, NMFS and the U.S. Fish and Wildlife Service (USFWS) determined that the loggerhead sea turtle (*Caretta caretta*) is composed of nine distinct population segments (DPS) that constitute “species” that may be listed as threatened or endangered under the ESA (76 FR 58868). Specifically, the agencies determined that the loggerhead sea turtles in the South Pacific Ocean, which encompasses waters around American Samoa, are a distinct population segment (DPS) that is endangered and at risk of extinction. However, due to the dearth of sightings/observations of loggerhead sea turtles, inclusive of the South Pacific Ocean DPS around American Samoa, and because none of the alternatives considered would modify operations of the American Samoa bottomfish fishery in any way, NMFS does not expect that the proposed action would have an effect on ESA listed marine species in a manner not already considered in the March 8, 2002 biological opinion which determined that the American Samoa bottomfish fishery is not likely to adversely affect ESA-listed species known to occur in the waters around American Samoa or their designated critical habitat.

3.1.3 American Samoa Fishing Community

Overview

The Magnuson-Stevens Act defines a fishing community as “...a community that is substantially dependent upon or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew, and fish processors that are based in such communities” (16 U.S.C. § 1802(16)). NMFS further specifies in the National Standard guidelines that a fishing community is “...a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing or on directly related fisheries dependent services and industries (for example, boatyards, ice suppliers, tackle shops)”. National Standard 8 of the Magnuson-Stevens Act requires that conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and the rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (a) provide for the sustained participation of such communities and (b) to the extent practicable, minimize adverse economic impacts on such communities.

In 1999, the Council identified American Samoa as a fishing community. The Secretary of Commerce approved this definition on April 19, 2009 (64 FR 19067).

Potential Impacts of the Proposed ACL specifications and AM on the American Samoa Fishing Community

Under all of the alternatives, fishing for American Samoa BMUS would continue to be subject to an annual catch limit and post-season review of fishery performance against the ACL. The ACL specifications considered are substantially higher than recent harvests so they are not expected to be exceeded, and no change to any fishery is anticipated. The proposed ACL of 101,000 lb is intended to provide for community use of fishing resources, while helping to ensure that fishing is sustainable over the long term. Ongoing monitoring of catches toward the ACL and future ACL adjustments are expected to benefit people who rely on fishing by providing additional review of fishing and catch levels, which, in turn, would enhance sustainability of the bottomfish fishery of American Samoa. Regardless of which alternative is selected, the affected fishing community will continue to be a part of the Council decision-making process through American Samoa's representatives on the Council as well as through opportunities for public input at both the Council's deliberations and NMFS's proposed rulemaking stage.

3.2 Guam Bottomfish Fishery, Marine Resources and Potential Impacts

The Mariana Archipelago (approximately 396 square miles) is composed of 15 volcanic islands that are part of a submerged mountain chain stretching nearly 1,500 miles from Guam to Japan, and is comprised of two political jurisdictions: the CNMI and the Territory of Guam, both of which are U.S. possessions. Guam is the southernmost island of the archipelago and 30 miles (48 km) long and 4 mi (6 km) to 12 mi (19 km) wide and is also the largest island in Micronesia with an area of 209 sq. miles (541 km²). Guam's population was estimated to be 171,019 people in 2006, which was more than double the 1970 population of 85,000 people. The population is expected to increase with the relocation of certain elements of the U.S. military from Okinawa to Guam, but the numbers of active duty, dependents and other personnel to be relocated to Guam and the timing of the relocation are still under discussion. The U.S. EEZ around Guam is approximately 81,470 square miles and extends from 3 to 200 nm offshore. Data collection, compilation, and monitoring responsibilities are shared among territorial and federal agencies.

Bottomfish fishing in federal waters around Guam is managed in accordance with the Fishery Ecosystem Plan for the Mariana Archipelago (Mariana Archipelago FEP) developed by the Council and implemented by NMFS under the authority of the MSA (WPFMC 2009b). The portion of the fishery occurring within 3nm is under the jurisdiction of the Guam Division of Aquatic and Wildlife Resources (DAWR). The management structure of the FEP emphasizes community participation and enhanced consideration of the habitat and ecosystem, and other elements not typically incorporated in fishery management decision-making. Enforcement of federal fishery regulations is handled through a joint Federal-Territorial partnership and the Council is required to produce an annual performance report on the fishery.

Overview of Guam's Bottomfish Fishery

Bottomfishing on Guam is a combination of recreational, subsistence, and small-scale commercial fishing. It can be separated into two distinct fisheries targeting species complexes

separated by depth and species composition: shallow-water and deep-water complexes. The shallow water complex (<500 feet) makes up a larger portion of the total bottomfish effort and harvest and is comprised primarily of reef-dwelling species under genus *Lutjanus*, *Lethrinus*, *Aprion*, *Epinephelus*, *Variola*, *Cephalopholis* and *Caranx*. The deepwater complex (>500 feet) consists primarily of groupers and snappers of the genera *Pristipomoides*, *Etelis*, *Aphareus*, *Epinephelus*, and *Cephalopholis* (WPFMC, 2011). The majority of participants in Guam's bottomfish fishery are either subsistence or part-time commercial that operate boats less than 25 feet in length and primarily target the shallow water bottomfish complex. Approximately 300 vessels participated in the Guam bottomfish fishery in 2009, the most recent year vessel numbers are available (WPFMC, 2011).

Vessels longer than 50 ft are prohibited from fishing for bottomfish in Federal waters within 50 nm around Guam, although these larger vessels must have a federal permit and file logbooks when fishing seaward of the closed area which helps resource managers monitor harvests. There is no federal permit or reporting requirements for bottomfish vessels less than 50 ft fishing in federal waters around Guam.

As of 2012, there are no federally permitted bottomfish vessels in Guam. Therefore, monitoring of the Guam bottomfish fishery is dependent on data voluntarily provided by fishermen to DAWR through the boat-based creel survey program. Monitoring of commercial sales data is provided to DAWR by fish dealers through the commercial purchase system. Currently, DAWR staff resources limit the ability to process data so catch information is not available until at least 6 months to a year after the fishing year has ended.

Table 4 shows that between 2007 and 2011, the Guam bottomfish fishery caught an average of 33,489 lb of BMUS annually of which 44 percent (14,644 lb) was sold. Assuming that on average, 44 percent of the total bottomfish catch is sold annually, and 15,985 lb was sold in 2011, the Guam bottomfish fishery likely caught a total of 36,330 lb of BMUS in that year. However, Tibbats and Flores (2012) estimate that as much as 59,172 lb may actually have been caught in 2011, despite a 30 percent decline in the number of bottomfish trips and hours fished compared to 2010.⁹ The 2011 commercial price per pound for BMUS ranged from \$2.40 for tarakiton attelong or black jack (*Caranx lugubris*) to \$4.92 for buninas or onaga (*Etelis coruscans*) with average price per pound for all BMUS combined at \$3.77 (PIFSC Internal Report IR-12-041).

Based on the 2011 commercial catch estimate of 15,985 lb and the average price of all BMUS at \$3.77 per pound, the annual commercial value of the bottomfish fishery in 2011 was \$60,263. Assuming that all 300 vessels engaged in commercial fishing and that fishing effort by each vessel was equal throughout the fleet in 2010, each vessel would have sold approximately 53 lb of bottomfish valued at \$200.

⁹ Staff from the Council, WPacFIN and Guam DAWR is investigating the data to verify this estimate. As a reference, a catch of 59,172 lb in 2013 would be associated with less than a 20 percent probability of overfishing in 2013, rising in 2014 to less than 26 percent (See Table 13).

Potential Impacts of the Proposed ACL specification and AM on Guam's Bottomfish Fishermen

Alternative 1: No action (Status Quo)

Under the no action alternative, fishing for Guam BMUS would be subject to an ACL of 48,200 lb for fishing years 2013 and 2014. This is the same ACL specified for 2012. Between 2000 and 2010, total annual catch of BMUS in Guam has exceeded 48,200 lb only twice, once in 2000 and the other in 2001 when 66,666 lb and 54,352 lb were caught, respectively (Table 4). In more recent years, total annual catch fluctuated between 27,000 and 40,000 lb with the recent average catch for 2007-2011 around 33,489 lb; however, Tibbats and Flores (2012) estimate that 59,172 lb may have been caught in 2011 which is more than double the previous years' catch.

So, under this alternative, catch in 2013 or 2014 may potentially exceed an ACL of 48,200 lb. However, because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, under all alternatives, including the no action alternative, the AM for the Guam bottomfish fishery would require a post-season review of the catch data to determine whether the ACL was exceeded. If the ACL is exceeded, NMFS, as recommended by the Council, would take action to correct the operational issue that caused the ACL overage. This could include a downward adjustment to the bottomfish ACL in the subsequent fishing year to help ensure the fishery remains sustainable. NMFS cannot speculate on the operational measures or the magnitude of the overage adjustment that might be taken; therefore, the fishery impacts of future actions such as changes to the ACL or AM would be evaluated separately, once details are available. However, if an ACL is exceeded a second time, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness.

NMFS does not expect the ACL and AMs proposed under this alternative to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. Consequently, NMFS does not expect implementation of Alternative 1 to adversely affect Guam bottomfish fishermen.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for Guam BMUS would be subject to an ACL of 66,800 lb for the 2013 and 2014 fishing years as recommended by the Council. This specification would allow catch 18,600 lb greater than the current status quo (Alternative 1). An ACL of 66,800 lb is higher than the 2000 record catch of 66,666 lb and is unlikely to be reached in 2013 or 2014. Because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, the AM under this alternative would be the same as under Alternative 1; therefore, the impacts to fishermen would be similar to those described in Alternative 1.

Alternative 3: Specify ACLs Lower than Council Recommendation

Under Alternative 3, fishing for Guam BMUS would be subject to an ACL between 22,000 and 66,200 lb for the 2013 and 2014 fishing years. Based on past fishery performance shown in Table 4, it is possible that the fishery could exceed an ACL within this range as 66,666 lb was taken in 2000. However, because there is no data that would allow NMFS to implement an in-season closure ability to prevent the ACL from being exceeded, an ACL under this alternative is

not expected to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. In short, impacts to fisheries participants would be generally the same as those described under the Alternative 1 and no adverse economic impact to fishermen would likely result from implementation of any ACL under Alternative 3.

3.2.1 Target, Non-target and Bycatch Species in Guam

The bottomfish fishery in the Mariana Archipelago, including Guam, generally targets 17 bottomfish management unit species including both shallow and deepwater bottomfish species (Table 19).

Table 19. Mariana Bottomfish MUS (Guam)

Mariana Bottomfish MUS (Guam)		
Scientific Name	English Common Name	Local Name Chamorro/Carolinian
<i>Aphareus rutilans</i>	red snapper/ silvermouth	lehi/maroobw
<i>Aprion virescens</i>	gray snapper/jobfish	gogunafon/aiwe
<i>Caranx ignobilis</i>	giant trevally/jack	tarakitu/etam
<i>C. lugubris</i>	black trevally/jack	tarakiton attelong/orong
<i>Epinephelus fasciatus</i>	blacktip grouper	gadao/meteyil
<i>Variola louti</i>	lunartail grouper	bueli/bwele
<i>Etelis carbunculus</i>	red snapper/Ehu	buninas agaga/falaghal moroobw
<i>Etelis coruscans</i>	red snapper/Onaga	buninas/taighulupegh
<i>Lethrinus rubrioperculatus</i>	redgill emperor	mafuti atigh
<i>Lethrinus amboinensis</i>	ambon emperor	mafuti/loot
<i>Lutjanus kasmira</i>	blueline snapper	funai/saas
<i>Pristipomoides auricilla</i>	yellowtail snapper	buninas/falaghal-maroobw
<i>Pristipomoides filamentosus</i>	pink snapper/ opakapaka	buninas/falaghal-maroobw
<i>Pristipomoides flavipinnis</i>	yelloweye snapper/ yelloweye opakapaka	buninas/falaghal-maroobw
<i>Pristipomoides seiboldi</i>	pink snapper/kalekale	N/A
<i>Pristipomoides zonatus</i>	Snapper/gindai	buninas rayao amiriyu/falaghal-maroobw
<i>Seriola dumerili</i>	amberjack	tarakiton tadong/meseyugh

Current impacts of the fishery: target, non-target and bycatch species

The information used in developing the proposed ACL for the Guam bottomfish stock complex is based on the most recent bottomfish stock assessment (Brodziak et al., 2012) conducted by the NMFS Pacific Islands Fisheries Science Center (PIFSC) using data through 2010. Key points from the discussion in Section 2.1.2 is that PIFSC estimated MSY to be 55,000 ± 7,900 lb and that the production model results suggest that during the period 1982 through 2010, the Guam bottomfish complex has not been overfished and has not experienced overfishing, except perhaps

in 2000 when total catch was 66,666 lb. Between 2007 and 2011, total harvest of Guam BMUS averaged 33,489 lb annually, or about 63% of the long-term MSY.

While the boat-based and shore-based creel survey programs administered by Guam DAWR provide for the collection of bycatch information, no such information is currently available indicating that most of the fish caught are retained. However, like other Pacific Islands, discards, if they occur, are usually due to cultural reasons (i.e., taboo) or practical reasons such as toxicity (e.g., ciguatera and poison), or shark damage. Bottomfish fishing is fairly target-specific, and to date, neither the Council nor the Guam DAWR has raised concerns about bycatch in the fishery. NMFS does not have any information to indicate that there are large unresolved issues about bycatch in the Guam bottomfish fishery.

Potential Impacts of the Proposed ACL specification and AM on Target, Non-target and Bycatch Species in Guam

Alternative 1: No action (Status Quo)

Under the no-action alternative, the ACL for 2013 and 2014 would be set at 48,200 lb. This is the same ACL specified for 2012. The fishery would continue to catch bottomfish in the manner that is described above, and catches would continue to be monitored through fisheries monitoring programs administered by the DAWR with assistance from WPacFIN. The level of catch under this alternative is expected to continue as it has in recent years with average total catch estimated to be 33,489 lb for the period 2007-2011, which is approximately 63% of MSY (55,000 lb) and is sustainable. However, Tibbats and Flores (2012) estimate that 59,172 lb may have been caught in 2011 which is more than double the previous years' catch and exceeds MSY by 4,172 lb.

While an ACL of 48,200 lb would exceed the long-term MSY, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, an ACL of 48,200 lb would result in less than a 10 percent probability of overfishing in 2013, rising in 2014 to an 11 percent probability of overfishing. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 1. Monitoring of catch would be conducted annually by the DAWR with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for Guam BMUS would be subject to an ACL of 66,800 lb for the 2013 and 2014 fishing years as recommended by the Council. While this ACL exceeds the long-term MSY of 55,000 lb, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, this ACL would have a 28 percent probability of causing overfishing in 2013, rising in 2014 to a 40 percent probability of overfishing.

Based on past fishery performance shown in Table 4, the fishery has come close but has never achieved this level of catch and would need to harvest nearly twice the recent average total catch of 33,489 lb in 2013 and again in 2014 for overfishing to occur. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 2. Monitoring of catch would be conducted annually by the DMWR with

assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Alternative 3: Specify ACL Lower than Council Recommendation

Under Alternative 3, fishing for Guam BMUS would be subject to an ACL between 22,000 and 66,200 lb for the 2013 and 2014 fishing years. While some of the ACLs in this alternative would exceed the long-term MSY of 55,000 lb, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, none would result in a probability of overfishing greater than 38 percent. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 3. Like Alternatives 1 and 2, monitoring of catch would be conducted annually by the DAWR with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Under all alternatives considered including the preferred alternative, no new monitoring would be implemented; however, a post-season review of the catch data would be conducted as soon as possible after the fishing year to determine whether the ACL was exceeded. If the ACL is exceeded and affects the sustainability of the stock, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council, which could include a downward adjustment to the ACL in the subsequent fishing year. While the lack of in-season catch monitoring ability precludes in-season measures (such as a fishery closure) that would prevent the ACL from being exceeded, none of the ACLs considered have greater than a 40 percent probability of causing overfishing for Guam bottomfish in 2013 and 2014.

3.2.2 Protected Resources in Guam

A number of protected species are reported from the waters around the Mariana Islands and there is, therefore, the potential for interactions with the bottomfish fisheries of Guam. The bottomfish fisheries of the western Pacific region have been evaluated for impacts on protected resources and are managed in compliance with the requirements of the MSA, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act, and other applicable statutes. Additional detailed descriptions of potentially affected protected resources and their life histories can be found in Section 3.3.3 of the FEP for the Mariana Archipelago (WPFMC 2009b).

Listed species and ESA review of Guam's Bottomfish Fisheries

Table 20 identifies species listed as endangered or threatened under the ESA that are known to occur, or could reasonably be expected to occur, in marine waters around the Mariana Archipelago, including Guam, and which may have the potential to interact with fisheries. They include a number of whales, five sea turtles, and a seabird. There is no critical habitat designated for ESA-listed marine species around Guam.

Table 20. Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the Mariana Archipelago (Guam)

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the Marina Archipelago (Guam)				
Common name	Scientific Name	ESA listing status in Guam	Occurrence in Guam	Interactions with the Guam bottomfish fishery
Listed Sea Turtles				
Green sea turtle Haggan Betde	<i>Chelonia mydas</i>	Threatened	Most common turtle in the Mariana Archipelago. Foraging and minor nesting confirmed on Guam, Rota, Tinian and Saipan.	No interactions observed or reported.
Hawksbill sea turtle Haggan Karai	<i>Eretmochelys imbricata</i>	Endangered	Small population foraging around Guam and suspected low level around southern islands of the CNMI. Low level nesting on Guam.	No interactions observed or reported.
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Occasional sightings around Guam. Not known to what extent they are present around Guam and CNMI.	No interactions observed or reported.
Olive ridley sea turtle	<i>Lepidochelys olivacea</i>	Threatened	Range across Pacific: not confirmed in the Mariana Archipelago.	No interactions observed or reported.
North Pacific Loggerhead sea turtle Distinct Population Segment	<i>Caretta caretta</i>	Endangered	No known reports of loggerhead turtles in waters around the Mariana Archipelago.	No interactions observed or reported.

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the Mariana Archipelago (Guam)				
Common name	Scientific Name	ESA listing status in Guam	Occurrence in Guam	Interactions with the Guam bottomfish fishery
Listed Marine Mammals				
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Extremely rare.	No interactions observed or reported.
Fin whale	<i>Balaenoptera physalus</i>	Endangered	Infrequent sightings.	No interactions observed or reported.
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Infrequent sightings. Winter in the CNMI.	No interactions observed or reported.
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Infrequent sightings.	No interactions observed or reported.
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Regularly sighted.	No interactions observed or reported.
Listed Sea Birds				
Newell's Shearwater	<i>Puffinus auricularis newelli</i>	Threatened	Rare visitor.	No interactions observed or reported.

Applicable ESA Coordination – Guam Bottomfish Fisheries

In an informal consultation letter dated June 3, 2008, NMFS determined that the continued authorization of bottomfish fisheries of the Mariana Archipelago, including the bottomfish fishery around Guam, as managed under the Bottomfish and Seamount Groundfish FMP, was not likely to adversely affect ESA-listed marine species or their designated critical habitat.

In 2009, the Council recommended and NMFS approved the development of five archipelagic-based fishery ecosystem plans (FEP) including the Mariana Archipelago FEP. The FEP incorporated and reorganized elements of the Council's species-based FMPs, including the Bottomfish and Seamount Groundfish Fisheries FMP, into a spatially-oriented management plan (75 FR 2198, January 14, 2010). All applicable regulations concerning bottomfish fishing were retained through the development and implementation of the FEP for the Mariana Archipelago, including Guam. No substantial changes to the bottomfish fishery around Guam have occurred since the FEP was implemented that have required further consultation.

Marine Mammals

Several species of whales, dolphins and porpoises, and the dugong occur in waters around Guam and are protected under the Marine Mammal Protection Act (MMPA). Table 22, provides a list of marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago that have the potential to interact with the bottomfish fishery. A single

dugong, listed as endangered, was observed in Cocos Lagoon, Guam in 1975 (Randall et al., 1975). Several sightings were reported in 1985 on the southeastern side of Guam (Eldredge 2003). Since that time, no reports of dugong sightings have been made.

Table 21. Marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago - Guam

Marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago (Guam)		
Common Name	Scientific Name	Interactions with the Guam Bottomfish Fishery
Humpback whale*	<i>Megaptera novaeangliae</i>	No interactions observed or reported.
Sperm whale*	<i>Physeter macrocephalus</i>	No interactions observed or reported.
Sei whale*	<i>Balaenoptera borealis</i>	No interactions observed or reported.
Fin whale*	<i>Balaenoptera physalus</i>	No interactions observed or reported.
Blue whale*	<i>Balaenoptera musculus</i>	No interactions observed or reported.
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	No interactions observed or reported.
Bottlenose dolphin	<i>Tursiops truncatus</i>	No interactions observed or reported.
Bryde's whale	<i>Balaenoptera edeni</i>	No interactions observed or reported.
Common dolphin	<i>Delphinus delphis</i>	No interactions observed or reported.
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	No interactions observed or reported.
Dwarf sperm whale	<i>Kogia sima</i>	No interactions observed or reported.
Dugong*	<i>Dugong dugong</i>	No interactions observed or reported.
False killer whale	<i>Pseudorca crassidens</i>	No interactions observed or reported.
Fraser's dolphin	<i>Lagenodelphis hosei</i>	No interactions observed or reported.
Killer whale	<i>Orcinus orca</i>	No interactions observed or reported.
Longman's beaked whale	<i>Indopacetus pacificus</i>	No interactions observed or reported.
Melon-headed whale	<i>Peponocephala electra</i>	No interactions observed or reported.

Marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago (Guam)		
Common Name	Scientific Name	Interactions with the Guam Bottomfish Fishery
Minke whale	<i>Balaenoptera acutorostrata</i>	No interactions observed or reported.
Pygmy killer whale	<i>Feresa attenuata</i>	No interactions observed or reported.
Pygmy sperm whale	<i>Kogia breviceps</i>	No interactions observed or reported.
Risso's dolphin	<i>Grampus griseus</i>	No interactions observed or reported.
Rough-toothed dolphin	<i>Steno bredanensis</i>	No interactions observed or reported.
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	No interactions observed or reported.
Sperm whale	<i>Physeter macrocephalus</i>	No interactions observed or reported.
Spinner dolphin	<i>Stenella longirostris</i>	No interactions observed or reported.
Spotted dolphin	<i>Stenella attenuata</i>	No interactions observed or reported.
Striped dolphin	<i>Stenella coeruleoalba</i>	No interactions observed or reported.

*Species is also listed under the Endangered Species Act.

Source: Eldredge 2003, Randall et al., 1975, Guam DAWR, 2005, Council website: <http://www.wpcouncil.org>

Marine Mammal Protection Act Coordination

The MMPA prohibits, with certain exceptions, taking of marine mammals in the U.S., and by persons aboard U.S. flagged vessels (i.e., persons and vessels subject to U.S. jurisdiction). NMFS classifies the Guam bottomfish fishery as a Category III fishery under Section 118 of the MMPA (76 FR 73912, November 29, 2011). A Category III fishery is one with a low likelihood or no known incidental takings of marine mammals. Because the proposed action would not modify vessel operations or other aspects of any fishery, NMFS does not anticipate that these fisheries, as conducted under the proposed action, would affect marine mammals in any manner not previously considered or authorized by the commercial fishing take exemption under section 118 of the MMPA.

Sea Turtles

There are five Pacific sea turtles designated under the Endangered Species Act (ESA) as either threatened or endangered. Green sea turtles are most likely to frequent nearshore habitat when foraging around Guam and other areas in the Mariana Islands. The breeding populations of Mexico's olive ridley sea turtles (*Lepidochelys olivacea*) are currently listed as endangered, while all other olive ridley populations are listed as threatened. Leatherback sea turtles (*Dermochelys coriacea*) and hawksbill turtles (*Eretmochelys imbricata*) are also classified as

endangered. Green sea turtles (*Chelonia mydas*) are listed as threatened (the green sea turtle is listed as threatened throughout its Pacific range, except for the endangered population nesting on the Pacific coast of Mexico), and loggerhead (*Caretta caretta*) sea turtles in the North Pacific Ocean were recently identified as a distinct population segment and listed as endangered. These five species of sea turtles are highly migratory, or have a highly migratory phase in their life history (NMFS, 2001).

