

[PANEL DISCUSSION.] Optimum use scenarios

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INTRODUCTION

The charge to the members of this panel is for each to provide a personal view of how the resources of the Northwestern Hawaiian Islands (NWHI) can be best utilized. It should be emphasized that the viewpoints expressed in my presentation are strictly my own and do not represent those of the National Marine Fisheries Service (NMFS).

I am pleased that the discussion is organized around the concept of an optimal use strategy rather than that of advocacy positions. The former provides a more positive outlook, whereas the latter suggests a process of tearing down the opposition to make a point.

It is difficult to develop an acceptable optimal use scenario since there are many and varied interest groups to consider, and the scenario should consider the merits of consumptive and nonconsumptive resources. The interest groups include the military, commercial and recreational fishing interests, conservationists, preservationists, and the public-at-large. On the one hand the commercial interests would argue that the resources should be made accessible to provide food. They would make a further point that developing a fishery in the Northwestern Hawaiian Islands will expand Hawaii's economic base and reduce the state's reliance on imported fishery products. On the other hand, conservationists are concerned about the nonconsumptive resources and would like to see these resources maintained at optimum population levels. Of special concern are the Hawaiian monk seal and green sea turtle. Discounting the extremists, most people would like to see both objectives achieved, that is, to utilize as much of the fishery resources of the region without adversely affecting the nonconsumptive resources.

PROPOSED SCENARIO

The optimal use scenario I propose is (1) to develop Midway Islands as a major U.S. fishing base in the central North Pacific; (2) to refrain from developing all the other emerged lands of the Northwestern Hawaiian Islands, that is, allow no

fishing bases or human habitation; (3) to encourage the utilization of the deep-water fishery resources, including the snappers, groupers, tunas, lobsters, and shrimp; and (4) to approach the utilization of the nearshore resources cautiously. Caution is needed to evaluate nonconsumptive resources, e.g., seabirds, Hawaiian monk seals, and green sea turtles.

The optimal use scenario I propose is based upon an assessment of the present fish marketing structure, a projection of what might happen if a number of assumptions I make are correct, and finally on a review of fishery development in the context of the nature and size of the resources in the Northwestern Hawaiian Islands.

At present, there is a limited market in Hawaii for fresh fish, especially the higher-priced snappers and groupers. If one were to discount the restaurant trade, I would guess that the consumers of fresh fish would form a pocket market. By this I mean that the demand for fresh bottomfish is not widespread. Although one could presumably overcome the marketing problem by education and promotion, a more critical problem is that of the relatively short shelf life of these species. Shelf life is of economic concern to the producers, that is, the fishermen, the dealer, and the consumer. It has been reported that the shelf life of bottomfish is about 12 days. When one considers the relatively great distance between the Northwestern Hawaiian Islands and the population centers in the state, and that the population in Hawaii is scattered over several islands, the short shelf life represents a critical problem in developing the fishery.

Within the size limits of the fishery resources in the NWHI, the growth of the fishery, in my opinion, will be dependent upon the expansion of the frozen-fish market. The expansion certainly will be dependent upon whether fish from the NWHI can be harvested and sold as frozen products at prices that are competitive with those of imported frozen-fish products. I should note that considerable advances have been made in recent years in handling and freezing fish. For example, if one agrees that the Japanese are connoisseurs of fresh fish, and a hundred million Japanese can't be wrong, then the fact that the bulk of the fish that is consumed as sashimi in Japan is landed as frozen tuna clearly demonstrates the potential for freezing fish in Hawaii.

If my premise is correct that at present there is a limited market for fresh fish in Hawaii and that the future expansion of the fishing industry to the Northwestern Hawaiian Islands depends on the development of a market for frozen fish, then the need for fishing bases in the NWHI takes on a new perspective.

Weather considerations and the lack of safe anchorages in the Northwestern Hawaiian Islands will generally restrict fishing in the area to larger vessels. Although I have not worked out the economics, I would guess that a vessel which would be capable

of bottomfishing in the NWHI would probably be equipped with freezing facilities. Rather than having the catch trans-shipped from a fishing base in the NWHI, it would more likely land the catch at a port in the main islands.

Given my comments on why I do not envision a fishing base in the lower reaches of the Northwestern Hawaiian Islands, I would now like to review the resources and indicate why I feel that a fishing base at Midway Islands would be advantageous in the development of fisheries for tunas, squids, seamount resources, precious coral, spiny lobster, shrimp, deep-water fishes, and nearshore fishes.

TUNAS

For tunas we have an albacore fishery located north of the Hawaiian Archipelago at about 30°N latitude and higher. The albacore is a highly prized species with an estimated fishable stock of about 100,000 tons in the North Pacific. The U.S. catch in recent years has been in the neighborhood of 10,000 to 20,000 tons. Of this U.S. total, approximately 2,000 tons has been taken in recent years from the area north of Midway Islands. The U.S. boats in the fishery are small troll or jig boats with carrying capacities of about 30 to 60 tons. The catch is frozen on board the ship. Because of its limited capacity these albacore boats generally have to return to port several times during the fishing seasons to discharge their catch, refuel, and resupply.

In 1979, Castle and Cooke provided a mothership which operated out of Midway Islands. With a mothership, the albacore boats were able to discharge their catch at Midway Islands and obtain fuel and supplies without traversing great distances. During other years the boats had to go to Dutch Harbor (Alaska) or to Honolulu to land the catch, refuel, and resupply. Thus one can see the advantages of having a base at Midway Islands.

