WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Acceptable Biological Catches, Annual Catch Limits and Accountability Measures for Miscellaneous Insular Species under the Western Pacific Regional Fishery Management Council's Fisheries Ecosystem Plans

Introduction

In 2006, the Magnuson-Stevens Fishery Conservation and Management Act (MSA) was reauthorized and included additional requirements to prevent and end overfishing, and rebuild overfished stocks. Under the MSA, Regional Fishery Management Councils (RFMC) are to amend their fishery management plans to include a mechanism for specifying annual catch limits (ACLs) for all fisheries at a level such that overfishing does not occur and to implement measures to ensure accountability (AM) for adhering to these limits. The MSA further directs that, unless otherwise provided for under an international agreement to which the U.S. participates, this mechanism must be established by 2010 for fisheries subject to overfishing, and by 2011 for all other fisheries. On January 16, 2009, the National Marine Fisheries Service (NMFS) published advisory guidelines under 50 CFR §600.310 (74 FR 3178) to assist RFMCs in implementing ACL and AM requirements.

To comply with the ACL and AM requirements, the Western Pacific Fishery Management Council (Council), in coordination with NMFS, prepared an omnibus amendment to the fishery ecosystem plans (FEP) for American Samoa, Hawaii, the Mariana Archipelago (Guam and the Commonwealth of the Northern Mariana Islands (CNMI)), Pacific Remote Island Areas, and Pacific Pelagic fisheries. The amendment, currently undergoing Secretarial review and approval describes the mechanism the Council will use to specify ACLs and AMs for each FEP fishery. This includes:

1) Establishing a mechanism in each FEP that the Council will use to determine ACLs and AMs , including a process for setting acceptable biological catch limits (ABCs);

2) Adopt the ecosystem component (EC) species classification described in the NMFS advisory guidelines for National Standard 1 (NS1) so the Council can develop specific criteria for identifying EC species in subsequent amendments to the FEPs; and

3) Identify pelagic management unit species that have statutory exceptions to the ACL and AM requirements. The ACL and AM mechanism is designed to ensure long term sustainability of the fishery resources under the Council's jurisdiction.

The Council has been managing Main Hawaiian Islands (MHI) bottomfish under a total allowable catch (TAC) for several years and will be taking action at the 151st Council Meeting to develop an ABC and ACL for this stock complex. Similar actions need to be taken for bottomfish elsewhere in the Western Pacific Region, although completion of stock assessments for these stock complexes is unlikely to be completed until 2012. In which case, either the 2007 stock assessments or the Tier 5 approach using some index of recent average catch might be applied.

The Council has taken action to recommend that the international exception will apply to the Pelagic Management Unit Species (PMUS), although is obliged to establish status determination criteria (SDC) and maximum sustainable yield (MSY) for these species. Similarly, the Council has also recommended that the one-year life cycle exception be applied to pelagic squid, however, the Council still needs to establish status determination criteria (SDC) , maximum sustainable yield (MSY), optimum yield (OY), ABC, and an ABC control rule for these species. There are also the problem of the very large number of management species in the Coral Reef Management Unit Species (CREMUS). Options for establishing ABCs and ACLs for these species are dealt with in another paper for this meeting, although the establishment of an ABC and ACL for bigeye scads and roundscads in the MHI is dealt with in this paper. In addition this paper considers those invertebrate species for which these is only catch data or catch data and some previously estimated MSY, although no current stock assessment.

Some of these nearshore species, such as the mollusks and crustaceans, and coral reef finfish are found in the Pacific Remote Island Areas (PRIAs). However, they are not co0nsidered here since the all of PRIA islands are contained within a Marine National Monument with a 50 mile exclusion zone which prohibits commercial fishing. Some limited fishing for recreation and subsistence would be allowed and is the subject of a draft Council amendment.

Species requiring ABCs and ACLs

Table 1 provides summary of the species or species groups which are considered in this paper for the establishment of catch limits, and includes MSY estimates, the time series of available data and the percent of the species or species group caught in EEZ waters under federal jurisdiction. Estimates of the geometric means and the 75th and 95th percentiles of the catch time series are included in Table 2. Geometric means were chosen as they are less influenced extreme values in the catch time series. The catch data time series are shown in Figures 1-15 in Appendix I along with the geometric mean of the data series, and the 75th and 95th percentiles, and the MSY if available.

Table 1. Summary of data on species for consideration for ABC and ACL estimation

Species or Species Group	Number of species	Location	MSY (lbs)	Catch Data	Percent caught in EEZ waters
Deepwater shrimp	2	Hawaii	282,112	1982-2010*	82%
Deepwater shrimp	3	Marianas	1,492,000	NA*	NA
Spiny lobster	2	Hawaii	NA	1948-2010	2.3%
Spiny lobster	1	Guam	NA	2000-2008	NA
Spiny lobster	1	CNMI	NA	1981-2009	NA
Spiny lobster	1	Am. Samoa	NA	2000-2008	NA
Squid	2	Hawaii	NA	1970-2010	75%
Octopus	?	Hawaii	NA	2003-2010	1.5%
Octopus	?	Guam	NA	2000-2008	NA
Octopus	?	CNMI	NA	2000-2008	NA
Octopus	?	Am. Samoa	NA	2000-2008	NA
Opihi	1	Hawaii	NA	2003-2010	0%
Roundscad	1	Hawaii	286,000	1948-2009	19.3%
Bigeye scad	1	Hawaii	610,000	1948-2009	2.7%
Black coral	2+	Hawaii	115,269	1982-2010*	95%
Kona Crab	1	Hawaii	NA	1948-2009	70%

*Indicates confidentiality issues associated with the data

Table 2. Summary of means and 75th and 95th percentiles for species shown in Table 1

Species or Species Group	Location	Mean catch (lbs)	75th Percentile	95th Percentile
Deepwater shrimp	Hawaii	48,458	NA	NA
Deepwater shrimp	Marianas	NA	NA	NA
Spiny lobster	Hawaii	1,800	33,000	304,000
Spiny lobster	Guam	1,811	2,704	4,763
Spiny lobster	CNMI	3,000	5,000	7,000
Spiny lobster	Am. Samoa	1,185	2,327	4,577
Squid	Hawaii	4,450	8,251	14,235
Octopus	Hawaii	23,754	30,209	31,247
Octopus	Guam	3,297	3,748	4,672
Octopus	CNMI	1,722	2,276	3,823
Octopus	Am. Samoa	400	1,474	1,894
Opihi	Hawaii	11,443	14,460	24,372
Roundscad	Hawaii	257,000	310,000	394,000
Bigeye scad	Hawaii	408,000	625,000	899,000
Black coral	Hawaii	3,562	NA	NA
Kona Crab	Hawaii	14,450	27,563	39,678