Based on nearshore surveys conducted jointly between the CNMI–DFW and NMFS around the Southern Mariana Islands (Rota and Tinian 2001; Saipan 1999), an estimated 1,000 to 2,000 green sea turtles forage in these areas (Kolinski et al., 2001). Nesting beaches and seagrass beds on Tinian and Rota are in good condition but beaches and seagrass beds on Saipan have been impacted by hotels, golf courses and general tourist activities. Nesting surveys for green sea turtles have been done on Guam since 1973 with the most consistent data collected between 1990 and 2001 (Cummings, 2002). Survey results show nesting in Guam to be generally increasing with 1997 having the most numerous nesting females at 60 (Cummings 2002). From October 1, 2006 through July 31, 2008, 55 green turtle nests were counted at various beaches during opportunistic surveys throughout Guam (DAWR, 2009). Aerial surveys done in 1990–2000 also found an increase in green sea turtle sightings around Guam with over 200 turtles counted in 2000 (Cummings, 2002). There have been occasional sightings of leatherback turtles around Guam (Eldredge, 2003); however, the extent to which leatherback turtles are present around the Mariana Archipelago is unknown. There are no known reports of loggerhead sea turtles in waters around the Mariana Archipelago (WPFMC, 2009b). Olive ridley sea turtles are believed to occasionally transit the area (Starmer et al., 2005). There have been no reported or observed interactions with sea turtles in the Mariana Archipelago bottomfish fisheries.

Seabirds

The following seabirds are considered residents of the Mariana Archipelago: wedge-tailed shearwater (*Puffinus pacificus*), white-tailed tropicbird (*Phaethon lepturus*), red-tailed tropicbird (*Phaethon rubricauda*), masked booby (*Sula dactylatra*), brown booby (*Sula leucogaster*), red-footed booby (*Sula sula*), white tern (*Gygis alba*), sooty tern (*Sterna fuscata*), brown noddy (*Anous stolidus*), black noddy (*Anous minutus*), and the great frigatebird (*Fregata minor*). However, according to Wiles (2003), the only resident seabirds on Guam are the brown noddy and the white tern.

The following seabirds in Table 22 have been sighted and are considered visitors (some more common than others) to the Mariana Archipelago; short-tailed shearwater (*Puffinus tenuirostris*; common visitor), Newell's shearwater (*Puffinus auricularis*; rare visitor), Audubon's shearwater (*Puffinus iherminieri*), Leach's storm-petrel (*Oceanodroma leucorhoa*), and the Matsudaira's storm-petrel (*Oceanodroma matsudairae*). Of these, only the Newell's shearwater is listed as threatened under the ESA. There have been no sightings of the endangered short-tailed albatross (*Phoebastria albatrus*) in the Mariana Archipelago although the Mariana Archipelago is within the range of the only breeding colony at Torishima, Japan (WPFMC, 2009b).

There have been no reports of interactions between seabirds and any of the Mariana Archipelago bottomfish fisheries (WPFMC, 2009b) and the species is not known to prey on bottomfish. Since

the proposed action would not modify fishing operations, NMFS expects that the fishery, as conducted under the proposed action, would not affect ESA listed seabirds.

Table 22. Seabirds occurring in the Mariana Archipelago (Guam)

Seabirds of the Mariana Archipelago (R= Resident/Breeding; V= Visitor; Vr=rare visitor; Vc= Common visitor)		
	Common name	Scientific name
Vr	Newell's shearwater	<i>Puffinus auricularis newelli</i> (ESA: Threatened)
Vr	Wedge-tailed shearwater	<i>Puffinus pacificus</i>
V	Audubon's shearwater	<i>Puffinus lherminieri</i>
Vc	Short-tailed shearwater	<i>Puffinus tenuirostris</i> (common visitor)
V	Leach's storm-petrel	<i>Oceanodroma leucorhoa</i>
Vr	Matsudaira's storm-petrel	<i>Oceanodroma matsudairae</i>
Vr	Red-footed booby	<i>Sula sula</i>
Vr	Brown booby	<i>Sula leucogaster</i>
V	Masked booby	<i>Sula dactylatra</i>
Vr	White-tailed tropicbird	<i>Phaethon lepturus</i>
Vr	Red-tailed tropicbird	<i>Phaethon rubricauda</i>
Vr	Great frigatebird	<i>Fregata minor</i>
Vr	Sooty tern	<i>Sterna fuscata</i>
R	Brown noddy	<i>Anous stolidus</i>
V	Black noddy	<i>Anous minutus</i>
R	White tern / Common fairy-tern	<i>Gygis alba</i>

Source: WPFMC 2009b

Potential Impacts to Protected Resources in Guam

None of the alternatives considered would modify operations of the Guam bottomfish fishery in any way that would be expected to affect endangered or threatened species or critical habitat in any manner not previously considered in previous ESA or MMPA consultations.

The fishery is currently operating under catch limits and AMs. All alternatives would result in the continued specification of ACLs and the continuation of the post-season accounting of the catch relative to the ACL to promote long term sustainability of the fishery stock. The lack of in-season data to conduct in-season tracking of catch towards an ACL precludes the implementation of in-season closures. Without a closure, participants in the Guam bottomfish fishery would continue to operate as they currently do under the current management regime. However, because this fishery is currently sustainably managed and subject to conservation measures in accordance with various resource conservation and management laws, and because no change would occur in the way fishing is conducted, none of the alternatives would result in a change to distribution, abundance, reproduction, or survival of ESA-listed species or increase interactions with protected resources.

On September 22, 2011, NMFS and the U.S. Fish and Wildlife Service (USFWS) determined that the loggerhead sea turtle (*Caretta caretta*) is composed of nine distinct population segments

(DPS) that constitute “species” that may be listed as threatened or endangered under the ESA (76 FR 58868). Specifically, the agencies determined that the loggerhead sea turtles in the North Pacific Ocean, which encompasses waters around Guam, are a distinct population segment (DPS) that is endangered and at risk of extinction. However, because loggerhead sea turtles, inclusive of the North Pacific Ocean DPS are not known to occur around the Mariana Archipelago, and because none of the alternatives considered would modify operations of the Guam bottomfish fishery in any way, NMFS does not expect that the proposed action would have an effect on ESA listed marine species in a manner not already considered in the June 3, 2008 informal consultation which determined that the Guam bottomfish fishery was not likely to adversely affect ESA-listed marine species or their designated critical habitat.

3.2.3 Guam Fishing Community

Overview

In 1999, the Council identified Guam as a fishing community. The Secretary of Commerce approved this definition on April 19, 2009 (64 FR 19067).

Potential Impacts of the Proposed ACL specifications and AM on the Guam Fishing Community

Under all of the alternatives, fishing for Guam BMUS would continue to be subject to an annual catch limit and post-season review of fishery performance against the ACL. The ACL specifications considered are higher than recent harvests so they are not expected to be exceeded, and no change to any fishery is anticipated. The proposed ACL of 66,800 lb is intended to provide for community use of fishing resources, while helping to ensure that fishing is sustainable over the long term. Fishing would continue to be monitored by Guam DAWR, NMFS and the Council. Ongoing monitoring of catches toward the ACL and future ACL adjustments are expected to benefit people who rely on fishing by providing additional review of fishing and catch levels, which, in turn, would enhance sustainability of the bottomfish fishery of Guam. Regardless of which alternative is selected, the affected fishing community will continue to be a part of the Council decision-making process through Guam’s representatives on the Council as well as through opportunities for public input at both the Council’s deliberations and NMFS’s proposed rulemaking stage.

3.3 CNMI Bottomfish Fishery, Marine Resources and Potential Impacts

The Mariana Archipelago (approximately 396 square miles of land) is composed of 15 volcanic islands that are part of a submerged mountain chain stretching nearly 1,500 miles from Guam to Japan, and is comprised of two political jurisdictions: the CNMI, and the Territory of Guam, both of which are U.S. possessions. The CNMI is comprised of 14 islands with a total land area of 179 sq. miles spread over 264,000 sq. miles of ocean. The highest elevation is 3,166 feet (965 m). The southern islands (Rota, Saipan and Tinian) are limestone with fringing coral reefs; the northern islands from Farallon de Medinilla to Uracus are volcanic, with active volcanoes on Anatahan, Pagan and Agrihan. Ninety percent of the 80,362 residents (2005 estimate) live on the island of Saipan and almost all the rest on Tinian and Rota. After government removal of residents following volcanic activity, only a half dozen people remain in the northern islands.

The U.S. EEZ around CNMI is approximately 292,717 square miles, but unlike other U.S. Pacific islands, federal jurisdiction extends from the shoreline to 200 nm offshore. For this reason, the federal bottomfish management area around the CNMI is further divided into the inshore area (0-3 nmi) and the offshore area (3-200 nmi). Bottomfish fishery data collection, compilation and monitoring responsibilities are shared among territorial and federal agencies. Bottomfish fishing in federal waters around the CNMI is managed in accordance with the Fishery Ecosystem Plan for the Mariana Archipelago (Mariana Archipelago FEP) developed by the Council and implemented by NMFS under the authority of the MSA (WPFMC 2009b). However, the Council is working to incorporate locally developed regulations for CNMI near-shore fisheries into federal management measures in the Mariana Archipelago Fishery Ecosystem Plan (WPFMC 2011; Council website). This FEP includes a management structure that emphasizes community participation and enhanced consideration of the habitat and ecosystem, and other elements not typically incorporated in fishery management decision-making. Enforcement of federal fishery regulations is handled through a joint Federal-Territorial partnership and the Council is required to produce an annual performance report on the fishery.

Overview of the CNMI Bottomfish Fishery

CNMI's bottomfish fishery still consists primarily of small-scale local boats engaged in commercial and subsistence fishing, although a few (generally <5) larger vessels (30– 60 ft) also participate in the fishery. The bottomfish fishery can be broken down into two sectors: deep-water (>500 ft) and shallow-water (100–500 ft) fisheries. The deep-water fishery is primarily commercial, targeting snappers and groupers (WPFMC, 2009) while, the shallow-water fishery, which targets the redgill emperor (*Lethrinus rubrioperculatus*) is mostly commercial, but also includes subsistence fishermen (WPFMC, 2011). Hand lines, home-fabricated hand reels and small electric reels are the commonly used gear for small-scale fishing operations, whereas electric reels and hydraulics are the commonly used gear for the larger operations in this fishery. Fishing is often conducted during daylight hours, although larger vessels have made multi-day trips to the Northern Islands (north of Saipan) in the past.

CNMI's bottomfish fishery continues to show a high turnover with changes in the number of participants in the fishery. In the early 1980s, there were over 100 vessels participating in the fishery. In 2009, only 40 vessels reported bottomfish landings which are offloaded at Saipan or other CNMI commercial ports and may be exported by air to Japan when flights are available (WPFMC, 2011).

To help conserve bottomfish fishery resources at nearshore seamounts and banks, any vessel greater than 40 ft in length overall is prohibited from engaging in fishing for bottomfish within 50 nm around the CNMI's Southern Islands and within 10 nm around the island of Alamagan in the Northern Islands. Additionally, a federal bottomfishing permit is required for any vessel used in commercially fishing for BMUS in the EEZ around the CNMI which includes both inshore and offshore waters. Other requirements affecting the CNMI's bottomfish fishery can be found in the Mariana Archipelago FEP (WPFMC, 2009b).

Of the estimated 40 vessels reported to engage in bottomfish fishing in 2011, only 11 vessels were federally permitted, suggesting only a quarter of the fleet is commercial, but may account for about half of the total catch. Therefore, monitoring of the total CNMI bottomfish fishery is

primarily dependent on data voluntarily provided by fishermen to the CNMI Division of Fish and Wildlife through the boat-based creel survey program. Monitoring of commercial sales data is provided to DFW by fish dealers through the commercial purchase system. Currently, DFW staff resources limit the ability to process data so catch information is not available until at least 6 months to a year after the fishing year has ended.

Table 6 shows that between 2007 and 2011, the CNMI bottomfish fishery caught an average of 36,279 lb of BMUS annually of which 49 percent (17,814 lb) was sold. Assuming that on average, 49 percent of the total CNMI bottomfish catch is sold annually and 16,930 lb was sold in 2011, the CNMI bottomfish fishery likely caught a total of 34,551 lb of BMUS in that year. In 2011, the commercial price per pound for BMUS in the CNMI ranged from \$1.75 for tarakitu or giant trevally (*Caranx ignobilis*) to \$4.29 for buninas or onaga (*Etelis carbunculus*) with average price per pound for all BMUS combined at \$2.82 (PIFSC Internal Report IR-12-041).

Based on the 2011 commercial catch estimate of 16,930 lb and the average price of all BMUS at \$2.82 per pound, the annual commercial value of the bottomfish fishery in 2011 was \$47,743. Assuming that only 11 of the 40 vessels engaged in commercial fishing for BMUS in 2011, and that fishing effort by each vessel were equal, NMFS estimates each commercial fishing vessel would have caught 1,539 lb valued at \$4,340.

Potential Impacts of the Proposed ACL specification and AM on CNMI's Bottomfish Fishermen

Alternative 1: No Action (Status Quo)

Under the no action alternative, fishing for CNMI BMUS would be subject to an ACL of 182,500 lb for the 2013 and 2014 fishing years. This is the same ACL specified for 2012. Between 2000 and 2011, the greatest total annual catch of BMUS in the CNMI occurred in 2001 at 71,256 lb (Table 6). After 2001, total annual catch declined slightly, rebounded back to 70,000 lb in 2005, and declined again with the average total annual catch for the period 2007-2011 at 36,279 lb. Since the ACL proposed under this alternative is more than two and a half times greater than the highest level of catch ever recorded, harvest in 2013 and 2014 is not expected to exceed the ACL, and the ACL is not expected to result in a race to the fish over each of the next two years.

Because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, under all alternatives including the no action alternative, the AM for the CNMI bottomfish fishery would require a post-season review of the catch data to determine whether the bottomfish ACL for the CNMI was exceeded. If the ACL is exceeded, NMFS, as recommended by the Council, would take action to correct the operational issue that caused the ACL overage to help ensure the fishery remains sustainable. This could include a downward adjustment to the bottomfish ACL in the subsequent fishing year. NMFS cannot speculate on the operational measures or the magnitude of the overage adjustment that might be taken; therefore, the fishery impacts of future actions such as changes to the ACL or AM would be evaluated separately, once details are available.

NMFS does not expect the ACL and AMs proposed under this alternative to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. Consequently, NMFS does not expect implementation of Alternative 1 to adversely affect CNMI bottomfish fishermen.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for CNMI BMUS would be subject to an ACL of 228,000 lb for the 2013 and 2014 fishing years as recommended by the Council. This specification would allow catch 45,500 lb greater than the current status quo (Alternative 1). Based on past fishery performance, the bottomfish fleet is very unlikely to achieve the ACL in 2013 or 2014. Because there is no data that would allow NMFS to implement an in-season closure, the AM under this alternative would be the same as under Alternative 1. Therefore, the impacts to fishermen would be similar to those described in Alternative 1.

Alternative 3: Specify ACLs Lower than Council Recommendation

Under Alternative 3, fishing for CNMI BMUS would be subject to an ACL between 40,000 and 225,000 lb for the 2013 and 2014 fishing years. Based on past fishery performance shown in Table 6, it is possible that the fishery could exceed an ACL set lower than 80,000 lb as 71,256 was taken in 2001. However, because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, an ACL under this alternative is not expected to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. No adverse economic impact to fishermen would result from implementation of any ACL under Alternative 3.

3.3.1 Target, Non-target and Bycatch Species in the CNMI

The bottomfish fishery in the Mariana Archipelago, including CNMI, generally targets 17 bottomfish management unit species including both shallow and deepwater bottomfish species (Table 23).

Table 23. Mariana Bottomfish MUS (CNMI)

Mariana Bottomfish MUS (CNMI)		
Scientific Name	English Common Name	Local Name Chamorro/Carolinian
<i>Aphareus rutilans</i>	red snapper/ silvermouth	lehi/maroobw
<i>Aprion virescens</i>	gray snapper/jobfish	gogunafon/aiwe
<i>Caranx ignobilis</i>	giant trevally/jack	tarakitu/etam
<i>C. lugubris</i>	black trevally/jack	tarakiton attelong/orong
<i>Epinephelus fasciatus</i>	blacktip grouper	gadao/meteyil
<i>Variola louti</i>	lunartail grouper	bueli/bwele
<i>Etelis carbunculus</i>	red snapper/Ehu	buninas agaga/falaghal moroobw
<i>Etelis coruscans</i>	red snapper/Onaga	buninas/taighulupegh
<i>Lethrinus rubrioperculatus</i>	redgill emperor	mafuti atigh
<i>Lethrinus amboinensis</i>	ambon emperor	mafuti/loot

Mariana Bottomfish MUS (CNMI)		
Scientific Name	English Common Name	Local Name Chamorro/Carolinian
<i>Lutjanus kasmira</i>	blueline snapper	funai/saas
<i>Pristipomoides auricilla</i>	yellowtail snapper	buninas/falaghal-marooow
<i>Pristipomoides filamentosus</i>	pink snapper/ opakapaka	buninas/falaghal-marooow
<i>Pristipomoides flavipinnis</i>	yelloweye snapper/ yelloweye opakapaka	buninas/falaghal-marooow
<i>Pristipomoides seiboldi</i>	pink snapper/kalekale	N/A
<i>Pristipomoides zonatus</i>	Snapper/gindai	buninas rayao amiriyu/falaghal-marooow
<i>Seriola dumerili</i>	amberjack	tarakiton tadong/meseyugh

Current impacts of the fishery: target, non-target and bycatch species

The information used in developing the proposed ACL for the CNMI bottomfish stock complex is based on the most recent bottomfish stock assessment (Brodziak et al., 2012) conducted by NMFS Pacific Islands Fisheries Science Center (PIFSC) using data through 2010. Key points from the discussion in Section 2.1.3 are that PIFSC estimated MSY to be 172,900 ± 32,200 lb and that the production model results suggest that the CNMI bottomfish complex was not overfished and did not experience overfishing during the period 1986-2010. Between 2007 and 2011, the average catch of CNMI BMUS was 36,279 lb or about 21% of the long-term MSY.

Almost all of the fishes caught in the CNMI are considered food fishes and available data show less than 1 percent of the total catch from the non-charter bottomfish sector is bycatch (WPFMC, 2006). In the charter sector, bycatch rises to a little more than 7 percent and is mostly attributed to smaller food fishes that were released alive.

Potential Impacts of the Proposed ACL Specification and AM on Target, Non-target and Bycatch Species in the CNMI

Alternative 1: No Action (Status Quo)

Under the no-action alternative, the ACL for 2013 and 2014 would be set at 182,500 lb. This is the same ACL specified for 2012. The fishery would continue to catch bottomfish in the manner that is described above, and catches would continue to be monitored through fisheries monitoring programs administered by DFW with assistance from WPacFIN. The current level of catch under this alternative is expected to continue as it currently has in recent years with average total catch estimated to be 36,279 lb for the period 2007-2011. This level of catch is approximately 21% of MSY (172,900 lb) and is sustainable.

While an ACL of 182,500 lb would exceed the long-term MSY, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, an ACL of 182,500 lb would result in less than a 15 percent probability of overfishing in 2013, rising in 2014 to a 17 percent probability of overfishing. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 1. Monitoring of

catch would be conducted annually by the DFW with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for CNMI BMUS would be subject to an ACL of 228,000 lb for the 2013 and 2014 fishing year as recommended by the Council. While this ACL exceeds the long-term MSY of 172,900 lb, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, this ACL would have a 28 percent probability of causing overfishing in 2013, rising in 2014 to a 39 percent probability of overfishing.

Based on past fishery performance shown in Table 6, the fishery would need to harvest more than three times the record 2001 catch of 71,256 to attain the ACL and more than 18,000 lb over the ACL in 2013 and 2014 for overfishing to occur. This level of catch is extremely unlikely. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 2. Monitoring of catch would be conducted annually by the DFW with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Alternative 3: Specify ACL Lower than Council Recommendation

Under Alternative 3, fishing for CNMI BMUS would be subject to an ACL between 40,000 and 225,000 lb for the 2013 and 2014 fishing years. While some of the ACLs in this alternative would exceed the long-term MSY of 172,900 lb, based on the probabilities of overfishing calculated by NMFS PIFSC scientists shown in Table 13, none would result in a probability of overfishing greater than 38 percent. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 3. Like Alternatives 1 and 2, monitoring of catch would be conducted annually by the DFW with assistance from WPacFIN and stock status would be reviewed periodically by NMFS PIFSC stock assessments.

Under all alternatives considered including the preferred alternative, no new monitoring would be implemented; however, a post-season review of the catch data would be conducted as soon as possible after the fishing year to determine whether the ACL was exceeded. If the ACL is exceeded and affects the sustainability of the stock, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council, which could include a downward adjustment to the ACL in the subsequent fishing year. While the lack of in-season catch monitoring ability precludes in-season measures (such as a fishery closure) that would prevent the ACL from being exceeded, none of the ACLs considered have greater than a 39 percent probability of causing overfishing for CNMI bottomfish in 2013 and 2014.

3.3.2 Protected Resources in the CNMI

A number of protected species are reported from the waters around the Mariana Islands and there is, therefore, the potential for interactions with the bottomfish fisheries of the CNMI. The bottomfish fisheries of the western Pacific region have been evaluated for impacts on protected resources and are managed in compliance with the requirements of the MSA, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act, and other applicable statutes. Additional detailed descriptions of potentially affected

protected resources and their life histories can be found in Section 3.3.4 of the FEP for the Mariana Archipelago (WPFMC 2009b).

Listed species and ESA review of the CNMI Bottomfish Fisheries

Table 24 identifies species listed as endangered or threatened under the ESA that are known to occur or could reasonably be expected to occur in marine waters around the Mariana Archipelago, including the CNMI which may have the potential to interact with fisheries. They include a number of whales, five sea turtles, and a seabird. There is no critical habitat designated for ESA-listed marine species around Guam.

Table 24. Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the Mariana Archipelago (CNMI)

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the Mariana Archipelago (CNMI)				
Common name	Scientific Name	ESA listing status in the CNMI	Occurrence in the CNMI	Interactions with the CNMI bottomfish fishery
Listed Sea Turtles				
Green sea turtle	<i>Chelonia mydas</i>	Threatened	Most common turtle in the Mariana Archipelago. Foraging and minor nesting confirmed on Guam, Rota, Tinian and Saipan.	No interactions observed or reported.
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	Small population foraging around Guam and suspected low level around southern islands of the CNMI. Low level nesting on Guam.	No interactions observed or reported.
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Occasional sightings around Guam. Not known to what extent they are present around Guam and CNMI.	No interactions observed or reported.
Olive ridley sea turtle	<i>Lepidochelys olivacea</i>	Threatened	Range across Pacific: Not	No interactions observed or

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters around the Mariana Archipelago (CNMI)				
Common name	Scientific Name	ESA listing status in the CNMI	Occurrence in the CNMI	Interactions with the CNMI bottomfish fishery
			confirmed in the Mariana Archipelago	reported.
North Pacific loggerhead sea turtle Distinct Population Segment	<i>Caretta caretta</i>	Endangered	No known reports of loggerhead turtles in waters around the Mariana Archipelago.	No interactions observed or reported.
Listed Marine Mammals				
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Extremely rare	No interactions observed or reported.
Fin whale	<i>Balaenoptera physalus</i>	Endangered	Infrequent sightings.	No interactions observed or reported.
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Infrequent sightings. Winter in the CNMI.	No interactions observed or reported.
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Infrequent sightings.	No interactions observed or reported.
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Regularly sighted; most abundant large cetaceans in the region.	No interactions observed or reported.
Listed Sea Birds				
Newell's Shearwater	<i>Puffinus auricularis newelli</i>	Threatened	Rare visitor	No interactions observed or reported.

Applicable ESA Coordination – CNMI Bottomfish Fisheries

In an informal consultation letter dated June 3, 2008, NMFS determined that the continued authorization of bottomfish fisheries of the Mariana Archipelago, including the bottomfish fishery around the CNMI, as managed under the Bottomfish and Seamount Groundfish FMP, was not likely to adversely affect ESA-listed marine species or their designated critical habitat.

In 2009, the Council recommended and NMFS approved the development of five archipelagic-based fishery ecosystem plans (FEP) including the Mariana Archipelago FEP. The FEP incorporated and reorganized elements of the Council's species-based FMPs, including the

Bottomfish and Seamount Groundfish Fisheries FMP, into a spatially-oriented management plan (75 FR 2198, January 14, 2010). All applicable regulations concerning bottomfish fishing were retained through the development and implementation of the FEP for the Mariana Archipelago, including the CNMI. No substantial changes to the bottomfish fishery around the CNMI have occurred since the FEP was implemented that have required further consultation.

