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VOLUME TWO
PART 2 OF 2

TERN ISLAND STUDY



VOLUME TWO - INTERVIEW RECORD

JUNE, 1979

MANTA CORPORATION

NAME: Eugene Kridler
TITLE: Endangered Species Coordinator
AGENCY: U. S. Fish and Wildlife Service
ADDRESS: P. O. Box 50167
Honolulu, Hawaii 96850

4 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Mr. Kridler came to Hawaii in 1964 as a Wildlife Biologist/Administrator. In 1973 he was named Endangered Species Coordinator. In his capacity as Refuge Manager of Hawaiian Islands National Wildlife Refuge from 1964-1973 he has visited French Frigate Shoals including Tern Island many times, sometimes several times a year up to 3 weeks at a time. Initial work was patrolling wildlife, censusing and posting. On later trips he took many scientists of various disciplines on a number of trips in the refuge. Later work consisted of primarily population studies with priorities given to endangered species. Such studies included tagging and marking Hawaiian monk seals, green turtles and birds.

Historical

Mr. Kridler recounts the following jurisdictional history. The refuge of which Tern Island is a part was established on February 10, 1909 by Executive Order Number 1019 by President Theodore Roosevelt. In 1942, during World War II, the Navy illegally turned jurisdiction over to the Territory of Hawaii Aeronautics Commission, disregarding the fact that jurisdiction rested with the then Bureau of Biological Survey. The Commission in turn granted license to the Coast Guard to occupy Tern Island in March 1952, again ignoring the fact that this was illegal. The Coast Guard apparently assumed that the Aeronautics Commission held title. In 1965 the Coast Guard use of Tern Island was

legalized when they entered into a cooperative agreement with Department of Interior, Fish and Wildlife Service, which was formally the Bureau of Biological Survey. The agreement permitted the Coast Guard to use only Tern Island for LORAN purposes only. Terms of the agreement included the condition that the Coast Guard would remove all of its facilities or if any were to be left, concurrence of the Fish and Wildlife Service would have to be obtained. Several years ago when the Coast Guard rehabilitated the buildings after severe storm damage, the Fish and Wildlife Service provided \$17,000 to them to construct, for the Service, a small laboratory/dorm at one end of the dorm building for use of Service personnel and its cooperators when they were on Tern Island. It was felt by the Service that such construction could be most economically accomplished in conjunction with that of the LORAN station.

Evaluation of alternatives

Research station operated by FWS

Any research done must be conducted without damage to the refuge and its natural resources, especially endangered species. This is the number one criteria. At certain times of the year - spring, summer - nesting and pupping areas must be avoided. Other islands must also be avoided because of the possibility of weed introduction. The more activity, the more disturbance, the more weeds introduced. Also, the introduction of pest insects could be a problem.

Any station should be a service station. There should be a resident FWS employee to monitor activities. The area could accommodate a few small boats, such as Boston whalers. Researchers must be cautious. Permits would be needed.

The runway is needed for emergency use. Air traffic should be kept down as much as possible because of the birds. There should be a weather station and beacon. There would be a need for a generator, though perhaps smaller than the one now used. Would like to see solar/wind power tried.

Other scientists (other than FWS) using the facilities would share in the costs of the station.

The numbers of researchers present is more of a problem than the types of study being done. Most research could be done on Tern Island, rather than on the other islands. FWS should carefully study what research could be done. Research on the aquatic life, to include fish, should be done, but exploratory studies of baitfish resources would be a mistake because it would be hard to control and because removal of such fish would introduce a serious disturbance to that ecosystem.

→ The Coast Guard has kept down the usage of Tern Island by seals and turtles. Lights, noise and people may disturb the turtles and seals, and some, but perhaps not all, seabirds.

Research station operated by other agency or jointly with FWS

This option will not work. The responsibility must be to the resource first. This is not NMFS philosophy. Mr. Kridler feels that NMFS should not have jurisdiction over the seals or turtles, other than the responsibility permitted by Federal law. A cooperative agreement would not work at all well. The only way it could work would be under the following circumstances:

1. Proposals would be submitted to FWS.
2. FWS would evaluate the effect of research on the resource.

3. FWS would issue restrictions to activities.
4. FWS would issue special use permits.
5. FWS must monitor compliance with any permits it might issue.

Commercial fisheries support station

Mr. Kridler does not feel that this area should be fished when there are many thousands of square miles of ocean available for such purposes outside the Refuge. This includes waters around Necker, Nihoa, French Frigate Shoals, Gardner Pinnacles, Laysan, Lisianski, Maro Reef and Pearl and Hermes Reef. Fishing is permitted within the reef at Kura Atoll and to some degree at Midway and around all the major Hawaiian islands. He does favor the use of Tern Island as an emergency medical evacuation station for injured and sick fishermen and other seafarers.

Joint research/commercial fisheries support station

See concerns expressed above. It would be permissible to maintain a navigational beacon for fishermen and use Tern as a base for medevac.

Abandonment of facilities

This is not a viable option. No areas should be locked up. It is Mr. Kridler's personal feeling that as custodians of fish and wildlife resources, we should permit some sort of use, as long as it is wildlife-oriented and does not damage the resource. In the case of Tern Island, such uses could be research, wildlife photography, birds, etc.

Other options

The use of Tern Island by tour groups could be an appropriate use if there was no great expense to the FWS. It would all have to be carefully planned. The Service could either hire seasonal naturalists to guide people in the other areas of FFS by or landing on the other

islands could not be permitted, because after a period of time there would be considerable disturbance to the wildlife using these islands as well as the island themselves. Weather would definitely be a problem, especially when operating small boats around the waters of the lagoon which occasionally can get extremely rough, especially during the sudden storms which at times buffet the area. There would also be a question of liability where someone could get hurt. There is concern about not only the disturbance of wildlife, but how to provide adequate water and housing and sewage facilities and the possible conflicts that might arise between researchers and just plain visitors. All of this would have to be carefully planned. It might be difficult to provide overnight privileges for tour groups. Non-consumptive diving could be restricted to Tern and La Perreuse, but still is an area of concern because of the seals and turtles, and hazards with sharks.

Overall response to Tern Island decision

Mr. Kridler's personal feeling is that the needs of the fish and wildlife resources should have first priority, with second priority awarded to research and others to non-consumptive, wild-life oriented, public use. He noted that in making these decisions, refuge branch of FWS would have to undertake internal consultation with the Endangered Species Office. He also expressed concern that maintenance costs would be prohibitive for accommodating large numbers of persons there. This would be especially critical in regards to furnishing adequate supplies of water and providing an adequate sewage system.

9 May 1979

John C. Marr, Executive Director
Western Pacific Fisheries Management Council
1164 Bishop Street, Room 1608
Honolulu, Hawaii 96813

Description of person's experience/responsibility pertinent to Tern Island decision

Dr. Marr has not been to Tern Island, but is generally familiar with the area. He is the newly appointed Executive Director of the Western Pacific Fisheries Management Council.

Evaluation of alternatives

Nothing should be done at Tern Island that could be done elsewhere. It may be necessary to defer some decisions until the juridical issue has been settled.

Commercial fisheries support station

It would be useful to have a station at Tern Island to provide capabilities for emergency evacuation of ill and injured personnel and for delivery of parts to disabled vessels. However, the economics of maintaining such a station would be a critical factor in the decision. It would be possible to provide safeguards which would prevent negative impacts on the environment. It is probable that the majority of fishing activity in the area in the near future will be bottom fishing and fishing for lobster. There is also a purse seiner leaving Honolulu soon to try purse seining in the area on an experimental basis.

The requirements of a more comprehensive fishing station or base would be shelter, fuel, minimal mooring, such as barges, etc. There would need to be facilities for handling fishery products, including the possibility of a cold stores - ice plant, and for trans-shipping, possibly by air.

Mariculture does not appear to be a likely alternative activity for Tern Island, but this possibility could be examined by an economic feasibility study plus environmental impact analysis.

Overall response to Tern Island decision

The jurisdictional dispute must be settled before some basic decisions are possible. It is important to accommodate as many views as possible within the constraints that exist. The resources should not be despoiled, but some compromises need to be made to accommodate the various interests. It must be remembered, however, that the more the area is used, the more chances there are for problems to arise.

NAME: Frank Miller, DeeDee Letts
AGENCY: Life of the Land
ADDRESS: 404 Piikoi Street
Honolulu, Hawaii 96814

13 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Neither Mr. Miller or Ms. Letts have visited the northwest islands, but they have both read the informational packet sent to Life of the Land and they are both generally familiar with the pertinent issues. They referred to two Life of the Land board members (Mr. Glen Davis, Mr. Cooper Brown) who were reported to be more familiar with northwestern island resources.

Mr. Brown was contacted prior to the interview for additional input. It was noted at the beginning of this interview that Mr. Miller and Ms. Letts would present the views on pertinent issues that they felt were representative of LOL philosophy, but pointed out that a consensus of the Board of Directors would be necessary before LOL would issue a formal statement.

The Manta Company representative briefly described the various alternative management ideas under consideration and asked the LOL representatives to respond. Ms. Letts noted that LOL would conceptually prefer the abandonment alternative, as the northwestern islands are a rich natural resource that should be protected from the adverse impacts of exploitation. However, it was also noted that abandonment of Tern Island would, in effect, open the French Frigate Shoals area to uncontrolled exploitation because of the lack of enforcement potential. They felt that the refuge should remain natural, with ^{only} intrusion. They noted that the major difference in the research and fishery station alternatives was consumptive use of the resources. Concern was noted regarding the secondary or cumulative impacts that might occur as a result of consumptive use, such as the introduction of exotic animals or plants. The LOL representatives also expressed concern that the fishery resources would be overfished without adequate controls.

Ms. Letts noted that opposition to consumptive use of refuge resources may be construed as a position in conflict with LOL's strong support for diversification of the economy away from a dependence upon tourism. Mr. Miller noted, however, that the rich pristine nature of the northwestern islands demanded a more protective approach, and that the diversification of the economy should be made in directions that would have less impact on the natural world. When asked about the possibility of some experimental bait fishing in refuge waters, or other limited consumptive use to assess potential fishery yield, both LOL representatives noted that the "limits" would be very difficult, if not impossible, to enforce. If this use was to be allowed, it should be done with very stringent controls, and heavy penalties for illegal acts. Ms. Letts noted that she would be opposed to use of any fishery support facilities at Tern Island by foreign boats, particularly Japanese vessels.

Both LOL representatives felt at least conceptually that some fishery activities could occur without significant adverse impacts. But they expressed great skepticism that the potential impacts of such use could be adequately assessed prior to the action and also expressed doubt that commercial fishermen would honor the very strict restraints that would need to be placed on their activity at the outset. In view of the potentially serious impacts, both LOL representatives indicated that LOL would probably oppose opening any of the existing refuge to commercial fishing, but noted that they had little information and expressed a desire to withhold a consensus statement until the Board of Directors of LOL would have a chance to review the assessment that Manta Corporation is preparing.