SSC and Council Action

The SSC should review the data presented in this paper and take action on specifying ABCs for the species in Table 1. The Council should consider the ABCs established by the SSC and any advice on setting ACLs recommended by the SSC

The SSC and Council should consider the following when making a decision on ABCs for the species included in this paper;

- Is harvesting so limited that catch data is confidential or the catches are 1-2 orders of magnitude below the estimated MSY? This may apply to deepwater shrimp in CNMI and Hawaii, and black coral in Hawaii. In which case the SSC may wish to apply the following control rule where the ABC for species assemblages with stock assessments and/or MSY estimates is set at 0.70 FMSY (= yield 91% OFL = 91% MSY = ABC) as a precautionary measure to maximize yield while minimizing biomass impacts and accounting for scientific uncertainty. An alternative target fishing mortality value may be specified if additional data or modeling is available to support it, or the Council chooses to be more precautionary. If this approach is adopted, then the ABC for Hawaii deepwater shrimp would be 1,357,720 lbs and for Hawaii black corals would be 104,894 lbs
- In the case where a significant proportion of the stock is harvested in the EEZ waters, does the SSC want to use the average ratio of EEZ catch versus State/territorial catch to apply to the ABC, either estimated based on the MSY or some metric of the catch. This may apply to squid, roundscad and Kona crab catches in Hawaii.
- ABCs and ACLs can be multi-year and can be set for the maximum permissible period of four years under the Council's FEP amendment, unless the ACL is exceeded or a new stock assessment is conducted.
- Accountability measures for these species will be challenging. Monitoring of catches will continue by the State of Hawaii's Division of Aquatic Resources, and the WPacFIN creel surveys for the three US Territories, but in-season catch totals can be examined by NMFS to determine if any catches are likely to exceed the specified ACL. Evaluation of catches and stock status will need to be conducted by the Archipelago Plan Teams to assess if any overages would lead to overfishing of the stock. The Plan team will also need to consider the relative proportions of catches made within State/Territory and Federal waters and what State/Territory regulations may apply to a give stock. The Plan Team may then recommend to the SSC and Council what action, if any, should be taken with respect to catches in federal waters around a given archipelago.
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APPENDIX 1.Catch time series, means, percentiles and maximum sustainable yields

