NORTHWESTERN HAWAIIAN ISLANDS

G. BALAZS 1 of 5

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
Honolulu Laboratory
P. O. Box 3830
Honolulu, Hawaii 96812

June 9, 1981 F/SWC2:GHB

TO: William G. Gilmartin, Leader, Marine Mammal and Endangered Species Investigation

FROM: George H. Balazs, Fishery Biologist

SUBJECT: Low-level overflights of French Frigate Shoals by military aircraft

At 1140 on June 1, 1981, a Navy four-engine propellor aircraft made two overflights of East Island at 500-800 feet. The aircraft came into the Shoals from the east at this same approximate altitude, and departed in the direction of Whale-Skate Island. No radio contact was made with U.S. Fish and Wildlife Service personnel on Tern Island.

The passes over East Island where I was camped caused most of the adult seabirds to take flight. I was not at a location to observe the responses, if any, of monk seals or basking green turtles. On June 1st, there were at least 14 monk seals with pups present on or in waters adjacent to the island.

John Andre, resident biologist at Tern Island, has informed me that several of these low-level overflights involving military aircraft have taken place since last December. If this is developing into a regular practice, as appears to be the case, then some action needs to be taken to have it terminated. I believe that U.S. Fish and Wildlife Service regulations pertaining to National Wildlife Refuges prohibit low-level transiting of aircraft. I do not know if this restriction currently appears on both civilian and military aeronautical maps.

If the flights over French Frigate Shoals are being undertaken to keep a lookout for shipwreck victims, it seems likely that the same objective could be accomplished at a much higher altitude where the possibilities of wildlife disturbance would be greatly reduced.

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER(m)
Fourteenth Coast Guard District
Prince Kalanianaole Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850
PH: 546-7510

16452
30 April 1981

Mr. George H. Balazs
Hawaii Institute of Marine Biology
P. O. Box 1346, Coconut Island
Kaneohe, HI 96744

Dear Mr. Balazs:

I am enclosing a copy of Captain Burn's paper on the grounding of the M/V ANANGEL LIBERTY.

In response to your question on the "Area to be Avoided" in the leeward islands, the restriction only applies to tankers. The area extends 50 miles around specified land masses in the leeward chain. Enclosure (2) gives the geographical information for the "Area to be Avoided." The prohibition is voluntary but I expect the oil industry will comply as it is in their best interest. Also, the normal tanker routes are outside the "Area to be Avoided."

I have sent a copy of your letter to the Honolulu office of the U. S. Fish and Wildlife Service. They are the office which would coordinate any consultations concerning the leeward islands as required by section 7 of The Endangered Species Act.

I hope this information and Captain Burn's paper are of use to you. If I can help you again, please contact me.

Sincerely,

R. L. ANDERSON
Commander, U. S. Coast Guard
Acting Chief, Marine Safety Division
By direction of the District Commander

Encl: (1) "Coast Guard Environmental Mission Fulfilled by Navy Salvage, French Frigate Shoals"
(2) Area to be Avoided, Northwest Hawaiian Islands

COPY

(202) 426-4958

16675/IMCO

Mr. W. deGoede
Head, Navigation Section
IMCO
101-104 Piccadilly
London, W1V 0AE
England

Dear Mr. deGoede:

The Maritime Safety Committee at its 43rd Session adopted the area to be avoided "In the region of the Northwest Hawaiian Islands". This is to inform you that this routing measure will come into force on 1 May 1981 and to request that this information be passed on to member Governments. A description of the area to be avoided is enclosed.

In order that this information be further disseminated I am notifying the Ministry of Defence, Hydrographic Department, England; Deutsches Hydrographisches Institut, Federal Republic of Germany; and Glavnoe Ouprovlenie Navigatsii, Union of Soviet Socialist Republics which publish information concerning the U.S. coasts in their Notice to Mariners.

Thank you for your attention in this matter.

Sincerely,

D. B. CHARTER, Jr.
Captain, U.S. Coast Guard
Chief, Waterways Management Division
By direction

Enclosure

LARUE/srl/G-WWM-2/6-4958/15 DEC 1980

G-WWM-2 G-WWM

Area to be Avoided

"In the region of the Northwest Hawaiian Islands"

The area to be avoided is described by areas of radius 50 nautical miles centered upon the following geographical positions:

(1)	Pearl and Hermes Reef	27°50'N, 175°50'W
(2)	Lisianski Island	26°00'N, 173°55'W
(3)	Laysan Island	25°45'N, 171°45'W
(4)	Maro Reef	25°25'N, 170°35'W
(5)	Gardner Pinnacles	25°00'N, 168°00'W
(6)	French Frigate Shoals	23°45'N, 166°15'W
(7)	Necker Island	23°35'N, 164°40'W
(8)	Nihoa	23°05'N, 161°55'W

PAGE 27
WEDNESDAY, JUNE 10, 1981

THE WALL STREET JOURNAL.

Hawaii Hopes To Get More Out of Fishing

By KATHRYN CHRISTENSEN
Staff Reporter of THE WALL STREET JOURNAL

HONOLULU—It appears, at first glance, to be another case of carrying coal to Newcastle.

Hawaii is surrounded by an ocean and boasts a per capita consumption of seafood nearly double the national average. Yet it imports two-thirds of the 30 million pounds of seafood it consumes each year. The region's annual fishery potential is estimated at 74 million to 118 million pounds. But the state's catch has never topped 20 million pounds, and the entire industry contributes less than 1% of Hawaii's gross state product.

"Amazing, isn't it?" says Shurei Hirozawa, a vice president in First Hawaiian Bank's research division. "And here we are, right in the middle of the Pacific."

Change in Climate

Recently, though, Hawaii's fishing industry has begun to shake off that lethargy. In 1979, the state completed a "master plan" to identify and develop its fisheries potential, and now political momentum is building to give the industry its proper niche in Hawaii's economic base.

The area's fisheries potential is put as high as 118 million pounds a year, but the state's catch has never exceeded 20 million pounds. "Amazing, isn't it?" says a bank official. "And here we are, right in the middle of the Pacific."

Along the way, however, proponents of an expanded, more sophisticated fishing industry are facing obstacles ranging from the U.S. Navy down to a fragile bait fish no bigger than a finger. In addition, many within the conservative fishing industry have been wary of change.

"Everything is beginning to break loose now, though, and things are starting to fall in place," says Stanley Swerdloff, manager of the state's fisheries development programs. Adds Drum Inouye of Aku House, a major wholesaler here: "If you want to talk about the past, there isn't much to say."

Tuna Treasure

In the past few years, Mr. Swerdloff says, the capacity of the Hawaiian fleet has more than doubled and modern processing facilities have opened. A state-sponsored project has proven that the Midway Islands fishing grounds, 1,500 miles to 2,500 miles from Honolulu, contain albacore tuna resources that could triple Hawaii's tuna catch within five years.

Experiments to develop heartier bait species and programs to deploy buoys that attract tuna have been started. And this year, the state legislature appropriated $2.6 million to construct dock space in Honolulu Harbor. But perhaps most important for the long term, Mr. Swerdloff says, is the entry into the business of "a new generation of young people who understand marketing and distribution in terms of the world market."

In its development plan, the state notes that fishing techniques, vessels and equipment have changed little in the past half-century. At Kewalo Basin in Honolulu, aging, wooden sampans dominate the fleet that fishes for aku (also called skipjack tuna), which represents at least half of Hawaii's total catch.

The Bait Gap

But it is bait, rather than boats, that stands in the way of larger aku catches. Fishermen here agree that nehu, a type of Hawaiian anchovy, is the most effective bait. It is so fragile, however, that it lives only a few days under the best of conditions. There is no commercial supply, so fishermen spend as much as 30% of their time capturing the bait. Government-sponsored efforts to develop an alternative bait have so far been unsuccessful.

"Skipjack just won't go anywhere until we come up with a new bait," says Jay Puffinburger of Castle & Cooke's Hawaiian Tuna Packers, the state's only cannery. Of about 15,000 tons of tuna handled by the cannery each year, he adds, about 12,000 tons are imported.

Hawaii's other major fisheries include yellowfin and bigeye tuna and bottomfish. While bait isn't such a problem, Mr. Swerdloff says expansion has been hampered by a shortage of dock space, the cost of fuel and the reluctance of commercial bankers here to finance new fishing ventures.

Hawaii's fishermen haven't until recently exerted much pressure on state government to advocate fisheries development, and the marketing and distribution avenues are narrow at best. With the exception of the aku destined for the cannery or the fresh market, most commercial catches are sold through one company—United Fishing Agency—which operates the only fish auction in Honolulu.

Navy Stands in Way

For now, attention is focusing primarily on the potentially lush albacore tuna grounds of the Midway Islands. Because the grounds are so far from Honolulu, time and fuel costs are prohibitive unless a large mother ship stands nearby to transfer catches and supplies. Midway is controlled by the Navy, however, which has cited security reasons in forbidding commercial vessels from entering its calm-water harbor for such transfers.

Even so, in 1979 state officials persuaded the Navy to compromise. Castle & Cooke provided a mother ship, and a fleet of boats from Hawaii landed four million pounds of albacore. The venture proved unprofitable for Castle & Cooke, but the state continues to negotiate with the Navy for other compromises that would permit more boats from Hawaii to fish the area and return their catches to Honolulu.

Other evidence exists that Hawaii's fishing industry is emerging from its torpid past. South Pacific International Seafoods Inc., a private company, three years ago became the state's first major fish processing plant capable of exporting, importing and "flash freezing" large quantities of fish. (Flash freezing produces a significantly higher-quality and higher-priced product than conventional freezing.)

As encouraging as the processing plant, Mr. Swerdloff says, is the arrival in April in Honolulu Harbor of the Hawaiian Princess, a modern, 174-foot fishing vessel owned by Indo-Pacific Fisheries, another new company whose owners include some of the principals of South Pacific. The new fishing vessel can carry and flash freeze a million pounds of fish. If successful, it's likely to bring other technologically advanced vessels to the Hawaii industry.

Still, Mr. Swerdloff and others caution that Hawaii will always need to import a significant amount of fish to satisfy its restaurant and tourist industry. Such species as salmon, oysters, crabs and mahimahi—all popular with tourists—are available only on a limited basis, if at all, in the local fishing region.

Tail A L ES

Well, it's hard to believe but we are 3 months into the new year and if we use the marlin capture figures from the Kona charter fleet, a whopping 107 during the past 30 days, it promises to be a great year for the offshore angler.

While we are on the subject of charters, I'd like to squelch a rumor that has been spreading regarding the new and proposed regulations governing the use of small boat harbors. The rumor is that visiting charter boats hired for fishing tournaments may not be allowed to use small boat harbor facilities where they do not have registered berths. "Not true," says Dave Parsons, state boating manager. It was purposely written into the regs to allow visiting commercial charter boats to utilize the small boat harbors **if the vessel is engaged as a registered participant in a bonafide fishing tournament.**

Because there are so many questions and misinterpretations regarding the existing and proposed regs concerning commercial permits for small boat harbors, we asked Dave if he would clear up the controversy by explaining the "why's" and "wherefores" of all the legal

Talking about rumors, the fishing community is full of them. **Did you happen to hear about the humungus 195-lb. tako (octopus) taken while trolling 15 miles off K-Bay?** Was it really a tako? In a personal interview with Kani Evans, mosquito fleet fisherman Mel Yoshida tells about the harrowing capture of a giant creature from the deep . . . on page 6.

Here is the whale tale of the month . . . One of the huge mammals breached off Kona and came crashing down on a catamaran out for an afternoon sail. The couple on board miraculously escaped. However, they spent several hours fighting for their lives when the boat was literally broken into two pieces. Which now bring the whale harrassment score total to 1 for the whales and 0 for the fishermen. One might say that the whale's timing was as bad as his manners.

in this issue

about the harrowing capture of a giant creature in the deep . . . on page 6.

Here is the whale tale of the month . . . One of the huge mammals breached off Kona and came crashing down on a catamaran out for an afternoon sail. The couple on board miraculously escaped. However, they spent several hours fighting for their lives when the boat

Oahu's Northshore
Windward Coast
Maui County
Ocean Talks at the Aquarium
Kona Coast
Hawaii Kai Game Fishing Club
Hawaii Small Boat Harbor
The Green Winged Angel
Aqua Doc
The Tackle Box

In light of Dallis Miner's (the director of the NOAA Sanctuary Programs Office) recent announcement that a **sanctuary for the humpback in Hawaiian waters has moved one step closer to reality** as a result of a decision made by the National Oceanic and Atmospheric Administration (NOAA) that the proposal be placed on the "active candidate" list, the list has now narrowed to a mere seven out of more than a hundred original candidates. Actually I, for one, was stunned by the announcement after being set at ease by Mr. Minor's remarks during the public hearing at the State Capitol last year. Myself, and nearly one-hundred other concerned fishermen, left believing that the sanctuary issue had little or no chance of becoming a reality.

If you believe all the talk about how there won't be any restrictions against fishing and boating activities in the proposed sanctuary, you might first like to review the current restrictions against entering or fishing the Northwest Hawaiian Islands, a portion of the state where a federal sanctuary currently exists to protect the Hawaiian monk seal. Last year I attended a symposium on the North West Islands and heard an address by the individual in charge of the sanctuary stating that it didn't really matter what the state recommended insofar as fishing in the sanctuary was concerned because the Federal Government held jurisdiction.

We have received numerous reports about conflicts between shorefishermen and surfers over water rights. In fact, several serious beatings and damage to property have occurred. It appears that the time has come for fishing clubs and surfing groups to get together and establish self-enforced courtesy rules for the benefit and safety of all.

Bob Lauritzen of the Waikiki Aquarium saw the 70-lb. puhi (moray eel) in the last issue of HFN and thought what a great addition to the Aquarium a live specimen of this size would be. We would like to ask our

Bob Lauritzen of the Waikiki Aquarium saw the 70-lb. puhi (moray eel) in the last issue of HFN and thought what a great addition to the Aquarium a live specimen of this size would be. We would like to ask our diving segment to be on the lookout for a moray in excess of 50-lbs. Call Bob (ph. 923-4725) and he will invite you to guide and witness the capture. Sounds like there might be a good story in it for a future issue . . . what's a "Charlie" fish? Who's Killer Muldoon?

. . . read on, it's all in this issue of HAWAII FISHING NEWS!

. . . Chuck

HAWAII FISHING NEWS

"The Voice of Hawaii's Sport Fisherman"

1314 South King Street, Suite 1256
Honolulu, Hawaii 96814 (808) 521-6724

ANNUAL SUBSCRIPTION IN THE U.S. $18.72

Hawaii Fishing News (ISSN 0194-651X) published monthly by Hawaii Fishing News, 1314 South King Street, Suite 1256, Honolulu, Hawaii 96814. Second class postage paid at Honolulu, Hawaii. POSTMASTER: Send address changes to Hawaii Fishing News, P.O. Box 25413, Honolulu, Hawaii 96825.

Subscription Rates: U.S. $18.72 per year (12 issues) inside the U.S. second class mail □□ Air Mail U.S. Mainland and Alaska $38.00 per year □□ International Second Class (surface) $32.00 per year □□ International Air Mail $60.00 per year.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P. O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:
PIA

MAR 2 7 1981

Jack Davidson
Sea/Grant Marine Advisory Program
Spalding 252B
2540 Maile Way
Honolulu, HI 96822

Dear Jack:

I hope the enclosed comments by Norm Starler, will prove helpful to the development of the Delphi study. Norm is the lead economist with the Fish and Wildlife Service Division of Program Plans in Washington, D.C.

Sincerely,

Dale T. Coggeshall
Pacific Islands Administrator

Enclosure

cc: Shomura
Ego
Grigg
Shallenberger

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

ADDRESS ONLY THE DIRECTOR
FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

MAR 19 1981

Memorandum

To: Dale T. Coggeshall

From: Norm Starler

Subject: Delphi Study of Resource Management Alternatives in Hawaii

I have studied the Delphi material you sent, read a portion of the literature, and consulted with some of my colleagues. The Delphi technique has been used to address regional development problems. It can produce worthwhile information for development decisions.

The material I reviewed is not detailed enough to permit a comprehensive critique. For example, a Fisheries strategy/forecast exhibit was provided. These tables should be supplemented with materials on how the information will be used in the context of the policy decisions. Furthermore, the elements in the tables need to be defined. It is unclear how benefits are defined. Are they in terms of population, size of catch, value of catch or economic impact on direct and supporting industries?

Nevertheless, there are some general elements discussed by Linstone and Turoff that should be considered. I would be happy to discuss the following points with you:

1. In making forecasts, individuals tend to discount the future. Events that may happen far down the road are accorded less weight than events expected to occur closer to the individuals own time and space perspective. One can attempt to bring a scenario into the participant's planning horizon by finding existing situations that resemble the future or by making special efforts to induce the participant to project himself into the future.

2. Delphi exercises often tend to suppress uncertainty. The exposure of uncertainty and the fact that divergent views may still exist even after several iterations of the Delphi process should not be stifled. Often this occurs because people are more comfortable with certainty and a uniform viewpoint. Differences that emerge should be explored before they are papered over.