Marine Mammals

Several whales, dolphins and porpoises, occur in waters around CNMI and are protected under the Marine Mammal Protection Act (MMPA). Table 25, provides a list of marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago that have the potential to interact with the CNMI bottomfish fishery

Table 25. Marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago (CNMI)

Marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago (CNMI)		
Common Name	Scientific Name	Interactions with the CNMI bottomfish fishery
Humpback whale*	<i>Megaptera novaeangliae</i>	No interactions observed or reported.
Sperm whale*	<i>Physeter macrocephalus</i>	No interactions observed or reported.
Sei whale*	<i>Balaenoptera borealis</i>	No interactions observed or reported.
Fin whale*	<i>Balaenoptera physalus</i>	No interactions observed or reported.
Blue whale*	<i>Balaenoptera musculus</i>	No interactions observed or reported.
Blainville’s beaked whale	<i>Mesoplodon densirostris</i>	No interactions observed or reported.
Bottlenose dolphin	<i>Tursiops truncatus</i>	No interactions observed or reported.
Bryde’s whale	<i>Balaenoptera edeni</i>	No interactions observed or reported.
Common dolphin	<i>Delphinus delphis</i>	No interactions observed or reported.
Cuvier’s beaked whale	<i>Ziphius cavirostris</i>	No interactions observed or reported.
Dwarf sperm whale	<i>Kogia sima</i>	No interactions observed or reported.
False killer whale	<i>Pseudorca crassidens</i>	No interactions observed or reported.
Fraser’s dolphin	<i>Lagenodelphis hosei</i>	No interactions observed or reported.

Marine mammals known to occur or reasonably expected to occur in waters around the Mariana Archipelago (CNMI)		
Common Name	Scientific Name	Interactions with the CNMI bottomfish fishery
Killer whale	<i>Orcinus orca</i>	No interactions observed or reported.
Longman's beaked whale	<i>Indopacetus pacificus</i>	No interactions observed or reported.
Melon-headed whale	<i>Peponocephala electra</i>	No interactions observed or reported.
Minke whale	<i>Balaenoptera acutorostrata</i>	No interactions observed or reported.
Northern elephant Seal	<i>Mirounga angustirostris</i>	No interactions observed or reported.
Pilot whale	<i>Globicephala malaena</i>	No interactions observed or reported.
Pygmy killer whale	<i>Feresa attenuata</i>	No interactions observed or reported.
Pygmy sperm whale	<i>Kogia breviceps</i>	No interactions observed or reported.
Risso's dolphin	<i>Grampus griseus</i>	No interactions observed or reported.
Rough-toothed dolphin	<i>Steno bredanensis</i>	No interactions observed or reported.
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	No interactions observed or reported.
Spinner dolphin	<i>Stenella longirostris</i>	No interactions observed or reported.
Spotted dolphin	<i>Stenella attenuata</i>	No interactions observed or reported.
Striped dolphin	<i>Stenella coeruleoalba</i>	No interactions observed or reported.

*Species is also listed under the Endangered Species Act.

Source: Eldredge, 2003; Randall et al., 1975; Berger et al., 2005; Council website:

<http://www.wpcouncil.org>

Marine Mammal Protection Act Coordination

The MMPA prohibits, with certain exceptions, taking of marine mammals in the U.S., and by persons aboard U.S. flagged vessels (i.e., persons and vessels subject to U.S. jurisdiction). NMFS classifies the CNMI bottomfish fishery as a Category III fishery under Section 118 of the MMPA (76 FR 73912, November 29, 2011). A Category III fishery is one with a low likelihood or no known incidental takings of marine mammals. Because the proposed action would not modify vessel operations or other aspects of any fishery, NMFS does not anticipate that these fisheries, as conducted under the proposed action, would affect marine mammals in any manner not previously considered or authorized by the commercial fishing take exemption under section 118 of the MMPA.

Sea Turtles

There are five Pacific sea turtles designated under the Endangered Species Act (ESA) as either threatened or endangered. Green sea turtles are most likely to frequent nearshore habitat when foraging around the CNMI and other areas in the Mariana Islands. The breeding populations of Mexico's olive ridley sea turtles (*Lepidochelys olivacea*) are currently listed as endangered, while all other olive ridley populations are listed as threatened. Leatherback sea turtles (*Dermochelys coriacea*) and hawksbill turtles (*Eretmochelys imbricata*) are also classified as endangered. Green sea turtles (*Chelonia mydas*) are listed as threatened (the green sea turtle is listed as threatened throughout its Pacific range, except for the endangered population nesting on the Pacific coast of Mexico). Loggerhead (*Caretta caretta*) sea turtles in the North Pacific Ocean were recently identified as a distinct population segment and listed as endangered. These five species of sea turtles are highly migratory, or have a highly migratory phase in their life history (NMFS 2001).

Based on nearshore surveys conducted jointly between the CNMI–DFW and NMFS around the Southern Mariana Islands (Rota and Tinian 2001; Saipan 1999), an estimated 1,000 to 2,000 green sea turtles forage in these areas (Kolinski et al., 2001). Nesting beaches and seagrass beds on Tinian and Rota are in good condition but beaches and seagrass beds on Saipan have been impacted by hotels, golf courses and general tourist activities. Intensive monitoring in occurred on Saipan at seven beaches from March 4 to August 31, 2009 resulting in 16 green turtle nests documented. Rapid assessments at Rota beaches Okgok and Tatgua on July 12, 2009 yielded 13 nests. On Tinian, from July 22-31, 2009, 36 nests at five beaches were documented (Maison et al 2010). There have been no leatherback turtles reported in the CNMI and the extent to which leatherback turtles are present around the Mariana Archipelago is unknown. There are no known reports of loggerhead sea turtles in waters around the Mariana Archipelago (WPFMC 2009b). Olive ridley sea turtles are believed to occasionally transit the area (Starmer et al. 2005). There have been no reported or observed interactions with sea turtles in the Mariana Archipelago bottomfish fisheries.

Seabirds

The following seabirds in Table 26 are considered residents of the Mariana Archipelago: wedge-tailed shearwater (*Puffinus pacificus*), white-tailed tropicbird (*Phaethon lepturus*), red-tailed tropicbird (*Phaethon rubricauda*), masked booby (*Sula dactylatra*), brown booby (*Sula leucogaster*), red-footed booby (*Sula sula*), white tern (*Gygis alba*), sooty tern (*Sterna fuscata*), brown noddy (*Anous stolidus*), black noddy (*Anous minutus*), and the great frigatebird (*Fregata minor*).

The following seabirds in Table 26 have been sighted and are considered visitors (some more common than others) to the Mariana Archipelago; short-tailed shearwater (*Puffinus tenuirostris*; common visitor), Newell's shearwater (*Puffinus auricularis*; rare visitor), Audubon's shearwater (*Puffinus iherminieri*), Leach's storm-petrel (*Oceanodroma leucorhoa*), and the Matsudaira's storm-petrel (*Oceanodroma matsudairae*). Of these, only the Newell's shearwater is listed as threatened under the ESA. There have been no sightings of the endangered short-tailed albatross (*Phoebastria albatrus*) in the CNMI although the CNMI is within the range of the only breeding colony at Torishima, Japan (WPFMC, 2009b). There have been no reports of interactions between seabirds and any of the Mariana Archipelago bottomfish fisheries (WPFMC 2009b) and

the species is not known to prey on bottomfish. Since the proposed action would not modify fishing operations, NMFS expects that the fishery, as conducted under the proposed action, would not affect ESA listed seabirds.

Table 26. Seabirds occurring in the Mariana Archipelago (CNMI)

Seabirds of the Mariana Archipelago (R= Resident/Breeding; V= Visitor; Vr=rare visitor; Vc= Common visitor)		
	Common name	Scientific name
Vr	Newell's shearwater	<i>Puffinus auricularis newelli</i> (ESA:Threatened) rare visitor
R	Wedge-tailed shearwater	<i>Puffinus pacificus</i>
V	Audubon's shearwater	<i>Puffinus lherminieri</i>
Vc	Short-tailed shearwater	<i>Puffinus tenuirostris</i> (common visitor)
V	Leach's storm-petrel	<i>Oceanodroma leucorhoa</i>
V	Matsudaira's storm-petrel	<i>Oceanodroma matsudairae</i>
V	Red-footed booby	<i>Sula sula</i>
R	Brown booby	<i>Sula leucogaster</i>
R	Masked booby	<i>Sula dactylatra</i>
R	White-tailed tropicbird	<i>Phaethon lepturus</i>
R	Red-tailed tropicbird	<i>Phaethon rubricauda</i>
R	Great frigatebird	<i>Fregata minor</i>
R	Sooty tern	<i>Sterna fuscata</i>
R	Brown noddy	<i>Anous stolidus</i>
R	Black noddy	<i>Anous minutus</i>
R	White tern / Common fairy-tern	<i>Gygis alba</i>

Source: WPFMC 2009b

Potential Impacts to Protected Resources in the CNMI

None of the alternatives considered would modify operations of the CNMI bottomfish fishery in any way that would be expected to affect endangered or threatened species or critical habitat in any manner not previously considered in previous ESA or MMPA consultations.

The fishery is currently operating under catch limits and AMs. All alternatives would result in the continued specification of ACLs and the continuation of the post-season accounting of the catch relative to the ACL to promote long term sustainability of the fishery stock. The lack of in-season data to conduct in-season tracking of catch towards an ACL precludes the implementation of in-season closures. Without a closure, participants in the CNMI bottomfish fishery would continue to operate as they do under the current management regime. However, because this fishery is currently sustainably managed and subject to conservation measures in accordance with various resource conservation and management laws, and because no change would occur in the way fishing is conducted, none of the alternatives would result in a change to distribution, abundance, reproduction, or survival of ESA-listed species or increase interactions with protected resources.

On September 22, 2011, NMFS and the U.S. Fish and Wildlife Service (USFWS) determined that the loggerhead sea turtle population (*Caretta caretta*) is composed of nine distinct population segments (DPS) that constitute “species” that may be listed as threatened or endangered under the ESA (76 FR 58868). Specifically, the agencies determined that the loggerhead sea turtles in the North Pacific Ocean, which includes waters around the CNMI, are a distinct population segment (DPS) that is endangered and at risk of extinction. However, because loggerhead sea turtles, inclusive of the North Pacific Ocean DPS, are not known to occur around the Mariana Archipelago, and because none of the alternatives considered would modify operations of the CNMI bottomfish fishery in any way, NMFS does not expect that the proposed action would have an effect on ESA listed marine species in a manner not already considered in the June 3, 2008 informal consultation which concluded that the CNMI bottomfish fishery was not likely to adversely affect ESA-listed marine species or their designated critical habitat.

3.3.3 CNMI Fishing Community

Overview

In 1999, the Council identified the CNMI as a fishing community. The Secretary of Commerce approved this definition on April 19, 2009 (64 FR 19067).

Potential Impacts of the Proposed ACL specifications and AM on the CNMI Fishing Community

Under all of the alternatives, fishing for CNMI BMUS would continue to be subject to an annual catch limit and post-season review of fishery performance against the ACL. The ACL specifications considered are substantially higher than recent harvests so they are not expected to be exceeded, and no change to any fishery is anticipated. The proposed ACL of 228,000 lb is intended to provide for community use of fishing resources, while helping to ensure that fishing is sustainable over the long term. Ongoing monitoring of catches toward the ACL and future ACL adjustments are expected to benefit people who rely on fishing by providing additional review of fishing and catch levels, which, in turn, would enhance sustainability of the bottomfish fishery of the CNMI. Regardless of which alternative is selected, the affected fishing community will continue to be a part of the Council decision-making process through CNMI’s representatives on the Council as well as through opportunities for public input at both the Council’s deliberations and NMFS’s proposed rulemaking stage.

3.4 Hawaii Bottomfish Fishery, Marine Resources and Potential Impacts

The Hawaiian Islands are made up of 137 islands, islets, and coral atolls that extend for nearly 1,500 miles from Kure Atoll in the northwest to the Island of Hawaii in the southeast. The Hawaiian Islands are often grouped into the Northwestern Hawaiian Islands (Nihoa to Kure) and the main Hawaiian Islands (Hawaii to Niihau). The total land area of the 19 primary islands and atolls is approximately 6,423 square miles. The majority (70 percent) of the 1.3-million people residing in Hawaii live on the island of Oahu. The seven other main Hawaiian Islands are Hawaii, Maui, Molokai, Lanai, Kahoolawe (uninhabited), Kauai, and Niihau.

Bottomfish fishing in federal waters around Hawaii is managed under the Fishery Ecosystem Plan for the Hawaiian Archipelago (Hawaii FEP), developed by the Council, and implemented by NMFS under the authority of the MSA. Until recently, the fisheries for Hawaiian bottomfish operated in two management subareas: (1) the inhabited main Hawaiian Islands (MHI) with their surrounding reefs and offshore banks; and (2) the Northwestern Hawaiian Islands (NWHI), an approximately 1,200-nm long chain of largely uninhabited islets, reefs, and shoals. In 2009, the NWHI fishery was closed in accordance with the Presidential Proclamation establishing the Papahānaumokuākea Marine National Monument (Monument), which prohibits commercial fishing, although sustenance fishing for bottomfish is allowed to continue in accordance with Monument regulations (71 FR 51134, August 29, 2006). At present, bottomfish fishing managed under the Hawaii FEP only occurs in the MHI.

Overview of Hawaii's Bottomfish Fishery

The MHI bottomfish fishery harvests an assemblage, or complex, of 14 species that include nine snappers, four jacks or trevally, and a single species of grouper. However, the primary target species of the fishery, and the species of primary management concern are six deep-water snappers and the grouper. Termed the “Deep 7 bottomfish,” they include onaga (*Etelis coruscans*), ehu (*Etelis carbunculus*), gindai (*Pristipomoides zonatus*), kalekale (*Pristipomoides sieboldii*), opakapaka (*Pristipomoides filamentosus*), lehi (*Aphareus rutilans*), and hapuupuu (*Epinephelus quernus*). These seven species account for approximately 72% of the total bottomfish landed in Hawaii annually between 2000 and 2009 (Table 7). The non-Deep 7 species comprise the remainder of the catch.

Requirements for the MHI bottomfish fishery include vessel identification, non-commercial fishing permits, non-commercial catch and effort logbooks, a non-commercial bag limit of five Deep 7 bottomfish per trip, and the specification of an annual catch limit (ACL) for all stocks or stock complexes in the fishery, including accountability measures (AMs) for adhering to the catch limit. For management purposes, the fishing year for the MHI Deep 7 bottomfish complex begins on September 1 and ends on August 31 the following year. For MHI non-Deep 7 bottomfish, the fishing year begins January 1 and ends on December 31.

The management structure of the FEP emphasizes community participation and enhanced consideration of the habitat and ecosystem, and other elements not typically incorporated in fishery management decision-making. Enforcement of federal fishery regulations is handled through a joint federal-state partnership. Annual reports on the fisheries are produced by the Western Pacific Fishery Management Council, with data collection responsibilities shared by the Hawaii Division of Aquatic Resources (HDAR) and NMFS.

The number of fishermen engaged in commercial bottomfish fishing in the MHI increased dramatically in the 1970s peaking in the 1980s with over 500 vessels active annually. However, participation in the fishery then declined in the early 1990s, rebounded somewhat in the late 1990s, but in 2003 reached its lowest level since 1977, with 325 vessels (WPFMC, 2007). The decline in vessels and fishing effort during this period may have been due to the long-term decrease in catch rates in the bottomfish fishery and a shift of fishing effort towards tuna and other pelagic species. However, since a catch limit system was implemented in the 2007-08 fishing year, participation in the commercial fishery sector has fluctuated. In the 2007-2008

fishing year, 351 vessels were actively engaged in the fishery, increasing to 468 vessels in fishing year 2008-09. Fishing year 2009-10 saw a slight decline to 451 vessels but participation rebounded again to 475 vessels in the 2010-11 fishing year (NMFS, 2011). In the 2011-12 fishing year, approximately 468 commercial vessels were active in the bottomfish fishery.

Participation in the MHI bottomfish fishery by non-commercial vessels is largely unknown. However, recent information from the HDAR bottomfish registration program estimates there to be approximately 313 non-commercial bottomfish vessels in the State of Hawaii (Jessica Miller, Pers. Comm. July 3, 2012). Of these vessels, only seven have obtained federal non-commercial bottomfish permits to fish in federal waters beyond 3 miles in 2012 (NMFS PIRO website http://www.fpir.noaa.gov/SFD/SFD_permits_index.html, accessed 11/29/2012).

When the federal non-commercial bottomfish permit was initially implemented in 2008, NMFS issued nearly 100 permits. However, since non-commercial fishermen are subject to a five fish per trip bag limit, the subsequent decrease in federal non-commercial permits from nearly a 100 in 2008 to just seven in 2012 is likely attributed to fishermen electing to obtain a state CML, which is comparable in cost to the federal permit, but does not subject them to the 5 fish per trip bag limit. This development may explain the rise in commercial vessel participation and corresponding decline in federal non-commercial permits in recent years. Ongoing cost-earning surveys conducted by PIFSC indicated that approximately 25 percent of CML holders do not sell bottomfish (J. Hospital, pers. comm., June 21, 2011) indicating that they are actually non-commercial, giving some credence to this theory. Additionally, bottomfish fishermen report that more than half of their bottomfish trips (66 percent) occurred in State waters only, with only 13.5 percent of trips occurring only in Federal waters and the remainder in both (Hospital and Beavers 2012).

Table 10 shows that MHI non-deep 7 BMUS commercial landings have ranged between 47,405 lb and 343,177 lb from 1966 to 2011 with 131,391 caught in 2011, the most recent year catch data is available. In 2011, the commercial price per pound for non-Deep 7 bottomfish ranged from \$2.37 for white ulua (*Caranx ignobilis*) to \$4.55 for black ulua (*Caranx lugubris*) with average price per pound for all BMUS combined at \$3.50. The 2011 commercial price per pound for uku (*Aprion virescens*), the primary stock harvested in the fishery was \$4.44. (WPacFIN website: http://www.pifsc.noaa.gov/wpacfin/hi/dar/Pages/hi_data_3.php, accessed on 10/10/2012).

Based on estimated 2011 commercial landings of 131,391 lb and the average price of all non-Deep 7 BMUS at \$3.50 per pound, the annual commercial value of the bottomfish fishery in 2011 was \$459,869. Assuming participation and effort was equal throughout the commercial fleet in 2011 each of the 468 vessels in the fleet would have caught approximately 281 lb of non-Deep 7 bottomfish valued at \$983.

Potential Impacts of the Proposed ACL specification and AM on Hawaii's Bottomfish Fishermen

Alternative 1: No Action (Status Quo)

Under the no action alternative, fishing for non-Deep 7 BMUS would be subject to an ACL of 135,000 lb for fishing year 2013 and 2014. This is the same ACL specified for 2012.

Between 1966 and 2011, the highest estimated commercial landing levels for non-Deep 7 BMUS in MHI were 372,201 lb in 1988 and 238,434 lb in 1989. Since that time, the fishery has remained below 135,000 lb until 2010 when 145,383 lb was caught. So, under this alternative, catch in 2013 or 2014 may potentially exceed ACL. However, because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, under all alternatives, including the no action alternative, the AM for the non-Deep 7 bottomfish fishery would require a post-season review of the catch data to determine whether the ACL was exceeded. If the ACL is exceeded, NMFS, as recommended by the Council, would take action to correct the operational issue that caused the ACL overage. This could include a downward adjustment to the bottomfish ACL in the subsequent fishing year to help ensure the fishery remains sustainable. NMFS cannot speculate on the operational measures or the magnitude of the overage adjustment that might be taken; therefore, the fishery impacts of future actions such as changes to the ACL or AM would be evaluated separately, once details are available.

NMFS does not expect the ACL and AMs proposed under this alternative to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. Consequently, NMFS does not expect implementation of Alternative 1 to adversely affect Hawaii non-Deep 7 bottomfish fishermen. However, if an ACL is exceeded a second time, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for MHI Non-Deep 7 bottomfish would be subject to an ACL of 140,000 lb for the 2013 and 2014 fishing years as recommended by the Council. This specification would allow catch 5,000 lb greater than the current status quo (Alternative 1).

Based on past fishery performance (Table 10), catch may potentially exceed this ACL in the 2013 or 2014 fishing year. However, because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, the AM under this alternative would be the same as those described under Alternative 1. Therefore, the impacts to fishermen would be similar to those described in Alternative 1.

Alternative 3: Specify ACLs Lower than Council Recommendation

Under Alternative 3, fishing for MHI Non-Deep 7 bottomfish would be subject to an ACL between 6,000 and 138,000 lb for the 2013 and 2014 fishing years. Based on past fishery performance shown in Table 10, it is very likely that the fishery would exceed an ACL within this range. However, because there is no data that would allow NMFS to implement an in-season closure to prevent the ACL from being exceeded, an ACL under this alternative is not expected to result in a change to the conduct of the fishery including gear types, areas fished, effort, or participation. No adverse economic impact to fishermen would result from implementation of any ACL under Alternative 3.

3.4.1 Target, Non-target and Bycatch Species in Hawaii

The MHI bottomfish fishery harvests an assemblage, or complex, of 14 species that include nine snapper species, four jack or trevally species, and a single species of grouper (Table 27). As previously noted in Section 1.3, NMFS has already specified ACLs for the Deep 7 bottomfish (76 FR 54715, September 2, 2011). Therefore, this action only provides ACL specifications and AMs for MHI non-Deep 7 bottomfish.

Table 27. Hawaii Bottomfish MUS

Hawaii Bottomfish MUS		
Common Name	Scientific Name	Local Name
*Silver jaw jobfish	<i>Aphareus rutilans</i>	lehi
Grey jobfish	<i>Aprion virescens</i>	uku
Giant trevally	<i>Caranx ignobilis</i>	white ulua
Black jack	<i>Caranx lugubris</i>	black ulua
*Sea bass	<i>Epinephelus quernus</i>	hapuupuu
*Red snapper	<i>Etelis carbunculus</i>	ehu
*Longtail snapper	<i>Etelis coruscans</i>	onaga, ulaula
Blue stripe snapper	<i>Lutjanus kasmira</i>	taape
Yellowtail snapper	<i>Pristipomoides auricilla</i>	yellowtail, kalekale
*Pink snapper	<i>Pristipomoides filamentosus</i>	opakapaka
*Pink Snapper	<i>Pristipomoides sieboldii</i>	kalekale
*Snapper	<i>Pristipomoides zonatus</i>	gindai
Thick lipped trevally	<i>Pseudocaranx dentex</i>	pig ulua, butaguchi
Amberjack	<i>Seriola dumerili</i>	kahala

* Indicates a Deep 7 bottomfish, which is not included in the current ACL and AM specification.

Current impacts of the fishery: target, non-target and bycatch species

Based on the projection results for MHI Deep 7 bottomfish using catch data from the period 1949-2010 provided in Table 8, the level of catch associated with a 50% probability of overfishing the MHI non-Deep 7 bottomfish (OFL proxy) is 192,000 lb. The time period 1949-2010 was selected as the baseline projection as it is identical to the time period used to produce projection results for the Deep 7 stock complex in the MHI.

Based on commercial catch data reported in Table 10, this level of catch has not been exceeded since 1989 when 238,434 lb was landed. Since that time, commercial catch of non-Deep 7 bottomfish generally remained under 100,000 lb until 2008 when landings were 110,331 lb. After that, the highest reported landings of MHI non-Deep 7 bottomfish was 145,383 lb and occurred 2010. This level of catch was nearly 47,000 lb less than the OFL proxy of 192,000 lb. This information suggests the fishery for MHI non-Deep 7 bottomfish has operated at sustainable levels for the past 20 years.

Bycatch in the MHI bottomfish fishery was summarized by Kawamoto and Gonzales (2005) using 2003 and 2004 catch and effort data. Overall bycatch in the MHI bottomfish fishery is low

with only 8.5 percent of the catch listed as bycatch. Very few of the targeted Deep 7 species catch is reported as bycatch. The majority of the BMUS bycatch is composed of jacks (kahala, butaguchi and white ulua). Kahala were released likely because the fish are known to be ciguatoxic and have little or no market value in Hawaii (WPFMC, 2007). Numerous instances of sharks damaging fish have been reported as resulting in discards.

Potential Impacts of the Proposed ACL specification and AM on Target, Non-target and Bycatch Species in Hawaii

Alternative 1: No Action (Status Quo)

Under the no-action alternative, the MHI non-Deep 7 bottomfish ACL for 2013 and 2014 would be set at 135,000 lb. This is the same ACL specified for 2012. The fishery would continue to catch bottomfish in the manner that is described above, and catches would continue to be monitored through fisheries monitoring programs administered by the HDAR. The level of catch under this alternative is expected to continue as it has in recent years with average catch estimated to be 117,420 lb for the period 2007-2011, with uku (*Aprion virescens*) comprising the bulk of the catch. This level of catch is approximately 61% of the OFL proxy (192,000 lb) and is sustainable.