The research station alternative was viewed as the most viable and ecologically sound plan, but it was noted that the "station" should be an outpost facility with no additional development. Ms. Letts expressed concern

that provision of fuel on Tern Island for medium range boats to exploit a pelagic fishery would lead to strong pressure to open up access to refuge waters for bait fishing. The increasing number of boats would be an undesirable result.

Both LOL representatives were skeptical that educational use of Tern Island could be adequately controlled once it was labeled as an acceptable use. They felt that the logistical difficulties in reaching the site should be used as a mechanism to control access rigidly. The cost in flying to the site would make it discriminatory. Commercial uses such as diving or deep sea fishing were also considered undesirable because they could quickly grow in scope and subsequent impacts.

The LOL representatives agreed to discuss the material covered during the interview at the 17 April LOL Board meeting, and to present a few pertinent questions for Board response to be included in the results of this interview.



April 23, 1979

Bob Shallenberger
Manta Corporation
272 S Kalaheo Street
Kailua, Hawaii 96734

Dear Mr. Shallenberger:

Pursuant to our conversation of April 13, 1979, various alternative for Tern Island were discussed at an LOL Board meeting on April 17, 1979. At this time it appears that LOL's position on Tern Island would be:

1. To maintain the refuge as such and to provide some kind of supervisory personnel to assure that the preserve is not encroached upon by the existing fishing fleet.
2. We would not favor a fishing support station on Tern Island.
3. LOL feels it might be able to support limited research in the refuge. This support does not extend to research on sustainable yield studies.
4. LOL would not support the flying in of tourists.

LOL looks forward to reviewing future documents and making more detailed comments when appropriate. If you have any questions feel free to call Dee Dee Letts at 521-1300.

Sincerely,

Frank Miller
Staff Attorney

FM:cc

18 April 1979

NAME: Steve Montgomery, State Board Member,
Affiliate Representative to National Wildlife Federation

Peter Galloway, President Oahu Chapter
Chairman, State Board

AGENCY: Conservation Council for Hawaii

ADDRESS: P. O. Box 2923
Honolulu, Hawaii 96802

Description of person's experience/responsibility pertinent to Tern Island decision

Although some Conservation Council of Hawaii (CCH) members have been to Tern Island and other islands in the Leewards, neither Mr. Montgomery or Mr. Galloway have been to the site. Both have visited other Pacific atolls. Both have Master's degrees in biological/ and are familiar with Leeward Island resources and the pertinent conservation sciences issues. Mr. Galloway has worked as a biological technician for National Marine Fisheries Service in the past, and was involved in experimentation with bait fishing techniques for aku. CCH is the Hawaii affiliate of the National Wildlife Federation, a national organization that has been directly involved in several conservation issues in Hawaii.

Evaluation of alternatives

Research station operated by FWS

Mr. Montgomery and Mr. Galloway felt that this would be the preferred alternative management plan. There is nothing directly comparable in the Hawaiian archipelago. Many scientists go to Eniwetak Marine Lab, but a facility at Tern Island would provide a different situation in view of the more northern latitude. The French Frigate Shoal has been subject to less recent disturbance as well.

Mr. Montgomery noted that there probably have been some significant impacts under Coast Guard operation, resulting from their mere presence in a natural area, and aggravated by illegal intrusion into the more sensitive areas away from Tern Island. Research permitted at a Tern Island station should be determined by an evaluation of impacts that may occur. In deciding which types of research can be done at the site, focus should be placed on research that can not be done elsewhere.

Higher improvement should be made on improvement of conditions for rare species, by reducing overall impacts that may have been occurring during Coast Guard occupation. Both Mr. Galloway and Mr. Montgomery expressed concern that mere presence of people on a regular basis would disturb breeding activities of seals and turtles on remote islets of FFS. Outpost stations on the other islets could create problems, as investigators would cause disturbance during prolonged stays, even if it was inadvertent.

Research should be management oriented, in the sense that basic biological studies that could be done elsewhere should be given lower priority. Research proposals should go through a screening process to verify need to do it at FFS, to determine how it would contribute to successful management of wildlife, and to insure compatibility with other programs. Recognizing federal ownership of Tern Island the refuge (including inshore waters), both Mr. Galloway and Mr. Montgomery strongly oppose state or university management of the research station. They noted that it should be managed by a board that could include state personnel, but should be run by the FWS. Knowledgeable scientists should be on the research proposal review board. These might include people from the Hawaii Institute of Marine Biology, the Eniwetak Marine Lab, the Bishop Museum, etc. Although the refuge branch of FWS should have ultimate management responsibility, they would require help of scientists in evaluating suitability of research. Some problems would occur with research activities that were incompatible with each other. To avoid this problem, any facility at the site should start very small and work up to a comfortable level. Both Mr. Galloway and Mr. Montgomery felt that a full complement of 20 scientists at the station would be too many unless rigidly controlled, as their effect on inshore waters and other islets at FFS would be greater than has occurred under Coast Guard operations.

An outpost facility, with 1 or 2 refuge personnel supporting a small number of scientists, may be a reasonable alternative. This would allow use of various power alternatives (i.e. solar/wind). Again, the station should start slow and work up. Nothing should be done that would preclude expansion to existing capacity at a later date, but it should not occur right away. Physical facilities should not be allowed to deteriorate.

A method to improve conditions on Tern Island to sustain wildlife would involve restriction of access to portions of the island around the housing. Although this would cause some inconvenience for long duration stays on the island, it would probably result in greater frequency of turtle and seal use. Some effort could also be directed to manipulating the habitat in some ways to encourage greater wildlife use. Restriction of runway use to light planes may make it possible to allow greater expansion of the bird colony, but this should be carefully evaluated for its safety implications.

Research station operated by other agency or jointly with FWS

Both interviewees recognized the management responsibilities of National Marine Fisheries Service and the State over some Leeward Island resources, and felt that they should share in operation of a Tern Island station. However, FWS should remain clearly in charge.

Commercial fisheries support station

As in the case of research, the impact of fishing activities could vary radically with the type and magnitude of the fishery. Both interviewees questioned whether or not fishing for any species within the refuge waters at FFS could be successfully managed. They pointed to the State's continuing difficulty in regulating use of marine resources in the main islands as evidence. Reference was made to localized overfishing, lack of enforcement, and a poor record of prosecution for violators of regulations. They felt it is doubtful that the resources in the northwest Hawaiian islands would be adequately protected if the State had primary stewardship, and they expressed

skepticism that one or two FWS wardens could effectively police the area once it was opened to fishing. They weren't particularly concerned about the potential adverse marine impacts in the immediate vicinity of Tern, but recognized that operation of a station at the site would lead to impacts elsewhere. They did note that past problems on Tern Island with damage during severe storms might make investment in fisheries station facilities an unwise thing to do. Some concern was expressed that fuel storage on the island, associated with fishery use, could result in severe adverse impacts if structures are destroyed by storm waves or if spills occur during transfer.

One method to consider in evaluation of fishing would be to allow a very limited and localized fishing effort to occur in one part of the FFS area, together with baseline studies and periodic monitoring. The difficulty would lie in developing a research methodology that would be sensitive to the subtle effects of fishing pressure, some of which could eventually lead to very serious resource problems. The prime objection to the concept of baitfishing in FFS waters is the direct impact of the activity on rare species (turtles and seals) and the uncertain indirect impacts of disrupting the food web. Harvest of bait or other inshore resources should not be seriously considered until the population can be assessed and a potential sustainable yield determined on sound biological data. Both interviewees noted the history of overconsumption of the nehu resource at Kaneohe Bay on Oahu as evidence that the fishing industry will deplete the resource beyond a sustainable yield. It was also noted that the significant investment that would be required to support a viable mid-range vessel fishery in the northwest islands would make it unlikely that fishermen would be cautious in their approach or that they would respond favorably to the rigid controls and possible stop-fishing orders that could occur.

Joint research/commercial fisheries support station

Conceivably this alternative would be alright, particularly if the fishery was pelagic oriented. Some conflicts would occur from extensive boat movement in areas set aside for research only. Research use of the FFS area would add to the "eyes in the field" that could aid in enforcement of fishery regulations. Some of the research conducted at the station could be directed towards stock assessment, and in itself, would have no greater impact than other research efforts. Some concern was expressed regarding the possibility that some on-site research effort might be directed at bait fish rearing. This could lead to accidental introduction of species used for experimentation. It might also place considerable demands on the limited water supply. However, the possibility that this activity could occur compatibly was not ruled out. Both interviewees expressed a desire to see the area on Tern that is not developed remain that way for the wildlife to use and to allow on-site research on a non-interference level.

Abandonment

Both Mr. Montgomery and Mr. Galloway were opposed to this alternative because it would result in a total lack of enforcement, and the refuge would deteriorate as a result. The area should be policed regularly, but this could be accomplished with just an outpost station with one or two people. Abandonment would also be a waste of good facilities and would preclude later options because of expense in restoration.

Other options

The difficulty in this category will come in trying to decide what use is legitimate and what is not. Although ^{some} educational use is compatible with national wildlife refuge policy, it can in itself result in significant impacts if not rigidly controlled. It would probably be safer to carry out the educational function

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through films and publications and leave FFS alone. Some demand for exposure to the refuge/resources could be accomodated at Midway, but there would be access problems there as well. Movement of people to Tern Island for educational purposes would be a logistical problem. It would be discriminatory by virtue of cost. There would be no obvious distinction between valid and invalid requests for access. Restriction of use to professional scientists would discriminate against the very serious amateur naturalist or journalist, that might eventually do more good for wildlife conservation. In any event, some criteria for review would need to be established, yet flexibility would have to be part of the process too. Educational activities would need to be scheduled to avoid impacts and directed in location as well. No non-research visitation to other islets should be permitted at FFS.

Both interviewees expressed opposition to a recreational fishery at FFS, even if it occurred outside refuge waters. They felt that it would be hard to cut off at a certain level and that such use could vary too much with the whims of the refuge manager at the time. Non-consumptive diving could be allowed in specific portions of the refuge, but it too should be rigorously controlled. It would be easier for FWS to allow this use only on approved vessels coming from Honolulu, rather than through repetitive charter flights to the islands. A refuge biologist could accompany the cruise boats in the refuge area to insure compliance with regulations, but this may conflict with other demands on the biologist's time.

NAME: Gary Naftel
TITLE: Owner/Skipper
AGENCY: RV Easy Rider
ADDRESS: 1050 Koloa Street
Honolulu, Hawaii 96816

19 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Captain Naftel is the skipper of the R.V. Easy Rider. He has considerable experience in all islands of the Leewards, both as a fisherman and from chartering research expeditions in the area. He is a very concerned environmentalist.

Evaluation of alternatives

Research station operated by FWS

FWS is not capable of managing a research station, nor is any other single agency, federal or state, due to conflicts of interests within the agencies.

