

Keynote address:

Lines on the Ocean: Information needs for pelagic fishery management in the Western Pacific Region¹

INTRODUCTION

Good morning ladies and gentlemen, I am the Executive Director of the Western Pacific Fishery Management Council, one of eight Councils in the United States that develops policy for managing fisheries in the federal waters of the US Exclusive Economic Zone. Typically, this means we have jurisdiction of the waters from 3 nautical miles out to the edge of the EEZ, but in the Western Pacific our fisheries extend well beyond the Zone and so as a result, does our jurisdiction.

The 8 Regional Fishery Management Councils were established in 1976 by the Magnuson Act, later re-named the Magnuson-Stevens Act or MSA, and are funded by Congress. The Magnuson-Stevens Act is the primary law for conserving and managing fisheries resources in Federal waters. Prior to 1976, marine fisheries were managed by coastal states. Federal agencies resolved disputes among states and addressed foreign fishing matters. Individual states are still responsible for managing fishery resources within their state waters. The Regional Councils include fishermen and non-fishermen with knowledge of the fishery, but also have members who are officials of state and federal fisheries management agencies. The Councils are representative of a community of interests in ocean resources. Each Council provides a forum attuned to the differing needs of its own region.

The original goals of the Act were the conservation and management of U.S. fishery resources, reducing the domestic impacts of foreign fishing, and developing US-based fisheries in the economic zone. The Act has achieved its original goals; the percentage of fish harvested by foreign nations has declined from 71% in 1977 to near zero since 1992. A major expansion of US fisheries grew to fill the void left by foreign fisheries that had fished in US EEZ waters. This expansion increased concerns about impacts of fishing on marine resources in the US. That updated the 20-year law concern was reflected in the reauthorization of the law in 1996. The 1996 reauthorization placed greater emphasis now on ending overfishing, rebuilding stocks, minimizing bycatch, and protecting habitat

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necessary for spawning, feeding and growth. Our stewardship reflects those priorities as the Act and the fishery councils it created approach 30 years on the job.

At the heart of the Magnuson-Stevens Act are ten national standards that must be addressed in any fishery management plan or FMP:

- 1. Prevent overfishing while achieving Optimum Yield
- 2. Use the best scientific information available
- 3. Manage stocks as units
- 4. Fair and equitable people among the residents of different states
- 5. Encourage and promote efficiency
- 6. Take into account variations and special conditions
- 7. Balancing management costs with management benefits
- 8. Consider the impacts on communities and consumers
- 9. Minimize bycatch and mortality of other marine organisms
- 10. Promote safety of human life at sea

As well as the National Standards, fishery management plans must also address other federal statutes, including

- Endangered Species Act,
- Marine Mammal Protection Act and
- National Environmental Policy Act.

The Council takes seriously its participation as a supporter of these laws which also help protect our ocean. Up until 1991, the Magnuson Act did not include tuna among the species that could be managed by the regional fishery management Councils. The amendment of the Act for tuna inclusion greatly expanded the responsibilities of the Council. Addressing the ten national standards and other federal statutes already required a large amount of information. The inclusion of tuna greatly increased the information requirements for the Council. This led to the establishment of the Pelagic Fisheries Research Program in 1992, in response to the need for data to manage pelagic fisheries.

At that at this time Hawaii and the Western Pacific region were part of the National Marine Fisheries Service (NMFS) Southwest Region and Southwest Fisheries Science Center, and not a separate region on its own. Even though the Southwest Fisheries Science Center included pelagic fisheries within its range of research activities, it became clear that the focus of pelagic fisheries had shifted from the West Coast to Hawaii and the Western Pacific Region. As long as the NMFS Honolulu Laboratory remained a subsidiary of the Southwest region, it was unlikely to have the resources and the data the Council needed for its mission. Hence the role of the Pelagic Fisheries Research Program became even more urgent. Further, the University of Hawaii does not have a fisheries school from which new graduates can be recruited and which can conduct research required for fisheries management. Thus the Pelagics Program continues to fill a doubly important niche in our region.