Figure 1. Catch time series for bigeye scad in Hawaii

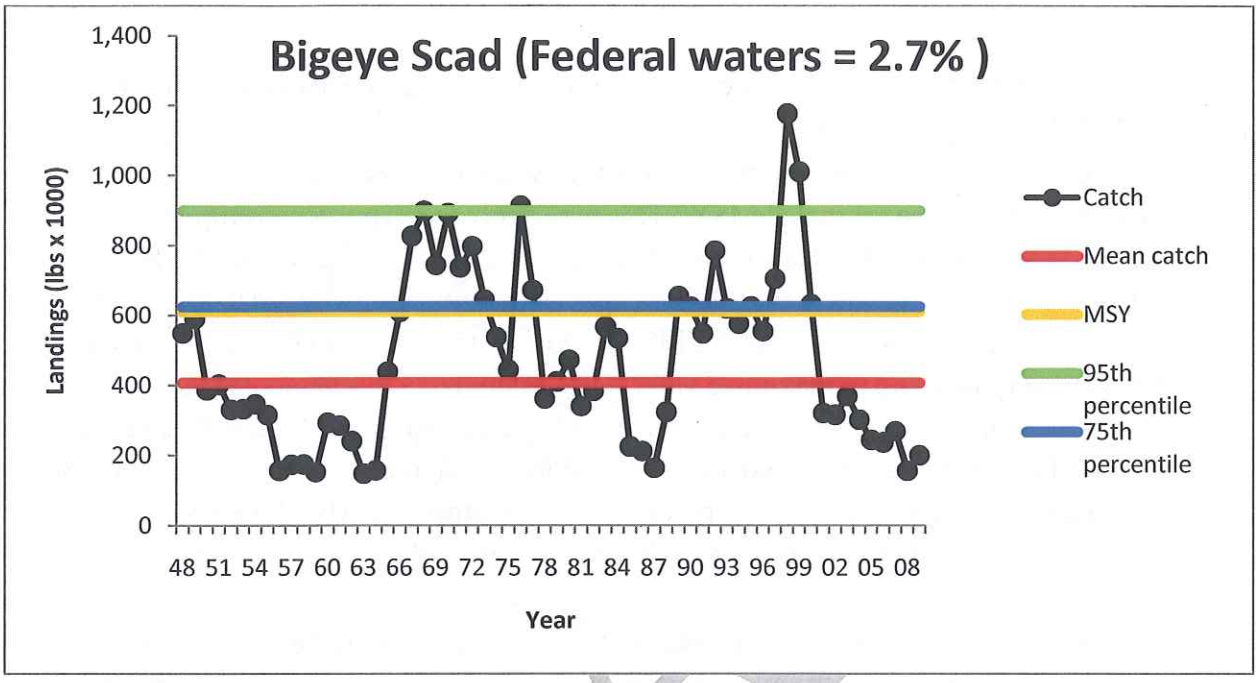

Figure 2 Catch time series for roundscad in Hawaii

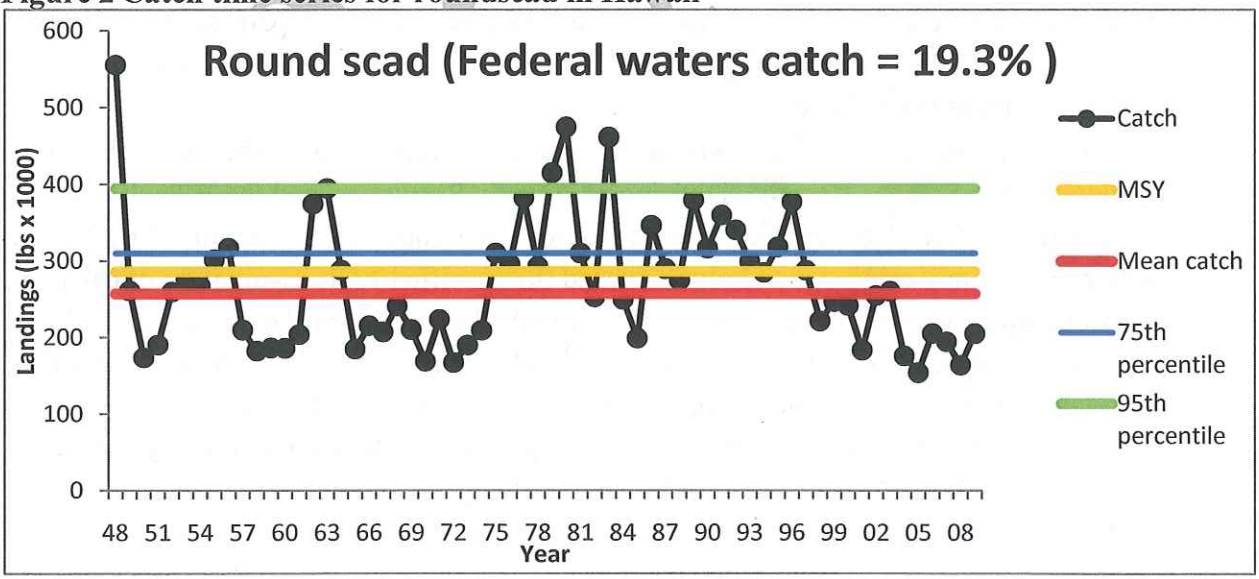

Figure 3. Catch time series for spiny lobster in Hawaii