Research station operated by other agency or jointly with FWS

Such a station should be managed by a single non-profit agency such as the Smithsonian, National Geographic, etc. that will report to all agencies who have jurisdiction. It should be a small station, for field research only. There should be no additional buildings. There is no need for a dock, except for a small skiff. There need to be enforcement and management personnel present at all times. The same permit system should be followed that is in existence now. It is important that there be some sort of review committee to process requests. Persons doing research at Tern need to be practical people self-sufficient.

Commercial fisheries support station

There is no need for a fishing base at this time, but the door to this concept should not be closed. Fishermen could violate the rules and there could be substantial damage to the environment. It

would be impossible to control without a full time enforcement staff present at all times.

Commercial fishing might be feasible if it can be controlled and monitored. It will be important to go slowly and be careful. Economics and the ecosystem should be studied. There is not enough data at present to make any decision. The concern is that only one "bad egg" could ruin it for everyone.

Joint research/commercial fisheries support station

See above comments.

Abandonment of facilities

Not recommended.

Other options

Dive charters, sport fishing, tours, etc. are not recommended.

Overall response to Tern Island decision

For now it is important to maintain a caretaker on the island. There is not enough known at this time to make plans for the future, but the facility should not be abandoned. Medivac is very important for the area. The runway is important, but not at the expense of the wildlife. The major consideration besides the ecological problems, is the economic factor.

April 26, 1979

Name: John J. Naughton

Agency: National Marine Fisheries Service
P. O. Box 3830, Honolulu, HI 96812

Description of person's experience/responsibility pertinent to Tern Island decision:

Fishery Biologist with Western Pacific Program Office (WPPO), NMFS, who has, among other duties, been working on marine mammals in the WPPO area of responsibility. Has been given responsibility to help develop critical habitat Discussion Paper and EIS for the Hawaiian monk seal.

Has been to French Frigate Shoals (FFS) on many occasions and has visited every piece of emerged land while conducting monk seal surveys.

Evaluation of Alternatives:

Research station operated by FWS.

This is a reasonable alternative in view of the fact that FWS has managed the HINWR well in the past and has a real interest in protecting the biota and habitat at FFS. However, I seriously question the need for a year-round research station at Tern Island. It is doubtful whether the "research community" could come up with good, fundable projects to justify maintaining the station on a permanent, long-term basis.

Regardless, if a research station is set up, there should be a full time FWS station manager with enforcement power and capability.

Research station operated by other agency or jointly with FWS.

This may be hard to do in light of types of research allowed, management authority, etc. Other agencies may be more interested in developing the resources in the nearshore area and gear research effort toward these goals. I feel a FWS managed research station would be the most desirable in light of maximum degree of protection for the unique biota of FFS.

Commercial fisheries support station.

I feel this alternative is viable only if there is a strong management/enforcement (full time) presence on Tern Island. In addition, there should be no fishing allowed within the lagoon, and within the 10-fathom isobath surrounding the atoll, until we can be positive that a specific type of fishing (i.e., baitfishing) will not adversely impact the unique and sensitive biota found at FFS.

The most desirable commercial fishery resources in the NWHI are pelagic, deep water demersal, or, generally speaking, well outside the 10-fathom isobath. Therefore, I see a fishery support station as servicing vessels

engaged in harvesting these types of resources. The airstrip should be kept open and operational, but should be utilized by the smallest aircraft practical, and on a limited basis.

A small boat fishery operation should be prohibited from operating out of Tern Island. The support station would have to be large (housing, etc.), and air transport quite frequent to Honolulu, in order to support this type of operation. In addition, the inner reef waters and many islands would be readily accessible to small boats and would make enforcement extremely difficult.

A fishery station should be managed by a resource protecting agency rather than industry or a development oriented agency.

Joint research/commercial fisheries support station.

If a fisheries support station is set up on Tern Island then facilities should be set aside for a research field station as well. The reverse would not be desirable. The combination could justify a year-round station.

As in the other alternatives a strong enforcement/management presence must be maintained throughout the year on Tern Island. These people must have access to a patrol boat at all times. However, they should be prohibited from visiting the biologically sensitive islands unless actually witnessing a violation of regulations.

Abandonment of facilities

This alternative would be the most desirable from the viewpoint of the unique biota at FFS. Emerged land is extremely limited throughout the NWHI and the abandonment of Tern Island would provide an additional 57 acres for use by wildlife.

However, abandonment does not appear to be the most practical alternative. Since the airstrip is already on the island it would be desirable to at least keep it operational for emergency use. In addition, FFS is well within range of numerous boats based in the main Hawaiian Islands, making illegal landings and poaching a possibility if no enforcement people are based on Tern Island.

Overall response to Tern Island decision

The uniqueness of FFS cannot be overemphasized. It is the most important biological unit in the NWHI.

The latest monk seal surveys reveal that FFS contains the largest and most viable monk seal population, including the greatest pup production, of any of the NWHI. It also contains the major nesting islands for the Hawaiian green sea turtle population, which was recently declared a threatened species. The recent discovery of extensive Acropora coral beds (with associated fauna) in nearshore waters of FFS accents the significance of the atoll.

Any development at FFS must be done with extreme care. Initially there should be a complete buffer zone of at least 100 meters placed around every piece of emerged land (other than Tern Island) to prohibit human entree by everyone, including management and enforcement personnel. Only qualified researchers with special use permits should be allowed ashore. Researchers' activities must be controlled and monitored as carefully as fishing activities. Although fishing activities in nearshore waters of FFS should not be completely ruled out, initially no fishing or other resource harvesting should be allowed within the 10 fathom curve surrounding FFS.

John Naughton at this time is speaking strictly as an individual. The above is not an agency position.

NAME: Leo Ohai
 AGENCY: Captain F/V LIBRA
 Pier 15, Honolulu

26 March 79
 1000

Description of person's experience/responsibility pertinent to Tern Island decision

Experienced fisherman at French Frigate. Has fished inside of the lagoon as well as outside. Knows area well.

Evaluation of alternatives

Research station operated by FWS

Few comments. Doesn't matter to him.

Research station operated by other agency or jointly with FWS

Few comments. Doesn't matter to him.

Commercial fisheries support station

This would be of no use to him as the LIBRA is self-contained. It would only be an asset to skiffs and small boats. He would be happy if the lagoon opened up as he would fish akule or white ulua before leaving. He realized that with more boats additional regulations might be necessary. This might be a hardship depending on the regulations. Observers would be OK with him. States there are lots of fish -- enough for everyone -- and that additional fish would not hurt price.

Joint research/commercial fisheries support station

He sees this as feasible.

Abandonment of facilities

Feels the facility definitely should not be abandoned or destroyed. The airstrip should be maintained for emergency evacuation (although he has never had to use it for such).

Other options

Dive charters, aerial tours, etc. would be a bad idea.

2 April 1979

NAME: Susumu Ono
AGENCY: Department of Land and Natural Resources
ADDRESS: P.O. Box 621
Honolulu, Hawaii 96813
TITLE: Chairman of the Board

ALSO PRESENT: Kenji Ego, Director, Fish and Game Division

Evaluation of alternatives

Research station operated by FWS

The Department of Land and Natural Resources (DLNR) opposes this option because it implies exclusion of other uses and activities for the area. Research activities conducted in the area would probably require approval by FWS, thus may be slanted to suit their purposes. There would be less negative impact from this option than from others. FWS interests are focused on terrestrial fauna, both by area of activity and philosophy. FWS is not particularly interested in the marine environment. Even the formation of an Advisory Board, with representation from various other agencies, would likely not be able to lessen FWS total control of the area.

Research station operated by other agency or jointly with FWS

This might or might not be a more preferable option. If there were good preparation, and agreement of all involved, and if the personnel involved were able to work well together, it could be satisfactory. Activities would be much more well-rounded if other agencies were involved. There would need to be a board-type management plan, which would eliminate the possibility of duplicate activities. This will be advantageous both in terms of preventing adverse impact and to allow for sharing the cost of funding.

Commercial fisheries support station

This option by itself is not recommended. See following discussion.

Joint research/commercial fisheries support station

DLNR feels this would be the best option. The two activities are complimentary -- research could aid in solving some of the fishing industry's problems, and the fishermen could assist the researchers with boats, fish, data, etc. DLNR does not foresee significant capital investment to implement this option. There is a need for docking, but anchored barges could be utilized and would result in minimal adverse impact on both the physical and biological environment. There is a need for landing of aircraft. It would probably be necessary to only use small aircraft because of the dangers both to and from the birds. The idea of a Midway-Tern Island run by boat to transport fish sounds feasible. Economics will determine how far any of these ideas go. It will be preferable to establish Tern Island as a commercial fishing support station in a slow, step-by-step fashion, as is being done at Midway. The product harvested (frozen fish as opposed to the traditional fresh fish) needs to be added gradually to the market so new markets can be developed for the larger landings without significantly disrupting the existing local industry.

Baiting in the lagoon should be seriously considered. There is a large bait resource there which should be made available to the fishermen. It might be possible to have FWS scientists involved in the baiting operation to conduct studies to determine the degree of adverse impact of netting and to assist the State in developing methods to eliminate any adverse impact.

This option (a joint research/commercial fisheries support station) would produce no more adverse impact than the Coast Guard has produced in their years on Tern Island.

It is not known if use of the lagoon waters bothers the seals and turtles. Rather than being a high strung animal, the Hawaiian monk seal appears to possess a somewhat lethargic disposition.

If there are any significant negative impacts, both fishing and research activities can be cut back.

Other options

Movies, magazine articles and tours could be utilized to increase public awareness of the existing wildlife resources and thereby gain further public support for the preservation of the intrinsic values as well as the management of the unique wildlife resources.

Abandonment

The DLNR opposes this option.

Overall response to Tern Island decision

DLNR opposes unilateral use of Tern Island by FWS. DLNR supports joint use for research and commercial fishing administered by a joint acting board (executive body).

DLNR would be expected to be the lead agency involved in the management of the Tern Island station. It would be incumbent upon the State to police and service the area if they have control. DLNR anticipates that the legislature would be supportive of this as they have in the past been supportive of DLNR's fisheries programs. It would be necessary for the private sector to provide their share of the capital required, but private industry cannot come in to the picture until the jurisdictional dispute or a cooperative arrangement is settled.

Regarding the July 1, 1979 date for the Coast Guard leaving the Tern Island facilities, DLNR believes that FWS will provide temporary assistance to maintain the facility. The State is willing to place men on Tern Island should DLNR be granted its control.

NAME: Jay Puffenberger
AGENCY: Hawaiian Tuna Packers
ADDRESS: Kewalo Basin, Honolulu, Hawaii
PHONE: 536-4961

March 30, 1979
0900

Description of person's experience/responsibility pertinent to Tern Island decision:

Mr. Puffenberger is President of Hawaiian Tuna Packers.

Evaluation of Alternatives:

Research station operated by FWS

Few comments on this alternative.

Research station operated by other agency or jointly with FWS

Few comments on this alternative.