THE WESTERN PACIFIC REGION

The Western Pacific Region comprises the State of Hawaii, the territories of Guam and American Samoa, the Commonwealth of the Northern Mariana Islands and a scattering of mid-Pacific islands under military control or which are wildlife refuges. Although a diverse range of fisheries operates within the Council's jurisdiction, pelagic fisheries are by far the largest in this region, and account for about 80% of the landed volume and 90 % of the landed value of fish in the Western Pacific. The two largest fisheries under Council jurisdiction include the Hawaii and American Samoa longline fisheries, while troll fisheries in all areas dominate commercial small boat landings. Troll fisheries are also an important element of recreational fisheries in the Western Pacific and account for about 90% of recreational landings in the State of Hawaii. Honolulu is ranked 8th in the US commercial fisheries ports in terms of the volume of landings, most of which comes from pelagic fisheries. Two of the world's largest tuna canneries are situated in American Samoa. Pago Pago is also the home port for the US purse seine fishery, which operates under an international treaty with the independent Pacific Island nations. Further, Guam is a major air transshipment hub for foreign longliners to send fish to markets in Japan, US and Europe.

The Western Pacific Council is the most internationally focused of the US fishery management Councils. It participates in two Regional Fishery Management Organizations (RFMOs), namely the Inter-American Tropical Tuna Commission in the Eastern Pacific Ocean (EPO) and the recently established Western & Central Pacific Fishery Commission in the western half of the Pacific Ocean. The situation in the WCPFC is complicated by the establishment of a Northern Committee, which will consider fishery management issues to the north of 20 deg N, and is concerned with species such as northern albacore, swordfish and North Pacific bluefin tuna, which are of little concern to the Pacific Island nations. However, there is overlap between the north and south over issues of mutual interest such as bigeye and blue marlin. The Northern Committee has also absorbed a forum, the Interim Scientific Committee to study the tuna and tuna-like species of the North Pacific Ocean (ISC), as its main source of scientific advice. It was once thought that the ISC (now called the International Scientific Committee) would develop into an analogous North Pacific RFMO, but with the division of the Pacific, between the WCPFC and IATTC, the role of the ISC will be as the Northern Committee's scientific advisor.

International management of pelagic fishery resources has become increasingly important and will continue to have a progressively greater role in the way the Council manages its fisheries. In the EPO, the Council is already subject to a catch quota for bigeye tuna for US longliners between 2004 and 2006. The base year for this quota was 2001, which was a year when the management of the Hawaii longline fishery was in flux due to different management measures to address turtle interactions driven by litigation. This included a two week total closure of the fishery. As a result the choice of the 2001 base year meant that the Hawaii longline fishery quota was about 100 metric tonnes lower than it would usually catch in the EPO. Frankly, the Council and NMFS dropped the ball when this quota was developed, and it has served as a wakeup call for the Council that it must be fully engaged in the international management process.

INFORMATION NEEDS

Magnuson Act and its National Standards

The MSA's National Standard 1 requires the Council to manage fisheries at Optimum Yield, where Optimum Yield is defined as Maximum Sustainable Yield (MSY) reduced by social and economic circumstances. National Standard 1 requires all FMPs to develop control rules based on MSY for species or species assemblages. Specifically, the control rules require Councils to monitor current fish biomasses relative to the biomass at MSY, and current fishing mortality relative to the fishing mortality at MSY. Where biomass and fishing mortalities are not available we have to use proxies. The only proxy we have available for most of our fisheries are crude measures fishing effort and catch per unit of effort. These proxies are far from satisfactory for pelagic fisheries, as evinced by the recent flurry of papers using catch per unit of effort as a biomass proxy, claiming 90% declines in pelagic fish biomasses in the Pacific and other oceans. These findings are at odds with results from stock assessments.

As might be expected, stock assessments of highly migratory pelagic fisheries in the Pacific have focused on the four tunas of principal economic interest, skipjack, yellowfin, bigeye and albacore tunas, along with assessments of swordfish, blue marlin and blue sharks. Until relatively recently, the Council was not overly concerned about pelagic resource issues. However, recent stock assessments are showing that the sustainable limits of tunas like yellowfin and bigeye have already been reached in the Pacific Ocean. As longline fishing continues to expand in the Pacific, the Council also needs stock assessments on other important elements in longline catches, including mahimahi, wahoo, monchong, opah, and other billfish such as striped marlin. Understanding how the stock structure of these species, and the level of exploitation thereon is of critical importance to addressing National Standards 1, 2 and 3 in the Pelagics Fishery Management Plan.