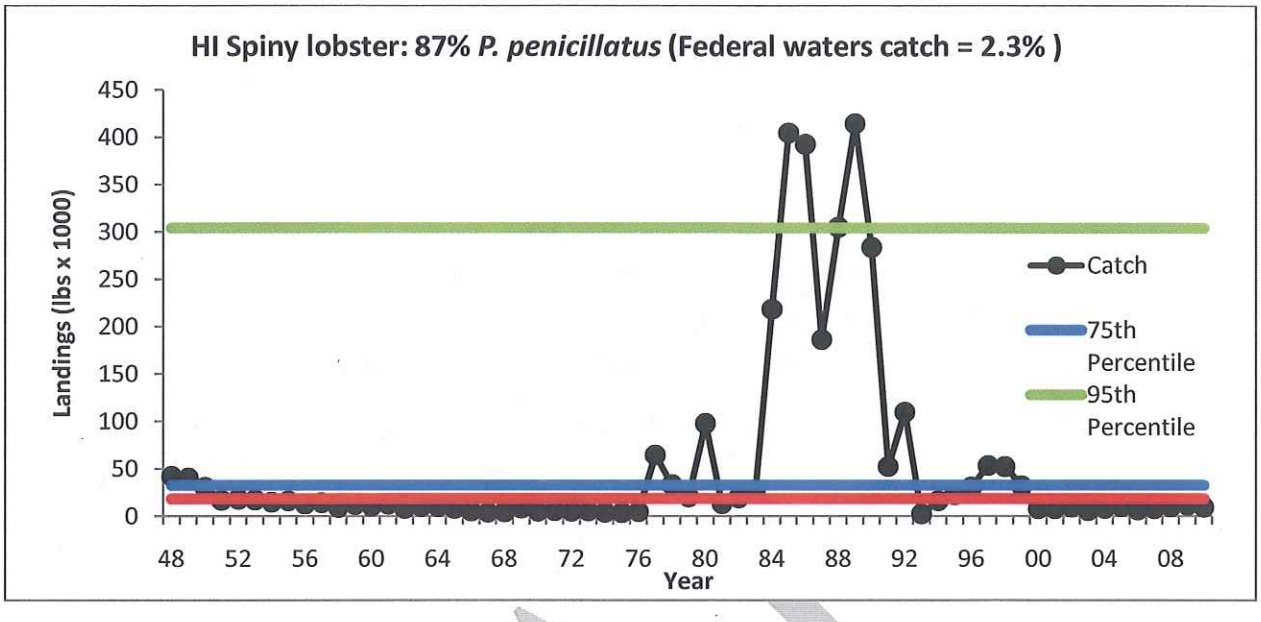

Figure 4. Catch time series for deepwater shrimps in Hawaii

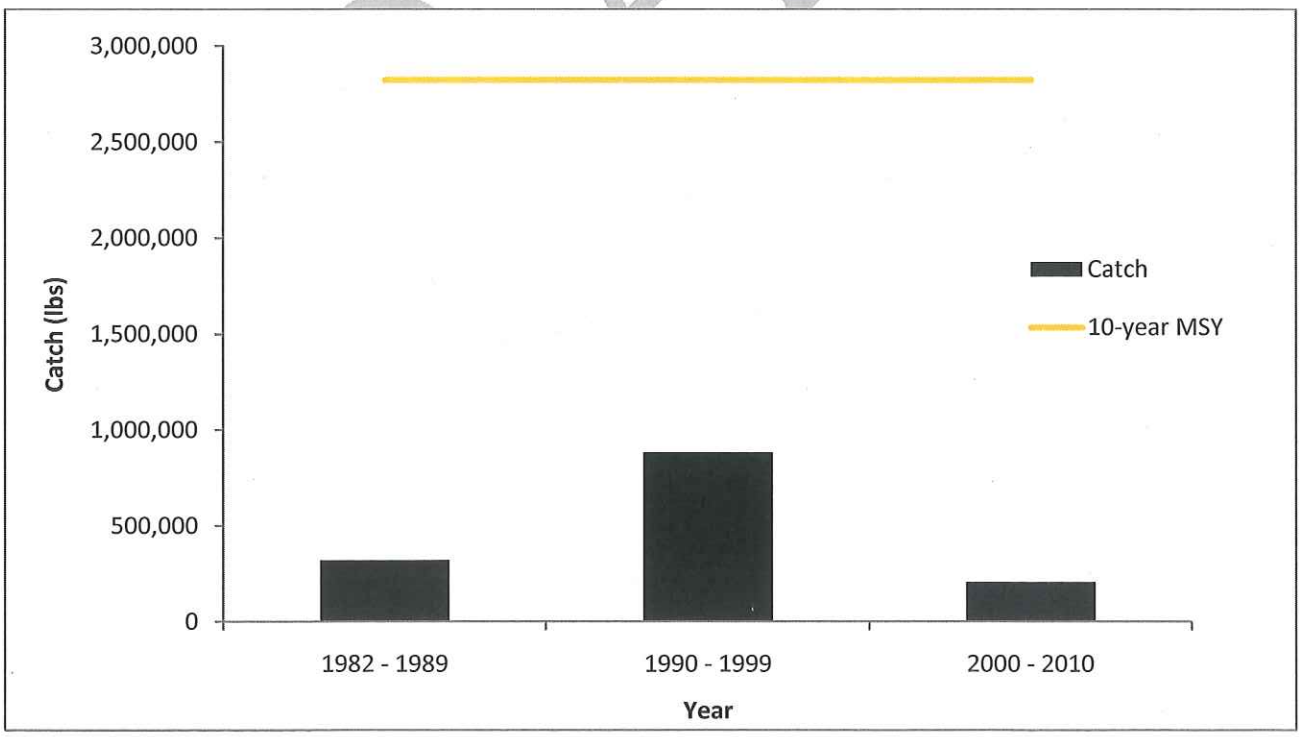

Figure 5. Catch time series for squid in Hawaii

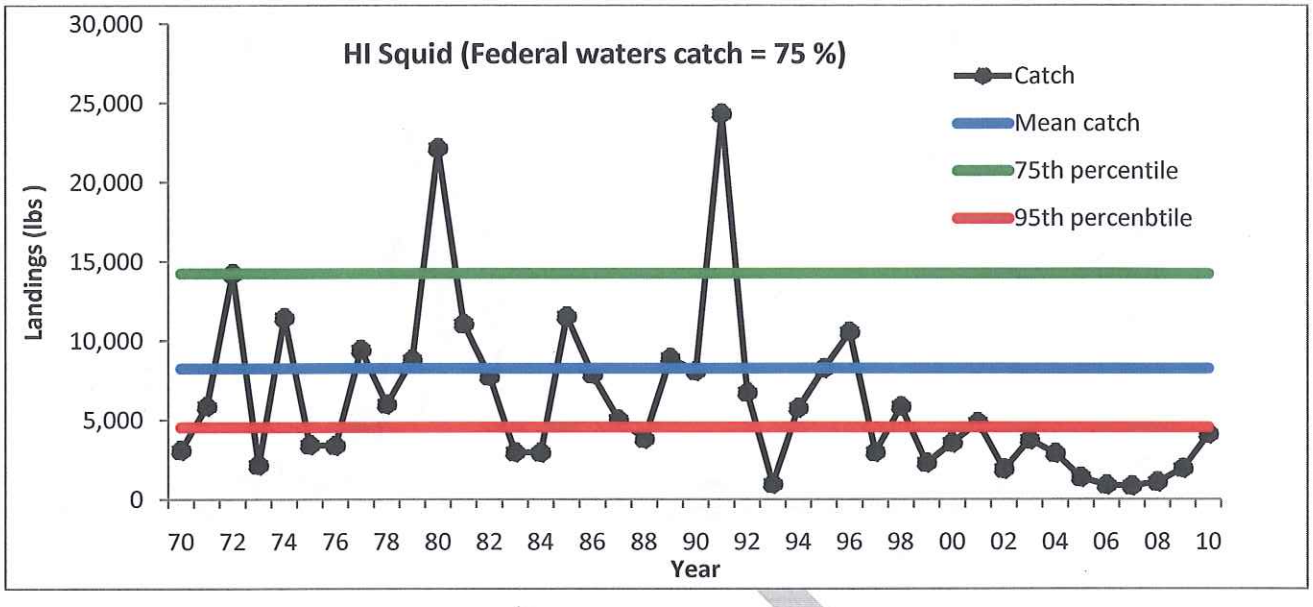