Commercial fisheries support station

Mr. Puffenberger does not feel that commercial fisheries alone would not be feasible, as it could not support the facility alone.

Joint research/commercial fisheries support station

This is the option that Mr. Puffenberger sees as being the most valuable. He feels that neither could support the facility alone and that abandonment would be a mistake.

As an initial step he feels bottom-fishing might prove most practical. He is uncertain about the availability of a large resource of tuna. He has heard there are large numbers of kawakawa in the waters. He feels there is a possibility for a fresh fish market for some species that hold well. There are many albacore boats here from the mainland that might want to fish other species in the off-season.

In respect to the tuna industry, Mr. Puffenberger feels that the bait supply is perhaps the most critical factor. Opening the lagoon to bait fishing would increase the success of any fishing operations in the area. At present, the need for bait in the State is for 35,000 10#-buckets for each 3-4,000 tons of fish caught. He recognizes the potential dangers involved in opening the

lagoon to fishing for bait, and feels stringent controls would be necessary. One possible other alternative would be to raise bait in the lagoons, as is being tried experimentally. He feels the State and Federal government would be willing to finance the start-up of this industry in the same way they have supported Hawaii's prawn program, with industry coming in after there is some evidence of success.

This summer Hawaiian Tuna Packers will be taking a mother ship to the waters of Midway. He feels that if Midway is success as a fishing station it might serve as a good model for Tern Island. In the event both Midway and Tern are operational, it would increase the economy of transportation, with transport from both stations in one trip possible.

A discussion of aggregation device/purse seining technique presented the feeling that this system might not work in Hawaiian waters because of the lack of a definite thermocline, which in eastern waters prevents the fish from slipping out the bottom of the purse seine. Purse-seining itself was tried in Hawaii for 90 days in 1971-72 but in that time only 20 tons of fish were caught.

Mr. Puffenberger thinks it will be necessary to progress very slowly with the development of commercial fishing in the area because of the high costs involved. He feels sure that control over negative impacts can be accomplished, but thinks FWS wardens will be necessary to control harassment.

Abandonment of facilities

Mr. Puffenberger feels it would be a grave mistake to shut down the station and abandon it.

Other options

He mentioned sport fishing as a possible positive option.

Overall response to Tern Island decision

Mr. Puffenberger's number one concern is that the station not be shut down. He feels that the most positive action would be for the Federal government to open up the entire area for fishing. Hawaiian Tuna Packers strongly supports that action.

NAME: Dr. Robert Pyle
AGENCY: Hawaii Audubon Society
TITLE: Member, Board of Directors
ADDRESS: P. O. Box 22832
Honolulu, Hawaii 96822
PHONE: 262-4046

13 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Dr. Pyle has had a great deal of experience with Pacific seabirds and is very familiar with the issues under consideration on this project. Dr. Pyle was Field Director for the Pacific Ocean Biological Survey Program between 1966-1969. This program, sponsored by the Smithsonian Institution, was designed to study the distribution and biology of seabirds in the central Pacific. Dr. Pyle was responsible for managing the seabird research, involving pelagic cruises and extended studies on Pacific islands, including all of the northwestern islands. Although Dr. Pyle has not been to Tern Island, he has made several trips to Midway and Kure, and is thoroughly familiar with the research results and published information resulting from studies at French Frigate Shoals and other northwestern islands.

Evaluation of alternatives

Research station operated by FWS

Dr. Pyle noted that the research alternative is the preferred alternative of the Hawaii Audubon Society (HAS), but noted that even this use should be governed by strict regulations to avoid adverse impacts. A diversity of scientific disciplines could be accommodated by a research station at Tern Island. Maintenance of existing facilities would permit researchers to conduct prolonged field research with a minimum of impact, because it would minimize the need for field stations on islands that have not been subject to continual disturbance, as has Tern Island. It would require that someone be in residence in a caretaker capacity. This person, or persons, should have enough ecological training to be able to effectively coordinate field work of other scientists to avoid unnecessary impacts.

The extent of the demand for research opportunity at the site raises the question whether or not the entire existing facility would have to be maintained. However, it would be a waste to let the facility deteriorate to a point where it could not be put into a full support condition for little money. The size of the research facility should also not be so small that it would force scientists to wait forever to get the opportunity to work at the site. The station should start modestly, with 4-5 people and expand with the demand. Dr. Pyle saw no obvious need for the station to expand beyond its present living capacity, but felt the impact of this use should be the determining factor. The existing level of impacts on Tern Island, and French Frigate Shoals, is acceptable. Any additional impact should be rigorously evaluated. Use should be regulated by scheduling and by limiting activity to particular areas.

Dr. Pyle felt that all research proposals should be subject to thorough review and they should be modified if necessary to protect the wildlife resources. He was particularly concerned about the potentially serious impacts of too many scientists on other small islands in French Frigate Shoals during the seabird and turtle nesting seasons. The managing agency should allow research on a permit basis, and the resident biologist in charge should be given enough flexibility to maintain sufficient controls. He noted that some scientists, without ecological training, could conceivably cause serious impacts inadvertently, and this should be avoided.

The expense of running the research station should be shared by those who use it, but selection should not discriminate in this way between the well-supported institutional scientist and the less affluent graduate student, if their research programs are equally justified. Although the FWS, as refuge manager, would be the logical directing agency for the station, the Service may not wish to use its / ^{own staff} for the actual operation. Dr. Pyle noted that several field stations on the mainland were operated by universities, and this alternative

should be considered for Tern Island. However, he also noted that management of a Tern Island facility by the University of Hawaii would indirectly result in direction by the State legislature, through the appropriation of funds. This could result in some serious politically related problems, due to the controversy between State and Federal government regarding ownership and management of the northwestern islands. As an alternative, the FWS could contract operational management of the facility to a private company that would be responsible for logistics, facility maintenance, and other activities. The FWS would remain directly involved with a resident biologist at the site.

Research station operated by other agency or jointly with FWS

Dr. Pyle indicated that FWS has ultimate responsibility for management of the refuge, and is therefore the logical choice for direction of a research station. However, in view of legal responsibility for some resources by other (i.e. NMFS, DLNR) and varied interest in research at the site, it would probably be advisable for some other agencies to be involved in the planning and operation of the station. An inter-agency committee could be established to review research proposals as well, and to insure that there was interagency logistical support to minimize total expense of operation. This shared responsibility alternative should be clearly established within a framework in which the FWS has the final say.

Commercial fisheries support station

Dr. Pyle noted that a variety of adverse environmental impacts would invariably occur in the northwestern islands with uncontrolled exploitation. Fishery stocks would be depleted. Non-target species, including seals, turtles and seabirds, would suffer as a direct result of inshore fishing. The reef environment, and its wildlife, would suffer from direct disturbance, including oil spills, net damage to the reef, and other impacts. Indirect impacts to refuge wildlife would occur through disturbance to the complex food web of which

all the species are a part. The severity and duration of this impact would vary with the time of year and method of fishing. Ultimately there would be direct disturbance to the wildlife on land, through unauthorized and inadvertent landings. The long-term effects of introduced plants or pest animals is well documented in the northwestern islands, and could easily be repeated.

Dr. Pyle noted that the potential for serious adverse ecological impacts could be radically reduced through implementation of rigid controls on the location, method and scheduling of fishing operations. However, given the limited available data, and the precarious condition of some wildlife, there is not sufficient evidence to indicate that commercial fishing in refuge waters could be controlled adequately or reduced in scope enough to fall within a category of acceptable risk. The primary purpose of the refuge is wildlife protection. Any use, whether research or commercial exploitation, must not conflict with that purpose.

Dr. Pyle expressed serious concern that the ongoing tripartite study will not yield sufficient data on the potential impacts of commercial fishing on refuge wildlife because the bulk of the research effort is directed to documenting the abundance of exploitable species. The effort being devoted to the question of impacts is token, at best. As a result, it is not likely that there will be sufficient pertinent data generated upon which to state unequivocally that commercial exploitation can occur without serious direct and indirect adverse impacts to wildlife resources in the refuge.

Decisions regarding possible commercial exploitation in the refuge should be made using the same "adverse ecological impact" criteria that should be used to regulate research or other non-consumptive uses. However, the burden of proof that unacceptable impact will not occur should rest with those who propose to consume. Dr. Pyle noted that establishing such proof will be very difficult if not impossible, because the onset of adverse impacts is likely to be subtle and may be masked by natural fluctuations in species populations or productivity.

Dr. Pyle felt that if a limited amount of exploitive use was to be permitted on an experimental basis (i.e. localized bait fishing), it should be preceded by adequate baseline studies of refuge wildlife resources in order to develop an adequate standard of comparison. Indicators of population condition (i.e. colony size, productivity, age-specific mortality, feeding distribution, etc.) should be clearly defined prior to any exploitation. Minimum tolerable levels or population size or productivity should be established, and a program of continued monitoring undertaken. Any evidence of direct harvest related mortality, or evidence that population indicators were showing danger signs (regardless of cause), would be justification for stopping the exploitation, at least temporarily. It may be argued that there was no established link between the fishery and the observed population indicator, and that other natural factors may be at work. The recently recorded mortality of Monk seals is an example where such an argument has been used. Nevertheless, even in the absence of cause/effect data, the fishing would have to stop.

Dr. Pyle noted that there is some evidence that seabird populations are resilient enough to bounce back from temporary disturbance. For example, the tern colony at East Island covers much of the area that was formerly a tent camp and LORAN facility. But the other wildlife resources, such as turtles and seals may not be as likely to recover from adverse impacts.

Dr. Pyle noted that fishery related facilities on Tern Island would probably not, in themselves, create more serious direct adverse impacts than what is already on the island or what might be used for a research station. However, if Tern was used as a fueling facility for medium range boats, the likelihood of fuel or oil spills in French Frigate Shoals waters would greatly increase. The adverse impact of such an event at French Frigate Shoals would be magnified by the lack of equipment and manpower to contain a spill, to prevent wildlife from being affected, and to rehabilitate seals, seabirds and other

species that were directly affected. Adequate cleanup would be logistically impossible.

Joint research/fisheries station

Dr. Pyle did not feel that these two uses were necessarily incompatible on Tern, but did note that limited space and facilities could create a problem. Frequent boat traffic, particularly for fueling at the island, could create problems for research, as would frequent use of the runway for shipping fish, if this method were chosen.

Abandonment

Dr. Pyle supported this concept in principle, but felt that in reality it would be a tremendous waste of research opportunity and a loss of a potentially important evacuation facility. It would also preclude effective enforcement of refuge regulations in the area.

Other alternatives

Dr. Pyle felt that other uses should be critically evaluated using the same "adverse impact" criteria used in assessing potential impacts of research or fisheries use. Any expansion of facilities on Tern Island should be weighed against the impact on wildlife resources, and the research opportunity they provide. He noted that the availability of logistical support, comfortable living facilities and easy access make the Tern Island seabird colonies a rare research opportunity that should not be compromised. Although some research would surely be conducted on relatively undisturbed colonies on some other islets at French Frigate Shoals, it may make better logistical sense and lead to less overall impact, to conduct as much research as is possible on Tern Island itself. It would require strict controls on use of parts of the island.