Fishing encompasses more than just concerns about managing stocks, and has a human dimension which was partially addressed by National Standards 4-7. However, one of the most significant additions to the MSA in 1996 was a new National Standard that explicitly recognized the impact that regulatory actions have on fishing communities. Following this, the Council has needed to include a broad range of social and economic analyses to address regulatory impacts on both commercial and recreational fisheries.

The Magnuson-Stevens Act is currently being reauthorized by Congress, and this is expected to be completed by the end of the year. There several new issues included in the new MSA which will require new information for Council decision making. In particular, the revised Act may include Limited Access Privileges, which are another term for Individual Transferable Quotas, which to date have not been extensively used as a management tool in the US. The implementation of Limited Access Privileges, through the new Act, will require a diverse array of new data to inform Council decision making. The new Act may also strengthen the role of the Councils' Scientific and Statistical Committees (SSC), and the volume of work that they have to conduct in behalf of Councils, and including stipends to compensate non-federal and non state employees for their time. These and other changes to the Act will offer new opportunities for research projects to be supported by the Pelagic Fisheries Research Program.

Other relevant statutes

The National Environmental Policy Act

The National Environmental Policy Act (NEPA) is the foundation of modern American environmental protection in the United States and its commonwealths, territories, and possessions. NEPA requires that Federal agency decision makers, in carrying out their duties, use all practicable means to create and maintain conditions under which people and nature can exist in productive harmony and fulfill the social, economic, and other needs of present and future generations of Americans. NEPA provides a mandate and a framework for Federal agencies to consider all reasonably foreseeable environmental effects of their proposed actions and to involve and inform the public in the decision making process. This Act also established the Council on Environmental Quality (CEQ) in the Executive Office of the President to formulate and recommend national policies which ensure that the programs of the Federal government promote improvement of the quality of the environment. It is this Administrations policy that NEPA does not apply beyond the EEZ.

The CEQ set forth regulations to assist Federal agencies in implementing NEPA during the planning phases of any federal action. These regulations together with specific Federal agency NEPA implementation procedures help to ensure that the environmental impacts of any proposed decisions are fully considered and that appropriate steps are taken to mitigate potential environmental impacts. Federal agencies are encouraged to apply the NEPA process at the earliest possible time in order to ensure consideration of potential or actual environmental impacts. As specified in NEPA, a systematic and interdisciplinary approach, including consideration of the natural and social sciences, should be utilized in planning, evaluation, and decision making. However, NEPA has been used to shut down fisheries and other federally mandated resource extraction activities.

The Marine Mammal Protection Act

The Marine Mammal Protection Act was established in 1972 to protect marine mammals by prohibiting take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States. primary authority for implementing the act belongs to the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS). The animals managed under the MMPA by NMFS include whales, porpoises, seals, and sea lions. The agency may issue permits to persons, including federal agencies that authorize the taking or importing of specific species of marine mammals. NMFS conducts regular stock assessments of marine mammals under its jurisdiction, against which takes by fisheries are evaluated. NMFS publishes an annual list of fisheries in which the various fisheries in the US are listed in terms of their threats to marine mammals.

The Endangered Species Act

The ESA provides for the conservation of species that are endangered or threatened with extinction throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. "Species" is defined in the ESA as including a species, a subspecies, or, for vertebrates only, a distinct population segment (DPS). There are currently 1,855 listings (endangered and threatened) under the ESA, and 1,290 U.S. listings. NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) share responsibility for implementing the ESA. Generally, USFWS manages land and freshwater species, while NOAA Fisheries manages marine species, including anadromous salmon (ocean species that return to rivers to spawn). NOAA Fisheries has jurisdiction over 61 listed species, which includes marine turtles . A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future.

Executive Order 12866 and Regulatory Flexibility Act

Executive Order 12866 (E.O. 12866) requires that a Regulatory Impact Review be prepared for all regulatory actions that are of public interest. This review provides an overview of the problem, policy objectives, and anticipated impacts of the 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.