Figure 6. Catch time series for octopus in Hawaii

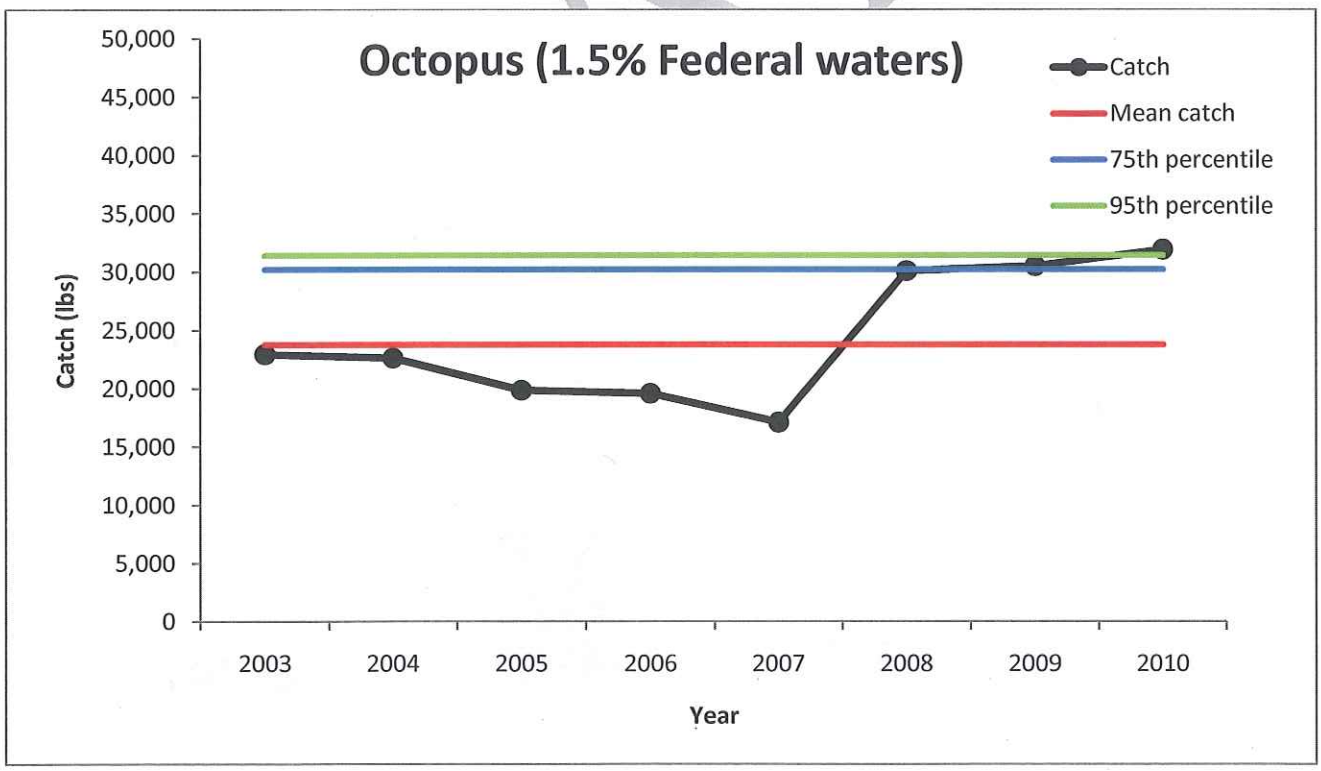

Figure 7. Catch time series of black coral in Hawaii

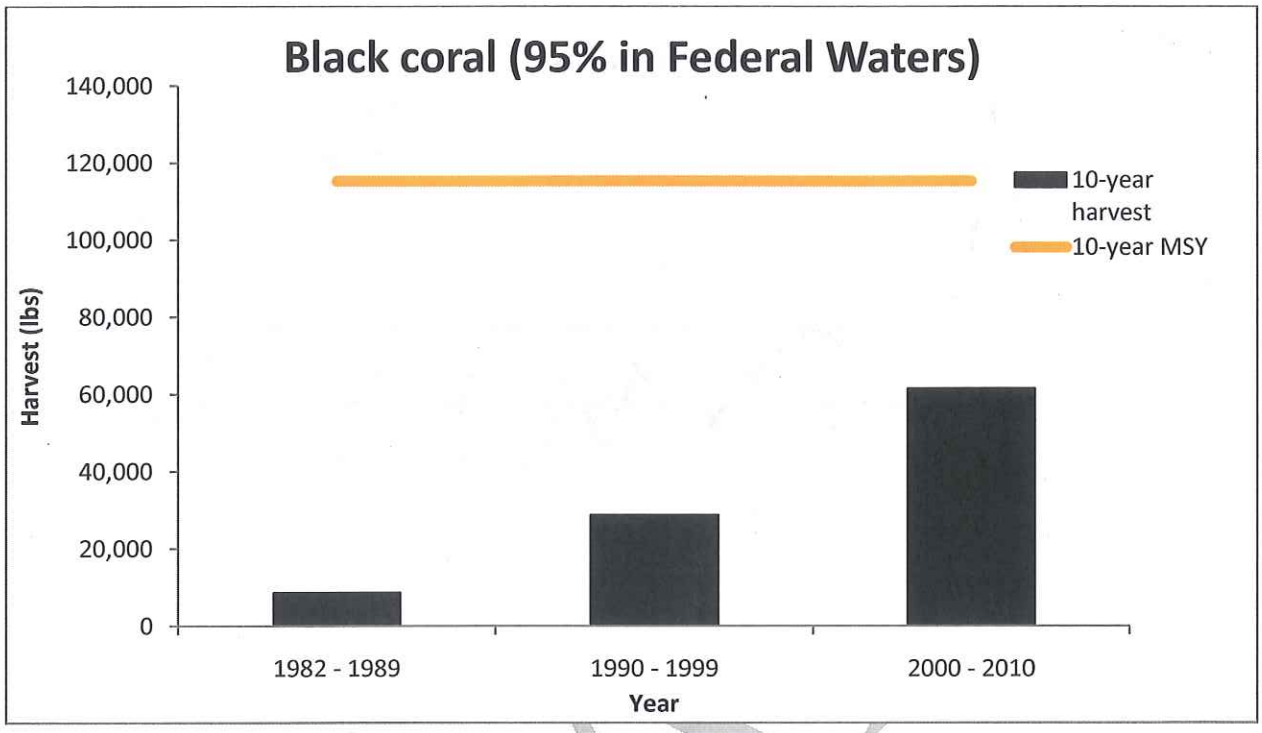

Figure 8. catch time series for 'opihi in Hawaii