3. Participants tend to oversimplify. A reasonable sounding scenario is likely to be judged as having a higher probability of occurrence than a less intuitively pleasing one even though there is little evidence to choose between them. It is incumbent on the person executing the process to probe for the possibility of oversimplification.

4. The choice of experts can limit consideration of applicable factors and result in errors. This ties in with your concern that some out of state experts and some generalists should be included in the exercise. The latter can be most helpful in properly defining the problem and in exploring differences among the specialists. Input from the average citizen as well as the perceptions of the policy target population (e.g., commercial and sport fishermen) is desirable.

5. The person executing the process plays a key role in the utility of the outcome. Criteria for good execution include the choice of experts with a sufficient range of views (see No. 4), flexible design of the questionnaire to allow for different perceptions, careful analysis of the responses (finding out reasons for agreements, identifying underlying assumptions), fairly quick turn-around of materials, and maintenance of adequate response rates through the successive iterations.

6. Bias towards pessimism in long-run forecasts and over-optimism in short-run forecasts can occur. Problems in implementing short-run policies tend to be overlooked and new breakthroughs that can surmount problems/conflicts expected to occur in the future tend to be ignored.

7. Some of the participants should be involved in the monitoring analysis and summaries of the results of each round. This is to prevent manipulation. At the very minimum, the raw data from each iteration should be available for inspection.

8. Participants should not be permitted to interact during the sessions. This would defeat the purpose of the Delphi process which is to minimize the influence of strong personalities. It would be advisable to obtain suggestions from individuals as to questionnaire content before the exercise is begun (see No. 7).

Norm Starbr

Attachments

1. Development Strategies for NWHI

Outside Development Facilities	Management Boundaries			
	Shoreline	10 fathoms	20 fathoms	3 miles
1. Midway				
2. Tern Island				
3. Mothership				
4. None				

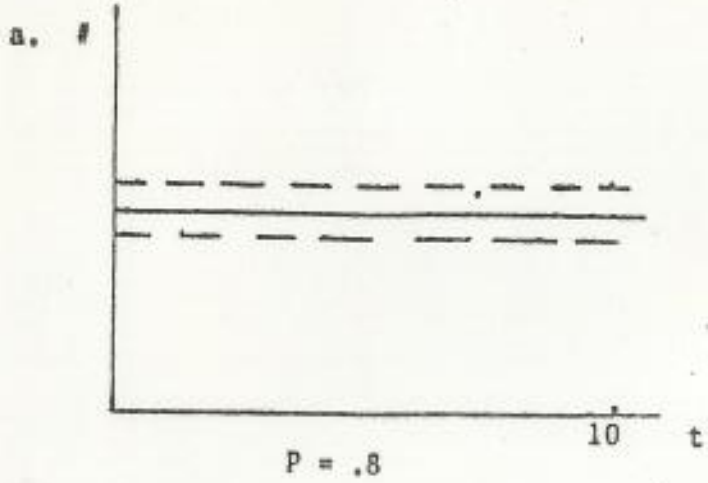
2, FORECAST DELPHI--ALTERNATIVE OUTCOMES OF VARIOUS DEVELOPMENT STRATEGIES PROPOSED OVER A 10-YEAR PERIOD

FISHERIES							WILDLIFE			
Strategies	Tunas	Lobster	Bottom Fish	Akule/ Opelu	Seamount	P	Strategies	Monk Seals	Green Sea Turtles	Sea Birds
1. MIDWAY							1. MIDWAY			
a. Shoreline 1) Outcome I 2) Outcome II							a. Shoreline 1) Outcome I 2) Outcome II			
b. 10 fathom 1) Outcome I 2) Outcome II							b. 10 fathom 1) Outcome I 2) Outcome II			
c. 20 fathom 1) Outcome I 2) Outcome II							c. 20 fathom 1) Outcome I 2) Outcome II			
d. 3 mile 1) Outcome I 2) Outcome II							d. 3 mile 1) Outcome I 2) Outcome II			

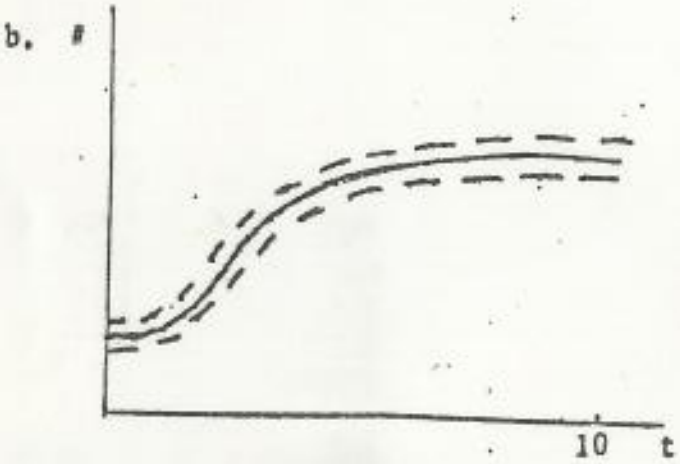
3. Example of Individual Strategy Forecast over 10 years

Using Midway/3mile Strategy, 1 Fishery Resource, 1 Wildlife Resource

Fisheries Benefits

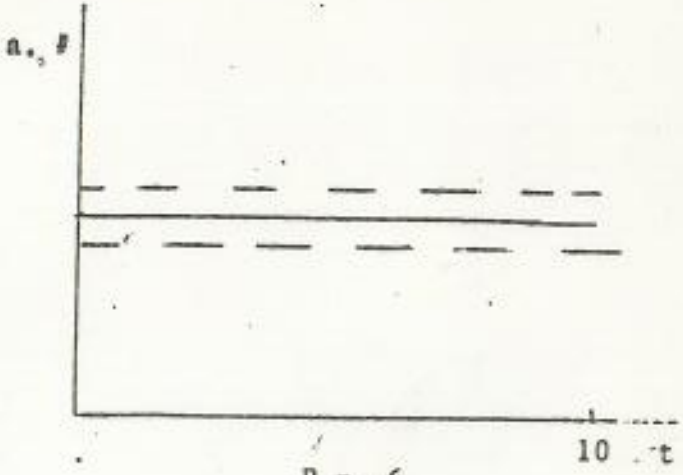


P = .8

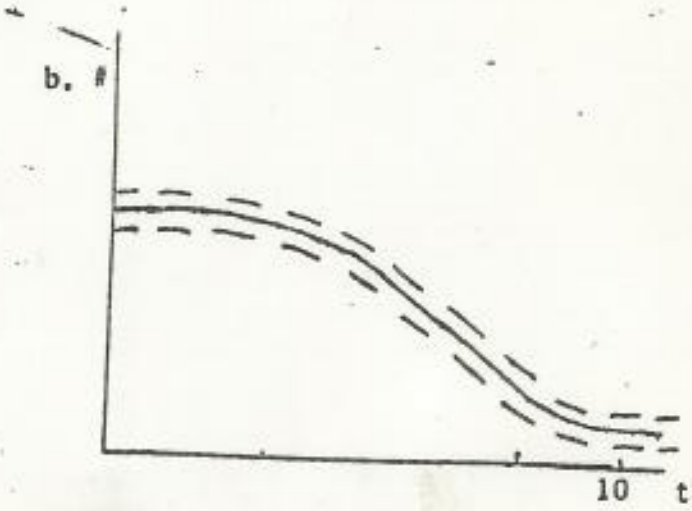


P = .2

Wildlife Benefits



P = .6



P = .4

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P. O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO: RWR

3/9
SS
WCC
GB
RJ
Adm

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

MAR 6 1981

Attn: Richard Shomura

Gentlemen:

The purpose of this letter is to settle outstanding accounts for individuals supported in the Tern Island facility during FY80 and to provide information on our FY81 program at Tern Island. For those of your staff or in your program that have not settled the FY80 accounts, bills for collection are enclosed.

It is clear after evaluating actual expenses during FY80 that the rates charged to non-Refuge personnel ($3/day without food, $6/day using FWS food) do not adequately compensate the Refuge for either direct expenses incurred or indirect costs of supporting personel beyond the Tern Island staff. Such indirect expenses include the additional work load for Tern staff, additional repair or maintenance of Refuge equipment and facilities, and the increased frequency of required resupply (food, fuel, parts, etc.). For these reasons, the charge for non-Refuge personnel using the facility in FY81 will be $19.25/day when food is provided and $5/day when visitors supply their own food. Charges for boat use, extra generator needs, and extra labor charges are as follows:

Use of electricity beyond regular schedule (18 hrs/day)	$1.50/hr.
Food charge	$14.25/day/person
Boat cost without fuel	$7.00/day/boat
Boat cost with fuel	$19.00/day/boat
Loading/unloading costs from supply boats or planes or for maintenance or other work required	$7.50/hr/helper

Visitors will be required to supply their own food for any visits lasting more than two days. Additional charges will be made for other expendable supplies provided by the Refuge.

The additional involvement of Tern Island staff caused by station visitors, and hence the adverse effect on ongoing Refuge maintenance and research programs, can only be minimized through the complete cooperation of all visitors. All visits must be scheduled at least 60 days in advance, where practical. The total number of visitors at the station at any particular time (or during certain sensitive periods of the year) will be severely restricted to avoid overtaxing the facility and staff and to avoid disturbance to monk seals, turtles and seabirds. Visitors will be expected to adhere strictly to rules governing activities on Tern Island or elsewhere in French Frigate Shoals. These rules are attached for your review. They will also be made a part of Special Use Permits for each researcher. Visitors must also comply with all directions from the Refuge Manager on the island relating to water and power consumption, meal schedules, facilities cleanup and other activities on Tern Island and elsewhere in the Refuge. The Refuge Manager will have the final say on whether or not boat activity will be allowed, restricted or prohibited on certain days, depending upon water and wind conditions. Visitors who fail to comply with any of the restrictions or policies will be asked to terminate their research and arrange for transportation back to Honolulu as soon as is practical. Please be sure that all researchers on your projects, including students or assistants, are aware of the rules.

It is our belief that an acceptable level of carefully planned research can be undertaken at French Frigate Shoals during this field season provided there is close cooperation among all those involved. Research proposals submitted prior to this date are currently under Section 7 review, pursuant to the Endangered Species Act. Pending the outcome of this review, Special Use Permits will be issued for each principal investigator by this office. If you have any questions regarding the program at Tern Island for this year, please do not hesitate to contact me.

Sincerely yours,

Robert Shallenberger

Robert J. Shallenberger, Ph.D.
Supervisory Wildlife Biologist
Refuges/Wildlife Resources

Enclosures

RULES FOR USE OF TERN ISLAND BY RESEARCHERS

The use of Tern Island as a research station is of mutual benefit to the researcher and the Hawaiian Islands National Wildlife Refuge. However, the resident Assistant Refuge Managers' primary responsibilities are maintenance of the facilities and research. They will be willing to assist visiting researchers as their schedules permit but are not in any way obligated to do so other than to see that facilities are utilized in a manner that is safe for personnel, non-destructive to equipment and to insure the welfare of the natural resources. As their schedule permits, they may render technical assistance in the repair of motors and other equipment, but it is the visitor's responsibility to be as independent as possible. Although tools and other equipment are available at Tern Island in an emergency, visitors should supply their own equipment and be prepared to perform maintenance and repairs as needed.

The following rules are to be strictly adhered to. Failure to do so will be grounds for the resident Refuge Manager to request that the offender leave Tern Island or for the researcher to no longer be permitted to conduct research within the Hawaiian Islands National Wildlife Refuge.

SUP conditions applying to work at Tern Island:

1. The total number of researchers may be limited to those named on the SUP unless prior written permission is obtained from the Refuge Manager or his designated assistants.

2. The presence of endangered Hawaiian monk seals, threatened green sea turtles, and a variety of nesting seabirds that are involved in experiments necessitates restrictions upon movement of personnel about Tern Island to the areas designated by the resident Assistant Refuge Manager. Except in emergency situations, movement outside of this area without prior permission from the resident Refuge Manager will be grounds for termination of use of Tern Island by the permittee. The restricted areas are indicated on the attached map.

3. Due to costs involved in logistics, maintenance, and the unpredictable nature of supply, care must be taken to limit use of electricity, cooking and boat gas, and water. Avoid frequent opening of large refrigerators, dry clothes outside, turn off unnecessary lights, avoid excessive use of kitchen facilities, rinse dive gear in large pails instead of running hoses, and conserve in other ways.

4. Boat use shall be at the discretion of the resident Refuge Manager even if boats do not belong to the Fish and Wildlife Service. Adverse wave or wind conditions will preclude or limit boat use. In almost all cases small craft advisories (winds exceeding 25 knots) will curtail activities.

5. Servicing of motors is the responsibility of the researcher, although the resident Refuge Managers may be available for technical assistance. Boats and motors are to be supplied by the researchers, unless other arrangements can be made in advance.

6. All boats are required to have a principle motor and a back-up motor in working condition. Both motors are to be shown to be working before any boat leaves the dock area. Motors should be attached to the boat by a safety chain or rope. Boats must also have standard safety equipment including life preservers for each person (diving buoyancy compensators and wet suits are not adequate), a waterproof light, anchors, paddles or oars, emergency day and night signaling devices, emergency tools, a first aid kit, communication radios including a "walkie-talkie", and an emergency locating transmitter.

7. All boat users are to file a trip plan, including time of return with the resident Refuge Manager and to make sure that their radio equipment is operable each day. Arrangements should be made to call in to Tern Island at intervals not to exceed four hours. Whenever possible, radio equipment is to be supplied by the permittee.

8. Approach to less than one-half mile of any island not specifically mentioned on Special Use Permits is prohibited except in emergency situations, or unless permission is obtained in advance from the resident Refuge Manager.

9. Persons allowed on islands are to remain within areas outlined in their Special Use Permit.

10. Only certified divers are allowed to use SCUBA techniques at French Frigate Shoals.

    a. Diving is limited to no decompression depths and/or times.
    b. Diving is only to be done with a buddy present.
    c. Extreme care is to be taken with air compressors in order to insure safe air is being pumped. Exhaust fumes are to be kept well away from the air inlet. Filter changes are to meet or exceed manufacturer's recommendations. Only manufacturer recommended lubricants are to be used.
    d. Minimally acceptable equipment for diving will include:
        1. Tank that has been hydro-tested within five years and visually inspected within one year.
        2. Regulator in perfect operating condition
        3. Buoyancy compensator or inflatable safety vest

4. Submersible tank air pressure gauge.
5. Depth gauge
6. Mask, fins, and snorkle
7. Waterproof watch.

11. Tern Island visitors are to be responsible for keeping their rooms, hallways, bathrooms, and work areas (boat houses, etc.) clean during their stay, and when they leave. They are also responsible for cleaning the kitchen, dishes, and tables after meals and for coordinating meal schedules with the resident Refuge Manager. Except through prior arrangement, visitors are to supply their own food.

12. Researchers will be charged a daily fee for the use of Tern Island facilities.

13. All accidents are to be reported immediately to the resident Refuge Manager.

14. The welfare of personnel is to be placed above that of equipment at all times. The safety of overboard or injured personnel is to be assured before equipment is retrieved.