Applying the stock projection results for MHI Deep 7 bottomfish complex by an analogy to the non-Deep 7 bottomfish stock complex shown in Tables 8 and 14, an ACL of 135,000 would have no more than a 25 percent probability of causing overfishing in 2013 and 2014. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 1. Monitoring of catch would be conducted annually by HDAR with assistance from WPacFIN.

Alternative 2: Specify Council Recommended ACL and Continue Existing AMs (Preferred)

Under Alternative 2, fishing for MHI non-Deep 7 BMUS would be subject to an ACL of 140,000 lb for the 2013 and 2014 fishing year as recommended by the Council. Applying the stock projection results for MHI Deep 7 bottomfish complex by an analogy to the non-Deep 7 bottomfish stock complex shown in Tables 8 and 14, an ACL of 140,000 would have no more than a 26 percent probability of causing overfishing in 2013 and 2014. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 2. Monitoring of catch would be conducted annually by HDAR with assistance from WPacFIN.

Alternative 3: Specify ACL Lower than Council Recommendation

Under Alternative 3, fishing for MHI non-Deep 7 BMUS would be subject to an ACL between 6,000 and 138,000 lb for the 2013 and 2014 fishing years. Applying the stock projection results for MHI Deep 7 bottomfish complex by an analogy to the non-Deep 7 bottomfish stock complex shown in Tables 8 and 14, an ACL within this range would have no more than a 25 percent probability of causing overfishing in 2013 and 2014. Consequently, no adverse impacts to target, non-target or bycatch species would be expected to result from implementation of Alternative 3. Like Alternatives 1 and 2, monitoring of catch would be conducted annually by HDAR with assistance from WPacFIN.

Under all alternatives considered including the preferred alternative, no new monitoring would be implemented; however, a post-season review of the catch data would be conducted as soon as possible after the fishing year to determine whether the ACL was exceeded. If the ACL is exceeded and affects the sustainability of the stock, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council, which could include a downward adjustment to the ACL in the subsequent fishing year. While the lack of in-season catch monitoring ability precludes in-season measures (such as a fishery closure) that would prevent the ACL from being exceeded, none of the ACLs considered have greater than a 26 percent probability of causing overfishing for MHI non-Deep 7 bottomfish in 2013 and 2014.

3.4.2 Protected Resources in Hawaii

A number of protected species are documented as occurring in the waters around the Hawaiian Islands and there is the potential for interactions with the bottomfish fisheries of the MHI. The Hawaii bottomfish fisheries have been evaluated for impacts on protected resources and are managed in compliance with the requirements of the MSA, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act, and other applicable statutes.

Hawaiian monk seals and bottlenose dolphins are the only species of marine mammal that have been identified as potentially impacted by Hawaii’s bottomfish fisheries. More detailed information about the species and potential interactions is available in a 2008 Biological Opinion on the bottomfish fishery by NMFS under section 7 of the ESA.

ESA listed species and ESA review of Hawaii Bottomfish Fisheries

Table 29 lists endangered or threatened species occurring in the waters around Hawaii. They include a number of whales, seabirds, the Hawaiian monk seal, and five listed sea turtles.

Table 28. Endangered, threatened marine species and seabirds occurring in the waters of the Hawaiian Archipelago

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters of the Hawaiian Archipelago				
Common name	Scientific Name	ESA listing status in Hawaii	Occurrence in Hawaii	Interactions with the MHI bottomfish fishery
Listed Sea Turtles				
Green sea turtle	<i>Chelonia mydas</i>	Threatened	Most common turtle in the Hawaiian Islands. Most nesting occurs in the northwestern Hawaiian Islands. Foraging and haulout in the MHI.	No interactions observed or reported, but collisions are possible.

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters of the Hawaiian Archipelago				
Common name	Scientific Name	ESA listing status in Hawaii	Occurrence in Hawaii	Interactions with the MHI bottomfish fishery
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	Small population foraging around Hawaii and low level nesting on Maui and Hawaii Islands.	No interactions observed or reported.
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Not common in Hawaii.	No interactions observed or reported.
Olive ridley sea turtle	<i>Lepidochelys olivacea</i>	Threatened	Range across Pacific:	No interactions observed or reported.
North Pacific loggerhead sea turtle Distinct Population Segment	<i>Caretta caretta</i>	Endangered	Not common in Hawaii.	No interactions observed or reported.
Listed Marine Mammals				
Hawaiian Monk seal	<i>Monachus schauinslandi</i>	Endangered	Endemic tropical seal. Occurs throughout the archipelago. Population in decline.	No interactions observed or reported, and no hooking of seals attributed to MHI bottomfish fishery.
Blue whale	<i>Balaenoptera musculus</i>	Endangered	No sightings or strandings reported in Hawaii but acoustically recorded off of Oahu and Midway Atoll.	No interactions observed or reported.
Fin whale	<i>Balaenoptera physalus</i>	Endangered	Infrequent sightings in Hawaii waters.	No interactions observed or reported.
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Migrate through the archipelago and breed during the winter. Est. 6,000-10,000	No interactions observed or reported.

Endangered and threatened marine species and seabirds known to occur or reasonably expected to occur in waters of the Hawaiian Archipelago				
Common name	Scientific Name	ESA listing status in Hawaii	Occurrence in Hawaii	Interactions with the MHI bottomfish fishery
			individuals.	
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Worldwide distribution. Primarily found in cold temperate to subpolar latitudes. Rare in Hawaii.	No interactions observed or reported.
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Found in tropical to polar waters worldwide, most abundant cetaceans in the region. Sighted off the NWHI and the MHI.	No interactions observed or reported.
MHI insular false killer whale Distinct Population Segment	<i>Pseudorca crassidens</i>	Endangered	Found in waters within 140 km (60 nm) of the MHI	No interactions observed or reported.
Listed Sea Birds				
Newell's Shearwater	<i>Puffinus auricularis newelli</i>	Threatened	Rare. Breeds only in colonies on the MHI where it is threatened by predators and urban development.	No interactions observed or reported.
Hawaiian petrel	<i>Pterodroma phaeopygia</i>	Endangered	Rare	No interactions observed or reported.
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered	Found on Midway in the NWHI.	No interactions observed or reported.

Applicable ESA Coordination – MHI bottomfish fisheries

In 2008, NMFS established a total allowable catch system, permit and reporting requirements for non-commercial bottomfish vessels and a bag limit of five of any combination “Deep 7” species per person per trip. In a biological opinion covering the action dated March 18, 2008, NMFS determined that except for the Hawaiian green sea turtles, the fishing activities conducted under the implementing regulations are not likely to adversely affect any other ESA-listed marine species that may be found in federal waters of the MHI, or result in the destruction or adverse

modification of critical habitat. However, for green sea turtles, NMFS determined that there is a potential for them to be killed by vessel transiting State waters en route to and from federal waters around the MHI and authorized an incidental take of up to two green sea turtles per year. To date, no takes have ever been observed or reported to have occurred in this fishery.

In 2009, the Council recommended and NMFS approved the establishment of five archipelagic-based fishery ecosystem plans (FEP) including the Hawaii Archipelago FEP. The FEP incorporated and reorganized elements of the Council’s species-based FMPs, including the Bottomfish and Seamount Groundfish Fisheries FMP into a spatially-oriented management plan (75 FR 2198, January 14, 2010). All applicable regulations concerning bottomfish fishing were retained through the development and implementation of the FEP for the Hawaii Archipelago, No substantial changes to the bottomfish fishery around Hawaii have occurred since the FEP was implemented that have required further consultation, although NMFS recently listed the MHI insular false killer whale (*Pseudorca crassidens*) as an endangered species under the ESA. See the next section on MHI Insular False Killer Whale Listing below and

Marine Mammals

Several whales, dolphins and porpoises, occur in waters around Hawaii and are protected under the Marine Mammal Protection Act (MMPA). Table 29, provides a list of marine mammals known to occur or reasonably expected to occur in waters around the Hawaiian Archipelago that have the potential to interact with the MHI bottomfish fishery.

Table 29. Non-ESA-listed marine mammals occurring in Hawaii

Non-ESA-listed marine mammals known to occur or reasonably expected to occur in waters around the Hawaiian Archipelago		
Common Name	Scientific Name	Interactions with MHI bottomfish fishery
Blainville’s beaked whale	<i>Mesoplodon densirostris</i>	No interactions observed or reported.
Bottlenose dolphin	<i>Tursiops truncatus</i>	No interactions observed or reported.
Bryde’s whale	<i>Balaenoptera edeni</i>	No interactions observed or reported.
Common dolphin	<i>Delphinus delphis</i>	No interactions observed or reported.
Cuvier’s beaked whale	<i>Ziphius cavirostris</i>	No interactions observed or reported.
Dall’s porpoise	<i>Phocoenoides dalli</i>	No interactions observed or reported.
Dwarf sperm whale	<i>Kogia sima</i>	No interactions observed or reported.
False killer whale (other than MHI Insular DPS)	<i>Pseudorca crassidens</i>	No interactions observed or reported.
Fraser’s dolphin	<i>Lagenodelphis hosei</i>	No interactions observed or reported.

Non-ESA-listed marine mammals known to occur or reasonably expected to occur in waters around the Hawaiian Archipelago		
Common Name	Scientific Name	Interactions with MHI bottomfish fishery
Killer whale	<i>Orcinus orca</i>	No interactions observed or reported.
Longman's beaked whale	<i>Indopacetus pacificus</i>	No interactions observed or reported.
Melon-headed whale	<i>Peponocephala electra</i>	No interactions observed or reported.
Minke whale	<i>Balaenoptera acutorostrata</i>	No interactions observed or reported.
Pantropical spotted dolphin	<i>Stenella attenuate</i>	No interactions observed or reported.
Pygmy killer whale	<i>Feresa attenuata</i>	No interactions observed or reported.
Pygmy sperm whale	<i>Kogia breviceps</i>	No interactions observed or reported.
Risso's dolphin	<i>Grampus griseus</i>	No interactions observed or reported.
Rough-toothed dolphin	<i>Steno bredanensis</i>	No interactions observed or reported.
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	No interactions observed or reported.
Spinner dolphin	<i>Stenella longirostris</i>	No interactions observed or reported.
Spotted dolphin	<i>Stenella attenuata</i>	No interactions observed or reported.
Striped dolphin	<i>Stenella coeruleoalba</i>	No interactions observed or reported.

Source: Council website: <http://www.wpcouncil.org>

Marine Mammal Protection Act Coordination

The MMPA prohibits, with certain exceptions, taking of marine mammals in the U.S., and by persons aboard U.S. flagged vessels (i.e., persons and vessels subject to U.S. jurisdiction). NMFS classifies the MHI bottomfish fishery as a Category III fishery under Section 118 of the MMPA (76 FR 73912, November 29, 2011). A Category III fishery is one with a low likelihood or no known incidental takings of marine mammals. Because the proposed action would not modify vessel operations or other aspects of any fishery, NMFS does not anticipate that these fisheries, as conducted under the proposed action, would affect marine mammals in any manner not previously considered or authorized by the commercial fishing take exemption under section 118 of the MMPA.

Sea Turtles

The breeding populations of Mexico's olive ridley sea turtles (*Lepidochelys olivacea*) are currently listed as endangered, while all other olive ridley populations are listed as threatened.

Leatherback sea turtles (*Dermochelys coriacea*) and hawksbill turtles (*Eretmochelys imbricata*) are also classified as endangered. Additionally, the loggerhead sea turtle (*Caretta caretta*) population in the North Pacific Ocean was recently identified as a distinct population segment and listed as endangered. Green sea turtles (*Chelonia mydas*) are listed as threatened (the green sea turtle is listed as threatened throughout its Pacific range, except for the endangered population nesting on the Pacific coast of Mexico). The green turtle is the only species regularly seen in EEZ waters around Hawaii.

In its 2008 Biological Opinion on the MHI bottomfish fishery, NMFS determined that although sea turtles may be found within the MHI area and could interact with the fishery, there have been no reported or observed interactions with sea turtles in the history of the bottomfish fishery. Hawksbill, leatherback and olive ridley turtles are likely to be rare in the action area. NMFS concluded that the bottomfish fishery is not likely to adversely affect hawksbill, leatherback, loggerhead or olive ridley turtles. The opinion noted that mortalities of green turtles sometimes occur from collisions with vessels around the MHI, and this is likely responsible for up to two green sea turtle mortalities per year. The resulting mortality is not likely to jeopardize the species because green sea turtles have been rapidly increasing in numbers in recent years when bottomfish fishing was occurring at a higher level of effort than the current fishery, and they are extremely unlikely to be hooked or entangled by bottomfish fishing gear. Since the 2008 Biological Opinion was completed there have been no reported or observed interactions with sea turtles in the MHI bottomfish fishery.

Seabirds

Seabirds found on and around Hawaii that could potentially interact with fisheries are listed in Table 30. Seabirds listed as threatened or endangered under the ESA are managed by the USFWS. The short-tailed albatross, which is listed as endangered under the ESA, is a migratory seabird that has nested in the NWHI and could be present in the waters of the Hawaii Archipelago. Other listed seabirds found in the region are the endangered Hawaiian petrel (*Pterodroma phaeopygia*) and the threatened Newell's shearwater (*Puffinus auricularis newelli*). Non-listed seabirds known to be present in Hawaii include the blackfooted albatrosses (*Phoebastria nigripes*); Laysan albatross (*P. immutabilis*); wedge-tailed (*Puffinus pacificus*), sooty (*P. griseus*) and fleshfooted (*P. carneipes*) shearwaters, as well as the masked booby (*Sula dactylatra*), brown booby (*Sula leucogaster*), and red-footed booby (*Sula sula*). Most of these seabirds forage far from the islands and are unlikely to interact with the bottomfish fishery. In addition, bottomfish fishing gear is deployed close to the vessel and does not afford much opportunity for seabirds to attack the bait. When bottomfish fishing, a weighted mainline is deployed vertically over the side of the vessel and it sinks rapidly beyond the range of a diving seabird. It is retrieved rapidly with electric or hydraulic pullers. The time that bait is within the range of a diving seabird is limited, and the proximity of the vessel hull is a significant deterrent. There have been no reports of interactions between the Hawaii bottomfish fishery and seabirds. Since the proposed action would not modify fishing operations, NMFS expects that the fishery, as conducted under the proposed action, would not affect ESA listed seabirds.

Table 30. Seabirds occurring in the Hawaiian Islands

Seabirds of the Mariana Archipelago (R= Resident/Breeding; V= Visitor; Vr=rare visitor; Vc= Common visitor)		
	Common name	Scientific name
R	Hawaiian petrel	<i>Pterodroma phaeopygia</i> (ESA: Endangered)
R	Newell’s shearwater	<i>Puffinus auricularis newelli</i> (ESA:Threatened)
R	Short-tailed albatross	<i>Phoebastria albatrus</i> (ESA: Endangered)
R	Black-footed albatross	<i>Phoebastria nigripes</i>
R	Laysan albatross	<i>Phoebastria immutabilis</i>
R	Wedge-tailed shearwater	<i>Puffinus pacificus</i>
V	Audubon’s shearwater	<i>Puffinus lherminieri</i>
Vc	Short-tailed shearwater	<i>Puffinus tenuirostris</i> (common visitor)
R	Christmas shearwater	<i>Puffinus nativitatis</i>
V	Leach’s storm-petrel	<i>Oceanodroma leucorhoa</i>
V	Matsudaira’s storm-petrel	<i>Oceanodroma matsudairae</i>
R	Red-footed booby	<i>Sula sula</i>
R	Brown booby	<i>Sula leucogaster</i>
R	Masked booby	<i>Sula dactylatra</i>
R	White-tailed tropicbird	<i>Phaethon lepturus</i>
R	Red-tailed tropicbird	<i>Phaethon rubricauda</i>
R	Great frigatebird	<i>Fregata minor</i>
R	Sooty tern	<i>Sterna fuscata</i>
R	Brown noddy	<i>Anous stolidus</i>
R	Black noddy	<i>Anous minutus</i>
R	White tern / Common fairy-tern	<i>Gygis alba</i>

Source: WPFMC 2009c

Potential Impacts to Protected Resources in the MHI

None of the ACL or AM alternatives considered would modify operations of the Hawaii bottomfish fishery in any way that would be expected to affect endangered or threatened species or critical habitat in any manner not previously considered in previous ESA or MMPA consultations.

The fishery is currently operating under catch limits and AMs. All alternatives would result in the continued specification of ACLs and the continuation of the post-season accounting of the catch relative to the ACL to promote long term sustainability of the fishery stock. The lack of in-season data to conduct in-season tracking of catch towards an ACL precludes the implementation of in-season closures. Without a closure, participants in the MHI bottomfish fishery would continue to operate as they do under the current management regime. However, because this fishery is currently sustainably managed and subject to conservation measures in accordance with various resource conservation and management laws, and because no change would occur in the way fishing is conducted, none of the alternatives would result in a change to distribution, abundance, reproduction, or survival of ESA-listed species or increase interactions with protected resources.

North Pacific Loggerhead DPS

On September 22, 2011, NMFS and the U.S. Fish and Wildlife Service (USFWS) determined that the loggerhead sea turtle (*Caretta caretta*) population is composed of nine distinct population segments (DPS) that constitute “species” that may be listed as threatened or endangered under the ESA (76 FR 58868). Specifically, the agencies determined that the loggerhead sea turtles in the North Pacific Ocean, which encompasses waters around Hawaiian Archipelago are a DPS that is endangered and at risk of extinction. In its biological opinion dated March 18, 2008, NMFS determined that given the lack of sightings/observations of loggerhead sea turtles in federal waters around the MHI, the probability of an encounter of loggerhead sea turtles with the MHI bottomfish fishery is extremely low. Therefore, NMFS concluded that the MHI bottomfish fishery is not likely to adversely affect the species. Although, the North Pacific loggerhead has been listed as a DPS and may be found in federal waters in the MHI, there have been no reported or observed incidental take of a loggerhead sea turtle in the history of the fishery. Because none of the alternatives considered would modify operations of the MHI bottomfish fishery in any way, NMFS does not expect that the proposed action would have an effect on ESA listed marine species in a manner not already considered in the 2008 biological opinion which concluded the MHI bottomfish fishery was not likely to adversely affect ESA-listed marine species or their designated critical habitat, except for green sea turtles for which NMFS has authorized an incidental take of up to two green sea turtles per year.

MHI Insular False Killer Whale Listing under ESA

On November 28, 2012, NMFS listed the MHI insular false killer whale (*Pseudorca crassidens*) distinct population segment (DPS) as an endangered species under the ESA (77 FR 70915). Among the risk factors NMFS identified for the population and its habitat are interaction with fisheries, competition with fisheries for prey, and the impacts of reduced total prey biomass.

Although the MHI bottomfish fisheries operates within the range in which the MHI insular false killer whale DPS may sometimes be found (within 60 nm of around the MHI), there is no evidence that these fisheries interact with any false killer whale population, including the insular population through incidental hooking or gear entanglement. While there is anecdotal evidence that bottomfish fishermen have interacted with non-ESA listed dolphins in the past, there is no evidence that any false killer whale population, including the insular population have been involved in these interactions (Oleson et al., 2010).

Observational data indicates MHI insular false killer whales appear to forage primarily on large pelagic fish such as mahimahi, ono, and tunas, and interactions with pelagic longline vessels may sometimes occur when insular false killer whales depredate these species caught on longline gear. Some coral reef MUS such as rainbow runner (*Elegatis bipinnulatus*), barracuda (*Sphyraena barracuda*) and the non-Deep 7 BMUS, amberjack or kahala (*Seriola dumerili*) occur far enough offshore to be caught in longline fishery and may be incidentally depredated by false killer whales. Other coral reef MUS such as the scrawled file fish (*Aluterus scriptus*) and threadfin jack (*Alectis ciliaris*) are sometimes found in pelagic waters around floating objects and may also be eaten by MHI insular false killer whales. While such information indicates that certain bottomfish and coral reef MUS are a part of the MHI insular false killer whale diet, there is insufficient data to determine their importance to the species (Oleson et al., 2010).

The proposal to specify ACLs and AMs would not result in a change to the way the MHI bottomfish fishery is conducted and is therefore, not expected to change the likelihood of interactions, or affect the survival, distribution or behavior of MHI insular false killer whales in any way.

3.4.3 Hawaii Fishing Community

Overview

In 2002, the Council identified each of the islands of Kauai, Niihau, Oahu, Maui, Molokai, Lanai and Hawaii as a fishing community for the purposes of assessing the effects of fishery conservation and management measures on fishing communities, providing for the sustained participation of such communities, minimizing adverse economic impacts on such communities, and for other purposes under the Magnuson-Stevens Act. The Secretary of Commerce subsequently approved these definitions on August 5, 2003 (68 FR 46112).

Potential Impacts of the Proposed ACL specifications and AM on Fishing Communities of Hawaii

Under all of the alternatives, fishing for non-Deep 7 bottomfish continue to be subject to an annual catch limit and post-season review of fishery performance against the ACL. There is a possibility that the proposed ACL of 140,000 lb may be exceeded as catch of non-Deep 7 bottomfish in 2010 was approximately 140,000 lb. If the ACL is exceeded and affects the sustainability of the stock, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council which could include a downward adjustment to the ACL in the subsequent fishing year. The proposed ACL of 140,000 lb is intended to provide for community use of fishing resources, while helping to ensure that the bottomfish fishery is sustainable over the long term. Ongoing monitoring and future ACL adjustments are expected to benefit people who rely on fishing by providing additional review of fishing and catch levels, which, in turn, would enhance sustainability of the bottomfish fisheries of Hawaii. Regardless of which alternative is selected, the affected fishing community will continue to be a part of the Council decision-making process through Hawaii's representatives on the Council as well as through opportunities for public input at both the Council's deliberations and NMFS's proposed rulemaking stage.

3.5 Potential Impacts to Essential Fish Habitat and Habitat Areas of Particular Concern

Essential fish habitat (EFH) is defined as those waters and substrate as necessary for fish spawning, breeding, feeding, and growth to maturity. This includes the marine areas and their chemical and biological properties that are utilized by the organism. Substrate includes sediment, hard bottom, and other structural relief underlying the water column along with their associated biological communities. In 1999, the Council developed and NMFS approved EFH definitions for management unit species (MUS) of the Bottomfish and Seamount Groundfish FMP (Amendment 6), Crustacean FMP (Amendment 10), Pelagic FMP (Amendment 8), and Precious Corals FMP (Amendment 4) (74 FR 19067, April 19, 1999). NMFS approved additional EFH definitions for coral reef ecosystem species in 2004 as part of the implementation of the Coral Reef Ecosystem FMP (69 FR8336, February 24, 2004). EFH definitions were also approved for

deepwater shrimp through an amendment to the Crustaceans FMP in 2008 (73 FR 70603, November 21, 2008).

Ten years later, in 2009, the Council developed and NMFS approved five new archipelagic-based fishery ecosystem plans (FEP). The FEP incorporated and reorganized elements of the Councils’ species-based FMPs into spatially-oriented management plans (75 FR 2198, January 14, 2010). EFH definitions and related provisions for all FMP fishery resources were subsequently carried forward into the respective FEPs. In addition to and as a subset of EFH, the Council described habitat areas of particular concern (HAPC) based on the following criteria: ecological function of the habitat is important, habitat is sensitive to anthropogenic degradation, development activities are or will stress the habitat, and/or the habitat type is rare. In considering the potential impacts of a proposed fishery management action on EFH, all designated EFH must be considered.

The designated areas of EFH and HAPC for all FEP MUS by life stage are summarized in Table 31. At its 154th meeting held June 2012, the Council recommended amending the Hawaii FEP to refine the EFH descriptions for Hawaii bottomfish and seamount groundfish and modify the extent of HAPC designations for these stocks. Until the amendment is submitted and approved, the EFH/HAPC designations summarized in Table 31 below remains in effect.