The Regulatory Flexibility Act (RFA) requires that agencies assess and present the impacts of their proposed actions on small business entities.

In summary, EO 12866 requires an analysis of the benefits to the nations from any federal action, while the RFA requires a more focused analysis on small businesses from federal actions. Small businesses are defined as entities with a gross value of \$3 million, which means that most fishing vessels and fishing businesses in the Western Pacific meet this definition. Both the EO and RFA analyses require a wide array of social and economic data, and this is probably the one area where currently there is the greatest data deficit for the Western Pacific Council.

ISSUES

The foregoing is not an exhaustive list but indicates the primary data needs of the Council for fishery management. Let me touch upon some areas where the Pelagic Fisheries Research Program can provide the Council with information to fill these data needs

Fishery impacts on protected species

Until recently the Council's primary management actions for pelagic fisheries were concerned with limiting impacts on protected species, especially sea turtles and seabirds such as albatross. In the absence of information on population dynamics of protected species and the scale of impacts by fisheries, there appears to be a tendency of environmental organizations and even sections of NMFS to assume the worst, and try either to shut fisheries down or to severely constrain them. The MMPA, ESA and even the Migratory Bird Treaty Act (MBTA) have been used in attempts to close the Hawaii-based longline fishery, though interactions with turtles, marine mammals such as pilot and false killer whales and albatrosses.

Not surprisingly, a major growth area within the PFRP is projects dealing with protected species. These currently include population dynamics modeling for protected species, population dynamics and trophic biology of Laysan and black-footed albatrosses, populations dynamics and fishery interactions of sea turtles, and testing of bait and gear modifications for reducing interactions of sea turtles with longline fishing gear. Allied to this are investigations such as investigating the characteristics of longline fisheries with respect to the incidental catch of non-target fish species and sea turtles, spatial modeling of the tradeoff between sea turtle take reduction and economic returns to the Hawaii longline fishery and modeling longline effort dynamics and protected species interactions.

The Council continues to need information on a diverse array of protected species issues in order to make informed management decisions. One of the major problems with managing protected species under ESA, for example, is the disconnect between how the act is applied to manage protected species and their underlying population dynamics. For example, there are no assessments are available for sea turtle populations in the Pacific, although several simulation modeling exercises have been conducted on all the turtle species which interact with the Hawaii longline fishery. Consequently, it is difficult to assess the level of mortality from human actions or indeed the effectiveness of conservation efforts relative to absolute populations and their demographics. Impacts on turtle populations are more or less evaluated based on abundance of nesting females at known nesting sites, which, even in a recovering population may exhibit large interannual fluctuations.

Moreover, by and large, discrete population segments have not been determined for Pacific turtles, or indeed for turtle populations in separate oceans. Thus while a discrete population may recover, as indeed is the case with the green turtle populations, the species will remain listed on the ESA while all populations of this species continue to be bundled together. As a consequence, the recovery of the green sea turtles in Hawaii will not presently result in this population segment being de-listed under the ESA. This has management consequences above and beyond fishery interactions, since the Council is exploring the potential for limited takes of green sea turtles for indigenous cultural purposes.

Similar population uncertainties are evident with marine mammals such as the small toothed whales which interact with the Hawaii longline fishery. The Hawaii longline fishery is currently classified as Category I, or the most elevated threat category under the MMPA list of fisheries, despite marine mammal interactions being among the lowest for all protected species encountered by this fishery. This is due to a small reproductively isolated population of false killer whales around the Hawaiian Islands, which has a very small take or potential biological removal (PBR). Takes of false killer whales in the US Exclusive Economic Zone around Hawaii are evaluated against this small population, but there it is unclear whether this population does indeed interact with the Hawaii fishery.

Fishery impacts on stocks and management of pelagic fisheries

Until recently, stock assessment for tunas and other pelagic species have tended to be relatively optimistic. However, over the past five years, the impacts of expanding purse seine and longline fisheries are now being felt on the larger tunas, namely bigeye and yellowfin, and potentially on North Pacific albacore in the future. Moreover, catches of blue marlins across the Pacific appear to at or slightly beyond MSY. Clearly, we appear to be reaching the limits of the productivity of some our Pacific pelagic stocks. These limits create a range of issues with which the Council must deal.