15. Visitors are responsible for replacing any U.S. Fish and Wildlife Service equipment that they lose or damage.

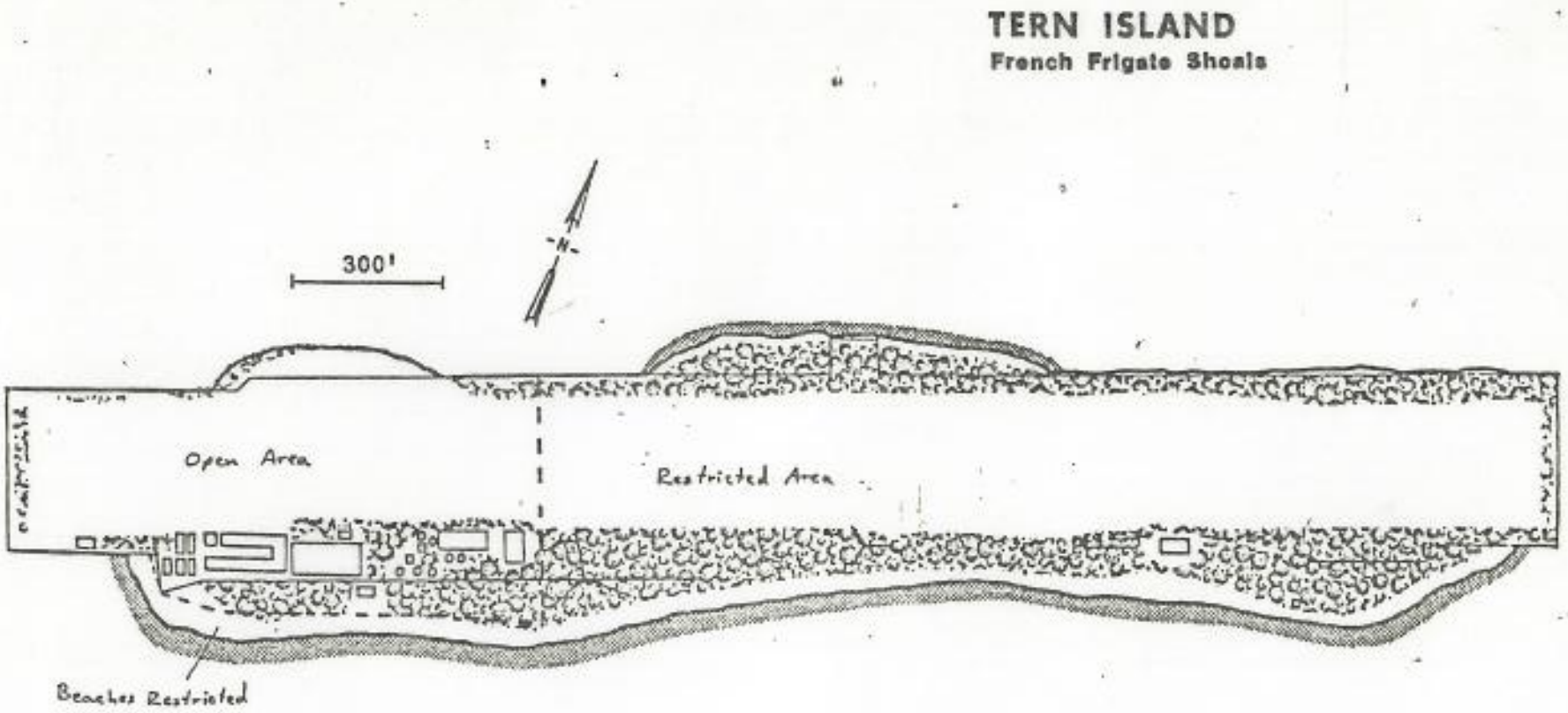


Figure 3. Tern Island - extent of vegetation.

☆U. S. GOVERNMENT PRINTING OFFICE: 1980—316-087

DI-1040
Revised
(Aug. 1973)

BILL FOR COLLECTION

Bill No. _____

Make Remittance Payable To: U.S. Fish & Wildlife Service (Bureau or Office) Date 2/9/81

Mail Payment To: Refuge Manager, USFWS, PO Box 50167, Honolulu, HI 96850 (Address)

PAYER:

Mr. George Balazs
Hawaii Institute of Marine Biology
P.O. Box 1346
Kaneohe, HI 96744

Please detach top portion of this bill and return with remittance.

Amount of Payment $_____

Date	DESCRIPTION	Quantity	Unit Price Cost	Unit Price Per	Amount
3/5 - 3/6-80	Room & Board at Tern Island FFS (USFWS provided food)	1	6.00	day	6 00
	2 Assistants (A. Dizon, G. Nitta)	2	6.00	day	12 00
6/80 to 7/1/80	Lodging at Tern Island FFS (No food provided)	26	3.00	day	78 00
	4 Assistants (A. Dizon, A. Jamison, C. Whittow, S. Kramer) (26 days x 4)	104	3.00	day	312 00
5/80 to 9/8/80	Lodging at Tern Island FFS (No food provided)	4	3.00	day	12 00
	3 Assistants (B. Bilmartin, A. Perry, Chris) (4 days x 3)	12	3.00	day	36 00
				AMOUNT DUE THIS BILL,	$ 456 00

NOTE: A receipt will be issued for all cash remittances and for all other remittances when required by applicable procedures. Failure to receive a receipt for cash payment should be promptly reported to the bureau or office shown above.

ACCOUNTING CLASSIFICATION (Appropriation Symbol must be shown; other classification optional)

ACCOUNTING COPY

SPARK M. MATSUNAGA
HAWAII

WASHINGTON OFFICE:
362 Russell Building
Washington, D.C. 20510

HONOLULU OFFICE:
3104 Prince Kuhio Building
Honolulu, Hawaii 96850

United States Senate

WASHINGTON, D.C. 20510

CHIEF DEPUTY
MAJORITY WHIP

CHAIRMAN, SUBCOMMITTEE ON
TOURISM AND SUGAR
COMMITTEE ON FINANCE

MEMBER:

COMMITTEE ON ENERGY AND
NATURAL RESOURCES

COMMITTEE ON
VETERANS' AFFAIRS

October 3, 1980

Mr. George H. Balazs
Assistant Marine Biologist
Hawaii Institute of Marine Biology
University of Hawaii at Manoa
P. O. Box 1346
Kaneohe, Hawaii 96744

Dear George:

Thank you for your letter expressing your concern over the need to establish further federal protection against the grounding of ships in the Hawaiian Islands National Wildlife Refuge. I regret the delay in my response.

Inasmuch as the U. S. Fish and Wildlife Service is charged with the administration of the refuge, I have made an inquiry on this matter with Pacific Islands Administrator Dale Coggeshall. I will contact you as soon as I can provide you with a report on my inquiry.

Aloha and best wishes.

Sincerely,

Spark

Spark Matsunaga
U. S. Senator

SPARK M. MATSUNAGA
HAWAII

WASHINGTON OFFICE:
362 Russell Building
Washington, D.C. 20510

HONOLULU OFFICE:
3104 Prince Kuhio Building
Honolulu, Hawaii 96850

United States Senate

WASHINGTON, D.C. 20510

CHIEF DEPUTY
MAJORITY WHIP

CHAIRMAN, SUBCOMMITTEE ON
TOURISM AND SUGAR
COMMITTEE ON FINANCE

MEMBER:
COMMITTEE ON ENERGY AND
NATURAL RESOURCES

COMMITTEE ON
VETERANS' AFFAIRS

October 12, 1980

Mr. George H. Balazs
Assistant Marine Biologist
Hawaii Institute of Marine Biology
University of Hawaii at Manoa
P. O. Box 1346
Kaneohe, Hawaii 96744

Dear George:

Thank you for your most recent letter concerning the State Department's plans to conduct a feasibility study of the storage of spent nuclear fuel in the Pacific Basin. I appreciated your providing me with a copy of the letter you received on this matter from the Deputy Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs.

I must say that I was pleased by the tone of Assistant Secretary Nosenzo's letter which indicates that the Department of State is cognizant of its responsibility to conduct extensive environmental impact studies of proposed nuclear storage areas in order to protect endangered species such as marine turtles. While it does not appear from Mr. Nosenzo's letter that the State Department is willing to keep private citizens and interested private parties apprised of the progress of its feasibility and environmental impact studies, you will be pleased to learn that the Department has made a firm commitment to keep the Congress and, in particular, its committees with oversight jurisdiction over nuclear and insular affairs, fully informed of the progress of these activities. As a member of the Senate Committee on Energy and Natural Resources, I am in the position to closely monitor each facet of the Department's efforts in this matter and its final findings and recommendations, which, under a law I authored, must be submitted to the Congress. Please be assured that I will keep you and other interested parties apprised of any important developments.

I appreciated your writing to me again on this important issue.

Aloha and best wishes.

Sincerely,

Spark

Spark Matsunaga
U. S. Senator

GREENPEACE

December 18, 1980

Dear Environmentally concerned persons:

I am enclosing a copy of our comments on the Fishery Management Plan, Environmental Impact Statement and Regulatory Analysis for the Spiny Lobster Fisheries of the Western Pacific Region. As you can see from reading our comments, we are very concerned over the possibility of harm occuring to the monk seal populations and to the other components of the fragil ecosystem of the Northwest Hawaiian Islands Refuge System as a result of fisheries development in this pristine region.

If you would care to comment on the Management Plan, it is available from the Western Pacific Fishery Management Council, 1164 Bishop St. #1608, Honolulu, HI 96813. We also have a copy available in our office. Comments are due by January 7, 1981.

Please contact us with your thoughts, comments, criticisms of our response if you care to. If you need more information on the reasoning behind our position, or would like additional information on the monk seals or the Northwest Hawaiian Islands, please feel free to contact either myself or Sue Difloure at our office.

We look forward to hearing from you.

Sincerely,

Kelley Dobbs

GREENPEACE FOUNDATION • 913 HALEKAUWILA, HONOLULU, HAWAII 96814
A NON-PROFIT, TAX-EXEMPT ORGANIZATION • (808) 537-9505 • TLX 633175

GREENPEACE

December 17, 1980

Mr. Svein Fougner, Executive Director
Western Pacific Fishery Management Council
1164 Bishop St., Suite 1608
Honolulu, HI 96813

Dear Mr. Fougner:

We have received the Fishery Managment Plan, Environmental Impact Statement and Regulatory Analysis for the Spiny Lobster Fisheries of the Western Pacific Region and offer the following comments:

The regulations proposed in this document state that there will not be a quota set on numbers of spiny lobsters caught, but that a size and depth limitation will apply. This is extremely surprising and seems rather precipitous considering your acknowledged lack of data on the fishery and the close association it has with the endangered monk seal. You have no idea how the monk seals will react to a reduction of one of their food sources. Until this is known, it seems very unwise to charge into a virtually untapped lobster population without a limitation on the numbers of lobsters that can be taken. The action proposed is based on a theory in the document which is stated on page 34. The theory is that there exists a larger reproductive potential in lobsters under 8.25 cm CL (carapace length) than previously accepted. As the entire document appears to be based on this theory, I am surprised more attention is not devoted to it. It is stated on page 4 that detailed technical information and analysis is contained in a source document. However, we question how many reviewers will have an opportunity, or take the opportunity to obtain this source document. While succinct EIS's are encouraged by Federal policy, in several areas, this document appears to be brief to the point of emptiness.

The document does not address the absolutely critical nature of the monk seals predicament. Page 48 of the Proposed Designation of Critical Habitat for the Hawaiian Monk Seal in the Northwestern Hawaiian Islands (Draft EIS) states: "The Hawaiian monk seal has demonstrated sensitivity to human disturbance in the past two decades." Page 9 of the same document states: "...it is apparent that the Hawaiian monk seal (Monachus schauislandi) has experienced a significant decline over the past 20 years with a current downward trend and a population now possibly as small as 1,000 individuals." The FMP Draft EIS does not address either the sensitivity of the monk seals or the current decline of this small population. The cumulative effect that the lobster fishery could potentially have on the monk seal populations is not dealt with. Nor is the potential effects of other types of fishing, diseases and possible harrassment from activities resulting from the State of Hawaii's aggressive policy of opening the NWHI to mulitple uses. It is acknowledged on page 60 that this FMP may provide incentives for other fisheries development in the NWHI and that these could have impacts on marine mammals, you go no further in exploring these possibilities.

It is acknowledged that there exists a proposal for designation of Critical

Habitat for the Hawaiian Monk seal and that of the options presented, one is for a CH that extends out to 20 Fathoms. If this proposal is adopted, there could possibly be restrictions placed on the fisheries in this area. However, the EIS does not address the 20F CH as one of it's managment alternatives. The possibility of such a designation is mentioned but no serious consideration is given to the possibility that restrictions in this area may be necessary for the survival of the monk seals.

Your striking disregard for the 20F possiblity raises the question of whether you gave any consideration to the biological needs of the seals or merely considered the option with the highest economic returns. Which leads us to ask, What is your basis for the 10 F restriction ag opposed to the 20 F mark? There is recent evidence that the seals dive quite deep and that this is attributed to feeding behavior. (Gilmartin, Dr. William, NMFS, unpublished 1980). The 20 F mark seems in itself to be a compromise between the seals protection and outside pressures.

What if it happens that a significant portion of the seals diet consists of lobsters over 7.7 cm CL? Since you have set no quota, there is a likelihood that the numbers of such lobsters will be significantly reduced in the first few years of the FMP. If this causes a reduction the seals diet during this period they could suffer irreparable harm before scientists could even try to determine what the root causes were. If we make a guess which says that it will take two years before the reduction in lobsters will affect the seals sufficiently to be statistically observable, and then another 6 months before the results are published and distributed and perhaps another 12 to 18 months before the results are acted upon, it is clear that the seal population may be impacted to the point that they have declined below a critical level that will allow the population to increase.

If there were also an error in the theory that the population of lobsters smallerthan 7.7 cm. CL has a significant reproductive potential, the recovery of lobster stocks would take even longer and the seals would continue to be impacted.

There is very little attention paid in this document to the possible negative consequences of a vessel grounding or sinking near one of these sensitive islands. Nor is there attention paid to the pressure that will be exerted to use one of these islands as a fishery base. Harassment, pollution and introduction of rats are all possibilities which should be seriously addressed. In the event of disaster, meaningful protection of the ecology of the area would have to come from Honolulu. The great distances mean a time delay and severe logistical problems. Even with this help, some harm would likely still occurr and problems arise which have no easy solution. The recent grounding of a ship in the area is an excellent example of such a situation. A combined State-Federal task force felt that it had no option but to dump the cargo of the ship which consisted of clay overboard in the hope that they would avoid a spill of more damaging bunker

REGULATIONS

If the possible folly of opening up this area to fisheries development is insisted upon and the State and Federal governments are willing to risk the existence of the last remanant population of monk seals which still has a sizable breeding population (the Mediterranean population is believed to be very small) and willing to risk severely impacting the seabird populations (with the possible introduction of rats and disease vectors) we recommend that the following measures be adopted :

1. All boats entering the NWHI must have observors aboard who are independently

funded by an agency other than the NMFS, the WPRFMC or other agencies directly related to the fishing industry in order to not create a conflict of interest.

2. That quotas be set for the fishery and that the results be analyzed at intervals to determine the effect of the fishery. To use the reasoning that not enough data is known for the lobster stocks of each island and that therefore no quota should be set for areas indicates that much research needs to be done before the quotas are set; and that, until this is done, the areas should not be opened up to the fishery. To not set quotas could result in severe impaction of the lobsters in some areas.

3. That "short" lobsters are lowered to the bottom and released versus releasing them at the surface. This would circumvent the possibility of monk seals hanging around the boats looking for a free lunch. This behavior could result in the deliberate or inadvertent death of these seals.

Miscellaneous

It is stated on page 25 of the document that "a FMP provides a much sounder base for management of the fishery than would be provided by the ESA. The FMP is a product of a multi-disciplinary systematic planning effort with several levels of public input. A FMP containing provisions to protect seals appears more likely to achieve the purpose of the ESA than regulations promulgated under the ESA." We question this statement. It is clear to anyone who takes a cursory glance at the membership of the WPRFMC that it is made up of fishermen, people with vested interests in the fishing industry, and the NMFS, which does some work with endangered species, but whose prime directive is to promote the fishing industry. Concern over bias of fisheries councils has been voiced in other areas of the country, but we doubt if any of the others could equal the self-interest of the WPRFMC. Such a posture makes their claim of being able and willing to protect the monk seals seem somewhat ridiculous.

There should be included in the document a more thorough accounting of the history of the lobster fishery in the main Hawaiian Islands and elsewhere in the world. This would allow a more reasoned comparison between various situations.

The section entitled "Socio-Cultural Framework" (page 69), presents the NWHI as an opportunity for Hawaii's fishing industry to expand and continue a "notable local tradition". They can't be referring to the man who goes down to the beach or out in a Boston whaler to catch a few lobsters for dinner. These lofty phrases must be referring to the large proccessing ships seeking to find new resources to replace the ones which have been fished out or polluted. The section fails to mention the "socio-cultural" psychological, scientific, and perhaps future recreational values of having one area that is not exploited or polluted-after all, these are the Northwest Hawaiian Islands-some of the most beautiful, unique and unexpoited areas left in the world. They deserve a little more care and thoughtfulness than this EIS provides.

Sincerely,

Kelley Dobbs
Greenpeace Hawaii

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Fisheries Center
Tiburon Laboratory
3150 Paradise Drive, Tiburon, CA 94920

November 3, 1980

TO: Richard Uchida
Leader, Insular Resources, Honolulu Laboratory, F/SWC2

FROM: Edmund S. Hobson
Tiburon Laboratory, F/SWC3

SUBJECT: Cruise Report: 10-30 September 1980

Study Continues on Communities of Reef-Fishes in the Northwestern Hawaiian Islands

The reef-fish communities on those of the Northwestern Hawaiian Islands not included on earlier cruises were visited during a cruise aboard the Research Vessel EASY RIDER that ended this month. Dr. Edmund S. Hobson, with Fishery Biologist Tony Chess, continued an investigation of variations in community structure that relate to differences in habitat throughout the Hawaiian archipelago. Expanding earlier findings to include Gardner Pinnacles, Laysan Island, Maro Reef, Lisianski Island, and Pearl and Hermes Atoll, they collected data that support generalizations made in a preliminary report Dr. Hobson presented at the Northwestern Hawaiian Islands Symposium in Honolulu last spring. A more refined understanding was gained of certain species prominent on High Island reefs that became progressively less numerous to the northwest as habitats change with increased latitude, age, and exposure to prevailing wind and sea. As predicted, certain species that apparently depend on features related to basaltic reefs were found dominant only to Gardner

Pinnacles--the last basaltic reef to the northwest. Study was also directed at an opposing pattern--species low in numbers on the High Islands, but dominant in the Northwestern Islands. For example, Caranx ignobilis, whose low numbers on High Island reefs probably stem from fishing pressures, proved even more abundant on the islands visited during this cruise (Figure 1), than the islands visited earlier--probably because the islands visited this time are even more isolated from fishermen.