Table 31. EFH and HAPC for Western Pacific FEP MUS

MUS	Species Complex	EFH	HAPC
Bottomfish MUS	American Samoa, Guam and CNMI bottomfish species: lehi (<i>Aphareus rutilans</i>) uku (<i>Aprion virescens</i>), giant trevally (<i>Caranx ignobilis</i>), black trevally (<i>Caranx lugubris</i>), blacktip grouper (<i>Epinephelus fasciatus</i>), Lunartail grouper (<i>Variola louti</i>), ehu (<i>Etelis carbunculus</i>), onaga (<i>Etelis coruscans</i>), ambon emperor (<i>Lethrinus amboinensis</i>), redgill emperor (<i>Lethrinus rubrioperculatus</i>), taape (<i>Lutjanus kasmira</i>), yellowtail kalekale (<i>Pristipomoides auricilla</i>), opakapaka (<i>P. filamentosus</i>), yelloweye snapper (<i>P. flavipinnis</i>), kalekale (<i>P. sieboldii</i>), gindai (<i>P. zonatus</i>), and amberjack (<i>Seriola dumerili</i>).	Eggs and larvae: the water column extending from the shoreline to the outer limit of the EEZ down to a depth of 400 m (200 fm). Juvenile/adults: the water column and all bottom habitat extending from the shoreline to a depth of 400 m (200 fm)	All slopes and escarpments between 40–280 m (20 and 140 fm)

MUS	Species Complex	EFH	HAPC
Bottomfish MUS	<p>Hawaii Deep 7 bottomfish species: ehu (<i>Etelis carbunculus</i>), onaga (<i>Etelis coruscans</i>), opakapaka (<i>Pristipomoides filamentosus</i>), , kalekale (<i>P. sieboldii</i>), gindai (<i>P. zonatus</i>), hapuupuu (<i>Epinephelus quernus</i>), lehi (<i>Aphareus rutilans</i>)</p> <p>Hawaii non-Deep 7 bottomfish species: uku (<i>Aprion virescens</i>), thicklip trevally (<i>Pseudocaranx dentex</i>), giant trevally (<i>Caranx ignobilis</i>), black trevally (<i>Caranx lugubris</i>), amberjack (<i>Seriola dumerili</i>), taape (<i>Lutjanus kasmira</i>), yellowtail kalekale (<i>P. auricilla</i>)</p>	<p>Eggs and larvae: the water column extending from the shoreline to the outer limit of the EEZ down to a depth of 400 m (200 fathoms)</p> <p>Juvenile/adults: the water column and all bottom habitat extending from the shoreline to a depth of 400 meters (200 fm)</p>	<p>All slopes and escarpments between 40–280 m (20 and 140 fm)</p> <p>Three known areas of juvenile opakapaka habitat: two off Oahu and one off Molokai</p>
Seamount Groundfish MUS	<p>Hawaii Seamount groundfish species (50–200 fm): armorhead (<i>Pseudopentaceros wheeleri</i>), raftfish/butterfish (<i>Hyperoglyphe japonica</i>), alfonsin (<i>Beryx splendens</i>)</p>	<p>Eggs and larvae: the (epipelagic zone) water column down to a depth of 200 m (100 fm) of all EEZ waters bounded by latitude 29°–35° N</p> <p>Juvenile/adults: all EEZ waters and bottom habitat bounded by latitude 29°–35° N and longitude 171° E–179° W between 200 and 600 m (100 and 300 fm)</p>	<p>No HAPC designated for seamount groundfish</p>
Crustaceans MUS	<p>Spiny and slipper lobster complex (all FEP areas): spiny lobster (<i>Panulirus marginatus</i>), spiny lobster (<i>P. penicillatus</i>, <i>P. spp.</i>), ridgeback slipper lobster (<i>Scyllarides haanii</i>), Chinese slipper lobster (<i>Parribacus antarcticus</i>)</p> <p>Kona crab (all FEP areas): Kona crab (<i>Ranina ranina</i>)</p>	<p>Eggs and larvae: the water column from the shoreline to the outer limit of the EEZ down to a depth of 150 m (75 fm)</p> <p>Juvenile/adults: all of the bottom habitat from the shoreline to a depth of 100 m (50 fm)</p>	<p>All banks in the NWHI with summits less than or equal to 30 m (15 fathoms) from the surface</p>

MUS	Species Complex	EFH	HAPC
Crustaceans MUS	Deepwater shrimp (all FEP areas): (<i>Heterocarpus</i> spp.)	Eggs and larvae: the water column and associated outer reef slopes between 550 and 700 m Juvenile/adults: the outer reef slopes at depths between 300-700 m	No HAPC designated for deepwater shrimp.
Precious Corals MUS	Shallow-water precious corals (10-50 fm) all FEP areas: black coral (<i>Antipathes dichotoma</i>), black coral (<i>Antipathis grandis</i>), black coral (<i>Antipathes ulex</i>) Deep-water precious corals (150-750 fm) all FEP areas: Pink coral (<i>Corallium secundum</i>), red coral (<i>C. regale</i>), pink coral (<i>C. laauense</i>), midway deepsea coral (<i>C. sp nov.</i>), gold coral (<i>Gerardia</i> spp.), gold coral (<i>Callogorgia gilberti</i>), gold coral (<i>Narella</i> spp.), gold coral (<i>Calyptrophora</i> spp.), bamboo coral (<i>Lepidisis olapa</i>), bamboo coral (<i>Acanella</i> spp.)	EFH for Precious Corals is confined to six known precious coral beds located off Keahole Point, Makapuu, Kaena Point, Wespac bed, Brooks Bank, and 180 Fathom Bank EFH has also been designated for three beds known for black corals in the Main Hawaiian Islands between Milolii and South Point on the Big Island, the Auau Channel, and the southern border of Kauai	Includes the Makapuu bed, Wespac bed, Brooks Banks bed For Black Corals, the Auau Channel has been identified as a HAPC
Coral Reef Ecosystem MUS	Coral Reef Ecosystem MUS (all FEP areas)	EFH for the Coral Reef Ecosystem MUS includes the water column and all benthic substrate to a depth of 50 fm from the shoreline to the outer limit of the EEZ	Includes all no-take MPAs identified in the CREFMP, all Pacific remote islands, as well as numerous existing MPAs, research sites, and coral reef habitats throughout the western Pacific

To prevent and minimize adverse bottomfish fishing impacts to EFH, each western Pacific FEP prohibits the use of explosives, poisons, bottom trawl and other non-selective and destructive fishing gear. Weighted lines or baited hooks may come into contact with bottom substrates during bottomfish fishing operations, and may impact EFH and HAPC. However, research studies to date indicate that bottomfishing operations, including gear deployment and a low level of anchor loss are not known to have adverse impacts to EFH (Kelley and Moffitt, 2004; Kelley and Ikehara, 2006).

The proposed ACL specification and AM would not have a direct effect on EFH or HAPC in any of the subject island areas because bottomfish fisheries are not known to have adverse effects on EFH or HAPC for any MUS and none of the alternatives considered are expected to result in changes to the way the bottomfish fisheries in American Samoa, Guam, CNMI and Hawaii are conducted.

3.6 Potential Impacts on Fishery Administration and Enforcement

3.6.1 Federal Agencies and the Council

Fisheries in federal waters are currently managed by the Council in accordance with the approved fishery ecosystem plans (FEP), and NMFS PIRO is responsible for implementing and enforcing fishery regulations that implement the FEPs. NMFS PIFSC conducts research and reviews fishery data provided through logbooks and fishery monitoring systems administered by state and territorial resource management agencies. The Council, PIRO and PIFSC collaborate with local agencies in the administration of fisheries of the western Pacific through other activities including coordinating meetings, conducting research, developing information, processing fishery management actions, training fishery participants, and conducting educational and outreach activities for the benefit of fishing communities.

NOAA's Office of Law Enforcement (OLE) is responsible for enforcement of the nation's marine resource laws, including fisheries and protected resources. OLE, Pacific Islands Division oversees enforcement of federal regulations in American Samoa, Guam, the CNMI and Hawaii and enters into Joint Enforcement Agreements (JEA) with each participating state and territory. OLE provides updates to the Council and advises the Council and NMFS on enforcement issues.

The U.S. Coast Guard's (USCG) Fourteenth District (Honolulu) jurisdiction is the U.S. EEZ as well as the high seas in the Western and Central Pacific. At over 10 million square miles, its area of responsibility is the largest of any USCG District. The USCG patrols the region with airplanes, helicopters, and surface vessels, as well as monitors vessels through vessel monitoring systems (VMS). The USCG also maintains patrol assets on Guam. . The USCG has a non-voting representative on the Council who reports updates at meetings and advises the Council on enforcement issues.

Potential impacts to federal agencies

The proposed ACL and AM specifications would not require a change to monitoring or collecting fishery data. However, monitoring of catch data towards an ACL would be conducted by PIFSC in collaboration with local resource management agencies and the Council and is expected to result in improved timeliness in processing species specific catch reporting on an annual basis. No changes to the role of local or Federal law enforcement agents including the USCG would be required in association with implementing these specifications. The ACL and AM specifications would not result in any change to the conduct of the fishery which could increase risk to human safety at sea.

3.6.2 Local Agencies

Currently, local marine resource management agencies in each of the four areas are responsible for the conservation and management of bottomfish habitats and fishery resources. These agencies monitor catches through licenses and fishery data collection programs, conduct surveys of fishermen and scientific surveys of fish stocks, establish and manage marine protected areas, provide outreach and educational services, serve on technical committees and enforce local and federal resource laws through JEAs, among other responsibilities. Representatives of local fishery resource agencies serve on the Council, providing updates, advice, and voting on fishery management actions of the Council.

Potential impacts to local agencies

The specification of ACLs and AMs for bottomfish fisheries of American Samoa, Guam, the CNMI, and Hawaii is not expected to result in changes to fishery monitoring by the local resource management agencies. However, monitoring of catch data towards an ACL would continue to be conducted by PIFSC in collaboration with local resource management agencies and the Council and, is expected to result in improved timeliness in species specific catch reporting on an annual basis.

No change to enforcement activities is required in association with implementing these specifications because there is no fishery closure recommended for any of the areas. Additionally, the ACL and AM specifications would not result in any change to the fishery that would pose an additional risk to human safety associated with bottomfish fishing in local waters.

Substantial additional administrative resources would be required in the future to support the establishment of in-season monitoring capabilities in American Samoa, Guam, the Northern Mariana Islands and Hawaii, should such monitoring become necessary. Until additional resources are made available, and until more intensive monitoring is considered necessary, only AMs that review whether an ACL is exceeded, and possible overage adjustments to the ACL, are being considered at this time.

3.7 Environmental Justice

NMFS considered the effect of the proposed ACL specifications and AMs on Environmental Justice communities that include members of minority and low-income groups. The ACLs would apply to everyone that catches bottomfish, and no new monitoring is required for the ACL specification or the AM to be implemented. The environmental review in this EA showed that the proposed specifications of ACLs and provisions for post-season harvest reviews as the AMs in the western Pacific bottomfish fisheries are not expected to result in a change to the way the fisheries are conducted. The ACLs and AMs are intended to provide for sustainability of BMUS which is, in turn, expected to benefit these resources and the human communities that rely on their harvest. The proposed specifications are not likely to result in any adverse impacts to the environment that could have disproportionate or adverse effects on members of Environmental Justice communities in American Samoa, Guam, the CNMI, or Hawaii.

3.8 Climate Change

Changes in the environment from global climate change have the potential to affect bottomfish fisheries. Effects of climate change may include: sea level rise; increased intensity or frequency of coastal storms and storm surges; changes in rainfall (more or less) that can affect salinity nearshore or increase storm runoff and pollutant discharges into the marine environment; increased temperatures resulting in coral bleaching; and hypothermic responses in some marine species (IPCC 2007). Increased carbon dioxide uptake can increase ocean acidity which can disrupt calcium uptake processes in corals, crustaceans, mollusks, reef-building algae, and plankton, among other organisms (Houghton et al., 2001; The Royal Society 2005; Caldeira and Wickett, 2005; Doney, 2006; Kleypas et al., 2006). Climate change can also lead to changes in ocean circulation patterns which can affect the availability of prey, migration, survival, and dispersal (Buddenmeier et al., 2004). Damage to coastal areas due to storm surge or sea level rises as well as changes to catch rates, migratory patterns, or visible changes to habitats are among the most likely changes that would be noted first. Climate change has the potential to adversely affect some organisms, while others could benefit from changes in the environment.

The impacts from climate change may be difficult to discern from other impacts; however, monitoring of physical conditions and biological resources by a number of agencies will continue to occur and will allow fishery managers to continually make adjustments in fishery management regimes in response to changes in the environment.

The efficacy of the proposed ACL and AM specifications in providing for sustainable levels of fishing for bottomfish is not expected to be adversely affected by climate change, although there are no specific studies examining the potential effects of climate change on Pacific Island bottomfish MUS. Recent catch and biological status of the species informed the development of the ACLs and AMs. Monitoring would continue, and if stocks were affected by environmental factors, ACLs could be adjusted in the future.

The proposed specifications are not expected to result in a change to the manner in which the fisheries are conducted, so no change in greenhouse gas emissions is expected.

3.9 Additional Considerations

3.9.1 Significant Scientific, Cultural or Historical Sites

NMFS does not expect the proposed ACLs and AMs to have an affect on objects or places listed in the National Registry of Historical Places as no such areas exist in the U.S. EEZ. While fishing may occur in areas of potential scientific, cultural, or historical interest, Pacific Island bottomfish fisheries currently are not knoww to cause loss or destruction to any such resources, and fishing operations are not expected to change under the ACL specifications and AMs.

3.9.2 Overall Impacts

When compared against recent fishing harvests, ACLs would be higher than previous catch history but are considered an acceptable level of catch that is part of an overall management scheme intended to prevent overfishing and provide for long-term sustainability of the target stocks. The ACL specifications were developed using the best available scientific information, in a manner that accords with the fishery regulations, and after considering catches, participation

trends, and estimates of the status of the fishery resources. The AMs are also not likely to cause adverse impacts to resources because they would not result in changes to the fishery that could have an environmental effect. Bottomfish resources would benefit from post-season data review because of the additional management oversight the AMs provide. For these reasons, the proposed ACLs and AMs are not expected to result in adverse, irreversible, or irretrievable impacts to the environment.

3.9.3 Cumulative Effects of the Proposed Action

Recent ACL and AM specifications for other western Pacific fisheries

NMFS recently specified ACLs for the Deep 7 bottomfish in the MHI (77 FR 56791, September 14, 2012), which can be obtained at the Council or NMFS' websites. Additionally, in all four areas, NMFS will propose specifying the 2013 ACL and AMs for coral reef ecosystem MUS, precious corals MUS, and crustaceans, as recommended by the Council. The proposed ACLs and AMs for 2013 for these fisheries are identical to those NMFS specified in 2012 (77 FR 6019, February 7, 2012).

None of the proposed ACLs or AMs for bottomfish would conflict with or reduce the efficacy of existing bottomfish resource management by local resource management agencies, NMFS, or the Council. The proposed ACL specifications and AMs would also not conflict with ACL and AM specifications for other fisheries in any of the three archipelagic areas because the ACLs apply to specific fishery resources and the proposed bottomfish ACLs and AMs are not anticipated to result in a change to any fishery in any of the areas. Specifically, NMFS does not anticipate that participants in one fishery would change their fishing to another target MUS, or such that ACLs in one fishery would adversely affect the stock status of MUS in another fishery.

Foreseeable fishery management actions

Ecosystem Component Species Amendment

In the foreseeable future, the Council may re-evaluate the need for conservation and management for bottomfish fisheries in federal waters and may recommend NMFS remove certain species from the FEPs and/or re-classify species as "ecosystem component" (EC) species. To be considered for possible classification as an EC species, the species should be: 1) a non-target species; 2) a stock that is determined not to be subject to overfishing, approaching overfished, or overfished; 3) not likely to become subject to overfishing or overfished; and 4) generally not retained for sale or personal use. Various methods for categorizing species and EC components have been preliminarily discussed at Council meetings. These include, but are not limited to, species that are caught exclusively or predominately in state/territorial waters, species that occur infrequently in the available time series, species that are non-native to an FEP area, and species associated with ciguatoxin poisoning that are generally discarded.

In accordance with National Standard 1 guidelines found in 50 CFR §600.310(d), EC species are not considered to be "in the fishery" and thus, do not require specification of an ACL. EC species may, but are not required to remain in the FEP for data collection purposes, for ecosystem considerations related to the specification of optimum yield for associated BMUS, as considerations in the development of conservation and management measures for associated

BMUS fisheries, and/or to address other ecosystem issues. However, until such time a particular BMUS is classified as an EC species, it will remain in the fishery and be subject to the ACL requirements. The specification of ACLs for BMUS and AMs for the bottomfish fisheries would not affect the consideration or a decision about whether or not to designate any species to the EC classification. The current proposed management action is intended to ensure sustainable fishing.

Management of Non-Commercial Fishing in the PRIA Marine National Monument

In January 2009, President George W. Bush issued Presidential Proclamation 8336 establishing the Pacific Remote Islands Marine National Monument (74 FR 1565, January 12, 2009) under the authority of the Antiquities Act of 1906 (16 U.S.C. 431). Pursuant to Proclamation 8336, commercial fishing is prohibited, and NMFS shall not allow removal of any feature of the monument, including fishery resources. Therefore, this provision currently serves as a functional equivalent of an ACL of zero for BMUS in the PRIA.

Proclamation 8336 also provides a process to permit non-commercial fishing in the PRIA Monument under the authority of the Magnuson-Stevens Act. In response to this provision, the Council is separately working on an amendment to the PRIA FEP recommending management measures that would allow non-commercial and recreational charter fishing subject to Federal permits and logbook reporting requirements to aid in the monitoring of fishing activities. The Council further recommends a prohibition on all fishing within 12 nautical miles (nm) of the Pacific Remote Islands, subject to Department of Interior authority to allow non-commercial fishing under its authorities, in consultation with NOAA and the Council.

Because the proposed 2013 ACLs and AMs for coral reef, crustacean and precious coral fisheries are identical to those NMFS specified in 2012, NMFS' environmental assessment and finding of no significant impact determination (FONSI) for these fisheries remains valid. Although the Council is considering an amendment to allow non-commercial fishing within the Islands Unit of the Marianas Trench Marine National Monument (MNM), and 12 nautical miles (nm) seaward of the islands that comprise the Rose Atoll and Pacific Remote Islands MNMs, that action has not been reviewed or approved by the Secretary of Commerce. Even if approved, non-commercial fishing for these MUS in the Islands Unit of the Marianas Trench would be subject to the ACLs specified for the Mariana Archipelago. Similarly, non-commercial fisheries for these MUS in the Rose Atoll would be subject to the ACLs for American Samoa. NMFS does not expect non-commercial fishing for crustaceans, precious corals and coral reef MUS to occur in the PRIA MNM because the Council's amendment would prohibit fishing within 12 nm of the PRIA and benthic habitat features that may support BMUS, and other non-pelagic MUS, including crustaceans, precious corals and coral reef MUS are not likely to occur beyond 12 nm, except at Kingman Reef where limit habitat to support fishing may potentially exist beyond 12 nm. However, because Kingman Reef is over 900 miles from the nearest fishing port in Honolulu and presents such limited fishing potential, fishing for non-pelagic species does not presently occur there. Additionally, fish caught outside of the Monument while on a trip that entered into the Monument cannot be sold. Therefore, this recommendation, if approved by the Secretary of Commerce, would effectively preclude fishing for all MUS except for pelagic MUS. For these reasons, NMFS does not expect any environmental effects not already considered in the prior EAs and FONSI. Therefore, there is no change in the environmental or regulatory environment considered in the EA and FONSI.

The proposed specification of bottomfish ACLs for other U.S. Pacific Islands would not affect the consideration or decision regarding fishery management measures for non-commercial fisheries in the PRIA.

Other Foreseeable NOAA Actions

Monk Seals

NMFS currently has two proposals concerning the Hawaiian monk seal population that occur in federal waters of the exclusive economic zone (EEZ; generally 3-200 nmi) around the Hawaiian Islands. The first is a proposal to revise designated critical habitat for endangered Hawaiian monk seals to include areas in the MHI (76 FR 32026, June 2, 2011). The second considers monk seal management, research and enhancement activities including the translocation of up to 60 monk seal pups from the NWHI to the MHI (76 FR 51945, August 19, 2011).

At this point in time there is insufficient information in the proposal to allow NMFS to evaluate the potential impact of a designation of critical habitat on the MHI non-Deep 7 bottomfish fisheries as a whole; however, a designation of critical habitat for monk seals in the MHI is not expected to affect the efficacy of using ACLs and AMs to promote long-term sustainability of the MHI bottomfish fishery.

While recent quantitative fatty acid signature analysis results indicate that monk seals consume a wide range of species including two commercially targeted deepwater-slope bottomfish species (Carretta et al., 2010); under current levels of fishing pressure in the MHI, the monk seal population is growing, pupping is increasing, and the pups appear to be foraging successfully. In contrast, the Hawaiian monk seal subpopulation continue to decline in the NWHI where fishing has been minimized in past years and recently terminated completely, suggesting that some commercial fishing may actually be favorable for monk seal recovery as fishing may remove species that directly compete with seals for prey.

Considering that monk seal foraging success appears to be higher in the MHI than in the NWHI despite higher fishing pressure in the MHI, competition for forage with the MHI bottomfish fishery does not appear to be adversely impacting monk seals in the MHI. Therefore, the proposed ACL specifications and AMs is not expected to affect the quality of habitat being considered for designation as monk seal critical habitat because no change to the conduct of the existing MHI bottomfish fishery is likely to occur with under the proposed action.

A specification of an annual catch limit is not expected to affect a decision of whether or where to establish critical habitat for monk seals in the MHI because an ACL without an in-season measure would result only in monitoring harvest limits in the fishery. The conduct of fishing is not expected to change, and so there is no likely immediate environmental outcome. If critical habitat were to be established in the MHI, NMFS would initiate consultation in accordance with Section 7 of the ESA to ensure that all Hawaii fisheries, including the MHI bottomfish fishery is not likely to result in the destruction or adverse modification of critical habitat.

The proposed translocation of Hawaiian monk seals from the NWHI to the MHI also is not expected to affect the manner in which non-Deep 7 bottomfish are harvested. There could be an increase in the potential for interactions with monk seals because there may be more monk seals

in waters of the MHI where the bottomfish fishery operates. The proposed translocation of monk seals would, therefore, represent a change in the conditions in which the fishery is taking place, so if NMFS approves the translocation of seals, the agency would re-evaluate the effects of the MHI bottomfish fishery on the Hawaiian monk seal population.

The proposed ACL specifications for non-Deep 7 bottomfish in the MHI would not have an adverse effect on monk seals because the catch limit is intended to ensure that harvests are sustainable over the long term. If conditions change in the environment that would affect target stocks, then NMFS and the Council would need to consider those conditions in developing future ACL specifications. Sections 3.4.2 and 4.2 describe the ESA consultations regarding monk seals and other ESA-listed species that considered cumulative impacts on protected species survival and recovery.

Stony Corals

On December 7, 2012, NMFS published a proposal to list 66 species of stony coral under the ESA (77 FR 73220). Fifty-four of the coral species are proposed as threatened and 12 as endangered. Of the 54 threatened species, three occur in Hawaii, 28 in CNMI and between 27-30 and 41 and 43 in Guam, American Samoa, respectively. Of the 12 endangered species, one is found in CNMI and three in American Samoa. No species proposed for endangered status occur in Hawaii or Guam.

Most stony corals are generally found in relatively shallow waters and help produce the carbonate structures known as coral reefs. While the majority of coral reef ecosystem habitat (less than 100 m) is generally found within State and territorial waters, some species proposed for listing may occur in federal waters around the U.S. Pacific Islands, particularly in CNMI where federal waters begins at the shoreline.

The FEPs for American Samoa, the Mariana Archipelago, Hawaii and the PRIA identify the following fishing activities that could impact bottom habitat upon which stony corals may be found:

- Anchor damage from vessels attempting to maintain position over productive fishing habitat; and
- Heavy weights and line entanglement occurring during normal hook-and-line fishing operations.

To minimize impacts to bottom habitat, the current management bottomfish regime prohibits the use of bottom trawls, bottom-set nets, explosives, and poisons, and available research findings indicate bottomfish fishing under these measures do not cause significant fishing-related impacts to the benthic habitat (Kelly and Ikehara, 2006).

Specifying ACLs will not have an environmental outcome that would affect the agency's decision of whether to list any of these species.

National Marine Sanctuaries

NOAA's Office of National Marine Sanctuaries (ONMS) has initiated a review of the Hawaiian Humpback Whale National Marine Sanctuary in the main Hawaiian Islands which may include

revisions to its management plan and regulations to fulfill the purposes and policies of the National Marine Sanctuaries Act (75 FR 40579, July 14, 2010). As there are no in-season management measures proposed, the way the fishery is conducted is not expected to change and, therefore, the proposed ACL specification and AMs would not have an environmental effect that could affect future decisions about possible changes to the sanctuary management plan nor would the proposed action affect sanctuary resources.