Like other Councils, the Council has control rules for overfishing implemented through National Standard 1. According to our NS1 rule, bigeye and yellowfin tuna are now being subjected to a level of fishing which exceeds one of the control rule trigger points, i.e. the fishing mortality which generates MSY. As a consequence, the Council has to take action to end overfishing of yellowfin and bigeye within one year despite being a small fraction of the entire harvest of bigeye and yellowfin in the Pacific. Further, the Council, though located in the Western and Central Pacific, has fisheries which fish in both the Western and Eastern Pacific and are thus subjected to fishery regulations from two regional fishery management organizations (RFMOs). The Council needs data inputs for managing domestic fisheries under its jurisdiction, and to propose fishery management initiatives to be advanced by US delegations to RFMOs, namely the Western & Central Pacific Fishery Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC).

With domestic fisheries, the Council must focus on fisheries which take substantial quantities of bigeye and yellowfin tuna, as these fisheries may be affected by regulations stemming from RFMOs. For example, fishermen in Hawaii are deploying extensive numbers of private Fish Aggregating Devices (PFADs) and in both Guam and Hawaii adapting longline gear to circumvent rules on longline fishing, by deploying "shortlines" or lines less than 1 nautical mile in length. Further, these shortlines can be used to target either bigeye and seamount monchong in Hawaii and sharks in Guam, which may lead to resource sustainability issues with respect to the latter two target species.

The advent of the private FAD fishery has also re-ignited the fishery interaction issue between handline/troll vessels and longliners that has lain dormant since the early 1990s. Some vessels in the PFAD fishery operate over 25 miles from shore and within the domain of longline vessels fishing close to shore during a winter reduction of the longline exclusion zone around Hawaii. Other fisheries developments in Guam and the neighboring Northern Mariana Islands include conventional longline fishing. However, expansion of longline fishing in other parts needs to be carefully considered, given the over-exploitation of bigeye and yellowfin. Moreover, other Pacific Island nations are also considering expanding their pelagic fisheries, and the WCPFC convention requires that special consideration be given to the aspirations of the Pacific Islands, which will add further complications to fishery conservation.

In addition to information for fishery conservation, the Council also needs more stock assessments. The Pelagics FMP includes more than 30 species, for which there are currently stock assessments for seven. Several of the important species for which stock assessments are not yet available include widely distributed and commonly caught pelagic fishes such as mahimahi, wahoo, pomfrets (monchong), moonfish (opah). A recent Council SSC meeting recommended that stock assessments be should indeed be conducted on species such as monchong, wahoo and mahimahi. Further, the SSC noted that ECOSIM modeling suggests that decreases of the biomass of large predators may lead to an increase in smaller predators such as skipjack, and possibly mahimahi and wahoo.

It is unlikely that we will ever forecast with 100 percent certainty the effects on the pelagic ecosystem from fishing. But we need to explore various scenarios and assess the risk from different policy options. We are beginning to understand how the large scale ocean processes have an effect on the abundance, catchability and recruitment of pelagic fish species. In the South Pacific, albacore catch rates seem to be greatly influenced by the strength and movement of the South Equatorial Counter Current. We know that El Niño events influence surface skipjack and yellowfin abundance over the Pacific and may affect yellowfin and albacore recruitment. Similarly, the strength and movement of the frontal system in the North Pacific, where cool temperate waters meet warm subtropical waters, influences swordfish catchability and the movement of loggerhead turtles. Fishery managers need to have at their disposal models which integrate stock assessments and factors influencing the physical environment.

Lines on the ocean: allocation

I'm indebted to my staff for the following history lesson. People have been drawing imaginary lines on the Pacific Ocean since it first began to be extensively navigated by the ancestors of the Southeast Asian and Pacific Island cultures. Maps, commonly known as "stick charts," were originally used by Micronesian navigators on long ocean voyages. One example from the Marshall Islands consisted of a grid-like structure of seven vertical sticks lashed to four horizontal ones. The intersections by the slanting stick and small cowrie shells indicate the locations of specific islands. Besides navigating the oceans, the

ancestors of the Pacific Islands also developed tenure systems for ocean resources, primarily in the near shore coastal ecosystems, such as the ahupu'a systems in Hawaii which recognized the continuum of linkages between the land and sea and the need for managing these collectively. It is not too extravagant to assert that the ancient Hawaiians used an ecosystem approach to management, nor that they also were ecological modelers, using conceptual rather than numerical techniques to develop conclusions.