Public use for education should be encouraged if it can be accomplished on a non-interference basis. Participation in ongoing research would be a viable activity for visitors to the island. A Tern Island field station could

act as a research training facility. Some consideration should be given to making Tern Island a "window on the refuge" that could accommodate a very limited amount of public use for educational purposes, in a way that would encourage appreciation of the refuges' unique wildlife resources without unnecessary adverse impact.

Dr. Pyle noted that logistical considerations would affect the type of public use of the island that could be tolerated. The cost of air travel or boat excursions to French Frigate Shoals would, in itself, be discriminatory. A one day round trip by air would provide only a relatively short experience for a visitor, but it may be sufficient. Dr. Pyle was concerned that provision of overnight facilities for visitors would compete with space for researchers and conflict to a greater degree with ongoing research work. Other uses, such as deep sea fishing or dive charters, would need to be critically evaluated to determine how they might conflict with research and refuge objectives. These uses could be accommodated without any consumptive use of refuge waters, but increasing boat traffic would be a disturbing factor. It is clear that such uses would have to be scheduled and directed only to least sensitive areas to minimize disturbance.

Overall response to Tern Island decision

Dr. Pyle noted that there were many uncertainties at this time, such as the outcome of the boundary dispute and the tripartite study, that should enter into the final management plans for Tern Island and the entire refuge. It is regrettable that the FWS did not initiate this assessment process much earlier, as the scheduled abandonment of the station by the Coast Guard has been common knowledge for a long time. There is insufficient time between now and the departure date (1 July 1979) for the FWS to thoroughly assess the alternatives. It seems virtually certain that the degree of public controversy related to the decision will necessitate preparation of an environmental impact statement, which will in itself take several months. In the interim, the FWS should develop

workable temporary management alternative that will, in itself, not preclude any later choices. This should involve stationing of one or more FWS representatives on the island full time to prevent deterioration of existing facilities. This would require, at minimum, preparation of much equipment for prolonged disuse, under adverse environmental conditions. The existing runway should be maintained in this interim period by keeping the birds from increasing their colony size onto the runway surface. It seems ludicrous that the Coast Guard plans to remove its channel markers, yet is willing to install new ones for the FWS. It seems to be a waste of taxpayer's money. Perhaps a transfer between agencies could be arranged.

Although final decisions regarding Tern Island management may have to be postponed, the FWS should clearly determine what minimum amount of pertinent ecological data must be gathered prior to consideration of any experimental commercial exploitation in refuge waters.

It is unlikely that all the pertinent answers will be available when the tripartite study is over. It may be advisable to rethink some of the objectives and directions of the study at this time, now that it is well into its second field season. New priorities and objectives may be established, and the need for additional impact-related research clearly defined early enough to do something about it.

Dr. Pyle noted that the views expressed in this interview were his own, based on his familiarity with the refuge. Although he believes most of the opinions expressed are consistent with Hawaii Audubon Society policy, he cautioned that the Society would respond to a prepared assessment or impact statement with a consensus opinion. This consensus opinion may or may not differ with respect to some details.

Mr. Dave Raney
Ms. Annette Kaohelaulii
Sierra Club
P. O. Box 22897
Honolulu, Hawaii 96822

7 April 1979
0900

Description of persons' experience/responsibility pertinent to Tern Island decision:

Neither Mr. Raney nor Ms. Kaohelaulii have visited the Northwestern Islands, but they are familiar with the wildlife resources in the area and with legislation relating to the tripartite study and boundary dispute. Mr. Raney is vice-chairman of the Statewide Coastal Zone Management Citizens Forum. The Sierra Club has been involved in several conservation issues relating to fish and wildlife habitat, endangered species and land use. Mr. Raney noted that although he felt that their views were representative of Sierra Club philosophy, the opinions regarding management expressed at this interview were theirs, and could be subject to some change when the Sierra Club was given the opportunity to thoroughly review an assessment and prepare a consensus statement.

Evaluation of alternatives:

Research station operated by FWS

A "passive" research station appears to be the most sound alternative for Tern Island. An important focus of this research would be to assess impacts of human activity in and around the Northwestern Islands. One such activity could be limited fishing. The State does not appear to have either the inclination or the resource to thoroughly monitor the impacts of their own exploitative use of the area, so the research station should be run by the federal government. It should be established to encourage both basic research and resource management research.

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Research station operated by other agency or jointly with FWS

Cooperative research station management could be compatible with refuge objectives, but the State should not have the upper hand. The FWS should have review authority over research, including that proposed by the State. In view of the State's obvious commercial interest in the NW island resources, it is unlikely that they can be expected to conduct unbiased research.

Commercial fisheries support station

Any exploitation of refuge waters carries with it significant risk of food chain disruption, particularly in inshore waters near the islands where turtles and seals are found. It will also invariably result in "accidental" landings of boat crews with potentially serious adverse impacts on wildlife resources and island ecology. Human disturbance to seals would probably reduce reproductive success. Fishing for bait within inshore waters could disrupt an important link in the food chains that include seals, turtles and seabirds. It may also cause direct mortality in nets. If there is to be experimental bait fishing to determine the viability of the resources, it should be done by a neutral service or research agency. The primary and secondary impacts would have to be thoroughly evaluated prior to any large scale bait fishing. Nothing should be done in this regard that precludes subsequent choice of other management options if adverse impacts are detected. It was noted that allowing even a limited amount of experimental fishing within refuge waters would be condoning the concept of sustainable yield fishery in a refuge; but the burden of proof that the yield is, in fact, sustainable, and that there will

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not be other more subtle secondary impacts, should rest on the agency proposing to exploit the resource.

Joint research/commercial fisheries support station

This type of arrangement would be possible for Tern Island, particularly if the commercial fishing interest was centered on pelagic waters outside refuge boundaries. However, if there is interest in inshore fishing, for whatever resources, the actual initiation of this activity should be preceded by thorough assessment of potential impacts. This objective could be an important function of a Tern Island research station. More definitive answers regarding the relationships between fishery resources and other wildlife, including endangered species, are needed.

Abandonment of facilities

This alternative has the disadvantage of not allowing the level of supervision and control that will be necessary to prevent unauthorized use of refuge islands or waters. It would also preclude the option of conducting necessary research to evaluate impacts of human activity in the refuge. In view of the highly altered state of the island it is reasonable to suggest that compatible uses continue at the site.

Other uses

It was agreed that access to Tern Island for educational opportunity could be compatible with refuge objectives, but it also would require strict controls. Also, the expense of flights or boat trips to the area would make it a rather "elitist" opportunity. Problems could arise quickly if an identified ceiling was not placed on this type of activity from the start. For boat trips to the area, maintenance of

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an emergency evacuation facility could prove important. Ms. Kaohelaulii noted that the educational program could include involvement of visitors in actual research projects conducted by visiting investigators, similar to the Earthwatch program or the ongoing Sierra Club service trips. In this way, interested participants could play an important role in assisting in actual research or habitat management. As another alternative, public access to the island and refuge waters could be restricted to those with demonstrated experience or involvement in pertinent wildlife fields, and operated under a permit system.

Mr. Raney noted the possibility of running a program similar to that which occurs on Heron Island, off Australia. This island serves as a nesting island for numerous seabird species and green sea turtles as well. Visitors are allowed to stay on the island in cabins they reserve, and to eat in a central mess hall. A private concessionaire, on permit from the government of Australia, handles the transportation and lodging. Diving is permitted, but not spearfishing. There are no restricted areas on the island, but some attempt is made to keep visitors out of the turtle nesting areas until after they have begun to lay eggs at night. Mr. Raney noted that more stringent controls over human use of the area were desirable.

Overall response to Tern Island decision

In view of the timing of the Coast Guard pullout, and the uncertainty of the boundary dispute and ongoing tripartite study, an interim management plan under FWS direction would be advisable for Tern Island. It is important that implementation of this plan does not preclude choice of other options at a later date, after more data are available and after the boundary dispute is settled. No

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irreversible commitments of resources should be made. If a decision is made to allow a small amount of fishery facilities development during this interim stage, it should be done knowing that evaluation of subsequent data may result in a decision to exclude fishing altogether, so the money spent on these facilities may be wasted. Any construction or initial fishing experimentation should not be considered a "foot in the door" that might be used to justify later decisions.

Mr. Bill Shinsato
Owner, TAHEI MARU
2461 Lakoloa Place
Honolulu, Hawaii 96819

28 March 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Mr. Shinsato has fished the Leeward Islands for many years, is a very experienced fisherman in the area.

Evaluation of alternatives

Commented primarily on fishing station. This would probably not be beneficial to him because he will be fishing for only a few more years. Could be very beneficial to younger fishermen.

If fish are flown out for a fresh fish market, it would be essential to fly out several species at a time to prevent flooding the market.

It would be possible for a fleet of skiffs to fish out the lagoon.

With enough boats in the area, the fishermen would do some policing of each other.

Large traps and nets are potentially dangerous to Monk seals. Mr. Shinsato has had bad experiences with both traps and nets.

Does not see a conflict between research and fishing using the area jointly.

Abandonment of facilities

This should not be done. Use of the airstrip has saved the lives of three of his crew.

Other options

Diving charters are a possibility. They could help defray the costs of maintaining the station.

Richard Shomura, Chief
National Marine Fisheries Service
Honolulu Laboratory
P. O. Box 3830
Honolulu, Hawaii 96812

3 April 1979
1100

Description of person's experience/responsibility pertinent to Tern
Island decision

Familiar with the area and with the problems of both commercial fisheries and research.

Evaluation of alternatives

Research station operated by FWS

This facility comes low on NMFS's priorities. Question whether there is enough research to be done to justify the cost of a facility. Just because there are existing facilities doesn't mean there is a need for the research.

If no real cost were involved, NMFS could use the facility. But if NMFS had to support the facility they couldn't afford it. Even if NMFS assumes the responsibility for the Monk seal and the Green sea turtle they still won't need this station.

Commercial fisheries support station

Suggest examination of economics of fishing -- do this study first to establish feasibility and then examine the impacts.

The biggest boon to fisherman would be in recreational fishing for world record catches. This is still relatively virgin territory and there aren't many places left like that.

Skiff fishing would catch a lot initially, but not sure how sustainable the resource is.

Bait: NMFS has never seriously studied bait, but Mr. Shomura personally doesn't feel there is a large enough resource to support a 12-15 boat tuna fishery.

Page 2 - Mr. Shomura

Baiting will impact on birds feeding, but probably won't affect them much. Netting would impact both turtles and seals negatively. Human presence may impact seals.

It will be difficult to control both fishermen and the public. There would need to be an immediate mechanism for enforcement.

NMFS has put observers on vessels both for data collecting and to observe foreign ships. Mr. Shomura doesn't know whether NMFS would put observers on fishing boats in French Frigate Shoals.