Foreseeable actions by others

One activity that has the potential to affect Guam's fishery resources is the Guam military buildup. This activity, was previously slated to involve three major components which include: (1) development of facilities and infrastructure to support approximately 8,000 Marines and their 9,000 dependents being relocated from Okinawa, Japan to the island of Guam and additional operations and training activities; (2) construction of a new deep-draft wharf generally within Apra Harbor, Guam to support transient nuclear aircraft carriers; and (3) development of facilities and infrastructure to support and establishment of air missile defense system on Guam. Other activities would include improvements to off-base roads and bridges to support increased traffic as well as utilities (water and power) to support increased demands by the military (JPOG, 2010). As a result of the recent natural disasters and their effects in Japan, the economic conditions in Japan and the US, and changing political priorities, these proposed actions are being revised. The Navy is now preparing a Supplemental EIS and the scoping materials indicate that the Guam military buildup will involve substantially fewer personnel than was originally proposed. There is likely to continue to be a need to upgrade infrastructure, but the overall project footprint and intensity are likely to be downsized.

As construction and associated human activities have the potential to affect the nearshore marine environment, measures to minimize and mitigate impacts of these activities on the human environment are being addressed through ongoing consultations between the military, the Governments of Guam and the CNMI and other Federal agencies. Because of the reduced scale and the expected mitigation of impacts and the fact that bottomfish fishing occurs offshore, the potential impacts of the buildup on bottomfish and bottomfish habitat are not expected to result in adverse impacts to the fishery, or interact with the proposed ACL and AMs to reduce their efficacy in ensuring the fishery is sustainably managed.

4 Consistency with Other Applicable Laws

4.1 National Environmental Policy Act

NOAA Administrative Order (NAO 216-6, Environmental Review Procedures, in accordance with NEPA, requires the consideration of effects of proposed agency actions and alternatives on the human environment and allows for involvement of interested and affected members of the public before a decision is made. This EA has been written and organized to meet the requirements of NEPA. The NMFS Regional Administrator will use the analysis in this EA to determine whether the proposed action would have a significant environmental impact, which would require the preparation of an EIS.

This EA describes the purpose and need for action in Section 1.1. Background as to the technical development of the ACL and AM specifications is provided in Section 2 which also provides a description of the range of alternatives considered. The affected environment and potential effects of the alternatives are described in Section 3.

4.1.1 Preparers and Reviewers

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4.1.2 List of Agencies Consulted

The proposed action described in this EA was developed in coordination with various federal and local government agencies that are represented on the Western Pacific Fishery Management Council. Specifically, agencies that participated in the deliberations and development of the proposed management measures and considered the potential environmental impacts include:

- American Samoa Department of Marine and Wildlife Resources
- Guam Department of Agriculture, Division of Aquatic and Wildlife Resources
- Hawaii Department of Land and Natural Resources, Division of Aquatic Resources
- Northern Mariana Islands Department of Land and Natural Resources, Division of Fish and Wildlife
- U.S. Coast Guard
- U.S. Fish and Wildlife Service
- U.S. Department of State

4.1.3 Public Coordination

The public has been aware of the requirement to manage selected fisheries in the western Pacific region under ACLs and AMs through Council outreach and fishery management activities and through the development of NMFS national and local regulations concerning ACLs and AMs for several years. The development of the proposed ACL and AM specifications for American Samoa, Guam, the CNMI, and Hawaii covered by this EA has taken place at public meetings of the SSC and the Council. In addition, the Council advertised the Council’s focus on developing Federal annual catch limits at its public meetings and described in media releases, newsletter articles, and on the its website. The Council at its 155th meeting held October 29-November 1, 2012 received several public comments in support of ACL specifications and AMs, particularly for Hawaii bottomfish fisheries.

NMFS is seeking public comment on the proposed rule to specify ACLs and implement AMs for the bottomfish fisheries in American Samoa, the CNMI, Guam and Hawaii. Instructions on how to comment on the proposed rule can be found by searching on RIN 0648-XC351 at www.regulations.gov, or by contacting the responsible official or Council at addresses on the cover page.

4.2 Endangered Species Act

The Endangered Species Act (ESA) provides for the protection and conservation of threatened and endangered species. Section 7(a)(2) of the ESA requires federal agencies to ensure that any action authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of the critical habitat of such species.

Pursuant to Section 7 of the ESA, NMFS has evaluated the bottomfish fisheries managed under the western Pacific FEPs for potential impacts on ESA-listed species under the jurisdiction of NMFS. Table 32 summarizes ESA Section 7 consultations for bottomfish fisheries managed under the FEPs for American Samoa, the Marianas (including Guam and the CNMI) and Hawaii.

Table 32. ESA Section 7 consultations for western Pacific bottomfish fisheries

Fishery	Consultation	NMFS Determination
American Samoa bottomfish fishery	March 8, 2002, Biological Opinion	Not likely to adversely affect any ESA-listed species or critical habitat
Guam deep bottomfish fishery	June 3, 2008, Letter of Concurrence	Not likely to adversely affect any ESA-listed species or critical habitat
Guam shallow bottomfish fishery	June 3, 2008, Letter of Concurrence	Not likely to adversely affect any ESA-listed species or critical habitat
CNMI deep bottomfish fishery	June 3, 2008, Letter of Concurrence	Not likely to adversely affect any ESA-listed species or critical habitat

Fishery	Consultation	NMFS Determination
CNMI shallow bottomfish fishery	June 3, 2008, Letter of Concurrence	Not likely to adversely affect any ESA-listed species or critical habitat
MHI bottomfish fishery	March 18, 2008, Biological Opinion	Likely to adversely affect green sea turtles only; but not likely to jeopardize the continued existence of any ESA-listed species or adversely modify critical habitat

Because the proposed action is not expected to modify vessel operations or other aspects of any fishery, NMFS does not expect the bottomfish fisheries in American Samoa, Guam, the CNMI, and Hawaii as conducted under the proposed action, to have an effect on ESA listed species or any designated critical habitats that was not considered in prior consultations.

4.3 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) prohibits, with certain exceptions, the take of marine mammals in the U.S. and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States. The MMPA gives NMFS the authority and duties for all cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and sea lions, except walruses). Under section 118 of the MMPA, NMFS must publish, at least annually, a List of Fisheries that classifies U.S. commercial fisheries into one of three categories. Specifically, the MMPA mandates that each fishery be classified according to whether it has a frequent, occasional, or remote likelihood of, or no known, incidental mortality or serious injury of marine mammals.

The bottomfish fisheries in each island area are listed as Category III fisheries under Section 118 of the MMPA (76 FR 73912, November 29, 2011). A Category III fishery is one with a low likelihood or no known incidental takings of marine mammals. Because the proposed action would not modify vessel operations or other aspects of any fishery, NMFS does not anticipate that these fisheries, as conducted under the proposed action, would affect marine mammals in any manner not previously considered or authorized by the commercial fishing take exemption under section 118 of the MMPA.

4.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) requires a determination that a recommended management measure has no effect on the land, water uses, or natural resources of the coastal zone or is consistent to the maximum extent practicable with an affected state's enforceable coastal zone management program. On November 20, 2012, NMFS sent a letter to the appropriate state government agencies in American Samoa, Guam, Hawaii and the CNMI informing them of its determination that the proposed action is consistent, to the maximum extent practicable, with their respective coastal zone management programs. On December 4, 2012, the State of Hawaii responded stating that it considers the specification of ACLs and AMs to be implementing actions of the Hawaii FEP which were previously reviewed for consistency

with the Hawaii CZM Program enforceable policies and therefore, are not subject to the federal consistency review by the Hawaii CZM Program. No other jurisdiction has responded as of the date of this document.

4.5 Paperwork Reduction Act

The purpose of the Paperwork Reduction Act is to minimize the paperwork burden on the public resulting from the collection of information by or for the Federal government. It is intended to ensure the information collected under the proposed action is needed and is collected in an efficient manner (44 U.S.C. 3501(1)). The proposed action would not establish any new permitting or reporting requirements; therefore it is not subject to the provisions of the Paperwork Reduction Act.

4.6 Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*) requires government agencies to assess and present the impact of their regulatory actions on small entities including small businesses, small organizations, and small governmental jurisdictions; and to determine ways to minimize adverse impacts. The assessment is done via the preparation of an Initial Regulatory Flexibility Analyses (IRFA) and Final Regulatory Flexibility Analysis (FRFA) for each proposed and final rule, respectively. Under the RFA, an agency does not need to conduct an IRFA or FRFA if a certification can be made that the proposed rule, if adopted, will not have a significant adverse economic impact on a substantial number of small entities.

The purpose and need for action is described in Section 1.2. Section 2.0 describes the management alternatives considered to meet the purpose and need for action. Section 3.0 provides a description of the fisheries that may be affected by this action and analyzes environmental impacts of the alternatives considered.

Under the proposed action, NMFS would specify an ACL for the bottomfish multi-species stock complexes in American Samoa, the CNMI and Guam and for the non-Deep 7 stock complex in the MHI in fishing years 2013 and could be re-specified again for fishing year 2014. If the ACL for any stock complex is exceeded, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council which could include a downward adjustment to the ACL in the subsequent fishing year.

American Samoa

In 2011, 12 vessels engaged in fishing for BMUS in American Samoa. The 2011 average gross revenue per vessel was \$3,902 based on an average price of \$2.99 per pound, and a total estimated commercial catch of 15,670 lb. In general, the relative importance of BMUS to commercial participants as a percentage of overall fishing or household income is unknown, as the total suite of fishing and other income-generating activities by individual operations across the year has not been examined.

Guam

In 2010, approximately 300 vessels engaged in fishing for BMUS in American Samoa fishing. The 2011 average gross revenue per vessel was \$200 based on an average price of \$3.77 per

pound, and a total estimated commercial catch of 15,985 lb. In general, the relative importance of BMUS to commercial participants as a percentage of overall fishing or household income is unknown, as the total suite of fishing and other income-generating activities by individual operations across the year has not been examined.

CNMI

In 2011, approximately 40 vessels engaged in fishing for BMUS in the CNMI; however, based on the number of permit holders, only 11 were estimated to engage in commercial fishing. The 2011 average gross revenue per vessel was \$4,340 based on an average price of \$2.82 per pound, and a total estimated commercial catch of 16,930 lb. In general, the relative importance of BMUS to commercial participants as a percentage of overall fishing or household income is unknown, as the total suite of fishing and other income-generating activities by individual operations across the year has not been examined.

Hawaii

In 2011, approximately 468 vessels engaged in fishing for non-Deep 7 bottomfish in the MHI. The 2011 average gross revenue per vessel was \$983 based on an average price of \$3.50 per pound, and a total estimated commercial catch of 131,391 lb. In general, the relative importance of non-Deep 7 bottomfish to commercial participants as a percentage of overall fishing or household income is unknown, as the total suite of fishing and other income-generating activities by individual operations across the year has not been examined.

Based on available information, NMFS has determined that all vessels participating in bottomfish fisheries in American Samoa, Guam, the CNMI and Hawaii are small entities under the Small Business Administration definition of small entity, i.e., they are engaged in the business of fish harvesting, are independently owned or operated, are not dominant in their field of operation and have annual gross receipts not in excess of \$4 million. The catch limit would apply to all fishermen and there are no individual limits being established. Since there is no in-season AM to prevent the fishery from exceeding an ACL, such as a fishery closure, the bottomfish catch limit does not require fishermen to alter any aspect of fishing operations. Additionally, the catch limit does not favor any fisherman or disproportionately adversely affect a certain type of participant. Therefore, there are no disproportionate economic impacts between large and small entities and the proposed action, if implemented, would not have a significant economic impact on small entities. Furthermore, there are no disproportionate economic impacts among the universe of vessels based on gear, home port, or vessel length. For these reasons, an initial regulatory flexibility analysis is not required and none has been prepared.

4.7 Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedures Act (APA) (5 U.S.C. Subchapter II) which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. Under the APA, NMFS is required to publish notification of proposed rules in the Federal Register and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it becomes effective, with rare exceptions.

The specification of ACLs for BMUS in American Samoa, Guam, and the CNMI and non-Deep 7 bottomfish in the MHI complies with the provisions of the APA through the Council's extensive use of public meetings, requests for comments, and consideration of comments in developing ACL and AM recommendations. Additionally, NMFS will publish a proposed rule announcing the proposed ACL and AM specifications described in this document which will include requests for public comments. After considering public comments, NMFS expects to publish a final rule that would then become effective 30 days after publication.

4.8 Executive Order 12898: Environmental Justice

On February 11, 1994, President William Clinton issued Executive Order 12898 (E.O. 12898), "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." E.O. 12898 provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." E.O. 12898 also provides for agencies to collect, maintain, and analyze information on patterns of subsistence consumption of fish, vegetation, or wildlife. That agency action may also affect subsistence patterns of consumption and indicate the potential for disproportionately high and adverse human health or environmental effects on low-income populations, and minority populations. A memorandum by President Clinton, which accompanied E.O. 12898, made it clear that environmental justice should be considered when conducting NEPA analyses by stating the following: "Each Federal agency should analyze the environmental effects, including human health, economic, and social effects of Federal actions, including effects on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA."

Each action alternative would result in a catch limit for bottomfish stock complexes in American Samoa, Guam and CNMI and the non-Deep 7 bottomfish stock complex in the MHI. Bottomfish fishery participants in all of the areas would be advised of the catch limits, but that would be the extent of the impact of the ACL specifications on fishery participants. The AM for the bottomfish fishery at this time is the requirement for fishery managers to review catches to compare them against ACLs. If an ACL were exceeded, the Council would review the reasons for the overage and then would be able to consider whether an adjustment to the ACL is needed.

The proposed action is expected to result in enhanced monitoring of bottomfish fishery catches. The proposed action is also intended to ensure that fishing for bottomfish species remains sustainable. There are no high or adverse environmental impacts expected from the proposed action so no disproportionately high and adverse effects to members of minority populations or low-income populations, would occur. As there would be no change to any fishery, the proposed action would not affect sustenance fishing by members of minority or low-income groups.

4.9 Executive Order 12866: Regulatory Impact Review

A “significant regulatory action” means any regulatory action that is likely to result in a rule that may –

- 1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal government or communities;
- 2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- 3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- 4) Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

The specification of ACLs and AMs for bottomfish fisheries of the western Pacific is exempt from the procedures of E.O. 12866 because this action contains no implementing regulations and would be not significant under E.O. 12866 because it will not: have an annual effect on the economy of \$100M, create a serious inconsistency or otherwise interfere with an action taken or planned by another agency, materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof, or raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order. A Regulatory Impact Review (RIR) has been prepared which provides an overview of the problem, policy objectives, and anticipated impacts of the proposed action, and ensures that management alternatives are systematically and comprehensively evaluated such that the public welfare can be enhanced in the most efficient and cost effective way (Appendix D).

Based on analysis provided in the RIR, the proposed action is not expected to have an adverse effect of \$100 million or more, create a serious inconsistency or otherwise interfere with an action taken by another agency, materially alter the budgetary impact of programs or rights or obligations of recipients, or raise novel legal or policy issues. Therefore, it is not considered to be a significant regulatory action.

4.10 Information Quality Act

The Information Quality Act requires federal agencies to ensure and maximize the quality, objectivity, utility, and integrity of information disseminated by federal agencies. To the extent feasible, the information in this document is current. Much of the information was made available to the public during the deliberative phases of developing the proposed specifications during meetings of the Council over the past several years. The information was also improved based on the guidance and comments from the Council’s advisory groups.

Council and NMFS staff prepared the document based on information provided by NMFS Pacific Islands Fisheries Science Center (PIFSC) and NMFS Pacific Islands Regional

Office (PIRO), and after considering the Council's recommendations. While no public comment was provided at Council meetings, additional public comments on the document will be accepted during the comment period for the proposed specifications. The process of public review of this document provides an opportunity for the public to comment on the information contained in this document, as well as for the provision of additional information regarding the potential specifications and environmental effects.

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Appendix A Range of Catches of Bottomfish in American Samoa, Guam and the CNMI in Fishing Year 2013 and 2014 that would Produce Probabilities of Overfishing of 0-99%

American Samoa probability of overfishing in 2013 at different levels of total allowable catch in 2013 and 2014 and the associated probability of overfishing in 2014, the relative biomass in 2013, and probability of depletion in 2014.

Probability of Overfishing Bottomfish in American Samoa in 2013	Total Allowable Commercial Catch (1000 pounds) of Bottomfish in American Samoa in 2013 and 2014	Probability of Overfishing Bottomfish in American Samoa in Fishing Year 2014	Ratio of Bottomfish Exploitable Biomass in 2013 to BMSY in American Samoa	Probability That American Samoa Bottomfish Biomass in 2014 Is Less Than the Minimum Stock Size Threshold (0.7*BMSY)
0	33	0.00	1.64	0.01
0.05	60	0.05	1.56	0.01
0.10	73	0.12	1.52	0.02
0.15	81	0.18	1.49	0.02
0.20	89	0.26	1.47	0.02
0.25	95	0.33	1.45	0.02
0.30	101	0.41	1.43	0.03
0.35	107	0.49	1.41	0.03
0.40	112	0.56	1.40	0.03
0.45	118	0.64	1.38	0.04
0.50	124	0.72	1.36	0.04
0.55	130	0.78	1.34	0.04
0.60	136	0.84	1.32	0.05
0.65	142	0.89	1.30	0.05
0.70	149	0.94	1.28	0.06
0.75	156	0.96	1.26	0.06
0.80	166	0.99	1.23	0.07
0.85	177	1.00	1.19	0.08
0.90	192	1.00	1.15	0.10
0.95	217	1.00	1.07	0.15
1.00	300	1.00	0.82	0.36

Source: Table 15 in Brodziak et al., (2012).

CNMI probability of overfishing in 2013 at different levels of total allowable catch in 2013 and 2014 and the associated probability of overfishing in 2014, the relative biomass in 2013, and probability of depletion in 2014.

Probability of Overfishing Bottomfish in CNMI in 2013	Total Allowable Commercial Catch (1000 pounds) of CNMI Bottomfish in 2013 and 2014	Probability of Overfishing Bottomfish in CNMI in Fishing Year 2014	Ratio of Bottomfish Exploitable Biomass in 2013 to BMSY in CNMI	Probability That CNMI Bottomfish Biomass in 2014 Is Less Than the Minimum Stock Size Threshold (0.7*BMSY)
0	4	0.00	1.76	0.01
0.05	130	0.05	1.57	0.02
0.10	162	0.11	1.52	0.03
0.15	183	0.17	1.49	0.03
0.20	203	0.26	1.46	0.03
0.25	219	0.34	1.44	0.04
0.30	234	0.43	1.41	0.04
0.35	249	0.52	1.39	0.05
0.40	264	0.61	1.37	0.05
0.45	279	0.7	1.35	0.06
0.50	293	0.78	1.33	0.06
0.55	308	0.85	1.30	0.07
0.60	324	0.91	1.28	0.07
0.65	340	0.95	1.25	0.08
0.70	359	0.98	1.23	0.09
0.75	379	0.99	1.20	0.10
0.80	402	1.00	1.16	0.11
0.85	431	-	1.12	0.14
0.90	471	-	1.06	0.17
0.95	> 501	-	-	-
1.00	> 501	-	-	-

Source: Table 16 in Brodziak et al., (2012).

Guam probability of overfishing in 2013 at different levels of total allowable catch in 2013 and 2014 and the associated probability of overfishing in 2014, the relative biomass in 2013, and probability of depletion in 2014.

Probability of Overfishing Bottomfish in Guam in 2013	Total Allowable Commercial Catch (1000 pounds) of Guam Bottomfish in 2013 and 2014	Probability of Overfishing Bottomfish in Guam in Fishing Year 2014	Ratio of Bottomfish Exploitable Biomass in 2013 to BMSY in Guam	Probability That Guam Bottomfish Biomass in 2014 Is Less Than the Minimum Stock Size Threshold (0.7*BMSY)
0	22	0.00	1.55	0.01
0.05	44	0.05	1.41	0.02
0.10	51	0.11	1.37	0.02
0.15	56	0.17	1.34	0.03
0.20	61	0.26	1.31	0.03
0.25	65	0.35	1.28	0.04
0.30	68	0.43	1.26	0.04
0.35	71	0.51	1.24	0.05
0.40	75	0.62	1.22	0.05
0.45	78	0.70	1.20	0.06
0.50	81	0.77	1.18	0.06
0.55	85	0.85	1.16	0.07
0.60	88	0.89	1.14	0.08
0.65	92	0.94	1.11	0.09
0.70	97	0.97	1.08	0.10
0.75	101	0.99	1.06	0.11
0.80	107	1.00	1.02	0.14
0.85	114	1.00	0.97	0.16
0.90	123	1.00	0.92	0.21
0.95	138	1.00	0.82	0.30
1.00	191	1.00	0.50	0.74

Source: Table 16 in Brodziak et al., (2012).

Appendix B 111th SSC Determination of Risk of Overfishing of Territorial Bottomfish

At the 111th SSC meeting, a sub-committee of SSC members and PIRO staff was formed to evaluate the 2012 PIFSC Territorial bottomfish stock assessment (Brodziak et al., 2012) and conduct a P* analysis to set an ABC for the multi-species bottomfish stock complexes in American Samoa, Guam and CNMI. In accordance with the Council's ABC/ACL mechanism, the P* analysis is comprised of 4 dimensions: (1) assessment information; (2) uncertainty characterization; (3) stock status; and (4) productivity and susceptibility analyses which together, constitute the elements for evaluating the level of scientific uncertainty in the estimate of MSY and other reference points. Details of the P* analysis are described below.

Each dimension of information was worth a total score of (10) points with all four dimension worth a total of (40) points. The sum of the scores from all dimensions was then subtracted from the 50% probability of overfishing to determine the acceptable risk of overfishing for 2013 and 2014. A risk of 50% is the maximum allowable by law. ABC is calculated as the amount of catch projected by Brodziak et al., (2012) that corresponds to the acceptable level of risk over the two year period 2013 and 2014.

1. Assessment Information

The assessment information dimension relates to adequacy of the assessment model used and the data that went into it. The same model was used for the 3 territories. It was deemed quite good, resulting in a reduction of only 1.6 to the risk level.

Table 1. Dimension 1: Assessment Information

Assessment Information Description	Score
Perfect. Quantitative assessment provides estimates of exploitation and B; includes MSY-derived benchmarks	0.0
Quantitative assessment provides estimates of exploitation and B; includes MSY-derived benchmarks; no spatially-explicit information	2.0
Good. Measures of exploitation or B, proxy reference points, no MSY benchmarks; some sources of mortality accounted for	4.0
Relative measures of exploitation or B, proxy reference points, absolute measures of stock unavailable	6.0
No benchmark values, but reliable catch history	8.0
Bad. No benchmark values, and scarce or unreliable catch records	10.0

Table 2. Assessment aspects used in determining the score for the first dimension

Assessment Aspects (AAs)	Score
Reliable catch history	0.5
Standardized CPUE	0.5
Species-specific data	1.0
All sources of mortality accounted for	0.5
Fishery independent survey	1.0
Tagging data	1.0
Spatial analysis	1.0
SUM	5.5

Table 3. Scaling equivalent for the assessment aspect scores

AAs Score	Scaled equivalent	AAs Score	Scaled equivalent
0.5	0.1	4	1.1
1	0.3	4.5	1.3
1.5	0.4	5	1.4
2	0.6	5.5	1.6
2.5	0.7	6	1.7
3	0.9	6.5	1.9
3.5	1.0	7	2.0

2. Uncertainty Characterization

The uncertainty characterization dimension relates to how well the assessment estimates uncertainty. This was deemed to be middling complete for the current assessment, resulting in a reduction of 5 out of possible 10 to the risk level.

Table 4. Dimension 2: Uncertainty Characterization

Uncertainty Characterization Description	Score
Complete. Key determinant – uncertainty in both assessment inputs and environmental conditions included	0.0
High. Key determinant – reflects more than just uncertainty in future recruitment	2.5
Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections	5.0
Low. Distributions of Fmsy and MSY are lacking	7.5
None. Only single point estimates; no sensitivities or uncertainty evaluations	10.0

3. Stock Status

The stock status dimension has to do with where the stock currently stands on the “Kobe” (overfished vs. overfishing) diagram. Because the stock status in all 3 territories stands solidly in the most favorable situation (biomass being well above B_{msy} and F being well below F_{msy}), there was no reduction to the risk level.