An important zoogeographic feature emphasized in the symposium report were those species established in reef communities at the southeastern end of the archipelago that drop out at varying points northwestward. Of those listed in Tables 4 and 6 I, of the symposium report, observations made on this trip extended the most northwestward sighting as follows:

Species	Previous Northwestern most Sighting (as listed in symposium report)	Most Northwestward Sighting This Trip
1. Aphareus furcatus	French Frigate Shoals	Maro Reef
2. Mönotaxis grandoculis	" " "	Laysan
3. Parupeneus bifasciatus	Niihau	"
4. Plectroglyphidodon sindonis	French Frigate Shoals	Gardner Pinnacles
5. P. imparipennis	" " "	Laysan
6. Thalassoma fuscus	" " "	Maro Reef
7. Acanthurus nigrofuscus	" " "	Laysan
8. Naso lituratus	" " "	Pearl and Hermes
9. N. brevirostris	Necker	Laysan
10. Plagiotremus goslinei	"	Gardner Pinnacles
11. Rhinecanthus rectangulus	"	Laysan
12. Cantherhines sandwichiensis	French Frigate Shoals	Gardner Pinnacles

The symposium report placed similar emphasis on those species established in reef communities at the northwestern end of the archipelago which were not seen at the southeastern end. Observations on this trip extended the southeastern most sighting of species listed in Table 6 II of the report as follows:

Species	Previous Southeastern Sighting (as listed in symposium report)	Most Southeastern Sighting This Trip
1. Epinephelus quernus	Midway	Laysan
2. Oplegnathus punctatus	"	Maro Reef

Earlier studies had noted the great abundance in the Northwestern Islands of Myripristis spp., which reside in reef caves by day, and feed in the water column above the reef and surrounding regions at night. The relatively low numbers of these fishes on High Island reefs today was attributed to pressures from human fishermen, but on two of the Northwestern Islands--Laysan and Lisianski--Myripristis spp. were found to be fewer than on any of the more heavily fished High Islands. This is true even though around both of these islands suitable habitat is seemingly widespread and human fishermen essentially absent. But both islands have had large numbers of monk seals, which conceivably could have exerted fishing pressures that decimated the Myripristis populations. Monk seals feed at night, and generally Myripristis spp. are the most numerous moderate-sized fish (e.g., 100-200 mm SL) in open water above Hawaiian reefs after dark.

In addition to their reduced numbers of Myripristis spp., the reef communities at Lisianski were notable for a general absence of small diurnal planktivores, like Chromis vanderbilti and Chromis hanui, which are numerous at

islands to the north as well as to the south. Possibly there is a relation between the general absence of these small fishes and the occurrence in the water there of exceptionally high loads of suspended sediments (reportedly a common condition there). Our visit occurred during an especially calm period, but even then the levels of sediments in suspension were high compared to elsewhere in the archipelago. In contrast to the general absence of small planktivores, the file fishes Pervagor spilosoma and Cantherhines verecundus, especially the former, were unusually abundant. P. spilosoma is widespread throughout the archipelago, but usually a community includes just a few individuals. At Lisianski, however, this was one of the predominant species. Perhaps related to its unusually large numbers, and to the general absence of small planktivores, P. spilosoma at Lisianski commonly occurred in aggregations above the corals, feeding on plankton (Figure 2)--an unusual habit for file fishes, and one never before seen in P. spilosoma by members of this investigation.

On the reefs at Lisianski it was also noted that relatively large numbers of the surgeonfish Ctenochaetus strigosus were diseased (Figure 3). This condition, which involved discolorations, ulcers and tumors on the body, was seen in no other species, but occurred in up to 5% of the C. strigosus on some reefs. Symptoms like this when noted in fish populations routinely are attributed to pollution of the environment by humans. But their occurrence at this island, which is among the most isolated from human contact of all the Hawaiian Islands, should remind us that such conditions can develop under natural circumstances.

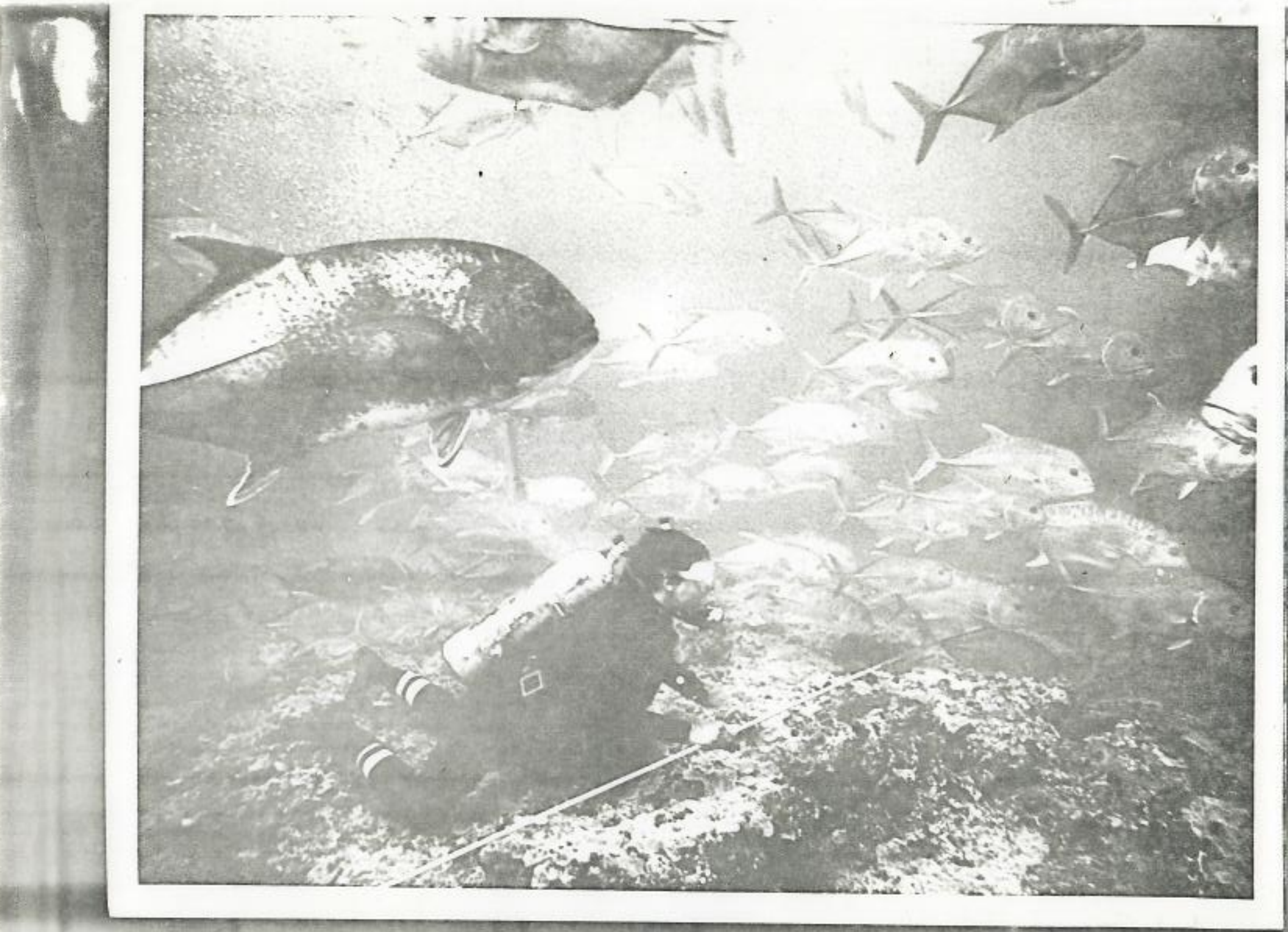
Are they? Military fuel etc.?

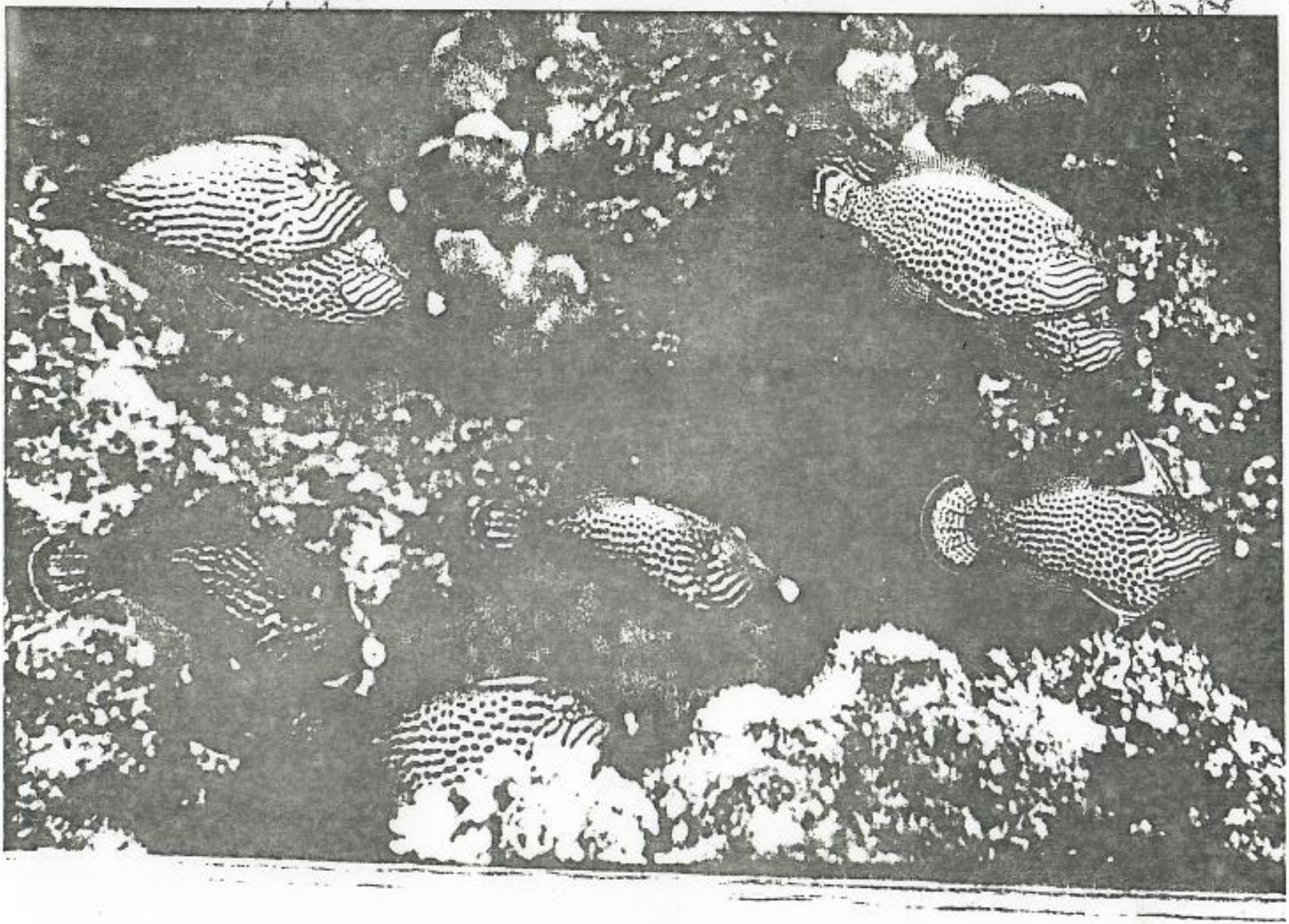
FIGURE CAPTIONS

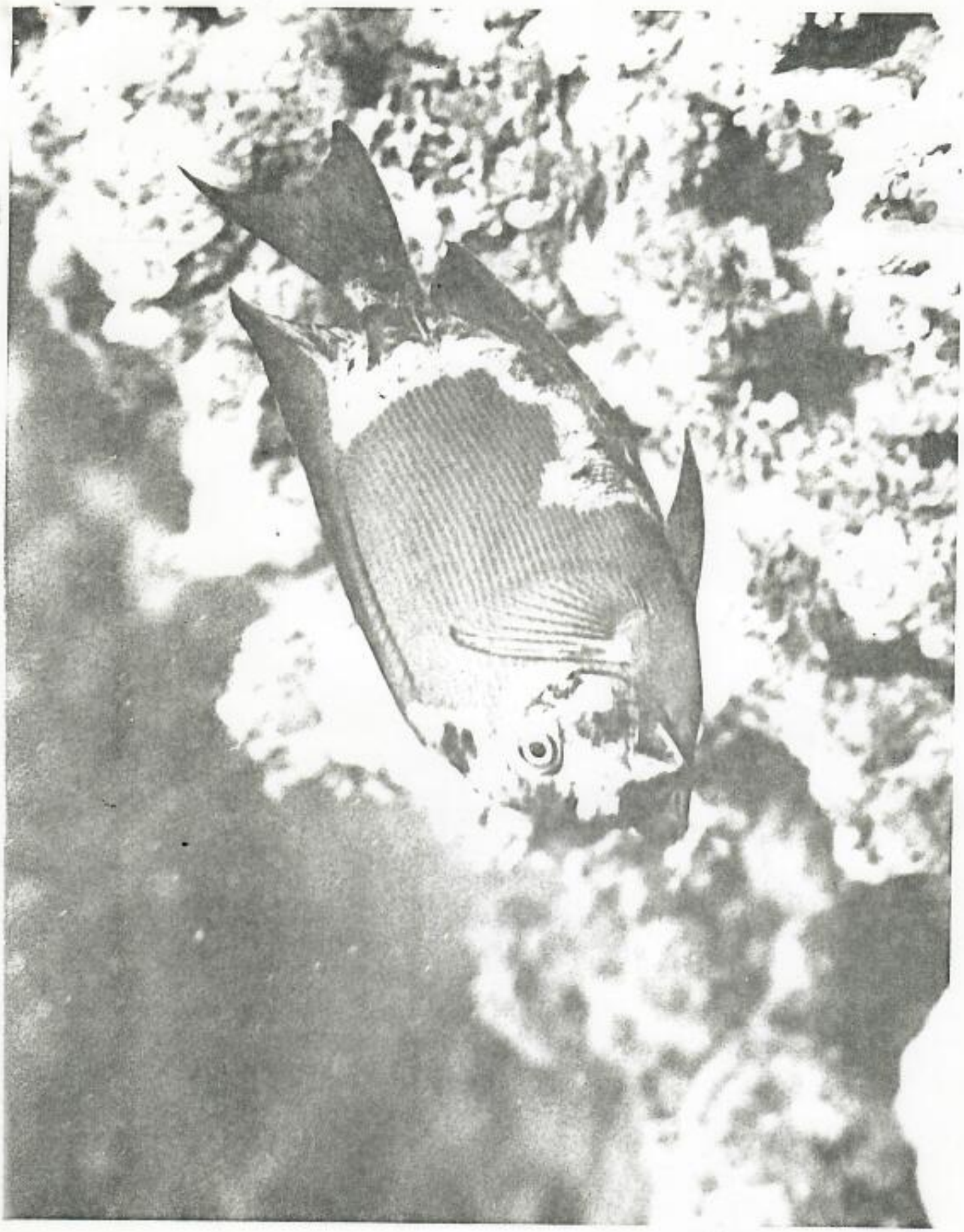
FIGURE 1. - This school of jacks, Caranx ignobilis, at Maro Reef illustrates the great numbers of this important gamefish in the Northwestern Hawaiian Islands. In contrast, large individuals of this species are now rare around the major Hawaiian Islands, probably due to intense fishing pressures.

FIGURE 2. - These file fish, Pervagor spilosoma, clustered above a coral head at Lisianski Island, are feeding on plankton in a manner more typical of certain planktivorous damselfishes, which are generally absent from these reefs.

FIGURE 3. - A diseased surgeonfish, Ctenochaetus strigosus, at Lisianski Island.







GREENPEACE

December 18, 1980

Dear Environmentally concerned persons:

I am enclosing a copy of our comments on the Fishery Management Plan, Environmental Impact Statement and Regulatory Analysis for the Spiny Lobster Fisheries of the Western Pacific Region. As you can see from reading our comments, we are very concerned over the possibility of harm occuring to the monk seal populations and to the other components of the fragil ecosystem of the Northwest Hawaiian Islands Refuge System as a result of fisheries development in this pristine region.

If you would care to comment on the Management Plan, it is available from the Western Pacific Fishery Management Council, 1164 Bishop St. #1608, Honolulu, HI 96813. We also have a copy available in our office. Comments are due by January 7, 1981.

Please contact us with your thoughts, comments, criticisms of our response if you care to. If you need more information on the reasoning behind our position, or would like additional information on the monk seals or the Northwest Hawaiian Islands, please feel free to contact either myself or Sue Difloure at our office.