One danger to be aware of is that short term utilization might set a precedent for expanded use of the whole chain.

Abandonment of facilities

There really is no need for someone to be there.

Other options

Tours would be impossible to control, and again would be precedent setting.

Overall response to Tern Island decision

Tern Island (and French Frigate Shoals) has no more to offer than many other areas. The decision will come down to cost -- who is willing to pay. If someone is willing to pay, then the impacts must be examined.

If the fishing industry is willing to underwrite maintenance costs on a year-to-year basis, Mr. Shomura would not object to such use. He would not want to commit NMFS money to the facility unless there was an established long-term (5-10 years) need.

NAME: Robert Skillman
TITLE: Coordinator, Tripartite Agreement
AGENCY: National Marine Fisheries Service
ADDRESS: P. O. Box 3830
Honolulu, Hawaii 96812

20 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision.

Dr. Skillman has visited Tern Island twice. He has been working for over two years on the Tripartite Agreement studying the resources in the area.

The opinions voiced by Dr. Skillman are his and not necessarily those of the Honolulu Laboratory of NMFS.

Evaluation of alternatives

Research station operated by FWS

Dr. Skillman does not see how research done at Tern Island will necessarily contribute to the overall knowledge of the refuge. He does not feel that research done at Tern would necessarily be of particular relevance to the rest of the chain as the refuge islands are all so different from one another. He would prefer seeing only periodic visits by researchers as is being done now. Does not see the need for a permanent research station.

Research station operated by other agency or jointly with FWS

There would be fewer problems if a station were operated solely by FWS. University of Hawaii itself would not be a good choice for the job, but if the state has management control the Research Corporation might be the logical choice.

Commercial fisheries support station

Fishing would not be in direct conflict with the goals of the refuge. The refuge should not be locked off from society. Fishing in the area could be a reasonable option. Having a fishing station on Tern Island does not violate the tenants of the refuge.

The idea of fueling operations in the area is troublesome. There needs to be a system established with the greatest degree of protection possible from accidents. Controls must be conditional. It is critical that step-by-step controls should be built into the management plan, not negotiated after there are problems.

Fishermen will be no more difficult to control than researchers. Researchers can impact as much as fishermen, particularly in terms of direct impact on the behavior of the seals and turtles. Direct impact by fishermen should be controllable, at least in principle, by regulations. Fishermen might impact more indirectly, as in their effects on the food chain.

The tripartite study is gathering a great deal of information that will be useful to the fishing industry. There are another 2½ years to go on the study and it might be wise to wait for the results of this study before making any permanent decisions regarding fishing in the area.

Joint research/commercial fisheries support station

Joint use of the station would probably be compatible, but fishing in the refuge might not be compatible with research there, because the natural system would be altered by fishing. The fishing vessels could serve as research platforms, and the scientists could sample the catches of the fishing fleet.

Abandonment of facilities

Dr. Skillman's personal feeling is this would be the best option. It would be preferable to tear down the buildings and return the island to its natural state as much as possible. However, the very acts required to do this might have a major impact on the resources. Also, abandonment would leave behind an "attractive nuisance", encouraging illegal use of the island by boaters in the area.

Other options

It is possible that the use of the area for recreational fishing and sport diving might outweigh any other fishing activity, if pressure for this kind of activity continues to grow. Would require the maintenance of a station to get people on and off boats and airplanes. There would probably be little impact from the fishing, or could be through regulation. There would be greater impact on the island itself from this activity than from either research or commercial fishermen, due to air traffic and beach activities.

Overall response to Tern Island decision

Dr. Skillman expressed concern over making decisions about the use of Tern Island based primarily on economic impacts. He feels the decisions should be based first and foremost on whether anticipated actions will enhance or detract from the concepts of the wildlife refuge.

Dr. Skillman is not convinced that the benefits derived from a permanent station for either research or fisheries would outweigh the negative impacts. He is not opposed to a temporary, field camp type of research. As for fishing, different kinds of fishing bases (e.g. a mother ship arrangement) could be investigated.

NAME: William Streeter
TITLE: Chief Enforcement Officer
AGENCY: National Marine Fisheries Service
ADDRESS: P. O. Box 3830
Honolulu, Hawaii 96812

20 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Mr. Streeter is the officer directly responsible for enforcement of acts which are the responsibility of NMFS and which covers the marine area surrounding the entire chain. The responsibility for enforcing protection of the green sea turtle and the Hawaiian monk seal falls under his jurisdiction.

Overall response to Tern Island decision

Mr. Streeter feels that NMFS will no more be able to enforce FFW after the Coast Guard leaves than they are now. The most that can be done is to fly over every two weeks.

He feels that there is not a need for a permanent station to assist in enforcement, as that would only mean the need for more personnel to maintain the station. He feels that the fishermen will enforce and police themselves, particularly by informing on one another and reporting violations, so that NMFS will continue to act by running down leads and conducting investigations of violations. Some control will take place at unloading.

Mr. Streeter does feel that the presence of researchers on Tern would be useful, in providing an extra set of eyes to see violations.

NAME: Dr. Leighton Taylor
TITLE: Director
AGENCY: Waikiki Aquarium
ADDRESS: 2777 Kalakaua Avenue
Honolulu, Hawaii 96815

3 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Dr. Taylor has been involved in marine research in the Northwestern Islands since 1972 when he was employed by the Cooperative Fishery Research Unit, U.S. Fish and Wildlife Service. Dr. Taylor is presently involved in a Sea Grant supported study considering the biology of top predators in the Leeward Islands, and French Frigate Shoals is a major study area. In 1977, Taylor was involved in research at French Frigate Shoals supported by the Marine Mammal Commission devoted to interactions between sharks and monk seals. Dr. Taylor has also conducted preliminary research at French Frigate Shoals on underwater behavior of Hawaiian monk seals. Taylor has spent a total of six days in residence at Tern Island and has visited French Frigate Shoals on six separate occasions since 1972.

Evaluation of alternatives

Research station operated by FWS

There already is a research division in FWS which operates research stations on the mainland, which could provide a precedent. However, FWS appears to give these activities low priority.

The impact of such a station would be positive rather than negative as this is the only facility in the refuge and would provide accessibility to the refuge.

Research station operated by other agency or jointly with FWS

FWS, UH or DLNR could not effectively run such a station, either alone or jointly. Could best be run with another agency such as the Smithsonian. This would monitor the research better and would

widen the scope of the research. Without an outside influence, would be a very parochial lab. Need full-time residents on Tern.

Lab would always interact with the refuge, so FWS would still maintain control. This would be cumbersome but would be safer for the refuge.

The lab should be kept small. If there is a major lab it would have a major impact.

Commercial fisheries support station

At maximum this could involve a flash freezing unit, dorms, generators. Could be either skiff fishing or tuna industry.

This option would provide more negative impact than positive. The orientation of the fishermen is exploitation, and they will hence be tempted, and will succumb to the temptation, to break regulations. Fishermen will not be able to be controlled to stay out of restricted areas. There will also be more possibility for fuel spillage, as there will be greater fuel needs, and the fishermen will be less well-trained in fuel transfer than the Coast Guard has been.

The possibility of great impact on the fish stocks presents the question: Should there be fishing at all? Any fishing has impact and must be controlled.

This is critical habitat for the monk seal. Even fishing outside of the refuge boundaries may have negative impact. Nets would definitely have an impact on the seals.

Other impacts are: possible introduction of exotic pests, plants, rats, etc.; quantities of garbage, oil changes.

Joint research/commercial fisheries support station

In some ways, this would automatically be established if a research lab is present, by providing means for emergency evacuation. The next step would be to add fueling capabilities. It could be done if controls were strict. However, the basic outlooks of scientists and fishermen are often incompatible.

The larger in scope the options grow, the larger the potential impact, which could jeopardize all projects.

Abandonment of facilities

This option would be an error because it would be tantamount to setting up a fishing station, albeit illegal.

Other options

If fishing is allowed in French Frigate Shoals, tours and dive trips and the like will follow. This has the potential for great negative impact. It would be too difficult to keep such activities non-consumptive.

Another possible option is aquarium collecting. This is probably not economically feasible. There are only two species that cannot be easily captured in the high islands. These are:

1. Megaprododon which is found with Acropora. It is common in the South Pacific but not elsewhere in Hawaii. It probably should be protected in Hawaii.

2. Geniacanthus personatus - the masked angelfish. It is only found very deep elsewhere, but is captured at 55 ft. at FFS.

Other possibility would be small sharks, which might be captured by permit for special organizations.

Honorable Charles Toguchi
Chairman, House Committee on Ocean
and Marine Resources
Hawaii House of Representatives
State Capitol
Honolulu, Hawaii 96813

28 March 1979

The Manta Corporation representatives met with Rep. Toguchi on 28 March and discussed the problem in general terms. Rep. Toguchi wished to discuss the subject with other people before commenting on the study. He asked that he be contacted after his committee held hearings on the bill before them on the Tern Island question. On 10 May a Manto Corporation spoke to Rep. Toguchi on the phone and he related that as Manta Corporation representatives had been present at the hearings that at this time he had no additional comments to make on the study.

NAME: P. Quentin Tomich, Ph.D.
AGENCY: Wildlife Society, Hawaii Chapter
ADDRESS: P. O. Box 675
Honokaa, Hawaii 96727

4/5/79

Description of person's experience/responsibility pertinent to Tern Island decision

Author of a book on Hawaiian wildlife. Hasn't been to Tern Island, but has a chapter in his book on wildlife in the Leeward Islands. Dr. Tomich is speaking as a private citizen only.

Evaluation of alternatives

Research station operated by FWS

This option would permit the possibility for more control but would cost more. It could be a base for overlooking the rest of the refuge area. There is not much patrol going on and this option could provide for more observation. It could enhance the knowledge of the area.

Impact may not be a problem on Tern Island. It depends on how elaborate the facilities are how much impact there is on the rest of the refuge. Research would create less impact than other options, as the objectives are enhancement rather than exploitation.

Research station operated by other agency or jointly with FWS

This option was not discussed.

Commercial fisheries support station

This option is not acceptable.

Joint research/commercial fisheries support station

This option would be less objectionable than the one above. The question needs to be answered, before any decisions are made, whether everything in the refuge area needs to be protected. Having researchers in the area might make control of the impacts by fishermen easier.

Commercial exploitation is hard to control, and can quickly get out of hand. The dangers are not just in over-exploitation, but in incidental damage from such things as oil spillage and trash dumping. Fishermen would be tempted to throw things over

in the shallows, might be dragging sleds with nets, all negative impacts. Inshore fishing would certainly be an intrusion.

Intentional introduction of any species should be forbidden and accidental introduction should be guarded against. Cats and other pets should be prohibited. There should be great effort extended to preventing the introduction of rats and mice. Rats kill birds, and can, and have, extinguished whole populations. There ARE some ancient populations of some rodents on a few islands. Introduction of pest insects would be another problem. Flies, for example, are a problem for the seal.