Table 5. Dimension 3: Stock Status

Stock Status Description	Biomass level and Fishing level	Score
Neither overfished nor overfishing.	Stock > MSST and B_{MSY} , $F < MFMT$	0.0
Neither overfished nor overfishing.	Stock > MSST, $F < MFMT$	2.0
Neither overfished nor overfishing.	Stock \geq MSST, $F \leq MFMT$	4.0
Stock is not overfished, overfishing is occurring	Stock > MSST, $F > MFMT$	6.0
Stock is overfished, overfishing is not occurring	Stock < MSST, $F \leq MFMT$	8.0
Stock is overfished, overfishing is occurring	Stock < MSST, $F > MFMT$	10.0

4. Productivity-Susceptibility

The productivity-susceptibility (P-S) dimension depends on the biological productivity and the susceptibility to fishing of the various species in the Territory bottomfish fishery. Domingo Ochavillo (AS DMWR Senior Scientist), Mike Trianni (PIFSC CNMI Science Coordinator), and Bob Humphreys (PIFSC – insert position) provided their expert scores beforehand on a scale of zero to 10 for 16 species for each of the territories. The resulting average P-S scores for each Territory are: American Samoa = 1.95; Guam = 4.45; and CNMI = 4.61.

Table 6. Dimension 4: Productivity and Susceptibility

Species	Productivity			Susceptibility		
	GU	NMI	AS	GU	NMI	AS
<i>Caranx lugubris</i> (black trevally)	2.5	5	0	5	2.5	0
<i>Aphareus rutilans</i> (lehi)	5	5	5	5	5	0
<i>Etelis carbunculus</i> (ehu)	2.5	5	0	2.5	5	2.5
<i>Etelis coruscans</i> (onaga)	5	5	7.5	2.5	5	0
<i>Pristipomoides auricilla</i> (yellowtail snapper)	2.5	7.5	0	5	2.5	0
<i>Pristipomoides filamentosus</i> (opakapaka)	5	7.5	5	2.5	2.5	0
<i>Pristipomoides flavipinnis</i> (yelloweye opakapaka)	2.5	5	0	2.5	2.5	0

Species	Productivity			Susceptibility		
	GU	NMI	AS	GU	NMI	AS
<i>Pristipomoides seiboldi</i> (kalekale)	2.5	5	0	2.5	5	0
<i>Pristipomoides zonatus</i> (gindai)	5	5	5	2.5	2.5	0
<i>Aprion virescens</i> (uku)	5	5	2.5	5	2.5	0
<i>Caranx ignobilis</i> (giant trevally)	2.5	5	10	7.5	5	0
<i>Epinephelus fasciatus</i> (black tip grouper)	7.5	5	5	7.5	5	0
<i>Lethrinus amboinensis</i> (ambon emperor)	5	5	5	7.5	2.5	0
<i>Lethrinus rubrioperculatus</i> (red gill emperor)	2.5	7.5	5	7.5	2.5	0
<i>Lutjanus kasmira</i> (blue lined snapper)	2.5	7.5	5	7.5	2.5	0
<i>Variola louti</i> (lunar tail grouper)	5	5	5	7.5	5	0

Table 7. Average productivity-susceptibility scores for the 16 BMUS species in Guam, Northern Mariana Islands and American Samoa

Species	Average P-S scores		
	GU	NMI	AS
<i>Caranx lugubris</i> (black trevally)	3.75	3.75	0
<i>Aphareus rutilans</i> (lehi)	5	5	2.5
<i>Etelis carbunculus</i> (ehu)	2.5	5	1.25
<i>Etelis coruscans</i> (onaga)	3.75	5	3.75
<i>Pristipomoides auricilla</i> (yellowtail snapper)	3.75	5	0
<i>Pristipomoides filamentosus</i> (opakapaka)	3.75	5	2.5
<i>Pristipomoides flavipinnis</i> (yelloweye opakapaka)	2.5	3.75	0
<i>Pristipomoides seiboldi</i> (kalekale)	2.5	5	0
<i>Pristipomoides zonatus</i> (gindai)	3.75	3.75	2.5
<i>Aprion virescens</i> (uku)	5	3.75	1.25
<i>Caranx ignobilis</i> (giant trevally)	5	5	5
<i>Epinephelus fasciatus</i> (black tip grouper)	7.5	5	2.5
<i>Lethrinus amboinensis</i> (ambon emperor)	6.25	3.75	2.5
<i>Lethrinus rubrioperculatus</i> (red gill emperor)	5	5	2.5
<i>Lutjanus kasmira</i> (blue lined snapper)	5	5	2.5
<i>Variola louti</i> (lunar tail grouper)	6.25	5	2.5
OVERALL AVERAGE	4.45	4.61	1.95

The total scores were 8.55 for American Samoa, 11.05 for Guam, and 11.1 for CNMI. Subtracting the total scores from 50% probability of overfishing in the second year (2014) resulted in rounded risk levels of 41% for American Samoa, 40% for Guam, and 39% for CNMI. Corresponding ABC levels were then obtained from a table derived from Brodziak et al., (2012) and described under Alternative 2 on Table 13 of this EA document.

Table 8. Summary of the Dimension Scores

Dimension	AS	GU	NMI
Assessment Information	1.6	1.6	1.6
Uncertainty Characterization	5	5	5
Stock Status	0	0	0
Productivity and Susceptibility	1.95	4.45	4.61
FINAL SCORE	8.55 ~ 9	11.05 ~ 11	11.21 ~ 11
P* Percentile	41%	40%	39%

Appendix C Range of Catches of Hawaii Deep 7 Bottomfish in Fishing Year 2012 and 2013 that would Produce Probabilities of Overfishing of 0-99%

Stock assessment projection results showing the total allowable commercial catches (1000 pounds) of Deep 7 bottomfish in fishing years 2012 and 2013 that would produce probabilities of overfishing in 2012 of 0%, 5%, 10% ..., 50% and greater under baseline catch Scenario II and CPUE Scenario I.

Catch Scenario II and CPUE Scenario I				
Probability of Overfishing Deep7 Bottomfish in the Main Hawaiian Islands in Fishing Year 2012	Total Allowable Commercial Catch (1000 pounds) of Deep7 Bottomfish in Fishing Years 2012 and 2013	Probability of Overfishing Deep7 Bottomfish in the Main Hawaiian Islands in Fishing Year 2013	Median Ratio of Deep7 Bottomfish Exploitable Biomass in 2013 to BMSY	Probability That Deep7 Bottomfish Biomass in 2013 Is Greater Than the Minimum Stock Size Threshold (0.7*BMSY)
0	11	0	1.05	0.92
0.05	147	0.02	1.03	0.91
0.10	197	0.09	1.02	0.90
0.15	229	0.14	1.02	0.90
0.20	255	0.19	1.01	0.89
0.25	277	0.24	1.01	0.89
0.30	299	0.29	1.01	0.89
0.35	319	0.34	1.00	0.88
0.40	341	0.39	1.00	0.88
0.45	361	0.45	1.00	0.88
0.50	383	0.50	0.99	0.88
0.55	407	0.56	0.99	0.87
0.60	429	0.60	0.99	0.87
0.65	455	0.66	0.98	0.87
0.70	481	0.71	0.98	0.86
0.75	513	0.76	0.97	0.86
0.80	549	0.81	0.97	0.85
0.85	597	0.86	0.96	0.84
0.90	665	0.91	0.95	0.83
0.95	783	0.96	0.93	0.81
0.99	1001	0.99	0.90	0.77

Source: Table 19.1 Brodziak et al. (2011)

Appendix D Regulatory Impact Review

Regulatory Impact Review for Proposed Annual Catch Limit Specifications and Accountability Measures for Pacific Island Bottomfish Fisheries in 2013 and 2014

1. Introduction

This document is a regulatory impact review (RIR) prepared under Executive Order (E.O.) 12866, “Regulatory Impact Review.” The regulatory philosophy of E.O. 12866 stresses that in deciding whether and how to regulate, agencies should assess all costs and benefits of all regulatory alternatives and choose those approaches that maximize the net benefits to the society. To comply with E.O. 12866, NMFS prepares an RIR for all regulatory actions that are of public interest. The RIR provides a review of the problems, policy objectives, and anticipated impacts of regulatory actions.

This RIR is for the proposed annual catch limit (ACL) specifications and accountability measures (AM) for bottomfish stock complexes of American Samoa, Guam, and the Northern Mariana Islands, and the main Hawaiian Islands non-Deep 7 bottomfish stock complex in 2013 and 2014.

2. Problems and Management Objective

In order to comply with the Magnuson-Stevens Act and provisions of the FEPs for American Samoa, the Mariana Archipelago, and Hawaii, NMFS must specify an ACL for each stock and stock complex in western Pacific bottomfish fisheries.

The management objective is to specify an ACL for all western Pacific bottomfish management unit species (BMUS) in order to prevent overfishing from occurring, and ensure long-term sustainability of the resource while allowing fishermen to continue to benefit from its utilization. AMs are also needed to correct or mitigate overages of the ACL, should overages occur.

3. Description of the Fisheries

The management action will affect U.S. subsistence, recreational and commercial fishermen who fish for BMUS species in American Samoa, Guam, the CNMI and Hawaii. The descriptions of these fisheries are provided in Sections 3.1, 3.2, 3.3, and 3.4 of the EA. These include general information about the BMUS fisheries for each of the four regions, fishing practices, vessel characteristics, and most recent price and landing information.

4. Description of the ACL Alternatives for the Bottomfish MUS in 2013 and 2014

Proposed ACLs:

The proposed ACLs for BMUS under each of the preferred and non-preferred alternatives for American Samoa, CNMI, Guam, and Hawaii are described in Section 2.2 of the EA and summarized in Sections 4.1-4.3 of the RIR below.

Accountability Measures:

Under all action alternatives considered, the Council would determine as soon as possible after the fishing year, whether or not an ACL for any stock or stock complex had been exceeded. If catch of a stock or stock complex exceed the specified ACL in a fishing year, the Council would take action in accordance with 50 CFR 600.310(g) to correct the operational issue that caused the ACL overage. NMFS would implement the Council's recommended action, which could include a downward adjustment to the ACL for that stock complex in the subsequent fishing year, or other measures, as appropriate. Additionally, as a performance measure specified in each FEP, if an ACL is exceeded more than once in a four-year period, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness. Each alternative also assumes continuation of all existing federal and local resource management laws and regulations.

4.1 Alternative 1: No Action (Status Quo)

Under the No Action Alternative, the ACLs for 2013 and 2014 would be identical to the 2012 specifications. For American Samoa bottomfish, ACL would be 99,200 lb. For Guam bottomfish, the ACL would be 48,200 lb. For CNMI bottomfish, the ACL would be 182,500 lb. For MHI non-Deep 7 bottomfish, the ACL would be 135,000 lb.

4.2 Alternative 2: Specify Council Recommended ACL (Preferred)

Under Alternative 2, NMFS would specify the 2013 and 2014 ACL at the level recommended by the Council at its 155th meeting. For American Samoa bottomfish, the ACL would be 101,000 lb. For Guam bottomfish, the ACL would be 66,800 lb. For CNMI bottomfish, the ACL would be 228,000 lb. For MHI non-Deep 7 bottomfish, the ACL would be 140,000 lb.

4.3 Alternative 3: Specify ACLs Lower than Council recommendation

Under Alternative 3, NMFS would specify the 2013 and 2014 bottomfish ACL in each island area at a level lower than the Council recommendation. Tables 13 and 14 of the EA document identify the range of ACLs under Alternative 3 and their associated probabilities of overfishing in 2013 and 2014. For American Samoa bottomfish, the 2013 and 2014 ACL would be set at a level between 33,000 lb and 99,800 lb. For Guam bottomfish, the 2013 and 2014 ACL would be set at a level between 22,000 lb and 66,200 lb. For CNMI bottomfish, the 2013 and 2014 ACL would be set at a level between 40,000 lb and 225,000 lb. For MHI non-Deep 7 bottomfish, the 2013 and 2014 ACL would be set at a level between 6,000 lb and 138,000 lb.

5 Analysis of the Alternatives

This section describes the potential economic effects of all alternatives that were considered and evaluates the impacts of each action alternative relative to the no-action alternative.

5.1 Alternative 1: No Action (Status Quo)

Under the No Action Alternative 1, fishing for American Samoa BMUS would be subject to an ACL of 99,200 lb for the 2013 as well as the 2014 fishing years. Fishing for Guam BMUS would

be subject to an ACL of 48,200 lb, for those two years, while the ACL for CNMI BMUS would be set at 182,500 lb for the 2013 and the 2014 fishing years. The ACL for the MHI Deep 7 bottomfish would be set at 135,000 lb for both fishing years. These are the same ACLs NMFS specified for the 2012 fishing year.

American Samoa

Between 2000 and 2011, the highest estimated total annual catch of BMUS in American Samoa occurred in 2009 at 47,458 lb; the ACL proposed under this alternative is more than twice this record catch. Moreover, after 2009's devastating tsunami effects on American Samoa's bottomfishing fleet, the estimated total catch in 2010 dropped to only 9,509 lb, but rose in 2011 to an estimated 23,044 lb (See Overview of American Samoa Fisheries in Section 3.1 for calculation of this estimate). Since recent landings are substantially lower than the ACL proposed under this alternative, and expected to remain somewhat depressed while the fleet rebuilds, catches in 2013 and 2014 are not expected to exceed an ACL of 99,200 lb.

Guam

Between 2000 and 2011, total annual catch of BMUS in Guam has exceeded the ACL proposed under this alternative only twice; once in 2000 and the other in 2001 when 66,666 lb and 54,352 lb were caught, respectively. In more recent years, total annual catch fluctuated between 27,000 and 40,000 lb. However, as much as 59,172 lb of BMUS may have been sold in 2011, indicating that total catch was likely greater than this amount, although staff from the Council, WPacFIN and Guam DAWR is investigating the data to verify this estimate. If correct, catch in 2013 or 2014 may potentially exceed an ACL of 48,200 lb in 2013 or 2014 under this alternative.

CNMI

Between 2000 and 2011, the highest estimated total annual catch of BMUS in the CNMI occurred in 2001 at 71,256 lb. After that, total annual catch declined slightly, rebounded to 70,000 lb in 2005, but declined again with approximately 34,551 lb caught in 2011 (See Overview of Guam Bottomfish Fisheries in Section 3.2 for calculation of this estimate). Since recent landings are substantially lower than the ACL proposed under this alternative, catches in 2013 and 2014 are not expected to exceed an ACL of 182,500 lb.

Hawaii

Between 1966 and 2011, the highest estimated commercial landing levels for non-Deep 7 BMUS in MHI were 372,201 lb in 1988 and 238,434 lb in 1989. Since that time, the fishery has remained below 135,000 lb until 2010 when 145,383 lb was caught. In 2011, the MHI bottomfish fishery caught 131,391 lb of non-Deep 7 bottomfish. So, under this alternative, catch in 2013 or 2014 could potentially exceed ACL in 2013 or 2014.

Under all alternatives considered, including the No Action Alternative, the AM for bottomfish fisheries in American Samoa, Guam, CNMI and for the non-Deep 7 bottomfish fishery in MHI would require a post-season review of the catch data to determine whether any of those ACLs had been exceeded. If any ACL had been exceeded, NMFS, as recommended by the Council would take action to correct the operational issue that caused the ACL overage. This could include a downward adjustment to the bottomfish ACL in the subsequent fishing year. NMFS cannot speculate on operational measures or the magnitude of the overage adjustment that might

be taken; therefore, the fishery and environmental impacts of future actions such as changes to the ACL or AM would be evaluated separately, once details are available.

Under Alternative 1, as with the other action alternatives, the lack of in-season data to conduct in-season tracking of catch in relation to the ACLs, resulted in the Council and NMFS not considering in-season closures. This means that participants in the bottomfish fisheries of American Samoa, Guam, and CNMI as well as in the MHI non Deep 7 bottomfish fishery would be able to fish throughout the entire season. The ACLs as specified under all alternatives considered would not change the conduct of the fishery each year, including gear types, areas fished, effort, or participation. Even if the post-season assessment determines that ACL overages had occurred and that downward adjustments to that ACL are needed for the following fishing year, the lack of ability in assessing catch levels during the ongoing fishing season would not result in any impact to these fisheries which could still continue. Therefore, due to the lack of an in-season fishery closure, bottomfish fishermen should not face any direct adverse economic impacts in 2013 and 2014 as a result of the proposed ACL and AMs.

Indirect adverse economic effects could result should other forms of catch restrictions occur as a result of an ACL overage. NMFS cannot predict which MUS would be affected or the magnitude of the overage adjustment that might be taken; therefore, the fishery and economic impacts of future actions such as changes to ACLs or AMs would be evaluated separately, once those future actions are available for consideration. As the choice of the ACL under Alternative 1 would have little, if any, impact on bottomfish fishing activities, this suggests that there should be no change in the amount of BMUS fish supplied to local markets or available for subsistence and cultural sharing practices in 2013 and 2014 as a result of this action.

Incremental costs associated with this alternative are expected to be incurred by the requirement for the Federal agency to conduct post-season fishery review in order to determine whether one or more ACLs had been exceeded and then would incur costs related to corresponding activities to address the overage. These costs may include, but are not limited to Council costs of documentation preparation, meetings, public hearings, and information dissemination. NMFS administrative costs of document preparation, meetings and reviews supporting rulemaking or otherwise respond to Council proposal. Although each alternative would have the same costs involved with post-season fishery performance review, the other incremental costs to address overages are expected to be higher when the potential to exceed an ACL is higher, so Alternative 1 and 2 are more likely to incur lower public and private administrative costs than Alternative 3 which proposes lower ACLs. It should be noted that none of the administrative activities under any of the alternatives would be substantially higher than the ongoing costs that the Council and its organizational bodies would bear in response to continuing to comply with national requirements under the MSA that call for the Council to develop and recommend appropriate ACLs and AMs, and for NMFS to implement the specifications.

5.2 Alternative 2: Specify Council Recommended ACLs (Preferred)

Under Alternative 2, fishing for American Samoa BMUS would be subject to an ACL of 101,000 lb for the 2013 as well as the 2014 fishing years. Fishing for Guam BMUS would be subject to an ACL of 66,800 lb, for those two years, while the ACL for CNMI BMUS would be

set at 228,000 lb for the 2013 and the 2014 fishing years. The ACL for the MHI Deep 7 bottomfish would be set at 140,000 lb for both fishing years.

Under this alternative, the proposed ACLs for all island areas would be slightly higher than those under the No Action Alternative. Therefore, the impacts to fisheries are generally the same as those described in Alternative 1, except that the likelihood of exceeding the ACL and triggering AMs in each region is lower.

5.3 Alternative 3: Specify ACLs below the SSC's recommended ABC

Under Alternative 3, NMFS would specify the 2013 and 2014 bottomfish ACL in each island area at a level lower than the Council recommendation. For American Samoa bottomfish, the 2013 and 2014 ACL would be set at a level between 33,000 lb and 99,800 lb. For Guam bottomfish, the 2013 and 2014 ACL would be set at a level between 22,000 lb and 66,200 lb. For CNMI bottomfish, the 2013 and 2014 ACL would be set at a level between 40,000 lb and 225,000 lb. For MHI non-Deep 7 bottomfish, the 2013 and 2014 ACL would be set at a level between 6,000 lb and 138,000 lb.

Based on past fishery performance, it is within the realm of possibility that American Samoa bottomfish fishery could exceed an ACL set lower than 50,000 lb as a record 47,458 lb was taken in 2009. Similarly, in Guam the fishery could exceed an ACL between 33,000 lb and 66,200 lb as a record 66,666 lb was taken in 2000. In the CNMI, it is possible that the fishery could exceed an ACL set lower than 80,000 lb as 71,256 was taken in 2001.

However, even if the minimum ACL possible under this alternative was selected, bottomfish fishermen would not face any direct adverse economic impacts in 2013 or 2014 due to the lack of in-season fishery monitoring and closure ability. This means that participants in the bottomfish fisheries of American Samoa, Guam, and CNMI as well as in the MHI non Deep 7 bottomfish fishery would be able to fish throughout the entire season. Even if the post-season assessment determines that ACL overages had occurred and that downward adjustments to that ACL are needed for the following fishing year, the same would hold true.

Indirect adverse economic effects could result should other forms of catch restrictions occur as a result of an ACL overage. NMFS cannot predict which MUS would be affected or the magnitude of the overage adjustment that might be taken; therefore, the fishery and economic impacts of future actions such as changes to ACLs or AMs would be evaluated separately, once those future actions are available for consideration. As the choice of the ACL under Alternative 3 would have little, if any, impact on bottomfish fishing activities, this suggests that there should be no change in the amount of BMUS fish supplied to local markets or available for subsistence and cultural sharing practices in 2013 and 2014 as a result of this action.

Among the three alternatives considered, it is not possible to provide a quantitative assessment of which would provide a greater net benefit. While Alternative 3 may incur higher incremental costs in implementing AMs, because of the higher likelihood of triggering AMs, the additional level of post season review of the catch would also provide an enhanced level of management review of the fishery and further help the fishery from becoming overfished.

6. Distributional Changes in Net Benefit

The action alternatives are expected to have no distributional effects among large and small vessels or by geographic region, because the proposed measures should not cause an adverse economic impact to fishermen in 2013 and 2014, as described earlier.

7. Changes in Income and Employment

The action alternatives are not expected to cause adverse economic impacts to fishermen in 2013 and 2014; therefore, changes in income and regional employment are unlikely to occur as a direct consequence of the proposed measures.

8. Determination of a Significant Regulatory Action

A “significant regulatory action” means any regulatory action that is likely to result in a rule that may –

- 1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal government or communities;
- 2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- 3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- 4) Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

The proposed action is not expected to have an adverse effect of \$100 million or more, create a serious inconsistency or otherwise interfere with an action taken by another agency, materially alter the budgetary impact of programs or rights or obligations of recipients, or raise novel legal or policy issues. Therefore, it is not considered to be a significant regulatory action.

9. Impacts on Small Entities

This section provides a description of the economic impacts of the proposed alternative on small entities as well as that of the alternatives that were considered in the amendment but not selected.

The reasons why the action is being considered, the objectives of, and the legal basis for the proposed action are addressed in Section 1.0 of the EA. NMFS does not believe that the proposed regulations would conflict with or duplicate other Federal regulations. Sections 3.1, 3.2, 3.3, and 3.4 of the EA provide descriptions of the fisheries that may be affected by this action.

The proposed action would specify an annual catch limit (ACL) for each BMUS in American Samoa, Guam, the Northern Mariana Islands, and MHI non Deep 7 bottomfish fishery for fishing

years 2013 and could be re-specified again for fishing year 2014. The ACLs would be set as follows: 101,000 lb for American Samoa BMUS, 66,800 lb for Guam BMUS, and 228,000 lb for CNMI BMUS. The ACL for the MHI non-Deep 7 bottomfish would be set at 140,000 lb. If the ACL for any of these fisheries is exceeded, NMFS would take action to correct the operational issue that caused the ACL overage, as recommended by the Council which could include a downward adjustment to the ACL for that stock or stock complex in the subsequent fishing year.

NMFS does not have total annual revenue information on a per-vessel basis, but assumes that all commercial BMUS fishermen to be small entities based on the SBA size standard for defining a small business entity in this industry with average annual receipts less than \$4.0 million. This assumption is based on the fact the annual commercial value of the bottomfish fisheries considered in this action combined do not exceed one million dollars.

The proposed action of specifying ACL and AMs is expected to have little, if any, direct adverse economic impact, as described in the EA and the RIR. There are no disproportionate economic impacts between large and small entities. Furthermore, there are no disproportionate economic impacts among the universe of vessels based on gear, home port, or vessel length.

NMFS is recommending that the Office of General Counsel for Department of Commerce certify to the Chief Counsel for Advocacy of the Small Business Administration that the proposed action would not have a significant economic impact on a substantial number of small entities.



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FINDING OF NO SIGNIFICANT IMPACT

Annual Catch Limit Specifications and Accountability Measures for Pacific Islands Bottomfish Fisheries in 2013 and 2014 (RIN 0648-XC351)

February 26, 2013

The National Marine Fisheries Service (NMFS) prepared this Finding of No Significant Impact (FONSI) according to the guidelines established in NMFS Instruction 30-124-1 (July 22, 2005), and the requirements set forth in National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6 (May 20, 1999), concerning compliance with the National Environmental Policy Act (NEPA). This FONSI is supported by the environmental impact analysis prepared in accordance with the requirements of NEPA and documented in the attached environmental assessment (EA).