We look forward to hearing from you.

Sincerely,

Kelley Dobbs

Kelley Dobbs

GREENPEACE FOUNDATION • 913 HALEKAUWILA, HONOLULU, HAWAII 96814
A NON-PROFIT, TAX-EXEMPT ORGANIZATION • (808) 537-9505 • TLX 633175

GREENPEACE

December 17, 1980

Mr. Svein Fougner, Executive Director
Western Pacific Fishery Management Council
1164 Bishop St., Suite 1608
Honolulu, HI 96813

Dear Mr. Fougner:

We have received the Fishery Managment Plan, Environmental Impact Statement and Regulatory Analysis for the Spiny Lobster Fisheries of the Western Pacific Region and offer the following comments:

The regulations proposed in this document state that there will not be a quota set on numbers of spiny lobsters caught, but that a size and depth limitation will apply. This is extremely surprising and seems rather precipitous considering your acknowledged lack of data on the fishery and the close association it has with the endangered monk seal. You have no idea how the monk seals will react to a reduction of one of their food sources. Until this is known, it seems very unwise to charge into a virtually untapped lobster population without a limitation on the numbers of lobsters that can be taken. The action proposed is based on a theory in the document which is stated on page 34. The theory is that there exists a larger reproductive potential in lobsters under 8.25 cm CL (carapace length) than previously accepted. As the entire document appears to be based on this theory, I am surprised more attention is not devoted to it. It is stated on page 4 that detailed technical information and analysis is contained in a source document. However, we question how many reviewers will have an opportunity, or take the opportunity to obtain this source document. While succinct EIS's are encouraged by Federal policy, in several areas, this document appears to be brief to the point of emptiness.

The document does not address the absolutely critical nature of the monk seals predicament. Page 48 of the Proposed Designation of Critical Habitat for the Hawaiian Monk Seal in the Northwestern Hawaiian Islands (Draft EIS) states: "The Hawaiian monk seal has demonstrated sensitivity to human disturbance in the past two decades." Page 9 of the same document states: "...it is apparent that the Hawaiian monk seal (Monachus schauislandi) has experienced a significant decline over the past 20 years with a current downward trend and a population now possibly as small as 1,000 individuals." The FMP Draft EIS does not address either the sensitivity of the monk seals or the current decline of this small population. The cumulative effect that the lobster fishery could potentially have on the monk seal populations is not dealt with. Nor is the potential effects of other types of fishing, diseases and possible harrassment from activities resulting from the State of Hawaii's aggressive policy of opening the NWHI to mulitple uses. It is acknowledged on page 60 that this FMP may provide incentives for other fisheries development in the NWHI and that these could have impacts on marine mammals, you go no further in exploring these possibilities.

It is acknowledged that there exists a proposal for designation of Critical

Habitat for the Hawaiian Monk seal and that of the options presented, one is for a CH that extends out to 20 Fathoms. If this proposal is adopted, there could possibly be restrictions placed on the fisheries in this area. However, the EIS does not address the 20F CH as one of it's managment alternatives. The possibility of such a designation is mentioned but no serious consideration is given to the possibility that restrictions in this area may be necessary for the survival of the monk seals.

Your striking disregard for the 20F possiblity raises the question of whether you gave any consideration to the biological needs of the seals or merely considered the option with the highest economic returns. Which leads us to ask, What is your basis for the 10 F restriction as opposed to the 20 F mark? There is recent evidence that the seals dive quite deep and that this is attributed to feeding behavior. (Gilmartin, Dr. William, NMFS, unpublished 1980). The 20 F mark seems in itself to be a compromise between the seals protection and outside pressures.

What if it happens that a significant portion of the seals diet consists of lobsters over 7.7 cm CL? Since you have set no quota, there is a likelihood that the numbers of such lobsters will be significantly reduced in the first few years of the FMP. If this causes a reduction the seals diet during this period they could suffer irreparable harm before scientists could even try to determine what the root causes were. If we make a guess which says that it will take two years before the reduction in lobsters will affect the seals sufficiently to be statistically observable, and then another 6 months before the results are published and distributed and perhaps another 12 to 18 months before the results are acted upon, it is clear that the seal population may be impacted to the point that they have declined below a critical level that will allow the population to increase.

If there were also an error in the theory that the population of lobsters smaller than 7.7 cm. CL has a significant reproductive potential, the recovery of lobster stocks would take even longer and the seals would continue to be impacted.

There is very little attention paid in this document to the possible negative consequences of a vessel grounding or sinking near one of these sensitive islands. Nor is there attention paid to the pressure that will be exerted to use one of these islands as a fishery base. Harassment, pollution and introduction of rats are all possibilities which should be seriously addressed. In the event of disaster, meaningful protection of the ecology of the area would have to come from Honolulu. The great distances mean a time delay and severe logistical problems. Even with this help, some harm would likely still occurr and problems arise which have no easy solution. The recent grounding of a ship in the area is an excellent example of such a situation. A combined State-Federal task force felt that it had no option but to dump the cargo of the ship which consisted of clay overboard in the hope that they would avoid a spill of more damaging bunker

REGULATIONS

If the possible folly of opening up this area to fisheries development is insisted upon and the State and Federal governments are willing to risk the existence of the last remanant population of monk seals which still has a sizable breeding population (the Mediterranean population is believed to be very small) and willing to risk severely impacting the seabird populations (with the possible introduction of rats and disease vectors) we recommend that the following measures be adopted :

1. All boats entering the NWHI must have observors aboard who are independently

funded by an agency other than the NMFS, the WPRFMC or other agencies directly related to the fishing industry in order to not create a conflict of interest.

2. That quotas be set for the fishery and that the results be analyzed at intervals to determine the effect of the fishery. To use the reasoning that not enough data is known for the lobster stocks of each island and that therefore no quota should be set for areas indicates that much research needs to be done before the quotas are set; and that, until this is done, the areas should not be opened up to the fishery. To not set quotas could result in severe impaction of the lobsters in some areas.

3. That "short" lobsters are lowered to the bottom and released versus releasing them at the surface. This would circumvent the possibility of monk seals hanging around the boats looking for a free lunch. This behavior could result in the deliberate or inadvertent death of these seals.

Miscellaneous

It is stated on page 25 of the document that "a FMP provides a much sounder base for management of the fishery than would be provided by the ESA. The FMP is a product of a multi-disciplinary systematic planning effort with several levels of public input. A FMP containing provisions to protect seals appears more likely to achieve the purpose of the ESA than regulations promulgated under the ESA." We question this statement. It is clear to anyone who takes a cursory glance at the membership of the WPRFMC that it is made up of fishermen, people with vested interests in the fishing industry, and the NMFS, which does some work with endangered species, but whose prime directive is to promote the fishing industry. Concern over bias of fisheries councils has been voiced in other areas of the country, but we doubt if any of the others could equal the self-interest of the WPRFMC. Such a posture makes their claim of being able and willing to protect the monk seals seem somewhat ridiculous.

There should be included in the document a more thorough accounting of the history of the lobster fishery in the main Hawaiian Islands and elsewhere in the world. This would allow a more reasoned comparison between various situations.

The section entitled "Socio-Cultural Framework" (page 69), presents the NWHI as an opportunity for Hawaii's fishing industry to expand and continue a "notable local tradition". They can't be referring to the man who goes down to the beach or out in a Boston whaler to catch a few lobsters for dinner. These lofty phrases must be referring to the large proccessing ships seeking to find new resources to replace the ones which have been fished out or polluted. The section fails to mention the "socio-cultural" psychological, scientific, and perhaps future recreational values of having one area that is not exploited or polluted-after all, these are the Northwest Hawaiian Islands-some of the most beautiful, unique and unexpoited areas left in the world. They deserve a little more care and thoughtfulness than this EIS provides.

Sincerely,

Kelley Dobbs
Greenpeace Hawaii

hatchlings attracted to vessel lights

HONOLULU LABORATORY

INSULAR RESOURCES INVESTIGATION

Another Research Cruise to Northwestern Hawaiian Islands Completed

Richard N. Uchida, Task Leader of the Insular Ecosystem Study, reported that the NOAA research ship, Townsend Cromwell, returned to Snug Harbor, Honolulu, on October 15 after completing Part II of cruise TC-80-04 to the Northwestern Hawaiian Islands (NWHI). The scientific field party on the cruise included Chief Scientist Waltyer M. Matsumoto, Research Assistants Robert B. Moffitt, Nathaniel Shippen, and Bert Kikkawa, and Statistician Gary L. Kamer.

Matsumoto reported that lobster trapping was particularly good at areas around Necker Island and Maro Reef which had received either little or no effort on past cruises. Moderately good catches were made at Gardner Pinnacles, Brooks Banks, St. Rogatien Bank, and Raita Bank. Shrimp trapping at these islands and banks also yielded varying quantities of caridean shrimp, mostly Heterocarpus ensifer and Plesionika longirostris. Matsumoto also reported that handline fishing for bottomfish was excellent at St. Rogatien and Brooks Banks at depths between 137 and 238 m (75 and 130 fm) where catches were composed mainly of commercially valuable fishes of the snapper-grouper complex, including the red snappers, Etelis carbunculus and E. marshi, the pink snappers, Pristipomoides filamentosus and P. sieboldii, and sea bass, Epinephelus quernus. Trolling was also excellent along the edges of the banks at St. Rogatien, Brooks, and Raita, with kawakawa, Euthynnus affinis, and wahoo, Acanthocybium solandri, constituting the bulk of the catch. The Cromwell also conducted ghost fishing experiments at Necker Island. The preliminary results indicated that lobsters are able to escape from traps and move to other traps.

Fishing Vessel, Easy Rider, Completes Charter for Honolulu Laboratory

The FV Easy Rider returned to Kewalo Basin after completing a charter for the Honolulu Laboratory from October 2-17. The objectives of the charter, a "piggyback" arrangement with the University of Hawaii Sea Grant (UHSG), which utilized the vessel from Honolulu to Midway, were primarily (1) to observe predation by large predators on surface-released berried and sublegal lobsters, and (2) to determine the effect of intensive fishing on a stock of fish and estimate the initial size of the stock at an isolated bank or pinnacle in the NWHI. Chief Scientist James H. Uchiyama was assisted by Fishery Biologist Reginald M. Gooding, Fishery Biologist John J. Naughton of the Western Pacific Program Office, Southwest Region, and Research Assistant Steven H. Kramer.

The preliminary results of the predation experiment indicated there was no predation by sharks, wahoo, and large carangids on surface-released berried and sublegal lobsters.

The intensive fishing experiment was carried out on a "66-fathom deep bank" near French Frigate Shoals. Uchiyama reported that steady fishing pressure was applied over a 4-day period on this bank until there were some indications of a drop in the catch rates. Unfortunately, the experiment had to be curtailed because of rough seas.

Uchiyama also reported that moderate numbers of mackerel scad, Decapterus macarellus, were attracted to the night lights at French Frigate Shoals. Two turtle hatchlings were also observed around the night light there.

Life History Study of Spiny Lobsters Continues

Research Assistant James L. Prescott continued a study on the growth of juvenile spiny lobsters. This study is based on juvenile lobsters sampled at a location off the island of Oahu where juvenile lobsters appear to be very accessible. On four visits to the site in September, Prescott marked 40 Panuliorus marginatus, 15.3 to 37.7 mm in carapace length (CL), 10 P. penicillatus, 13.9 to 39.0 mm CL, and 8 Parribacus sp. Three P. marginatus and one P. penicillatus were recaptured after they molted. The increase in carapace length after the molt was from 12.5% to 14.4% in P. marginatus and 19.3% in P. penicillatus.

Of interest is the fact that all three lobster species coinhabited the same dens. Also, the octopus appeared to have a large effect on the lobster population at the site during the observation period. Octopi were observed to displace the lobsters from their normal resting positions in the dens, and the lobster population in one den appeared to be drastically reduced.

Following the work done by Australian researchers on the relationship between leg length-carapace length and sexual maturity in subadult and adult lobsters, Prescott made measurements on six male and six female P. marginatus juveniles captured at the sampling site. The leg length was regressed on carapace length which provided a good fit to a straight line (males: 1st leg, $r = 0.987$; females: 5th leg, $r = 0.974$). These procedures were also applied to adult lobsters collected around Necker Island during Townsend Cromwell cruise TC-80-02. The data for adult male lobsters showed a reasonably good linear relationship ($r = 0.857$) between leg length and carapace length. The regression lines for juvenile males and that for adult males intersect at approximately 66 mm CL, which is the estimated size at sexual maturity for male P. marginatus. The leg length-carapace length relation for adult females was not as well defined. This may have been due to aberrations in the data, caused, for example, by regenerated legs.

HONOLULU
LA JOLLA
MONTEREY
TIBURON

SOUTHWEST FISHERIES CENTER

MONTHLY REPORT - OCTOBER 1980

TABLE OF CONTENTS AND RESEARCH HIGHLIGHTS

NOAA/NMFS

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER (e)
Fourteenth Coast Guard District
Prince Kalanianaole Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850

18 June 1980

University of Hawaii at Manoa
Attention: Mr. George BALAZS
P.O. Box 1346
Coconut Island
Kaneohe, Hi 96744

Dear George:

Thank you for the news clippings on the testimony of Mr Alika COOPER. Actually I had read the original article and was quite incensed not only by the testimony but also by the reporting. I felt that the article did not recognize the basic inconsistancy in Mr COOPER's criticism. One one hand he criticized the draft impact statement as "one sided, not specific, incorrect and mostly assumtions" and then made an accusation directed at the military which was "one sided, not specific, etc." Such reporting of distortions or slander are irreparable. Once reported, they will be repeated as truth. Your defense of the men who have lived with nature on those small islands is appreciated.

The next morning, while my color was up, I called Mr John NAUGHTON of the National Marine Fisheries Service and discussed both the testimony and the reporting. He said that Mr COOPER's accusation is based on a conversation with a Coast Guardsman at French Frigate Shoals at the time of his abortive attempt at harvesting green turtles. Reportly the Coast Guardsman commented that seal(s) had been killed for the pelt.

This could be true, considering the attitudes of 30 years ago. My own experience of 20 years ago included a sense of responsibility not only towards the birds but also towards all of nature.

Actually I can hardly believe it, as the seals are somewhat kindred souls to those who have lived out there, so close to nature.

Thank you again for your confidence in us.

Sincerely,

Edward B. HOLTZMAN
Captain, U. S. Coast Guard
Chief, Engineering Division

Copy to: Mr John NAUGHTON

ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

APR 2 1981

In Reply Refer To:
FWS/OES 1-81-39

To: Regional Director, Region 1 (ARD/FA)
Associate
From: Director

Subject: Intra-Service Section 7 Consultation, Baitfish Assessment at French Frigate Shoals and the Use of Tern Island as a Fisheries Support Base (1-2-81-6-It)

This responds to your March 23, 1981, request for a Section 7 consultation on the above action relative to the listed green sea turtle (Chelonia mydas) when it is under the jurisdiction of the Fish and Wildlife Service (FWS).

The proposal was originally to allow the State of Hawaii to use and expand facilities at Tern Island (part of French Frigate Shoals (FFS) and part of the Hawaiian Islands National Wildlife Refuge) for a support facility which would allow increased commercial fishing in the Northwest Hawaiian Islands and also to assess the commercial baitfish potential of fish in FFS which school in the shallow waters immediately adjacent to land. The FWS initiated Section 7 consultation on these two projects with the National Marine Fisheries Service (NMFS) on April 2, 1980, because of potential impacts on the Hawaiian monk seal (Monachus schauinslandi) and the green sea turtle (Chelonia mydas). On March 11, 1981, NMFS issued a biological opinion (copy attached) which states that "either proposed project by itself or in concert, is likely to jeopardize the continued existence of the Hawaiian monk seal and...the green sea turtle..." As required, this jeopardy opinion was accompanied by reasonable and prudent alternatives which would avoid jeopardy to listed species. This intra-Service consultation considers the State of Hawaii's proposals, as modified by the reasonable and prudent alternatives provided by NMFS.

On April 1, 1981, we completed an examination of the above action and reviewed the biological information provided by you along with information available in our files. During the course of this consultation, Ernie Kosaka and Lucian Kramer, Endangered Species staff, Hawaii Area Office; and George Balazs, Consultant, Marine Turtle Recovery Team were contacted.

A review of the project information and information obtained from the experts and other knowledgeable sources on the biology of the listed species indicates that the proposed action, as modified by the reasonable and prudent alternatives provided by NMFS, will have a minimal effect upon nesting or basking green sea turtles because landing on emerged land at FFS is prohibited (except in emergency situations) and a mother ship, rather than Tern Island, will be used for fisheries support.

Therefore, it is my biological opinion that your action, as proposed, is not likely to jeopardize the continued existence of the green sea turtle.

Should this action, as now planned, be modified or altered, should the reasonable and prudent alternatives provided by NMFS not be used, or should new species be listed that may be affected, you must reinitiate consultation.