Controls of all types need to be as rigid as possible.

Abandonment of facilities

Dr. Tomich thinks this option should be considered.

Other options

Tours to the area are not compatible with refuge management. The preference should be to making and showing a few good movies. Not even the "elite" need to visit the area. The fragility of the environment is such that the wear and tear of even a few too many visits could be greatly damaging. Sport diving and sport fishing are also not compatible with the refuge.

Overall response to Tern Island decision

Dr. Tomich considers himself a purist who says we do not need commercial exploitation, but if research is needed it must be rigidly controlled. He favors a conservative, non-exploitive approach to management of the area, but would support research which is directly related to improving management.

Honorable James Wakatsuki
Speaker of the House
Hawaii House of Representatives
State Capitol
Honolulu, Hawaii 96813

6 April 1979

An appointment was made to interview Representative Wakatsuki. The Manta Corporation representative explained the study. Rep. Wakatsuki declined to comment, expressing a desire to wait to comment until after the Governor had been interviewed.

On April 16 and again on May 8, Manta Corporation representatives called Representative Wakatsuki's office to attempt to set up another appointment to discuss the study with him. They were told that the Representative would return their call. To date (May 11) no return call has been received.

NAME: Ron Walker
AGENCY: Department of Land and Natural Resources
Division of Fish and Game
TITLE: Chief, Wildlife Branch
ADDRESS: 1151 Punchbowl St.
Honolulu, Hawaii
PHONE: 548-5917

27 March 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Mr. Walker has been to Tern Island several times and is familiar with all the Leeward Islands. His primary jurisdictional responsibility is with respect to wildlife in the main Hawaiian islands, although it extends to Kure Atoll, a State Wildlife Sanctuary, which is similar in nature to French Frigate Shoals, where Tern Island is located.

Evaluation of alternatives

Research station operated by FWS

The research station alternative should be kept on a minimal basis, in order to maximize the potential for preserving wildlife habitat on Tern Island. Research personnel will be more sensitive to the conditions necessary for protecting wildlife and wildlife habitat, than would be commercial fishermen or the U. S. Coast Guard. The emphasis should be on obtaining research information applicable to management of the refuge area. The basic approach should be a low-key, limited research base, not a "Coconut Island" or "Eniwetok"-type facility. The facilities should be kept to a minimum. As far as logistics are concerned, some type of aircraft will be essential once the Coast Guard aircraft are withdrawn. Since neither the State nor the Federal government have aircraft available, commercial leasing or rental would probably be necessary.

In terms of impact, research by other than the FWS should be on a limited, permit basis, only to the extent that it would benefit the wildlife in the Leeward Islands. The area should not be a large, general laboratory for marine research, or seabird research. This type of limited facility would have the advantage of only marginal disturbance of the existing wildlife habitat; less than the current Coast Guard station.

Research station operated by other agency or jointly with FWS

A joint research station would probably require some sort of "benevolent dictator" to manage and screen potential researchers. It will be difficult to structure an organization to share actual administrative management responsibilities for the facility.

The Federal government's responsibility is for management and protection of the natural resources. It is the State's responsibility to help the FWS when requested. The state has better local knowledge and if funds were available should take the lead in management. The Division of Fish and Game is not a research organization. It is management oriented. Research should be directed toward important managerial problems. Information gathered here could have applicability to wildlife management in the main islands.

Transportation is the key. It is critical if a station is to be maintained.

Commercial fisheries support station

Commercial fishing, particularly prior to the termination of the tripartite study, should be on an experimental basis only, in order to observe and monitor what impacts would occur with very limited and carefully controlled commercial fishing. For example, what would happen to the monk seal and turtle populations in the French Frigate Shoals area, with a limited intrusion of a few fishing vessels? From the beginning, in any such commercial fishing support operation, it should be made clear to all participants that any indication from monitoring of adverse impacts involving turtles, monk seals or bird populations would bring about a very quick cessation of the commercial fishing activities and a cessation of all potentially adverse activities. This would be done in order to examine the relationships and causes and effects of the adverse situation, before any significant damage could be done.

A "mother ship" providing commercial fisheries support might be better in terms of possible impacts upon immediate habitat areas at Tern Island. However, controls over skiffs and other commercial fishing vessels operating from a mother ship base

might be more difficult. Some type of permit system, focusing upon spatial or chronological regulatory controls, would be required. One requirement would have to be no landing in areas of nesting and propagation, particularly during the seasons when these activities are most substantial.

Joint research/commercial fisheries support station

The emphasis should be on a minimum low-key type of facility, ideally coordinated with research. Firm management lines should be maintained, stressing that the primary value is as a natural research area and habitat for several wildlife species. In many ways, not enough is known yet to establish any sort of substantial research or commercial fishing operation on Tern Island.

Abandonment of facilities

Abandonment should be considered the best choice for Tern Island from a purely wildlife protection and preservation standpoint. This would be the most conservative and safest approach from the narrow view of maximizing the value of the area to wildlife. However, this alternative does not consider other possibly valid uses such as research and fishing.

Other options

Sport fishing and dive charter type operations may not be the best types of activities to allow from a wildlife standpoint, although these could be possible on an experimental basis. Only a limited number of such operations should be allowed, and the facilities which are provided would have to be minimal, probably allowing only for anchorage, and not for actual docking. The impacts from such operations could be more extensive, due to sport fishermen ranging more widely inside the shoal, so that the need for specific controls and monitoring and enforcement of rules and regulations would need to be more emphatic. These types of fishermen would be more difficult to control.

Overall response to Tern Island decision

Probably, the maximum scientific information could be yielded by a careful, scientific and controlled experimental introduction of research projects, perhaps

associated with limited commercial fishing on an exploratory basis. Careful monitoring and observation of such projects could yield significant information for future management of the refuge. The presence of any research or commercial personnel should be very carefully limited in size of personnel and scope of operation, and any type of expanded research or commercial operation should be deferred until the end of the tripartite study. Current allowance of such activities should be only on an experimental basis, in order to provide information for the tripartite study and future decisions.

In general, the State has a broader range of personnel, institutional capacities, knowledge of the resources and responsiveness to the general public than does the federal government, and the State could, perhaps, do a more comprehensive and more capable job of managing the Leeward Islands, with full attention to the range of interests involved. The primary responsibility of the FWS is the preservation of the entire ecosystem and all the wildlife in the ecosystem in the Leeward Islands, with the focus on critical habitat. Because at this time not enough is known about fish and wildlife habitat relationships, and the possible adverse effects of introducing new factors, the basic approach of the FWS at present is to "lock up" the area and everything in it, adopting a very conservative approach. It would perhaps be wiser for the FWS to think more flexibly in terms of the full range of interests in this area, particularly local fishermen who would like to at least have some chance of utilizing the vast resources of this area. In this light, it might be wise to give full consideration to a very carefully and stringently controlled test; experimentally opening doors on a limited basis to some additional research on the impact of commercial fishing on the area.

Dr. G. Causey Whittow
University of Hawaii
Kewalo Marine Laboratory, 41 Ahui St.
Honolulu, Hawaii 96813

3 April 1979
1400

Description of person's experience/responsibility pertinent to Tern Island decision:

Dr. Whittow has been conducting research on Tern Island for the past three years, for periods of up to two weeks at a time. He has made about 12 trips. His work is done on seals, turtles and seabirds.

Evaluation of alternatives

Research station operated by FWS

This option would work. It is important that there are not too many people in the area at one time. French Frigate Shoals won't take more than 2-3 people doing research at a time on land. The islands are too small and too fragile. Even one person on an island will eventually frighten the animals. FWS would be cooperative and Dr. Whittow feels he could work with them. A resident manager/warden on the island would be a necessity.

Research station operated by other agency jointly with FWS

This is the most preferable alternative. A joint operation with the University would be more successful for several reasons. If it were a joint lab, with several sources of funding, it would likely be better furnished and equipped. FWS's outlook is more toward management than research, so a joint operation would have a broader outlook. Two or more federal agencies / ^{might be} difficult to operate together so it would be best if NMFS and other federal agencies weren't involved. The University of Hawaii, as a State university, would be the best representative of the State's interests.

Page 2-Dr. Whittow

Too many people in the area would interfere with turtle nesting and basking, and with the seals. A strict permit situation would be required.

The unique thing about French Frigate Shoals is that this is a major turtle nesting habitat, and the only place you can see basking sea turtles. Only research which cannot be done elsewhere should be done at Tern Island.

As the Coast Guard leaves, Tern may become even more important for seabirds. Even 3-4 researchers would have more impact on French Frigate shoals^{, as a whole,} than the Coast Guard has.

Commercial fishing support station

Commercial fishing would have serious, negative impact on the wildlife. Skiff fishing in particular would be detrimental, even the presence of several boats might have negative impact. Landing on the islands regularly would probably be the end of both the seals and turtles in the area. As for larger boats, it would be unlikely that they could be adequately controlled by enforcement officers.

Joint research/commercial fisheries support station

This alternative is preferable to just fishing, for both parties could keep an eye on the other. Some agency would have to maintain strict control. The lagoon must not be fished at all.

Abandonment of facilities

From a conservationist's point of view this is the best option, but from a practical standpoint, because of needed controls to prevent illegal use, a warden should be stationed at Tern Island at all times, and should spend time in a boat patrolling French Frigate Shoals.

Page 3 - Dr. Whittow

Other options

Public education through articles in National Geographic, and the like, are fine. The public needs to realize, however, that getting a glimpse of areas such as this are a luxury and not a right. The refuges are for the benefit of the animals, not the public. Tours might be alright if they are strictly controlled, but there is a fear that this would be like the thin edge of the wedge, opening up for greater, more damaging use.

Overall response to Tern Island decision

The risk is so great. This area is vitally important to both turtles and seals. Animals do have a right to survive.

Dr. Whittow has submitted a statement, which is attached.

French Frigate Shoals (Tern Island)

Of the components of the Hawaiian Islands National Wildlife Refuge, French Frigate Shoals is by far the most important, for the following reasons:

1. It is the major nesting site for North Pacific Green Sea Turtles.
2. It is virtually the only place in the world where sea turtles bask on land.
3. It is a major center of population and pupping for the endangered Hawaiian Monk Seal. Because of an apparent southerly shift of the population of Monk Seals, the importance of French Frigate Shoals in the conservation of the species, is increasing.
4. It has major sea bird colonies.

Ideally, French Frigate Shoals, should have no permanent human population. However, the realities of the situation are such that the absence of wardens in the area would lead to unsupervised, illegal entry to the Shoals and use of existing buildings and facilities on Tern Island. Commercial fishing in the area would, in my opinion, have a serious deleterious effect on both the turtle and seal populations, not only because it would reduce their food resources, but also because of unauthorized landings on the islets that make up the Shoals. It is significant that no seals breed, and no turtles bask, on Tern Island, which has been populated continuously by people since 1952. Basking sea turtles are particularly sensitive to the presence of man; they may not be approached closer than fifty feet. On the other hand, Tern Island, because of its size and vegetation is the most important sea-bird resource at French Frigate Shoals. No fewer than twelve species of sea birds breed on Tern Island and the numbers of Sooty Terns, Laysan, and Black-footed

Albatross and Red-footed Boobies amount to major colonies. Extension of man-made facilities at Tern Island would encroach on the sea-bird habitat.