Further lines on the ocean were drawn by Europeans during the advent of exploration and expansion in the later 15th century. One of the first major divisions occurred in 1493 when Pope Alexander VI formally approved the division of the unexplored world between Spain and Portugal, through the Treaty of Tordesillas, which Spain and Portugal signed one year later. Through the 18th, 19th and 20th centuries, various imperial and colonial administrations divided up the various archipelagos in the Pacific, describing more lines on the ocean in terms of boundaries, in some cases separating clearly related peoples such as dividing the islands of Samoa, or separating the people of Bougainville from the rest of the Solomon Islands. In some cases the colonial administrations recognized indigenous marine tenure systems and boundaries, such as in Fiji and embedded them in national statutes, or blithely ignored them, as in Papua New Guinea, leading in turn to a series of interminable disputes over fishing royalty payments by tuna pole and line boats in the 1970s and 80s.

The development of the United Nations Convention on the Law of the Sea (UNCLOS) led to the implementation globally of the concept of 200 nautical mile Exclusive Economic Zones (EEZs). This drew further lines on the world's ocean including the Pacific, where the extensive archipelagos of islands create a mosaic of national jurisdictions, intersected by areas of open ocean. The line drawing continues. As I mentioned earlier, the Pacific has now been divided up between two Regional Fishery Management Organizations, namely the Inter-American Tropical Tuna Commission (IATTC) in the Eastern Pacific Ocean (EPO) and the recently established Western & Central Pacific Fishery Commission in the western half of the Pacific Ocean (WCPFC). The main line of demarcation between these two RFMOs lies at 150 deg W, but makes a dog leg at 130 deg W to incorporate all of French Polynesia (which bisects the Pitcairn EEZ).

Within the WCPFC area of competence, imposed on the EEZs and open ocean are the boundaries of a treaty between the USA and the independent Pacific Islands nations, to allow access of US purse seiners to their EEZ waters. Within the EEZs there are further lines of demarcation under the treaty which place archipelagic waters off limits to the purse seiners to protect local fisheries. The US also has similar zones within the EEZs of US Flag Pacific Islands to allocate and separate various fisheries, and in some cases to protect marine mammals, seabirds and turtles. Hawaii and Guam have 50-75 nautical mile longline exclusion zones while American Samoa has a 50 mile exclusion zone for all pelagic fishing vessels > 50ft in length. These measures were implemented by the Western Pacific Council to provide allocations, either for large and small scale longliners in the case of American Samoa, or for longliners and troll/handline fisheries in Hawaii and Guam.

Allocation continues to be an issue for this Council. There are persistent requests for further area closures or modifications to existing closures in Hawaii and American Samoa. Besides these domestic allocation issues, this Council is also keenly interested in how the fishery resources will be allocated within the areas of competence of the two Pacific RFMOs. The Council is in the process of amending its Pelagics FMP to incorporate a generic protocol for developing and transmitting fishery management proposals to the Pacific RFMOs, including allocation. As in other management measures, the Council will need data for modeling and other methods to inform its decision making. On top of information on fish stocks and fisheries, we will also need social, economic and political models to develop management proposals which can be advanced by US delegations to the RFMOs.

Allocation, above all, will be one of the primary issues for the IATTC and WCPFC. It should also be noted that there are differing perspectives about how far the competence of the WCPFC extends, with Pacific Islands members advancing the notion that any measures should apply primarily on the high seas and not within the EEZ waters under national jurisdiction. This difference of perspective will lead to interesting discussions within this new RFMO, particularly on how to place clearly needed limits on fishing mortality for tunas such as yellowfin and bigeye tuna. Regardless of how the new RFMO develops, the Western Pacific Council will continue to need a diverse array of timely data and information on which to base its decisions. I hope my talk this morning has illustrated the complexities with which the Council must deal and provided some inspiration on future projects in which the Pelagic Fisheries Research Program can assist the Council. Thank you!