/s/Ronald E Lambertson

Attachment

cc: Ken Dodd, OES
Pacific Islands Administrator
NMFS
Directorate Reading File
DD Chron
AFA Reading File

FWS/OES:JEdmundson:mbn:Draft 3/30/81, Final 4/1/81

Dossiers

1.) Tern Island Report - 2 volumes (consider changes in interview statements)
2.) Symposium Proceedings (consider statements in Panel by Agood - 1200 seals; go to Marianas
3.) RG landings w/o permit
4.) Integral review of Triparty performance by FWS
5.) Final Triparty document
6.) 55 past performance/accomplishments/termination 3rd thesis
7.) JP POI collection
8.) State Fisheries Management Plan

WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

1164 BISHOP STREET - ROOM 1608
HONOLULU, HAWAII 96813
TELEPHONE (808) 523-1368

DRAFT

April 21, 1981

TO: Chairman, SSC

FROM: Ad Hoc Subcommittee to Review Biological Opinion

SUBJECT: Subcommittee Report

The Ad Hoc Subcommittee designated to review the NMFS Section 7 Biological Opinion for the Spiny Lobster Fishery Management Plan met on April 10, 1981, with Council staff. The subcommittee members were Henry Sakuda, Phil Helfrich, Gerald Marten, and Richard Shomura. The subcommittee's report is presented in three sections: conclusions; recommendations; and specific comments on the Biological Opinion.

CONCLUSIONS

1. The Biological Opinion does not present information that would support modification of the Council's proposed conservation and management measures in the Spiny Lobster FMP.

2. The Biological Opinion appears to overstate the risk of interaction between the fishery and endangered and threatened species. The opinion does not give sufficient weight to the fact that in the history of the fishery to date, and in hundreds of observations by researchers and observers, there have been no recorded instances of adverse interaction between the fishery and monk seals, and only one instance of interaction (apparently with no harm) between the fishery and sea turtles.

3. The overstatement of this risk may reflect misunderstandings as to the nature of the fishery and the scope of the FMP. Briefly, the FMP is operative only in the FCZ, which is at least 3 miles from shore and beyond; and affects only fishing for spiny lobster, not other human activities. The fishery has not attracted a large number of vessels in the past, and does not appear likely to attract large increases in the fleet in the future. The Biological Opinion, however, implies that the FMP may result in unauthorized landings on islands, with introduction of rats (p. 15); or may result in harassment of monk seals, with increased effort (number of vessels and/or trips). Control over vessel landings (authorized or not) is beyond the scope of a FMP. Other agencies have authority to regulate such activities.

4. The information in the Biological Opinion does not clearly support the findings that there is "insufficient information" to conclude no jeopardy for leatherback and green sea turtles. The FMP would govern fishing only in the FCZ, where there are occasional transiting turtles. The FMP cannot control landings (emergency or otherwise) on islands. The only nesting site mentioned is at French Frigate Shoals, which has a very low density of lobsters (based on NMFS sample surveys, Table 7.4, FMP) and would presumably attract low levels of fishing effort. The probability of frequent entanglement of sea turtles with lobster gear or other interactions appears to be extremely low.

5. Notwithstanding an early recognition that MSY is not a quota, the Biological Opinion incorrectly reaches the conclusion that OY is either a target harvest level or a quota. This conclusion in turn leads to an expression of concern that lobster stocks could be depleted (p. 18). As indicated in the FMP, however, OY is a best estimate of the range of harvest that can be sustained with a size limit of 7.7 cm CL. and other measures. The relevant issue is not the probable level of harvest, but whether the reproductive capacity of lobster stocks will be maintained, and overfishing will be prevented, with the selected size limit in combination with other measures.

6. Information in the Biological Opinion concerning the status of the monk seal population and the causes of declines in the population is presented with more certainly than appears warranted. For example, it is indicated that there have been substantial declines in seal counts at Kure, Midway, Pearl and Hermes Reef, Lisianski, and Laysan; but it is not indicated that the manner, timing, and reliability of counts may have been so different over the years that they are not comparable (see DEIS for Critical Habitat). The population at French Frigate Shoals is reported to have increased greatly; here, too, there is no indication that counts were made in a comparable fashion. Further, while the Critical Habitat DEIS acknowledges that census counts should not be taken as population estimates, the Biological Opinion does not so indicate. Finally, the Biological Opinion cites Kenyon (1972) as either attributing (p. 7) or implicating (p. 15) human disturbance as a causative factor for declines at Kure and midway; but the Biological Opinion does not offer any explanation to account for increases at Necker Island (where the fishery was first consentrated) or at French Frigate Shoals (where there has been a very large amount of research activity). These inconsistencies make it difficult to determine which items in the Biological Opinion are fact; which items are reasonable conclusions based on repeated events or facts; and which items are hypothetical or speculative outcomes based on inference from random events.

7. The Biological Opinion places upon the Council the responsibility for "assuring that the information necessary for a proper assessment of the FMP is collected." Several alternative ways for collection of the data are discussed. This could be taken to mean that NMFS intends the Council to become involved in monk seal and sea turtle reserach. The subcommittee believes such research is the responsibility of NMFS and the U.S. Fish and Wildlife Service. Therefore, the subcommittee presumes that NMFS only intended that the FMP should indicate research needs and, if the Council so desires, should indicate a preferred method of compiling the needed information. The subcommittee further notes that the FMP as now written provides a basis for such research and data collection.

8. The Biological Opinion proposes that the FMP include provision for "restricting lobster fishing at any or all of the NWHI for the purpose of investigating and identifying the cause(s) of any incidental mortality" (p. 22). The subcommittee notes the decision of the Council to recognize in the FMP that the Endangered Species Act provides authority for emergency controls to be imposed by the Secretary of Commerce to prevent "taking " of endangered species. The Biological Opinion does not indicate why NMFS deemed it necessary and appropriate for the FMP to duplicate or reinforce this authority.

9. The Biological Opinion contains inaccurate descriptions of current State of Hawaii regulatory measures applicable to fishing in waters under State jurisdiction and to "imports" of fish (pp. 2, 3 & 14).

RECOMMENDATIONS

1. The Biological Opinion should be reviewed by monk seal and sea turtle experts. Further Council action would depend on the review comments received.

2. The Council's proposed conservation and management measures appear to be sufficient to address the concerns expressed in the Biological Opinion with respect to monk seals.

3. The conclusions of the Biological Opinion with respect to sea turtles (i.e., "insufficient information") can be questioned. The information in the Biological Opinion is not sufficient to demonstrate even a low risk of jeopardy to leatherback or green sea turtle mortality or "taking" by the fishery in the FCZ. The Council may wish to request clarification of the NMFS position, depending on comments from sea turtle experts on this matter.

SPECIFIC COMMENTS

1. On page 1, the opinion indicates that impacts on the green sea

turtle and Hawaiian monk seal were considered; the opinion later discusses the status of humpback whales (pp. 9-10) and leatherback turtles (p. 12), and discusses potential impacts of the plan on sea turtles in general (pp. 15-16, 18-20) as well as green sea turtles specifically (p. 18). It is not clear, therefore, whether the "insufficient information" conclusion is meant to apply equally to green sea turtles and leatherback turtles.

2. State of Hawaii regulations pertain to all fishing for lobsters in the waters under State jurisdiction. These regulations include size limits, a closed season, gear size limits, requirements that berried lobsters be released and that lobsters be landed whole. These regulations apply in State waters in the NWHI. Exemption from these seasonal and "whole lobster" regulations can be granted by the Hawaii Board of Land and Natural Resources. The first full paragraph on page 3 could more clearly describe these current management measures.

3. The second full paragraph on page 4 reflects a misunderstanding as to the relationship of the OY definition, which is non-numerical; and the estimated range of harvests which is likely to be made under the management regime. The OY definition is not linked solely to encouragement of economic development; it reflects consideration of several economic, ecological, and social objectives. This is presented more clearly in the final FMP (Sec. 10.2).

4. The commercial fishery around the main islands also is pursued by SCUBA divers. The first paragraph on page 5 does not include this as a fishing activity.

5. As indicated, Kenyon (1972) is cited as attributing (p. 7) or implicating (p. 15) human disturbance as a cause of monk seal declines at Kure and Midway. It is worth noting that the article which was cited discusses such human behavior as beachcombing and walking with dogs (which in turn would chase seals); but fishing for lobster in the FCZ cannot be equated with these beach activities.

6. It is noted that pages 8-10 appear to indicate the high importance of coral sand beaches, reefs, water areas adjacent to reefs and beaches, and nearshore waters to Hawaiian monk seals. The relative importance of the FCZ is not addressed.

7. The cited incident of entanglement and drowning of leatherback sea turtles in foreign gillnets in waters between 41°-43°N. and 175°-179°W. does not appear to be germane to the FMP. This area is far removed from the FCZ, and the lobster fishery involves traps rather than gillnets.

8. The opinion urges the Council to work with the State of Hawaii to develop regulations for State waters complementary to the measures in the FCZ (p. 14). This is being done. It should be emphasized, however, that the NWHI fishery to date has occurred predominately in the FCZ (i.e., beyond State jurisdiction).

10. The opinion expresses concern about the prospect for disturbance by "the presence of fishing vessels in the vicinity of preferred beaches and by crewmen ashore either for recreation or as the result of groundings" (p.15). While these may be legitimate concerns, they appear to be beyond the scope of the FMP. Access to the islands is tightly controlled by other agencies. Unauthorized or emergency landings will neither be promoted nor prevented by the FMP. Similarly, the "additional adverse impacts associated with groundings" (p. 15) cannot be prevented by the FMP; the risk of such groundings is present with and without the FMP. Note that the FMP does not propose "landing restrictions," (p. 15) but recognizes the authority of other agencies to control landings. Presumably the monk seal recovery plan being prepared (p. 9) will address this issue in some detail.

11. The opinion cites several authors who have observed monk seals entangled in lines or netting (p. 15). It is noted, however, that there is not a single documented instance available to the subcommittee of a Hawaiian monk seal becoming stuck in a lobster trap or entangled in trap lines in the NWHI commercial fishery or in research efforts.

12. The cited situation of damage to lobster traps by sea turtles (p. 16) is new information, but it does not suggest harm or hazard to turtles. It suggests only that fishermen could suffer some loss of catch if the same situation arises in the NWHI.

13. The opinion indicates the fishery "has the potential of reducing the lobster populations to levels at which lobsters are no longer available to monk seals" (p. 17). This appears to be only very remotely possible. First, reproductive capacity is expected to be protected by the size limit and other measures. Second, if lobster populations are reduced sharply, the fishery likely will cease due to inadequate economic return long before total depletion of the lobster stocks. Third, there probably are several areas where lobster densities are too low to support commercial fishing, but high enough to support reproduction. Fourth, lagoons and nearshore shallow waters apparently have lobsters of all size classes and both sexes, but would not be subjected to fishing pressure if the Council's recommendations are adopted. In summary, the fishery may conceivably have the ability to decimate the lobster population, but it likely would be prohibitively expensive to achieve this result.

More likely is that all lobsters less than 7.7 cm. CL, and many lobsters above 7.7 cm CL, will continue to be subject to predation by monk seals under the FMP.

14. The conclusion that achieving the OY from the fishery could result in depletion of the lobster resource reflects misunderstanding of the OY definition and associated numerical range. The critical issue is whether the FMP protectes reproductive capacity; if so, then the absolute level of harvest is immaterial so far as the lobster resource is concerned. Again, the range is neither a quota, nor a harvest target, nor a harvest guarantee.

15. The opinion indicates that the Council believes the FMP measures will "preclude" impacts on endangered species (p. 15). It would be more accurate to say the Council believes the FMP measures reduce the risk of impacts to a very low and acceptable level and reduce significantly the probability of impacts in comparison to conditions expected without a FMP, as is noted later in the opinion (p. 19).

WESTERN PACIFIC FISHERY MANAGEMENT COUNCIL

1164 Bishop Street - Room 1608
Honolulu, Hawaii 96813
Ph. (808) 523-1368

TO: Henry Salveda/Ad Hoc Subcommittee to Review Bio. Opinion DATE: 4/23/81

FROM: Svein

SUBJECT: Record of Meeting

Attached is a draft record of meeting from your session two weeks ago. Let me know (by 5/8) if you want anything corrected or revised. We will prepare final memo for your signature. Thanks for your time on this.

AMERICAN PRESIDENT LINES

Miss Lisa Phillips
c/o A.J. NOON
24 MACAULAY St.
COORPAROO
Brisbane, Queensland.

18

AMERICAN PRESIDENT LINES, Ltd.

NOON POSITION

18

te September 27, 1976 Voyage 50

amer PRESIDENT HARRISON

itude 15°01'N

ngitude 95°56'W

urse 298° @ Sea 02d 11h 06'

tance Run 503 Miles

erage Speed per hour Knots

aming Time Hours Min.

mperature of Water 89°F

mperature of Air 84°F

tal Distance Run 1176 Miles

tance to go 1739 Miles

eed Required 20.7 Knots

T. A. Los Angeles Sept. 30 @ 2300

marks: Panama - Los Angeles

Around the world in 25 days.
San Francisco, Hong Kong, Singapore,
Colombo, India, Karachi, Suez Canal,
Italy, Marseille, Gibraltar, New York,
Norfolk, Charleston, Panama Canal,
Los Angeles, San Fran.

I would appreciate a short note
on when + where found.

I will definately Reply with $1.45.

Thank you.

Sincerely,
Miss Lisa Phillips
c/o A.J. Noon.
24 Macaulay St.
Coorparoo
Brisbane,
Australia

found - 5/27/81 3:30 pm
East Island
French Frigate Shoals
by
George Balazs

Place on Cromwell forms for turtle sightings?
SRAC at Mayo feeding on shark?
Hatchlings attracted to vessel lights?
Cromwell landed leatherback?.

HAWAIIAN MONK SEALS AND SEA TURTLES--SIGHTINGS AND DIRECT INTERACTIONS WITH FISHING OPERATIONS IN THE NORTHWESTERN HAWAIIAN ISLANDS

By

Robert L. Humphreys, Jr.
Southwest Fisheries Center, Honolulu Laboratory
National Marine Fisheries Service, NOAA
Honolulu, Hawaii 96812

question if observed interactions or sightings actually entered in reports?

August 1981

INTRODUCTION

The Honolulu Laboratory, Southwest Fisheries Center, National Marine Fisheries Service, National Oceanic and Atmospheric Administration (NOAA), began a program of exploratory fishing in the Northwestern Hawaiian Islands (NWHI) in the early 1970's to assess the distribution, abundance, and availability of commercially valuable species of fishes and crustaceans. Early cruises of the NOAA ship Townsend Cromwell determined the presence of large quantities of spiny lobster, Panulirus marginatus, on Necker Bank and subsequent cruises showed that spiny lobsters were distributed throughout the range of the NWHI, although quantities varied considerably with respect to bank and sites on a particular bank. By 1976 commercial fishermen began to harvest this previously untouched resource by means of trap fishing.

The traps used in this fishery are of the California lobster pot type or variations of this basic type. Traps are fished overnight on the bottom and are connected in a string on polypropylene rope; the number of traps per string varying greatly among different boats. Lobster fishing is generally conducted at depths ranging from 27 to 64 m (15 to 35 fathoms).

With the advent of the lobster fishery in the NWHI, an increase in the level of activity around islands associated with the banks has resulted. Among the resident and transient inhabitants of these islands and their surrounding waters are four species of interest which are recognized by the U.S. Government as endangered and threatened species. These species are the Hawaiian monk seal, Monachus schauinslandi, leatherback turtle, Dermochelys coriacea, and hawksbill turtle, Eretmochelys imbricata, which are presently listed as endangered and the green turtle, Chelonia mydas, which is listed as threatened.

STATEMENT OF PROBLEM

Concern has been raised regarding the likelihood of interaction between these species and commercial lobster gear and whether this interaction may act to the detriment of the endangered and threatened species. Since most of the islands in the NWHI chain are a national wildlife refuge, landing on these islands is restricted without special permission. Therefore, the focus of the concern is primarily in terms of the possibilities of detrimental interaction owing to the lobster fishing gear and not on man's physical presence alone.

The following report is an attempt to address this concern and will present in tabulated form available data on sightings and incidences of direct interaction of monk seal(s) and sea turtle(s) with respect to both the lobster fishery and other fishing operations.

TREATMENT OF DATA

Data were grouped into three separate tables depending on the source; i.e., commercial vessel observer cruises (Table 1), Townsend Cromwell cruises (Table 2), and Easy Rider charter cruises (Table 3). Commercial vessel observer cruises were given a letter code to insure the confidentiality of the data. Incidences of direct interactions and sightings were footnoted to describe ship operations at time of observation. In this report the term "direct interaction" refers to any form of interference by the animal(s) with ongoing vessel operations, while

the term "sighting" refers to merely the observation of the animal(s) during ship operations.