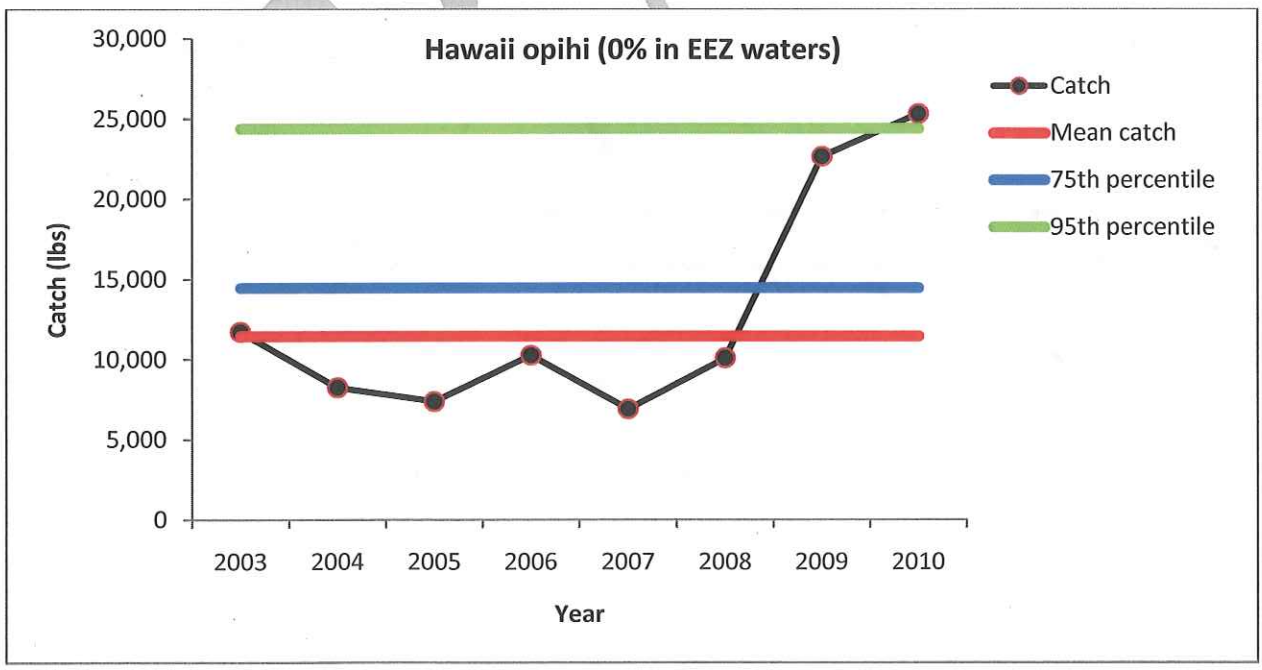

Figure 9. Catch time series of spiny lobster in CNMI

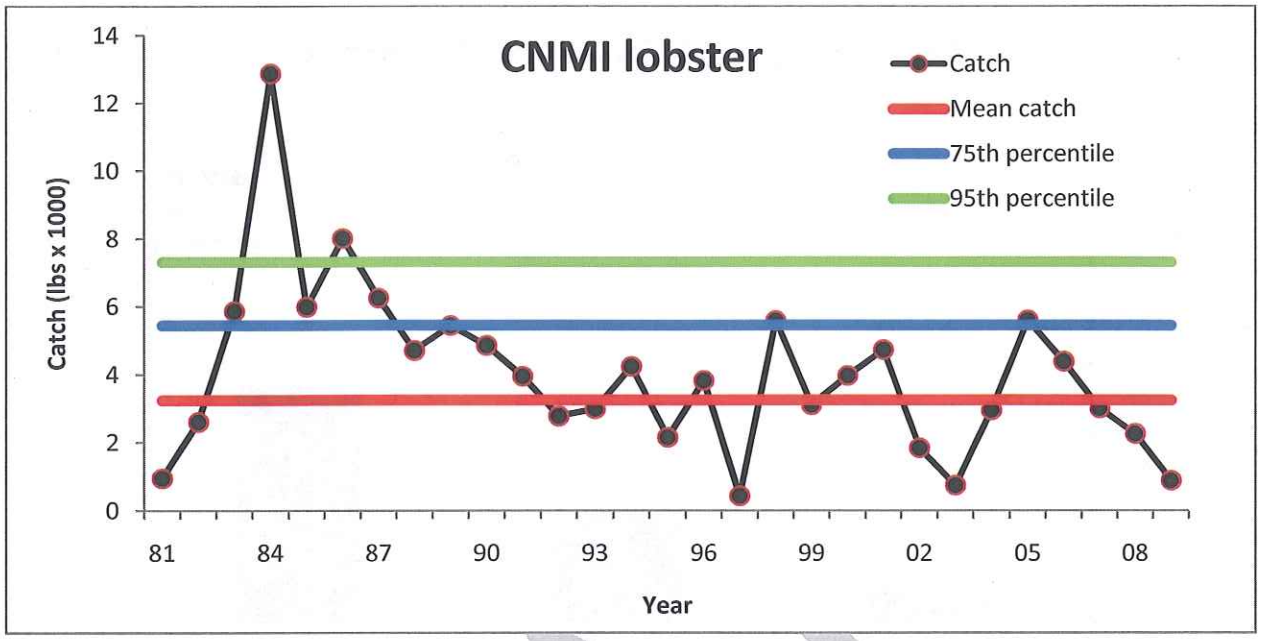

Figure 10. Catch time series for octopus in CNMI

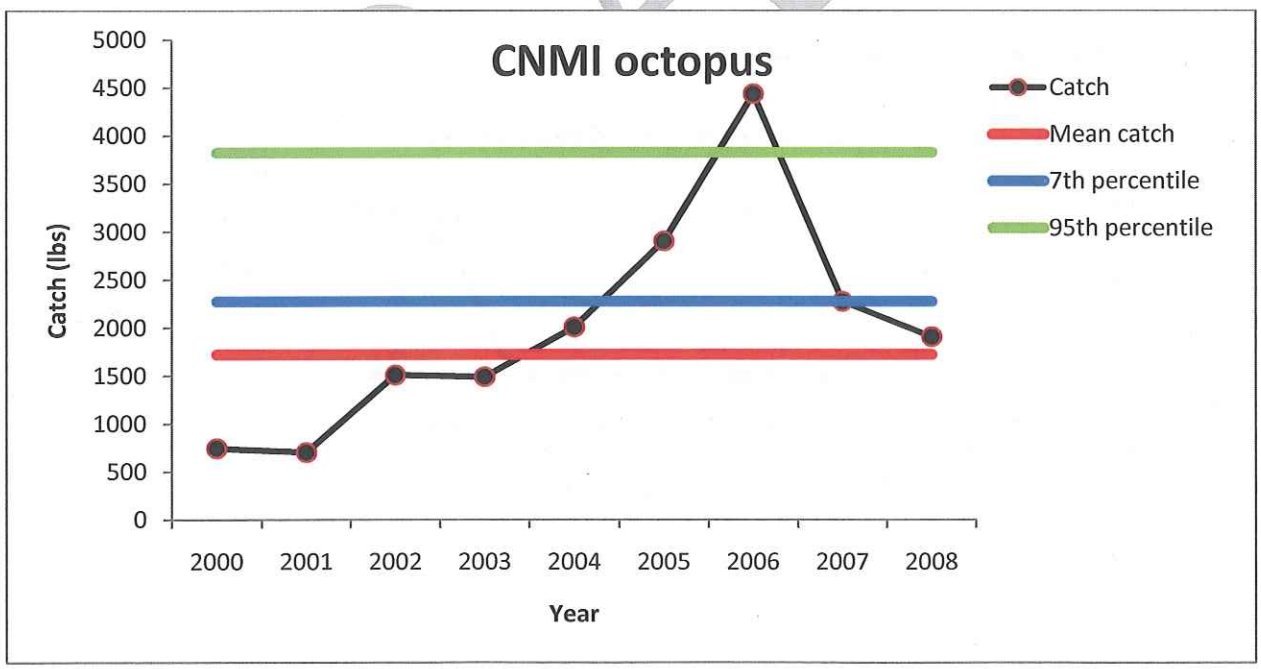