Based on Japanese pole-and-line fishing records, the center of skipjack tuna abundance appears to be around latitude 20°N. Skipjack tuna are also caught in the immediate vicinity of the Northwestern Hawaiian Islands. In considering the development of a Hawaii-based pole-and-line fishery to harvest this species, baitfish is a major problem. I will not go into further details of the skipjack tuna resource or discuss the yellowfin tuna resource, other than to note that purse seining is becoming the principal method of fishing for both in the central and western Pacific. It has been suggested that small purse seiners probably could operate economically in the NWHI. Thus, the albacore fishery and to a limited extent a small vessel purse seine fishery for skipjack and yellowfin tunas could make use of a base at Midway Islands.

SQUID

In recent years, fishermen from Japan as well as Taiwan have developed a fishery for squid in the higher latitudes of the central North Pacific. The squid are taken with jigging machines or gill nets. My only comment here is that a potential for a U.S. squid fishery exists in the area north of the Northwestern Hawaiian Islands. Midway Islands could serve a squid fishery in the same way it would the tuna fisheries.

SEAMOUNT RESOURCES

The seamount resources are principally armorhead and alfonsin which are taken on a number of seamounts in the central North Pacific. In recent years the Japanese have been trawling for armorhead and alfonsin in the Hancock Seamounts area. The annual catch has been less than the U.S. allocation of 1,000 tons. Similar to the squid fishery, there is a potential for the development of a U.S. fishery for armorhead and alfonsin. A base at Midway Islands would prove invaluable, especially if smaller vessels are utilized.

PRECIOUS CORAL

Several years ago foreign fishermen fishing illegally within the Hancock Seamounts area discovered new beds of precious coral in deep waters (1,000 to 1,500 m). Information on the extent of this resource is not available. Again, the precious coral represents another fishery that could be developed by U.S. interests using small fishing vessels.

SPINY LOBSTERS

At present, the spiny lobsters from the Northwestern Hawaiian Islands are being marketed live and as frozen tails. Should the market for live lobsters increase greatly, a fishing base at Tern Island could be valuable. However, if development of the frozen tail market is greater, then the need for a base at Tern Island or Midway Islands would be minimal.

SHRIMPS

Considering the very short shelf life of fresh shrimp, development of a fishery in the Northwestern Hawaiian Islands would be based on the marketing of a frozen product. A shrimp fishery, if it develops, would be capable of operating independently from a base at Tern Island or Midway Islands.

DEEP-WATER FISHES

My views of the market for the deeper-water snappers and groupers have already been presented.

NEARSHORE FISH RESOURCES

While the species composition of the nearshore fauna is different from that of the deeper-water fauna, many of the problems noted in marketing and developing the deep-water fishery resources in the Northwestern Hawaiian Islands would also prevail for the nearshore resources. One further consideration is that the effect on the nonconsumptive resources in the NWHI is much greater for the nearshore resources than it is for the deeper-water fishes. This would need to be taken into consideration in any decision on the development of fishing bases.

NONCONSUMPTIVE RESOURCES

I would like to conclude my discussion on resources with a brief review of the nonconsumptive resources. My guess is that there are very few commercial or recreational fishermen who would take the extreme position of not caring at all about the fate of nonconsumptive resources. In fact, most commercial pole-and-line tuna fishermen are very concerned about the well being of seabirds since they depend on the flocks of feeding seabirds to locate tuna schools. For those whose priorities lean towards the nonconsumptive resources, the best thing that could happen perhaps is that no fishing bases at all would be established in the Northwestern Hawaiian Islands.

The major concern in establishing a fishing base at Tern Island would primarily be its effect on the green turtle and monk seal populations at French Frigate Shoals. The Honolulu Laboratory of NMFS is currently undertaking a study to assess the stock size of the green sea turtle. Unfortunately, French Frigate Shoals, which has been identified as the major nesting site for the green turtle, is being considered as a site for a fishing base. If one were to guess the adult turtle population in the Northwestern Hawaiian Islands I would venture to say that the figure was around 1,500 animals. Thus, for the turtles, it appears that French Frigate Shoals is extremely important. For the Hawaiian monk seal a similar situation exists in that French Frigate Shoals supports the largest fraction of the monk seal population in the chain. Based on recent animal counts, the French Frigate Shoals population represents more than 53 percent of the total population.

The question may be raised as to what effect the development of a fishing base at Midway Islands would have on the nonconsumptive resources of the region. As most of you are aware, Midway Islands has been and still is a military base; thus, people have lived there for a long time. Whether this has resulted in the present low number of turtles and monk seals is not a point that I wish to argue. It should only be noted that currently turtles and monk seals are not numerous at Midway Islands. For seabirds, the most abundant species are the Laysan and black-footed albatrosses. Roughly 40 percent of the total albatrosses counted in the Northwestern Hawaiian Islands are on Midway Islands. From

all accounts the albatross population appears to be holding its own despite the presence of humans at Midway Islands. Other species that make up a large percentage of the seabird population in the NWHI include the red-tailed tropic bird, sooty tern, and white terns.

CONCLUSION

In summary, I hope I have made a case for the establishment of a single fishing base in the Northwestern Hawaiian Islands. A fishing base at Midway Islands would meet the needs of fishery development in the region while minimizing the impact on the non-consumptive resources in the area. Given the projected future direction that the fishing industry will probably be taking, there appears to be no need for a fishing base in other sectors of the Northwestern Hawaiian Islands.