The only effective management of the area, that is consistent with its status as a wildlife refuge, is to establish a permanent small research station there, with a resident manager, rather like Eniwetak. A joint Federal Agency (preferably the Fish and Wildlife Service) - University of Hawaii administration of the station would ensure that conservation and research interests are met. However, it should be emphasized that the land area at French Frigate Shoals is small and that the ecosystem there is fragile.

The only research that should be conducted there is that which cannot be performed elsewhere, notably, the study of nesting sea turtles and land basking sea turtles. The number of scientists that French Frigate Shoals is able to support is extremely small, certainly not more than two or three at a time.

G. Causey Whittow
Pacific Biomedical Research Center
Kewalo Marine Laboratory
University of Hawaii
Honolulu, Hawaii 96813

03-28-79

NAME: Honorable Richard S. H. Wong
TITLE: President
AGENCY: Hawaii State Senate
ADDRESS: State Capitol
Honolulu, Hawaii 96813

6 April 1979

Senator Wong was called out of his office on an emergency and was represented by Mr. Yen Lew and Mr. Donald Scott Bowman, of his staff.

The Senator's primary concern is to assure that the states future use of Tern Island is not limited by actions taken at this time.

The State would like to develop the Northwestern Hawaiian Islands for commercial fishing, and be able to use Tern as a fishing support station.

Abandonment and demolition of existing facilities on Tern would be a tremendous waste.

Senator Wong also desires access to Tern for State Scientific research and endorses a joint research/fishing station.

In discussing the environmental impact of a fishing support station, Sen. Wong suggested a barge or mother ship type operation might be less damaging to the environment than use of the island for mooring, transfer, storage, etc.

Mr. Bowman was a member of a dive charter on the MACHIAS last year that visited French Frigate Shoals. He complimented skipper Bill Austin's handling of the charter and expressed some concern that others who might run charters to the area may not be as responsible.

The MACHIAS trip was well controlled. The boat visited Nihoa, Necker and French Frigate Shoals, but only landed at Tern Island. All diving was done outside USFWS Refuge Boundaries. Don would have liked to dive at La Perouse Pinnacle and within the refuge boundaries, but thinks there can still be a good trip by staying outside the refuge. (the cost of the trip, including food and scuba refills, was about \$500/person.)

Overall response to Tern Island Decision.

1. Don't do anything to rule out future use of Tern Island.
2. Go slowly, checking out both economic and environmental concerns.
3. The State needs to have an integral part in the development of the Northwestern Hawaiian Islands.
4. There needs to be State access to Tern Island in order to develop fishing and further scientific research.
5. Don't rule out any options for Tern Island until all have been reviewed.

NAME: Wadsworth Yee
TITLE & AGENCIES: Hawaii State Senator
Chairman, Western Pacific Fisheries Management Council
ADDRESS: Hawaii State Senate
State Capitol
Honolulu, Hawaii
PHONE: 548-6247

28 March 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Senator Yee has extensive experience with the Tern Island and Leeward fisheries by virtue of his chairmanship of the Western Pacific Fisheries Management Council, and through his experience in the legislature, as well as contact with commercial fishing interests. Senator Yee pointed out emphatically at the outset of the interview that he was reluctant to even discuss the Tern Island issue at all with the consultants from the federal Fish and Wildlife Service, because to even discuss the issue with federal consultants could be construed as recognizing the Department of Interior's claim to ownership of Tern Island. He felt that perhaps he should not discuss the issue, in order to make it clear that he is not acknowledging the Department of Interior or Fish and Wildlife Service control, jurisdiction, or ownership over Tern Island. Senator Yee notes that he and the types of interests that he represents, basically resource development as well as resource management interests, have no wish to disturb or exploit the wildlife in the region. These interests simply feel that a more balanced perspective, focusing on resource development as well as conservation, is appropriate, and that the State is the proper management agency for the Leeward fisheries. Mr. Yee noted that a resolution calling for opening up of commercial fishing potential has been passed by the Western Pacific Fisheries Management Council.

Evaluation of alternatives

Research station operated by FWS

Senator Yee feels that any research activity, or any other activity in the Leeward Islands, and particularly on Tern Island, should be a responsibility of the State of Hawaii, and in this sense, he does not recognize the responsibility of the FWS for Tern Island in particular.

Research station operated by other agency or jointly with FWS

Senator Yee feels that research is an appropriate use of Tern Island and that research should be ongoing in the Leeward Islands. If the state were to assume responsibility for Tern Island, the state would be quite willing to cooperate with university researchers and other researchers who needed access to the area, and access to necessary support facilities.

Senator Yee notes that the state and state legislators are in favor of the National Marine Fisheries Service continuing to do studies in the Leeward Islands which would provide necessary information for state purposes, and to facilitate beneficial and careful development of commercial fishing resources.

Commercial fisheries support station

Senator Yee feels a minimal type of commercial fisheries support facility which would provide emergency assistance, as well as facilitate longer term stays of vessels in the Leeward Island should be established at Tern Island. This would not be a major new facility, but would consist of 2 or 3 on-site personnel to facilitate commercial fishing, and also to facilitate research in the area.

Senator Yee feels that the threat of commercial fishing to wildlife in the area has been greatly exaggerated. For example, fishermen report to him that the Monk seal is a dying species in the Leeward Islands, and continues to be a dying species. He feels this situation will continue, or not continue, regardless of commercial fishing. The demise of the Monk seal cannot be attributed to commercial fishing, and should not be used as a reason to deny limited and controlled utilization of the fishing resources of the Leeward Islands.

Joint research/commercial fisheries support station

Certainly under state jurisdiction there would be no objection to research uses, and commercial fishing and research type uses could be complementary rather than conflicting in nature.

Abandonment of facilities

This option is out of the question. The air support is essential. The air strip must be maintained.

Overall response to Tern Island decision

The State should maintain the French Frigate Shoals area surrounding Tern Island, and the island itself in a pristine, natural condition to the maximum extent possible, applying very stringent controls to assure that any fishermen allowed into the area would accept the wildlife refuge status of the area, and cooperate with all necessary rules and regulations. The state, of course, would have enforcement personnel who would be responsible for assuring this result. Senator Yee feels that although the state may not have accepted full responsibility for enforcement in other areas, they would with respect to French Frigate Shoals.

As to the ultimate boundaries of possible state and federal jurisdiction in the Leeward Islands, the legal contention of the state continues to be jurisdiction between the 3-mile mark and the high-water mark. The state is willing to live with federal jurisdiction over the islands themselves, and federal prevention of access to the land areas used for nesting and reproduction purposes by wildlife. The islands themselves would maintain their federal refuge status if this type of boundary decision were made. In any event, the state feels quite strongly about its claim, and Senator Yee has been in contact with state congressmen as well as the governor on this issue. The state will continue to press federal authorities on this matter, and will file a lawsuit in the near future if this becomes essential, although the state does not have a firm timetable. The state feels it has a strong legal position in that every state has jurisdiction from the high-water mark to 3 miles out, the traditional three-mile limit. This is a state's rights position, which is confirmed by Senator Yee's conversations with federal authorities. The state, if it were to assume jurisdiction, would of course be willing to enter all necessary cooperative agreements and arrangements with federal authorities.

Page 4

Senator Yee also suggested that the consultants talk with other legislators concerned and interested in the Leeward fisheries issue, some of whom are already on the mandatory contacts list.

Honorable T. C. Yim
Hawaii State Senate
State Capitol
Honolulu, Hawaii 96813

3 April 1979

After several attempts to set up an appointment to interview Senator Yim, an appointment was made for 11:30 a.m. on March 28. Upon arriving at the Senator's office, the Manta Corporation was told that the Senator would not see them, that he preferred to make his own appointments. Concern was expressed regarding Dr. Edward Shallenberger's involvement on the contract. Dr. Shallenberger wrote a letter to Senator Yim, explaining what the Manta Corporation was and what the study procedure was. There was no response to the letter.

Again several attempts were made by phone to set up an appointment, and on 3 April Senator Yim's secretary told a Manta Corporation representative that the Senator did not feel it would be useful for him to comment on the study.

NAME: Dr. Alan Ziegler
TITLE Vertebrate Zoologist
AGENCY: Bishop Museum
ALSO: Representative of Sierra Club
PHONE: 847-3511

6 April 1979

Description of person's experience/responsibility pertinent to Tern Island decision

Dr. Ziegler has not visited the Northwestern Hawaiian Islands, but is familiar with the wildlife resources, tripartite study and other pertinent legislative activities. Dr. Ziegler is speaking for himself, and does not represent an official position of the Bishop Museum.

Evaluation of alternatives

Dr. Ziegler noted that ideally Tern Island should be left to revert to a wilderness state, but he also felt that this was not politically feasible. The most feasible and desirable alternative would be a Federal marine research station. It would be advisable to allow the State to become involved in the research activities, but they should not be left to run it on their own. Dr. Ziegler felt that maintenance of an emergency evacuation facility would be advisable, but opposed establishment of a commercial fishing station. A joint Federal-State research station could focus on both pure science and limited research relating to commercial fishing. He felt that the FWS should have ultimate review and permit authority over researchers, including the State government. If the potential effects of proposed research were unclear, the effort should begin with an assessment of the effects. Dr. Ziegler felt that both the State and Federal governments would benefit; as the FWS would retain ultimate control, but the State would get a foot in the door to explore commercial fishing possibilities. Any experimental fishing should be done on a very small scale at first, with thorough investigation of primary and secondary effects.

As an alternative to this approach, Dr. Ziegler suggested the possibility of allowing the State to have complete control over commercial fishing in the main island waters, while maintaining a hands off policy in the Northwestern islands, at least within the refuge boundaries. He didn't feel that the FWS should take a

hard line "no touch" position, because a thorough assessment of some options would probably reveal that limited commercial use within the refuge waters may be possible without adverse impacts on refuge resources. He did note that it is primarily the legislators, and not the local fishermen, that are most vocal and aggressive about opening up the Northwestern islands to expanded fishing. Dr. Ziegler felt that this suggests that the resources of potential commercial value are not so unlimited as some believe.

Dr. Ziegler was not opposed to other uses of Tern Island, such as limited tourist use, but stressed that it should be strictly regulated and only allowed if it is compatible with refuge objectives. He favored the marine conservation district concept for French Frigate Shoals, with strict regulations on types of use. He did note that opening of these waters for this type of use would require fulltime patrol of the area. This could be accomplished by hiring FWS naturalists to live at Tern and meet the tours, guiding them around the portions of the area open to this use.