Figure 11. Catch times series for spiny lobster in Guam

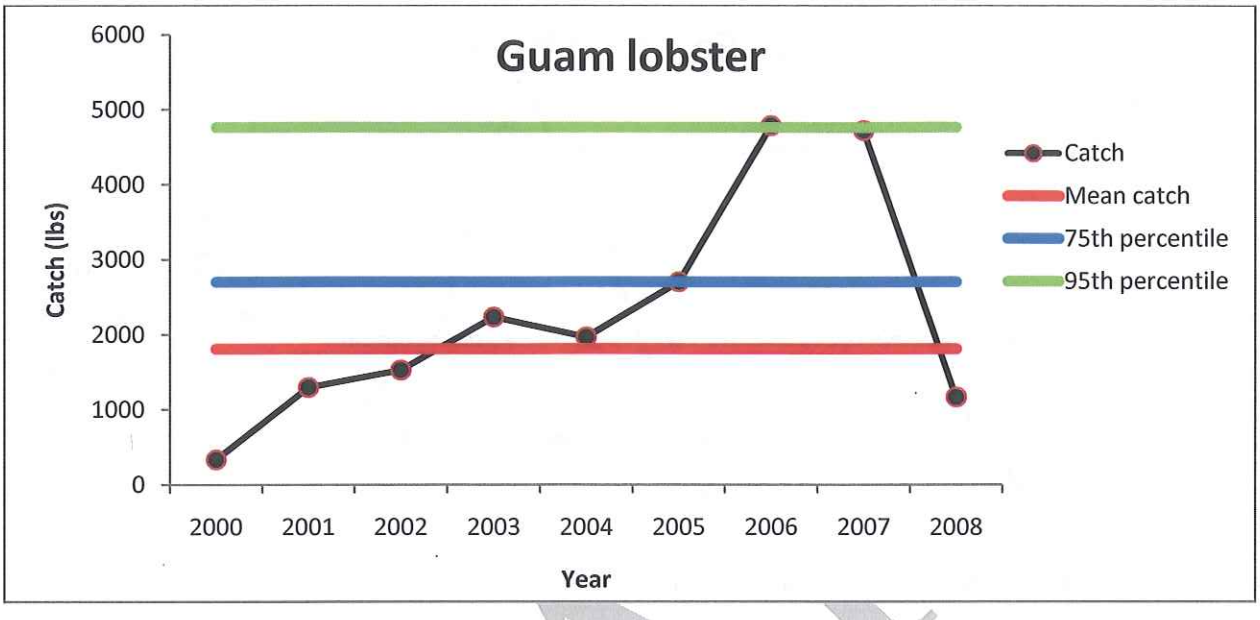

Figure 12. Catch time series for octopus in Guam

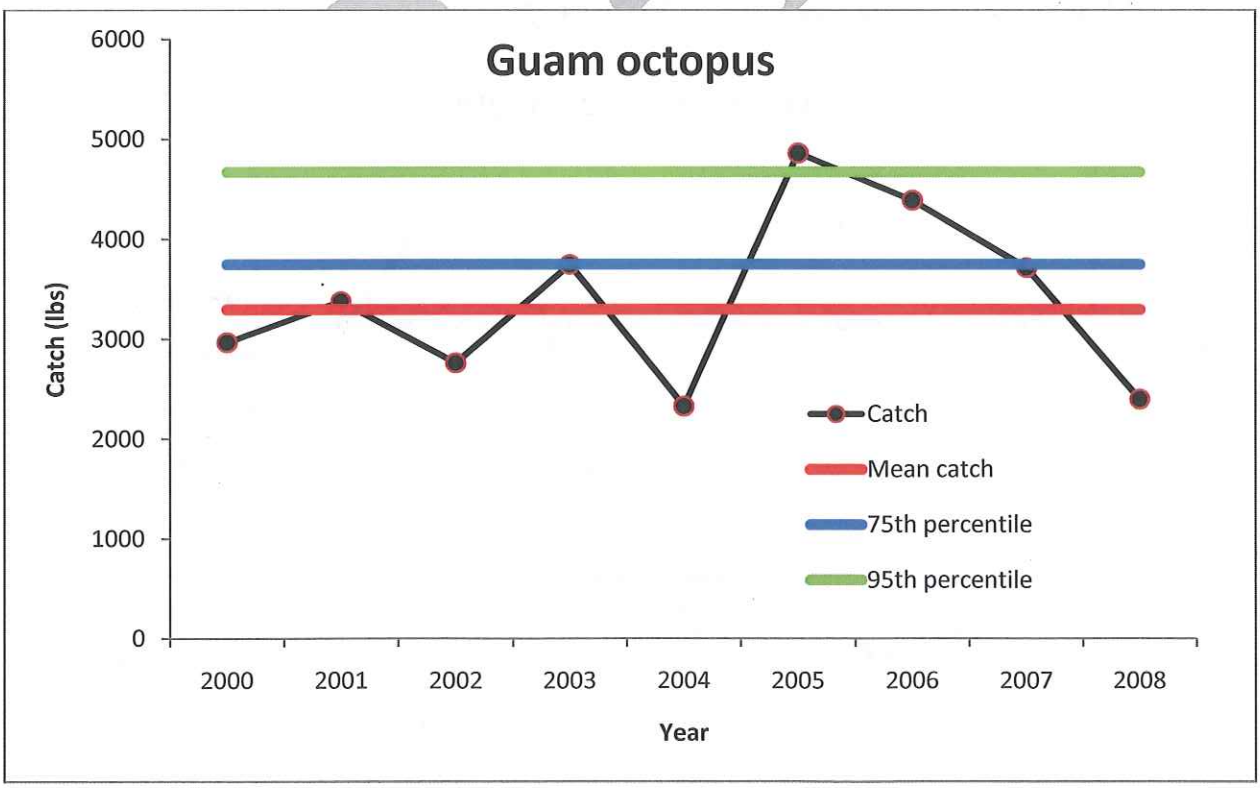