RESULTS

Pooling the data from all three sources yields 35 sightings and 3 direct interactions. By source, of the 23 commercial vessel observer trips, a total of 4 sightings of monk seals and 1 direct interaction with a sea turtle were reported. On 20 cruises of the Townsend Cromwell, there have been 8 sea turtle and 21 monk seal sightings and 2 direct interactions with monk seals. Of the three Easy Rider cruises, two monk seal sightings and no direct interactions were observed. With respect to lobster fishing operations, four monk seal sightings and one direct interaction with a sea turtle were reported for all sources combined. Incidences of direct interaction totaled three, two involving monk seals during night-light operations from the Townsend Cromwell and one involving a sea turtle (mentioned above) during lobster fishing operations from a commercial vessel. The latter incident was documented in a Honolulu Laboratory internal report (Appendix).

Table 1.--Observations of monk seals and sea turtles on commercial vessel observer cruises.

Commercial observer trip	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
A	Necker Island	17	10	1,600	None	None
B	Maro Reef	54	28	7,563	None	None
B	Laysan Island		4	984	None	None
B	Necker Island		3	844	None	None
C	Necker Island	11	5	750	None	None
D	Necker Island	14	5	377	None	None
D	Nihoa		1	68	None	None
E	Necker Island	22	12	1,329	None	None
F	Maro Reef	15	5	670	None	None
G	Kure Atoll	52	4	3,412	None	1 sea turtle[1]
G	Midway Islands		3	2,436	None	None
G	Pearl and Hermes Reef		2	1,822	None	None
G	Maro Reef		26	19,776	None	None
H	Necker Island	12	5	750	None	None
H	Nihoa		1	75	None	None
I	Necker Island	18	5	464	1 monk seal[2] 1 monk seal[3]	None

Table 1.--Continued.

Commercial observer trip	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
J	?	11	?	?	?	?
K	Necker Island	11	6	582	None	None
L	Maro Reef	46	32	25,500	1 monk seal[2] 1 monk seal[2]	None
M	Necker Island	14	7	1,244	None	None
N	Necker Island	15	8	1,244	None	None
O	Necker Island	18	4	456	None	None
O	Nihoa		4	381	None	None
P	French Frigate Shoals	14	3	300	None	None
P	Necker Island		3	300	None	None
P	Twin Banks		1	100	None	None
P	Nihoa		1	100	None	None
Q	Necker Island	14	6	718	None	None
R	?	22	?	?	?	?
S	Necker Island	13	7	256	None	None
T	Necker Island	15	9	1,497	None	None
T	Nihoa		1	164	None	None

Table 1.--Continued.

Commercial observer trip	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
U	Necker Island	19	3	282	None	None
U	French Frigate Shoals		1	94	None	None
V	Necker Island	10	5	500	None	None
W	Necker Island	?	7	615	None	None

[1]This incident involved the tangling of a large leatherback turtle in the mainline of a lobster set. This incident was documented in a Honolulu Laboratory internal report (Appendix).

[2]Occurred during lobster fishing operations.

[3]Occurred while at anchor.

Table 2.--Observations of monk seals and sea turtles on Townsend Cromwell cruises.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
75-04	Necker Island	34	4	22	None	None
75-04	Gardner Pinnacles		3	31	None	None
75-04	Pearl and Hermes Reef		1	1	None	None
75-04	Kure Atoll		1	6	None	None
75-04	Lisianski Island		1	9	None	None
75-04	Laysan Island		1	9	None	None
75-04	Nihoa		2	19	None	None
76-06	Necker Island	34	6	144	None	None
76-06	Pearl and Hermes Reef		1	24	None	None
76-06	Nihau		1	24	None	None
76-06	Open ocean		--	--	1 sea turtle[1]	None
77-02 (III)	Necker Island	46	1	32	None	None
77-02 (III)	Raita Bank		1	40	None	None
77-02 (III)	Maro Reef		7	408	None	None
77-02 (III)	Laysan Island		5	324	1 monk seal[1] 2 monk seals[2]	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
77-02 (III)	Kure Atoll		3	176	None	None
77-02 (III)	Midway Islands		4	252	None	None
77-02 (III)	Pearl and Hermes Reef		3	216	None	None
77-02 (III)	Salmon Bank		1	72	None	None
77-02 (III)	Lisianski Island		2	144	None	None
77-02 (V)	Maro Reef	44	3	38	1 monk seal[3] 1 monk seal[4]	None
77-02 (V)	Laysan Island		2	22	1 monk seal[4]	None
77-02 (V)	Pearl and Hermes Reef		2	11	1 sea turtle[4]	None
77-02 (V)	Lisianski Island		2	12	1 monk seal[1]	None
77-02 (V)	French Frigate Shoals		--	--	1 sea turtle[3] 1 sea turtle[3] 2 monk seals[4]	None
77-03 (I)	Nihoa	53	3	176	None	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
77-03 (I)	Necker Island		6	356	None	None
77-03 (I)	Raita Bank		1	60	None	None
77-03 (I)	Laysan Island		2	120	1 monk seal[1] 1 monk seal[5]	None
77-03 (I)	Lisianski Island		2	120	None	None
77-03 (I)	Pearl and Hermes Reef		2	120	None	None
77-03 (I)	Kure Atoll		2	120	None	None
77-03 (I)	Midway Islands		1	60	None	None
77-03 (I)	Maro Reef		1	60	None	None
77-03 (I)	French Frigate Shoals		4	240	None	None
77-03 (I)	Middle Bank		1	56	None	None
77-03 (I)	Penguin Bank		1	56	None	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
78-01 (II)	Open ocean	42	--	--	1 sea turtle[1]	None
78-01 (II)	Nihoa		2	100	None	None
78-01 (II)	French Frigate Shoals		1	60	None	None
78-01 (II)	Kure Atoll		1	60	None	None
78-01 (II)	Midway Islands		2	120	None	None
78-01 (II)	Laysan Island		1	40	6 monk seals[1]	None
78-01 (II)	Necker Island		2	120	None	None
78-01 (II)	Island of Hawaii		1	60	None	None
78-01 (II)	Maui		2	120	None	None
78-01 (II)	Penguin Bank		1	60	None	None
78-03	Lisianski Island	48	1	31	None	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
78-03	Pioneer Bank		1	32	None	None
78-03	Raita Bank		1	39	None	None
78-03	Gardner Pinnacles		3	111	None	None
78-03	Niihau		1	16	None	None
78-03	French Frigate Shoals		--	--	1 monk seal[4]	None
78-03	Pearl and Hermes Reef		--	--	1 monk seal[1]	None
78-04	Necker Island	20	3	160	None	None
78-04	French Frigate Shoals		2	102	None	None
78-04	Maro Reef		2	112	None	None
78-04	Nihoa		1	56	None	None
79-02 (I)	Midway Islands	30	1	16	None	None
79-02 (II)	Pearl and Hermes Reef	37	1	60	None	None
79-02 (II)	Lisianski Island		2	100	None	None
79-02 (II)	Laysan Island		1	60	None	None
79-02 (II)	Brooks Bank		2	109	None	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
79-02 (II)	Necker Island		6	326	None	None
79-02 (II)	Nihoa		--	--	1 monk seal[4]	None
79-03	Necker Island	47	1	34	None	None
79-03	French Frigate Shoals		2	67	None	None
79-03	Maro Reef		2	54	None	None
79-03	Laysan Island		1	34	None	None
79-03	Lisianski Island		1	35	1 sea turtle[1]	None
79-03	Pearl and Hermes Reef		3	108	None	None
79-03	Midway Islands		1	28	None	None
80-02	Necker Island	48	3	151	None	None
80-02	Raita Bank		1	38	None	None
80-02	Pearl and Hermes Reef		2	64	None	None
80-02	Ladd Bank		1	40	None	None
80-02	Salmon Bank		1	40	None	None
80-02	Northampton Bank		1	40	None	None
80-02	French Frigate Shoals		--	--	None	1 monk seal[6]

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
80-03 (I)	Kure Atoll	30	2	8	1 monk seal[1]	None
80-03 (II)	Maro Reef	32	3	12	None	None
80-03 (II)	Lisianski Island		2	8	None	None
80-03 (II)	Pearl and Hermes Reef		2	8	None	None
80-03 (II)	Kure Atoll		2	8	None	None
80-03 (II)	French Frigate Shoals		--	--	2 monk seals[1]	None
80-04 (I)	French Frigate Shoals	23	--	--	1 monk seal[7]	None
80-04 (II)	Necker Island	32	3	120	None	None
80-04 (II)	Brooks Bank		3	120	None	None
80-04 (II)	St. Rogatien Bank		3	120	None	None
80-04 (II)	Raita Bank		4	135	None	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
80-04 (II)	Maro Reef		4	122	None	None
80-04 (II)	Gardner Pinnacles		2	48	None	None
80-05 (II)	Necker Island	43	2	73	None	None
80-05 (II)	Laysan Island		1	24	1 monk seal[1]	None
80-05 (II)	Pogy Bank		1	24	None	None
80-05 (II)	Ladd Bank		1	24	None	None
80-05 (II)	Maro Reef		1	24	None	None
80-05 (II)	Gardner Pinnacles		2	48	None	None
80-05 (II)	Midway Island harbor		—	--	6 sea turtles[4]	None
80-05 (II)	French Frigate Shoals		—	--	1 monk seal[4]	2 monk seals[8]
81-01	Nihoa	40	2	59	None	None

Table 2.--Continued.

Townsend Cromwell cruise	Area (bank)	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
81-01	Nihoa	40	2	59	None	None
81-01	Bank #3		1	32	None	None
81-01	Necker Island		2	64	None	None
81-02	Pearl and Hermes Reef	36	2	64	None	None
81-02	Ladd Bank		2	64	None	None
81-02	Maro Reef		2	64	None	None
81-02	French Frigate Shoals		2	64	None	None
81-02	Necker Island		2	64	None	None
81-02	Laysan Island		--	--	1 monk seal[4]	None
81-03	Open ocean	18	--	--	1 sea turtle[1]	None
81-03	French Frigate Shoals		--	--	1 monk seal[4]	None
81-03	Middle Bank		--	--	1 monk seal[9]	None

[1]Occurred while underway.
[2]Occurred during lobster fishing operations.
[3]Occurred during trolling operations.
[4]Occurred while at anchor.
[5]Occurred during period of multiple fishing operations.
[6]A monk seal began to interfere with night-light operations by chasing attracted fish away from the light. Subsequently the seal began tugging on the night-light by grasping the electrical cord near the base of the light with its mouth.

[7]Occurred during environmental station.

[8]Occurred during a night-light operation. A monk seal was first observed around the light at 1900. By 2000 a second seal appeared and began actively feeding around the night light. At 2200 the two seals began interfering with opelu (mackerel scad, Decapterus sp.) fishing under the light by taking the hooked opelu off the lines before they could be retrieved.

[9]Occurred during handlining station.

Table 3.--Observations of monk seals and sea turtles on Easy Rider charter cruises.

Easy Rider charter cruise	Area	Duration of trip (days)	Days lobster fishing	Total traps hauled	Sightings of monk seals and sea turtles	Direct interaction
77-02 (I)	Gardner Pinnacles	20	1	59	None	None
77-02 (I)	St. Rogatien Bank		1	59	1 monk seal[1]	None
77-02 (I)	French Frigate Shoals		2	79	None	None
77-02 (I)	Necker Island		8	598	None	None
77-02 (II)	Nihoa	23	2	196	None	None
77-02 (II)	Necker Island		8	703	None	None
77-02 (II)	Maro Reef		2	200	None	None
80-01	Maro Reef	15	--	--	1 monk seal[2]	None

[1]Occurred while underway.

[2]Occurred during undetermined ship operations.

APPENDIX

REPORT OF THE ACCIDENTAL CAPTURE AND RELEASE OF A LEATHERBACK TURTLE IN THE NORTHWESTERN HAWAIIAN ISALNDS

By

Robert L. Humphreys, Jr.
Southwest Fisheries Center Honolulu Laboratory
National Marine Fisheries Service, NOAA
Honolulu, Hawaii 96812

On September 22, 1980 while fishing at Kure Atoll aboard the Easy Rider Too, an adult leatherback turtle, Dermochelys coriacea, was brought to the surface while retrieving lobster gear. The turtle's left front flipper had become entangled in the polypropylene rope which connected a string of 253 lobster traps. As the turtle was hauled slowly to the surface, it offered no resistance and though alive, it made very little movement on its own. No attempt was made to lift the turtle out of the water and aboard the ship. Efforts made to untangle the turtle from the ship failed; the turtle began to roll over, entangling its head in the line and thereby submerging its head below the surface. At this point the captain, Gary "Skip" Naftel, decided to enter the water and attempt to free the turtle. Whether the line was untangled or cut is not recalled, but the turtle was subsequently released and appeared to swim slowly down underneath the ship and out of sight. The elapsed time from the turtle's retrieval to its release was approximately 15-30 minutes.

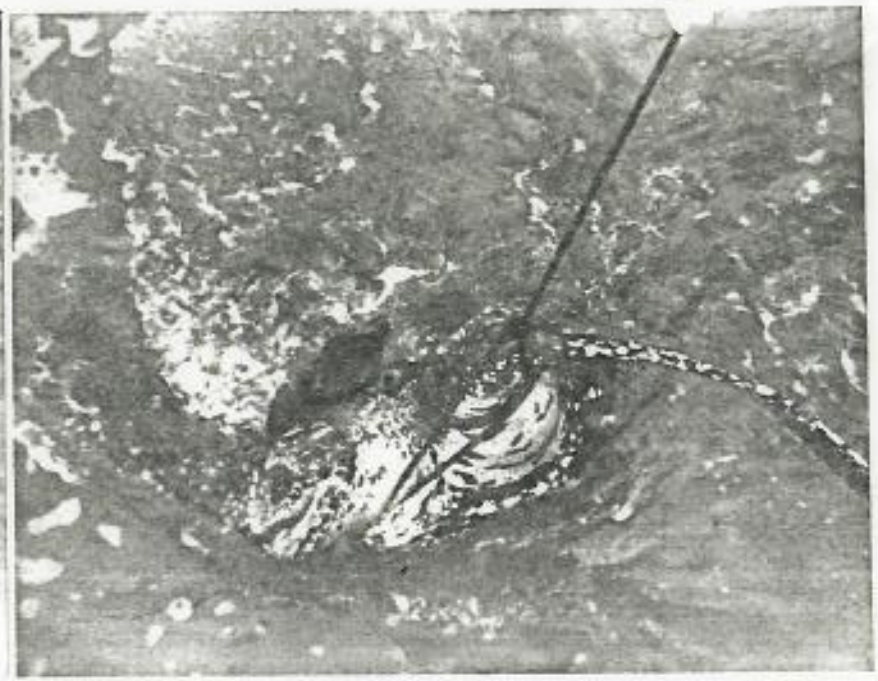
The trap string had been set at 1745 on September 20, 1980 and retrieval started at 0747 on September 22, 1980. The incident occurred in the morning sometime between 0800 and 1000. The depth of the fishing site ranged from 29 to 40 m (16 to 22 fathoms) and the end to end position of the string was as follows:

Lat. 28°21.45'N, long. 178°19.5'W to lat. 28°23.6'N, long. 178°24.9'W

Unfortunately, no record was made as to which end of the lobster string the incident took place.

Three photographs of the incident were taken and are included in the report. While in the water alongside the turtle the captain of the Easy Rider Too estimated the carapace length at 5 feet. The apparent condition of the turtle upon release was uncertain since it moved slowly away and was observable only for a very short time. The only apparent physical damage to the turtle was in imprint of the polypropylene line at the base of the left front flipper.

1



2

3

Photographs 1 and 2 show the entangled leatherback turtle off the starboard side of the ship. In photograph 3, the turtle has rolled over in the water while the captain attempts to remove the line from around the turtle's head and flipper.

University of Hawaii at Manoa

Hawaii Institute of Marine Biology

MEMORANDUM

June 15, 1977

TO: Mr. Bob Iversen
National Marine Fisheries Service

FROM: George H. Balazs
Hawaiian Green Turtle Management Study

SUBJECT: Occurrence of marine turtles at the Milwaukee Banks

On 2 June 1977, the Taiwanese precious coral harvesting vessel, NO. 2 HAI TIEN, docked for a short time at Midway to obtain medical treatment for an injured crewman. Through a translator, I was able to interview the Captain and several crewmen concerning any observations they may have made of marine turtles in the vicinity of their stated harvesting site of 35°N 174°E. I was informed that on several occasions juvenile turtles of approximately two feet in length had been sighted in areas where the ocean bottom comes to within 300 feet of the surface.

This is the first indication I have had that turtles may utilize shallower portions of banks lying to the Northwest of the Hawaiian chain. There is, of course, the distinct possibility that these turtles are derived from our Hawaiian green turtle population. I would therefore like to ask for your assistance in monitoring, by whatever means appropriate and possible, the occurrence of turtles in such areas. For instance, if there is occasion for your agency to inspect the harvest of a trawler which has operated in the area, perhaps a special inquiry could be made as to observations or incidental catch of turtles.

Thank you in advance for any assistance that you can provide in the matter.