Background

NMFS and the Western Pacific Fishery Management Council (Council) manage fisheries for bottomfish management unit species (MUS) in federal waters of the western Pacific through four fishery ecosystem plans (FEPs) developed by the Council and implemented by NMFS under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Three of the FEPs are archipelago-based and include the American Samoa Archipelago FEP, the Hawaii Archipelago FEP, and the Mariana Archipelago FEP, which covers federal waters around Guam and the Commonwealth of the Northern Mariana Islands (CNMI). The fourth FEP covers federal waters of the U.S. Pacific remote island areas (PRIA) which include Palmyra Atoll; Kingman Reef; Jarvis, Baker, Howland; and Wake Islands; and Johnston Atoll. In each island area except the PRIA, bottomfish fisheries harvest an assemblage, or complex, of species that include emperors (except in Hawaii), snappers, groupers, and jacks. No bottomfish fishing presently occurs in the PRIA.

The FEPs require NMFS to specify an annual catch limit (ACL) and implement accountability measures (AMs) for each bottomfish stock or stock complex¹, as recommended by the Council, and in consideration of the best available scientific, commercial, and other information about the fishery for that stock or stock complex. In American Samoa, the CNMI, and Guam, BMUS are managed as single multi-species stock complexes; so ACLs and AMs for BMUS in those areas will be specified on that basis.

¹ The Magnuson-Stevens Act defines the term "stock of fish" to mean a species, subspecies, geographic grouping, or other category of fish capable of management as a unit. Federal regulations at 50 CFR §660.310(c) define "stock complex" to mean a group of stocks that are sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks is similar.



In the main Hawaiian Islands (MHI), BMUS are managed as two separate stock complexes; the MHI Deep 7 stock complex² and the MHI non-Deep 7 stock complex³. Therefore, ACLs and AMs are specified for each stock complex separately in the MHI. NMFS recently specified an ACL and AM for the MHI Deep 7 bottomfish stock complex (77 FR 56791; September 14, 2012); so the present action is the specification of an ACL and AM for the non-Deep 7 bottomfish stock complex only.

Federal Action

NMFS will implement Alternative 2 and specify ACLs for the bottomfish stock complex in American Samoa, the CNMI and Guam and for the non-Deep 7 bottomfish stock complex in the MHI, based on the recommendations made by the Council at its 155th meeting held October 29-November 1, 2012 (see table below). Alternative 2 was developed in accordance with the approved ACL mechanism described in the FEPs and implementing Federal regulations at 50 CFR §665.4, and in consideration of the best available scientific, commercial, and other information. Under this alternative, NMFS will specify an ACL for each stock complex for the 2013 fishing year, and again for the 2014 fishing year. The fishing years for these stock complexes begin on January 1 and end December 31 annually. In each island area, catches to be counted towards the ACL for each bottomfish stock complex will be calculated based on data collected by local resource management agencies through their respective fishery monitoring programs⁴, and by NMFS through Federal logbook reporting.

In addition to ACLs, NMFS will implement an AM for each fishery, which requires the Council to conduct a post-season accounting of the annual catch for each stock complex relative to its ACL immediately after the end of the fishing year or as soon thereafter as possible. If landings of any stock complex exceed the specified ACL in a fishing year, the Council would take action in accordance with 50 CFR 600.310(g) to correct the operational issue that caused the ACL overage. This could include a downward adjustment to the ACL for that stock complex in the subsequent fishing year, or other measures, as appropriate. Additionally, as a performance measure specified in each FEP, if any ACL is exceeded more than once in a four-year period, the Council is required to re-evaluate the ACL process, and adjust the system, as necessary, to improve its performance and effectiveness.

² MHI Deep 7 bottomfish include onaga (*Etelis coruscans*), ehu (*Etelis carbunculus*), gindai (*Pristipomoides zonatus*), kalekale (*Pristipomoides sieboldii*), opakapaka (*Pristipomoides filamentosus*), lehi (*Aphareus rutilans*), and hapuupuu (*Epinephelus quernus*).

³ MHI non-Deep 7 bottomfish include uku (*Aprion virescens*), white ulua (*Caranx ignobilis*), black ulua (*Caranx lugubris*), taape (*Lutjanus kasmira*), yellowtail kalekale (*Pristipomoides auricilla*), butaguchi (*Pseudocaranx dentex*) and kahala (*Seriola dumerili*).

⁴ Catch data for bottomfish fisheries in each island are collected at the lowest taxonomic level possible by state and territorial fisheries agencies in American Samoa, the CNMI, Guam, and Hawaii. The data are then expanded using algorithms developed by NMFS Pacific Islands Fisheries Science Center (PIFSC), Western Pacific Fisheries Information Network (WPacFIN) to generate estimates of total catches from both commercial and non-commercial sectors, except in Hawaii where total catch is based only on catch reported by the commercial fishing sector, as required under State law.

Summary of ACL specifications for bottomfish fisheries in 2013 and 2014 and other information considered by the Council and NMFS under the selected alternative (Alternative 2)				
	American Samoa Bottomfish	CNMI Bottomfish	Guam Bottomfish	MHI non-Deep 7 Bottomfish
Multi-species bottomfish stock complex ACLs for 2013 and 2014	101,000 lb	228,000 lb	66,800 lb	140,000 lb
Estimated catch in 2013 and 2014 that would result in a 50 percent probability of overfishing	108,000 lb	246,000 lb	70,400 lb	192,000 lb
Probability of overfishing if ACL is caught in 2013 and 2014	41 %	39 %	40 %	26 %
Average catch in 2007-2011	28,413 lb	36,729 lb	33,489 lb	117,420 lb

Affected Fisheries

In American Samoa, Guam, and the CNMI, the BMUS include 17 individual species, which comprise both shallow and deepwater bottomfish species. In Hawaii, the bottomfish fishery harvests an assemblage, or complex, of 14 species that include nine snappers, four jacks (trevally) and a single species of grouper. The target species of the MHI bottomfish fishery and the species of primary management concern are six deep-water snappers and the grouper. Termed the "Deep 7 bottomfish," NMFS recently specified ACLs for these seven species (77 FR 56791, September 14, 2012) so they are not included in this action. Only non-Deep 7 bottomfish are included in this action.

Coordination and Public Involvement

At its 155th meeting, the Council considered and discussed issues relevant to ACL and AM specifications for BMUS in American Samoa, Guam, the CNMI, and Hawaii. The Council's deliberations included consideration of recent stock assessments, recent fishery performance, acceptable biological catch (ABC) recommendations of its 111th Scientific and Statistical Committee (SSC), and the range of ACLs considered in this document and associated risks of overfishing, as well as proposed accountability measures. The 111th SSC and the 155th Council meetings were held October 24-26, 2012 and October 29-November 1, 2012, respectively. Both meetings were open to the public and advertised through notices in the Federal Register. Additionally, on January 31, 2013, NMFS published in the Federal Register, the proposed 2013 ACL specification for Pacific Island fisheries, including bottomfish fisheries for public review and comment (78 FR6798). NMFS received two public comments on the proposed specifications, but no comments on the EA.

Significance Analysis

NAO 216-6 contains criteria for determining the significance of the environmental impacts of a proposed action. In addition, the Council on Environmental Quality's (CEQ) regulations at 40 CFR 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant in making a finding of no significant impact, and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

No. NMFS and the Council developed the ACL specifications in accordance with the approved ACL mechanism and process specified in the FEPs using the best available data and fishery information. The process utilizes a risk-based approach, and requires catch limits for bottomfish not to exceed a 50 percent chance of overfishing. For American Samoa bottomfish, the ACL is set at 101,000 lb and is associated with a 30 percent chance of overfishing in 2013 rising to 41 percent in 2014. (EA section 3.1.1). For Guam bottomfish, the ACL is set at 66,800 lb and ACL is associated with a 28 chance of overfishing in 2013 rising to a 40 percent in 2014. (EA section 3.2.1). For CNMI bottomfish, the ACL is set at 228,000 lb and is associated with a 28 percent chance of overfishing in 2013 rising to 39 percent in 2014. (EA section 3.3.1.). For the MHI non-Deep 7 bottomfish complex, the ACL is set at 140,000 lb and is associated with a 26 percent chance of overfishing in 2013 and 2014. (EA section 3.4.1.). In each island area, the ACL is set higher than the most recent catch history; therefore, NMFS does not expected any fishery to exceed its ACL. However, should this occur, the post-season AMs are intended to help correct or mitigate overages of the ACL, if warranted.

Because the fisheries are not expected to exceed the ACL, and because there is no proposed in-season management measure such as a fishery closure, the current specifications are not expected to result in a change to the conduct of the fishery, including gear types, areas fished, effort, or participation. No changes in fishing monitoring will occur as a result of implementing the ACL specifications and current monitoring of BMUS catches will continue to be done by local fishery resource management agencies. Therefore, although some beneficial effect is expected, that effect will not be significant.

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

No large impacts would occur to non-target stocks. Bottomfish gear and fishing strategies are highly selective for desired species and sizes. In the Pacific Islands, it is difficult to differentiate between "target" and "non-target" stocks because for the most part, all fish caught are usually retained. Discards, if they occur, are usually due to cultural reasons (i.e., taboo) or practical reasons such as toxicity (e.g., potential ciguatera toxin).

In American Samoa, the boat-based and shore-based creel survey programs administered by the DMWR provide for the collection of bycatch information; however, no such information is currently available, indicating that most of the fish caught are retained. To date neither the Council nor the American Samoa DMWR have brought forward any concerns about bycatch in the fishery. NMFS does not have any information to indicate that there are unresolved issues about bycatch in the American Samoa bottomfish fishery. (EA section, 3.1.1)

In Guam, the boat-based and shore-based creel survey programs administered by the DAWR provide for the collection of bycatch information; however, no such information is currently available indicating that most of the fish caught are retained. To date, neither the Council nor the Guam DAWR has raised concerns about bycatch in the fishery and NMFS does not have any information to indicate that there are large unresolved issues about bycatch in the Guam bottomfish fishery. (EA section 3.2.1)

Almost all of the fishes caught in the CNMI are considered food fishes and available accounts show no bycatch in the non-charter bottomfish sector. Some bycatch occurs in the charter sector, mostly attributed to smaller fishes that were released alive. (EA section 3.3.1)

Bycatch in the MHI bottomfish fishery has been evaluated using 2003 and 2004 catch and effort data. Overall bycatch in the MHI bottomfish fishery is considered low with only 8.5 percent of the catch listed as bycatch. The majority of bycatch is composed of non-Deep 7 BMUS primarily jacks (kahala, butaguchi, and white ulua). Kahala are released likely because the fish are known to be ciguatoxic; therefore, this fish has little or no market value in Hawaii. Numerous instances of sharks damaging fish have been reported as resulting in discards (EA section 3.4.1).

Because specification of ACLs will not substantially change the patterns or practices of the fishery, the bottomfish ACLs and AMs will not affect the likelihood of catching or discarding non-target fishes. The post season review of fishery information would, along with ongoing fisheries monitoring, help fishery scientists and managers to detect any non-target or bycatch issues and, if any were found, address them in future management measures, as needed (EA section 3.4.1).

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

No. The specification of ACLs and AMs for Pacific Island bottomfish fisheries will not have a direct effect on essential fish habitat (EFH), habitat areas of particular concern (HAPC) or other ocean or coastal habitats in any of the island areas because bottomfish fisheries are not known to have large adverse effects on EFH or HAPC for any MUS and none of the alternatives considered are expected to result in substantial changes to the way the bottomfish fisheries in American Samoa, Guam, the CNMI and Hawaii are conducted. (EA, section 3.5).

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

No. The specification of ACLs and AMs for BMUS in the four island areas is not expected to adversely impact public health or safety because the operation of bottomfish fisheries are not expected to change as a result of the specifications. In all island areas, the ACLs are set at levels higher than historic landings. Additionally, there are no in-season closures, and monitoring and reporting are not required to change. Therefore, there is no likelihood the ACLs will result in a race for the fish, or cause fishermen to change the way they fish, or the areas they fish in, or to otherwise change the manner in which bottomfish fisheries are conducted in the western Pacific region. For these reasons, the ACL and AM specifications will not result in any change to the fisheries or substantial risk to public health or human safety at sea. (EA section 3.6.1).

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

No. The bottomfish fisheries of the western Pacific region have been evaluated for impacts on protected resources and are managed in compliance with the requirements of the MSA, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act, and other relevant laws and policies.

In a Biological Opinion covering the Fishery Management Plan (FMP) for Bottomfish and Seamount Groundfish Fisheries of the Western Pacific, dated March 8, 2002, NMFS determined that bottomfish and seamount groundfish fisheries of the western Pacific region that operate in accordance with regulations implementing the FMP were not likely to adversely affect ESA-listed species or their designated critical habitat.

In 2008, NMFS proposed regulations to amend the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific FMP that would implement measures to end overfishing of MHI bottomfish that included the establishment of a total allowable catch system, permit and reporting requirements for non-commercial bottomfish vessels and a bag limit of five of any combination "Deep 7" species per person per trip. In a Biological Opinion covering the action dated March 18, 2008, NMFS determined that except for the Hawaiian green sea turtles, the fishing activities conducted under the implementing regulations are not likely to adversely affect any other ESA-listed marine species that may be found in Federal waters of the MHI, or result in the destruction or adverse modification of critical habitat. However, for green sea turtles, NMFS determined that there is a potential for them to be killed by vessels transiting State waters en route to and from Federal waters around the MHI and authorized an incidental take of up to two green sea turtles per year. To date, no turtle takes have ever been observed or reported to have occurred in this fishery.

In an informal consultation letter dated June 3, 2008, NMFS determined that the continued authorization of bottomfish fisheries of the Mariana Archipelago, including the bottomfish fisheries around Guam and the CNMI, as managed under the Bottomfish and Seamount Groundfish FMP, was not likely to adversely affect ESA-listed marine species or their designated critical habitat.

In 2009, the Council recommended and NMFS approved the development of five archipelagic-based fishery ecosystem plans (FEP) including the American Samoa Archipelago FEP, the Mariana Archipelago FEP, the Pacific Remote Island Areas, the Hawaii Archipelago FEP, and the Pacific Pelagics FEP. The FEPs incorporated and reorganized elements of the Council's species-based FMPs, including the Bottomfish and Seamount Groundfish Fisheries FMP into a spatially-oriented ecosystem management plan (75 FR 2198, January 14, 2010). All applicable regulations concerning bottomfish fishing were retained through the development and implementation of the FEPs for American Samoa, the Mariana Islands and Hawaii. No substantial changes to the bottomfish fishery around these areas have occurred since the FEPs were implemented that have required further consultation under the ESA. (EA sections 3.1.2, 3.2.2, 3.3.2, 3.4.2)

On November 28, 2012, NMFS listed the MHI insular false killer whale distinct population segment (DPS) as an endangered species (77 FR 70915). Although the MHI bottomfish fishery operates within the range in which the DPS may sometimes be found, at present there are no observed or reported interactions between the bottomfish fishery and the MHI insular false killer whale. ACL specification will not change the patterns or practices of the bottomfish fishery, and therefore will not have a significant effect on the level of interaction with the insular false killer whale. (EA, section 3.4.2)

Additionally, the bottomfish fisheries in each island area are listed as Category III fisheries under Section 118 of the MMPA (76 FR 73912, November 29, 2011). A Category III fishery is one with a low likelihood or no known incidental takings of marine mammals. Because the proposed action would not modify vessel operations or other aspects of any fishery, NMFS concludes that these fisheries, as currently conducted under the proposed action, would not negatively affect marine mammals in any manner not previously considered or authorized by the commercial fishing take exemption under section 118 of the MMPA.

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

No. The Council's FEPs and fishery resource reviews including the development of the ACLs and AMs have not revealed any large impacts on biodiversity and/or ecosystem function occurring as a result of the bottomfish fisheries in the subject areas. The 2013 and 2014 ACL specification is not expected to change the conduct of any of these fisheries or the level of fishing effort. The ACLs and AMs are intended to prevent overfishing and promote the long-term sustainability of the bottomfish fishery resources. Because there are no changes expected to occur in the fishery and because bottomfish fisheries are managed sustainably and monitored by fishery resource managers, there will not be any large effects of the proposed action on biodiversity and/or ecosystem function that result from the ACL and AM specifications.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

No. The proposed action will not have a large environmental impact that is interrelated with significant social or economic impacts. The ACL specifications were developed with the intention of promoting long-term sustainability of the bottomfish. No change to any fishery is anticipated because there is no in-season management measure, such as a closure, being implemented. In the short term, there is no large adverse environmental impact that could disproportionately affect fishing communities, members of Environmental Justice populations (i.e., minorities or members of low-income populations, or sustenance fishing). Future refinements to fishery management are expected to promote sustainability of the bottomfish fisheries of the western Pacific while allowing optimal utilization of the resources. (EA, section 3)

8) Are the effects on the quality of the human environment likely to be highly controversial?

No. The Council developed the recommended ACLs and AMs in a public process in accordance with the required process and in coordination with fishery scientists, managers, other resource managers, and other interested parties. NMFS further coordinated the proposed specifications with the public through an announcement in the Federal Register (78 FR 6798, January 31, 2013) and did not receive comments indicating controversy over the specifications. None of the effects on the quality of the human environment were found to be highly controversial as neither the conduct of the fisheries nor the levels of effort in any of the fisheries are expected to change as a result of the proposed action; the specifications were developed in coordination with the public and using the latest scientific information about the fishery; and because the fisheries have been operating under ACLs and AMs in the past without observed or reported adverse effects on the environment.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

No. Such areas do not exist where these fisheries operate, so there would be no such adverse effects. Additionally, the bottomfish fisheries do not have a destructive impact on the environment and the fisheries are not expected to change under the ACL specifications and AMs.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. The effects on the human environment are not highly uncertain or unknown because the ACL specifications are based on statistically-based stock assessments and fishery managers considered the risk of overfishing when setting each ACL. Additionally, the effects of bottomfish fisheries on target and non-stocks, protected resources, habitats and fishing communities are not highly uncertain or associated with unknown risks (EA section 3). Because the fisheries are not expected to exceed the ACLs, and because there is no proposed in-season management measure

such as a fishery closure, ACLs and AMs are not expected to result in a change to the conduct of the fishery, including gear types, areas fished, effort, or participation.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

No. As discussed in Section 3.9.3 of the EA, the incremental impact of the proposed action was considered in addition to other past, present, and reasonably foreseeable future actions in the affected environment. For all four island areas, the Council is developing ACL and AM recommendations for bottomfish, coral reef ecosystem, precious corals, and crustaceans MUS. Additionally, NMFS recently specified ACLs for the main Hawaiian Islands Deep 7 bottomfish fishery. Based on the environmental reviews for the other MUS, none of the existing, ongoing or proposed ACLs and AMs is likely to result in significant effects to the environment. The EA also includes the agency's consideration of the potential for interaction among these initiatives and none was found that would result in a significant cumulative effect. None of the ACLs or AMs would conflict with or reduce the efficacy of existing bottomfish resource management by local resource management agencies, NMFS, or the Council. Further, the ACLs and AMs are not anticipated to result in a large change to the patterns or practices of the bottomfish fisheries in any of the island areas, including non-commercial fishing in any Marine National Monument.

NMFS currently has two proposals concerning the Hawaiian monk seal population in Hawaii. The first is a proposal to revise designated critical habitat for endangered Hawaiian monk seals to include areas in the MHI (76 FR 32026, June 2, 2011). The second considers monk seal management, research and enhancement activities including the translocation of up to 60 monk seal pups from the NWHI to the MHI (76 FR 51945, August 19, 2011).

The ACL specifications and AMs would not affect the quality of habitat being considered for designation as monk seal critical habitat in the MHI because no change to the conduct of the existing MHI bottomfish fishery is likely to occur with the specification of ACLs and AMs for non-Deep 7 species. The fishery does not have significant effects on the habitat, and the monk seal population in the main Hawaiian Islands is increasing under current levels of fishing pressure.

On December 7, 2012, NMFS published a proposal to list 66 species of stony corals under the ESA (77 FR 73220). While the majority of coral reef ecosystem habitat (less than 100 m) is generally found within State and territorial waters, some species proposed for listing may occur in federal waters around the U.S. Pacific Islands, particularly in CNMI where federal waters begins at the shoreline. To minimize impacts to bottom habitat, the current management bottomfish regime prohibits the use of bottom trawls, bottom-set nets, explosives, and poisons, and available scientific research findings indicate bottomfish fishing under these measures do not cause significant fishing-related impacts to the benthic habitat. The ACL specifications and AMs is not expected to result in adverse impacts to coral reefs or have an environmental outcome that would affect the agency's decision of whether to list any of these species.

In 2010, the U.S. Department of Defense prepared a Final Environmental Impact Statement analyzing the potential impacts relocating military personnel from Okinawa to Guam. However,

the DOD is now preparing a Supplemental EIS and the scoping materials indicate that the Guam military buildup will involve substantially fewer personnel and infrastructure than was originally proposed. Therefore, it is speculative at this point to determine whether that action, in addition to these ACL specifications, would result in a significant impact to the environment. The environmental impacts of the military buildup on Guam will be analyzed in the future. In general, continued management of Guam's bottomfish fishery through annual catch limits and accountability measures that help ensure sustainable fishing, is not expected to interact with the military activities to result in large environmental impacts.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

No. The bottomfish fisheries do not currently have large adverse impacts to such unique resources and no such areas exist in the U.S. Exclusive Economic Zone. While fishing may occur in areas of potential scientific, cultural or historical interest, Pacific Island bottomfish fisheries are not known to cause loss or destruction to such resources and fishing operations are not expected to change under the ACL specification and AMs. (EA section 3.9.1)

13) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

No. The ACLs and AMs will not change the way or locations in which the fisheries are conducted, so it is not expected to result in the introduction or spread of any non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

No. The ACL specifications comply with the regulations in the individual archipelagic FEPs and national requirements for all MUS to be managed under ACLs. The fisheries are already operating under ACL and AM specifications. Catch data will continue to be collected by local resource management agencies through their respective fishery monitoring programs and by NMFS through federal logbook reporting. If an ACL for any stock or stock complex is exceeded and results in biological consequences to that stock or stock complex, NMFS will take action to correct the operational issue that caused the ACL overage, as recommended by the Council, which could include a downward adjustment to the ACL for that stock or stock complex.

15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

No. ACLs were developed in accordance with an approved method and process found in each FEP. The proposed specifications and environmental analysis were coordinated with the public. In addition to complying with NEPA, the specifications were considered under a variety of other applicable laws. The continued operation of the western Pacific bottomfish fisheries under the

new specifications would not change the fisheries or result in a violation of Federal, State, or local law or requirements for environmental protection. (EA, section 4)

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

No. The proposed ACLs are expected to provide for an acceptable level of catch and were developed with the intent of preventing overfishing and providing for long-term sustainability of the target and non-target stocks. The specifications were developed using the best available scientific information, in a manner that accords with the fishery regulations, and after considering catches, participation trends, and estimates of the status of the fishery resources. The AMs are also not likely to cause large adverse impacts to resources, and the affected stocks are expected to benefit from the post-season data review. The long-term conservation of fishery resources and the lack of change in the fisheries allow NMFS to conclude that the ACL specifications and AMs will not result in cumulative adverse impacts to target or non-target stocks. (EA, section 3.9.3)

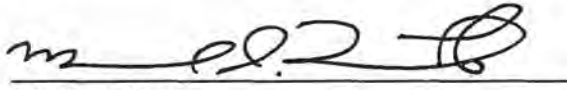
Other Findings

NMFS considered the effect of the proposed ACL specifications and AMs on Environmental Justice communities. The ACLs would apply to everyone who catches bottomfish. The proposed specifications of ACLs and provisions for post-season harvest reviews as the AMs are not expected to result in a change to the way the fisheries are conducted, but are intended to provide for sustainability of BMUS which is, in turn, expected to benefit these resources and the human communities that rely on their harvest. The proposed specifications are not likely to result in disproportionately large or adverse effects on members of Environmental Justice communities in American Samoa, Guam, the CNMI, or Hawaii. (EA, section 3.7)

NMFS also considered the effects of the project on climate change and climate change impacts on the feasibility of the project. The efficacy of the proposed ACL and AM specifications in providing for sustainable levels of fishing for BMUS is not expected to be adversely affected by climate change. Recent catch and biological status of the species informed the development of the ACLs and AMs. Monitoring would continue, and if harvests were reduced, , ACLs could be adjusted in the future. The proposed specifications are not expected to result in a change to the manner in which the fisheries are conducted, so no change in greenhouse gas emissions is expected. (EA, section 3.8).

Determination

In view of the information presented in this document and the analysis contained in the supporting EA prepared for the Annual Catch Limit Specifications and Accountability Measures for Pacific Islands Bottomfish Fisheries in 2013 and 2014, and dated January 14, 2013, I have determined that the proposed action will not significantly impact the quality of the human environment as described above and in the supporting EA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.



Michael D. Tosatto
Regional Administrator

FEB 26 2013

Date