Figure 13. Catch time series for spiny lobster in American Samoa

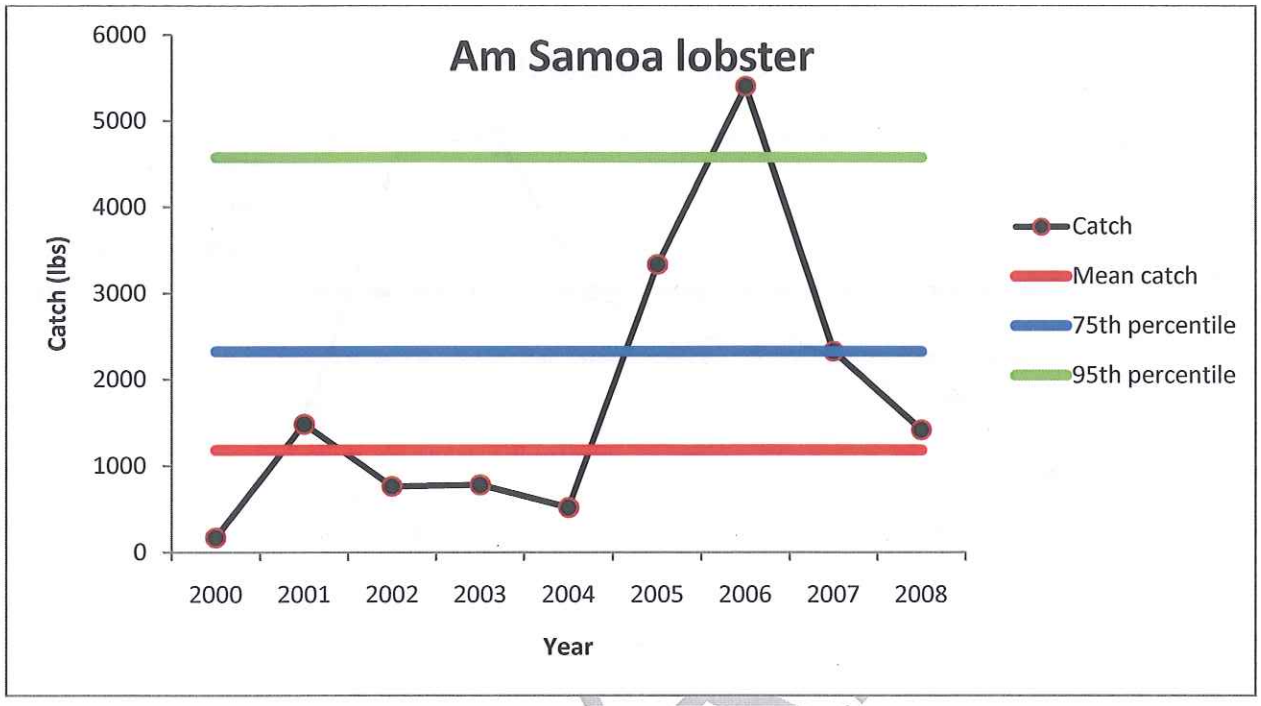

Figure 14. Catch time series for octopus in American Samoa

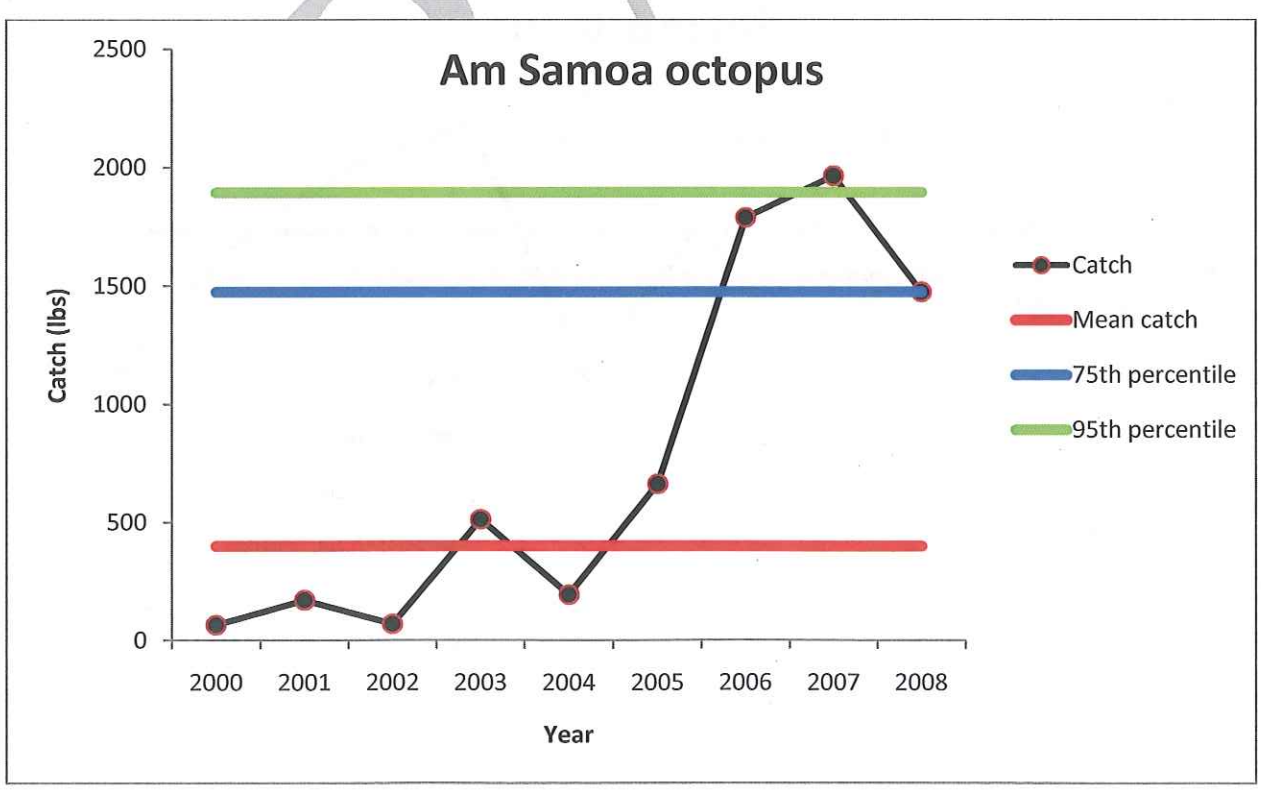

Figure 15. Catch time series for Kona Crab in Hawaii