GHB:ec

OCT 1981
HAWAII FISHING NEWS

■ Richard Shomura, Director of the Honolulu Laboratory, National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA) announced that the NOAA ship *TOWNSEND CROMWELL* arrived at Snug Harbor, Honolulu on August 27, 1981 after a 6 week cruise to the Northwestern Hawaiian Islands (NWHI).

Reginald M. Gooding of the Honolulu Laboratory served as Chief Scientist. Other members of the scientific party were: George H. Balazs, Steven H. Kramer, Jams L. Prescott, Michael P. Seki and Gordon W. Tribble.

"This cruise (81-04) was the final of a series of expeditions the *TOWNSEND CROMWELL* has made during the last 5 years to investigate the biological resources of the NWHI," said Shomura. The main objective of the cruise was to continue the investigation of the biological resources of the NWHI, including spiny lobster, shrimp, kona crab, bottom fish, and pelagic fish around Necker Island, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Pearl and Hermes Reef, Raita Bank, St. Rogatien Bank, and several other small banks in the chain. During lobster trap fishing operations, experiments were also conducted to determine the efficacy of escape panels in traps to release undersized lobsters, and the effect on the catch of the presence of lobster offal in the area of trap sets. The results of the latter experiments showed that lobster remains in the vicinity of traps apparently do have a very detrimental effect on the catch of spiny lobster.

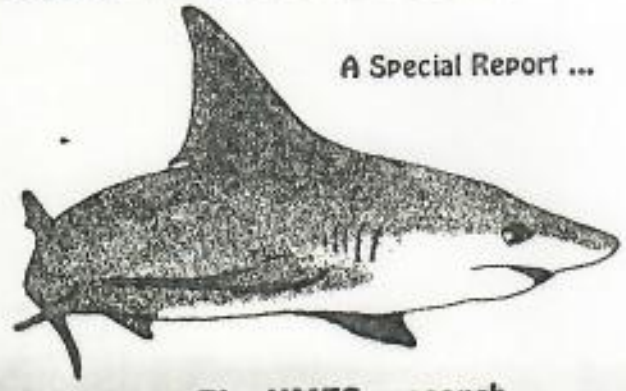
Observations made from commercial lobster fishing vessels and from the *TOWNSEND CROMWELL* while hauling lobster pots in NWHI waters also have indicated that there is some predation by large carangids (uluas) and sharks on undersized and berried spiny lobsters when they are returned alive to the sea after being sorted from the catch. Lobsters released at the surface must return to the bottom in depths ranging from 15-to-60 m, thus exposing them to predation in midwater for some time before reaching the relative safety of the bottom. One of the missions of the cruise was to determine the probability of lobsters safely reaching the bottom when they are released from the surface when potential predators are present, and the vulnerability of lobsters to predation when they are released at the bottom from a specially designed release bag.

During the experiments, divers made visual observations and 16 mm movies to document predation on the released lobsters. Underwater observations during the experiments corroborated the earlier surface observations. Large white ulua, *Caranx ignobilis*, are indeed voracious predators on lobsters not only in midwater but when they are released at the bottom. In addition, the underwater observations provided interesting insights into various aspects of the behavior of prey and predator, under the experimental conditions.

Other missions of the cruise included monk seal and green turtle surveys on the islands of Pearl and Hermes Reef, and in support of the U.S. Fish and Wildlife Service, personnel associated with that agency were transported to and from the island of Nihoa where various bird studies were being conducted during the summer.

... Richard

A Special Report ...



The NMFS research vessel Townsend Cromwell makes her final cruise of a five-year Northwestern Hawaiian Islands Survey

by Richard Shomura

Balazs

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

May 5, 1981

Commanding Officer
NOAA Ship TOWNSEND CROMWELL

CRUISE INSTRUCTIONS: TC-81-04 (TC-95), Northwestern Hawaiian Islands (NWHI)

1.0 SCHEDULE

The NOAA ship TOWNSEND CROMWELL will be engaged in Honolulu Laboratory projects from 17 July through 27 August for a total of 40 sea days.

1.1. The cruise will survey monk seals at Pearl and Hermes Reef, French Frigate Shoals, Laysan, Lisianski, Necker, and Nihoa Islands and assess lobster, shrimp, kona crab, deep bottom fish, groundfish, and benthopelagic fish resources, and conduct experiments involving predation of surface-released sublegal and berried lobsters, on method of release of these lobsters to maximize survival, and on response of lobsters to carcass offal of other lobsters.

1.2 Itinerary (Planned)

17 July	Depart Snug Harbor, Honolulu. Proceed to Nihoa.
19 July	Touch and go Nihoa, disembark Macauley; embark Newman.
20 July	Arrive Necker.
24 July	Depart Necker.
25 July	Touch and go French Frigate Shoals, disembark Newman. Proceed to Gardner Pinnacles and Maro Reef.
3 August	Arrive Midway Islands.
6 August	Depart Midway Islands. Proceed to Pearl and Hermes Reef.
11 August	Touch and go Midway Islands, disembark Balazs and Kam. Proceed to Lisianski and Raita Bank.
19 August	Arrive French Frigate Shoals, disembark Houtman.
24 August	Depart French Frigate Shoals. Proceed to Necker and Nihoa.
25 August	Touch and go Nihoa, embark Conant and Macauley.
27 August	Arrive Snug Harbor, Honolulu. End of cruise.

Turtle

2.0 SCIENTIFIC OBJECTIVES

2.1 The objectives of the cruise are as follows:

a. Conduct trawling operations using a shrimp trawl to assess the availability, distribution, and relative abundance of penaeid shrimps.

b. Conduct trapping operations using lobster pots, shrimp pots, and standard and modified fish traps to assess the availability, distribution, and relative abundance of spiny and slipper lobsters, caridean shrimps, and fishes.

c. Conduct line fishing operations using trolling lines, deep-sea handline gurdies, and mackerel handline, and night light, to assess the availability, distribution and relative abundance of small tunas and tunalike fishes, fishes of the snapper-grouper complex, benthopelagic fishes, and squids.

d. Conduct netting operations using baited kona crab nets to assess the availability, distribution, and relative abundance of this species.

e. Conduct underwater observations on behavior of predators such as large carangids and sharks when sublegal and berried spiny and slipper lobsters are released at the surface.

f. Conduct lobster release experiments of legal, sublegal, and berried lobsters to determine method of release which will maximize survival.

g. Conduct lobster trapping experiments to determine catchability when carcass and offal of other lobsters are present on the trapping ground.

h. Conduct monk seal census and scat collection at selected islands.

3.0 SCIENTIFIC PERSONNEL

3.1 The Chief Scientist has the authority to revise or alter the technical portion of the instructions as work progresses, provided that after consultation with the Commanding Officer, it is ascertained that the proposed changes will not: (1) jeopardize the safety of personnel or the ship, (2) exceed the overall time allotted for the project, and (3) result in undue additional expenses.

3.2 The Chief Scientist for this cruise is Reginald M. Gooding.

3.3 Scientific staff

3.3.1 On board 17 July-27 August

	Name	Title	Sex/Nat.	Organization
	*Reginald M. Gooding	Chief Scientist	M/USA	NMFS/HL
	*Gary L. Kamer	Statistician	M/USA	NMFS/HL
	*Steven H. Kramer	Research Assistant	M/USA	NMFS/HL
	*James L. Prescott	Research Assistant	M/USA	NMFS/HL
	*Michael P. Seki	Research Assistant	M/USA	NMFS/HL
3.3.2	On board 17-19 July and 25-27 August			
	David Macauley	Cooperating Scientist	M/USA	FWS
3.3.3	On board 19-25 July			
	Audrey Newman	Cooperating Scientist	F/USA	FWS
3.3.4	On board 4-7 August and 10-11 August			
	George H. Balazs	Wildlife Biologist	M/USA	NMFS/HL
	Alan K. H. Kam	Cooperating Scientist	M/USA	UH
3.3.5	On board 4-7 August and 10-27 August			
	William G. Gilmartin	Wildlife Biologist	M/USA	NMFS/HL
3.3.6	On board 4-7 August and 10-19 August			
	Anne M. Houtman	Research Assistant	F/USA	NMFS/HL
3.3.7	On board 25-27 August			
	Sheila Conant	Cooperating Scientist	F/USA	UH

*Authorized per diem at the rate of $1.50/day to be paid via the Imprest Fund on a Travel Roll Voucher at the termination of the cruise.

4.0. OPERATIONAL PLANS

The following operational plans can only be considered a guide as to how the Chief Scientist expects the survey to progress barring unpredictable factors such as weather, operational problems, or equipment failure.

4.1. Prior to sailing on 17 July, you will inspect the XBT launcher and recorder and the thermosalinograph. Any malfunction will be repaired.

4.2. Depart Honolulu on 17 July and proceed to Nihoa to disembark Macauley and embark Newman. Continue to Necker to conduct lobster trapping, predation experiments, and to observe response of lobsters to carcass and offal of other lobsters. Then proceed to French Frigate Shoals to disembark Newman. Depart French Frigate Shoals and work your way to Gardner Pinnacles and

Maro Reef before arriving at Midway Islands on 3 August. Embark Gilmartin, Balazs, Kam, and Houtman. Depart Midway on 6 August and proceed to Pearl and Hermes Reef to disembark Gilmartin, Balazs, Kam, and Houtman. On 10 August, embark Gilmartin, Balazs, Kam, and Houtman, then touch and go Midway to disembark Balazs and Kam. Proceed to Lisianski and Raita Bank, then arrive French Frigate Shoals to disembark Houtman. Depart French Frigate Shoals and proceed to Necker and Nihoa. Touch and go Nihoa to embark Conant and Macauley, then proceed to Snug Harbor, Honolulu, arriving there on 27 August to end the cruise.

4.2.1 Conduct trapping operations for spiny lobsters in selected sampling grids at Necker, French Frigate Shoals, Raita Bank, Maro Reef, Pearl and Hermes Reef, Midway, and Kure, using pots which are constructed with and without escape panels and arranged alternately on each string.

4.2.2 Conduct special lobster trapping stations at Necker, Maro Reef, and other selected localities, using one-half inch mesh, small-entrance lobster pots to capture juvenile lobsters to determine their nursery grounds and for maturation studies.

4.2.3 Conduct underwater observations on predation by large carangids and sharks on surface-released sublegal and berried spiny and slipper lobsters. Using an underwater movie camera, a team of scuba divers will observe and document on film the behavior of these large predators as the lobsters are released at the sea surface.

4.2.3.1 NOAA diving regulations will be closely adhered to during all dives. A shark cage will be suspended abeam of the ship at all times during the diving operation for the use of the divers.

4.2.3.2 Observations will also be made on canvas- and cage-release methods to determine which of these maximizes survival of the released lobsters.

4.2.4 Conduct experiments on catchability of spiny and slipper lobsters, using the following techniques: (1) Alternate carcass/offal bait and standard bait on two strings of eight traps each and set near known concentrations of lobsters. (2) Set two strings of eight traps with standard bait in each. On the first string, attach float and flag on each end so that the beginning and end of the string can be identified. Use the second string as a control and set in the usual manner. After setting, return to the first string and while steaming along the upwind side, throw carcasses and offals overboard along the entire string.

4.2.5 Conduct deep-sea fishing operations between 150 and 400 fathoms with vertical longlines (20-hook terminal rigs attached to existing hydraulic gurdies) at Hancock, Ladd, Nero, and Northampton Seamounts, and at Kure Atoll and Midway Islands. Deep-sea vertical longline stations should be conducted a minimum of 3 h at each of these locations. At other locations, conduct standard handline fishing stations between 70 and 150 fathoms using four-hook terminal rigs.

4.2.6 Conduct night-light fishing operations with a 1,500-W light while anchored or adrift at night to attract juvenile fishes, bigeye, and mackerel scad, baitfishes, and squids. Attempt to capture organisms congregated around

and below the light with dip nets, mackerel handline, or spin-fishing gear, using squid lures or flies (damashi). Estimate abundance, if possible.

4.2.7 Conduct deepwater fish trapping stations, using specially fabricated fish traps with modified entrances for fishes of the snapper-grouper complex.

4.2.8 Conduct exploratory fishing for kona crab, using baited hoop nets set over sandy bottom. Up to 100 nets spaced 5 fathoms apart will be set during daylight and retrieved after the first net in the string has soaked for 1-1.5 h. Optimum conditions for setting are 10-100 fathoms of water and sandy bottoms with depressions or near the drop-off zone.

4.2.9 Conduct trapping operations for caridean shrimps in depths ranging from 150 to 500 fathoms using six strings of shrimp pots with each string consisting of three pots, spaced 5 fathoms apart.

4.2.10 Conduct bottom trawling operations with the shrimp trawl for penaeid shrimps at Maro Reef.

4.2.11 Conduct direct and indirect trolling operations in waters over and around all submerged banks, seamounts, and islands as time permits.

4.2.12 Collect the following samples at sea:

4.2.12.1 Stomachs and gonads from all snappers, groupers, carangids (except bigeye scad and mackerel scad), tunas, wahoo, and mahimahi.

4.2.12.2 Stomachs, gonads, and otoliths from a minimum of 20 fish for each school of bigeye scad and mackerel scad fishes.

4.2.12.3 Bottom sand sample in 40 fathoms of water off Honolulu Harbor entrance using the Shipeck grab sampler.

5.0 EQUIPMENT

5.1 The ship will provide:

Portable VHF radio (2)
XBT launcher and recorder
Thermosalinograph
15-ft Zodiax and 20-hp outboard motor
Handline gurdies
Trawl winches
Baitwells
Bottom grab
17-ft Boston whaler and outboard motor
Hauler for traps
Outboard motor fuel

5.2 NMFS Honolulu Laboratory will provide:

Fish traps, standard mesh (6 plus 2 spares)
Fish traps, modified entrance (10 plus 2 spares)
Lobster pots, rectangular mesh (40 plus 8 spares)
Lobster pots, one-half inch mesh (4 plus 2 spares)
Shrimp pots (21 plus 3 spares)
Shrimp trawl and doors (1 plus 1 spare net)
Dip net, long handle (1)
Mackerel handline and flies (6 sets)
Trolling lines (3 sets plus spares)
Hoop nets for kona crab (100 plus 20 spares)
Chest freezers (3)
XBT probes (50)
Salinity bottles (1 box)
Frozen squid (300 lb)
Frozen mackerel (1,000 lb)
Maximum-minimum thermometers (4)
Night light, 1,500-W bulb, spare bulb
Measuring devices: 1-m caliper, 2-m caliper, measuring board, spring scales, beam scale, etc.
Miscellaneous: Floats, flags, lead weights for flagpoles, handline weights, mainline for traps and pots, float lines, extra spools of polypropylene rope, hooks, leader materials, swivels, cutting board, knives, and other items as deemed necessary to accomplish the cruise mission.

6.0 RECORDS AND LOGS

6.1 A bathythermograph log, NOAA Form 77-22, will be maintained by the Chief Scientist. The scientist on watch will fill out the bathythermograph trace readings from the CTD or XBT for each station. The bridge will supply the environmental information for each station. The data will be transmitted to NODC.

6.2 Maintain the ship's weather observation form, NOAA Form 72-1, during the cruise. The data will be relayed via radio and you will send the original data to the National Weather Service at the end of the cruise.

6.3 A Marine Operations Log, NOAA Form 77-2, will be maintained during the project. Work out the details regarding other forms required by the Chief Scientist for each of the operations, such as trawling, fish trapping, handlining, trolling, XBT, etc., so as to integrate station numbers and related data into the Marine Operations Log. The Dead Reckoning abstract is not required, but may be completed if you find it helpful.

6.4 Chartlets showing the location of each operation and/or station will be furnished by your command to the Chief Scientist.

6.5 Maintain a bridge watch and log occurrence of birds, aquatic mammals, and fish schools on forms provided by the Honolulu Laboratory.

6.6 Maintain a watch and log per Project Instruction entitled "Integrated Global Ocean Station System (IGOSS)," dated 29 November 1979.

6.7 Sightings of foreign fishing vessels will be logged and reported per PMC OPORDER 1-01.9.

6.8 All data gathered by the ship's personnel will be released to the Chief Scientist.

7.0 MISCELLANEOUS

7.1 Navigational Control - Primary control during the project will be SATNAV and LORAN C, supplemented by radar, visual, etc.

7.2 Communications - Activity and position reports prepared by the Chief Scientist, will be sent to the Director, Honolulu Laboratory daily. As required, the command will assist the Chief Scientist by establishing radio contact with the NMFS Honolulu Laboratory through KAB radio, Honolulu.

7.3 Reports - The Chief Scientist and Commanding Officer are required by Section IX of NOAA Directive 17-17 to submit a joint cruise report to the Director, PMC. The Commanding Officer's report will be submitted by the Commanding Officer and will be addressed to Director, PMC. It shall include the following information.

a. Cruise title

b. Cruise period

c. Area of operation

d. Cruise objectives

e. Actual itinerary

f. Deviations from Cruise Instructions

g. Breakdowns and incidents

h. Personnel list (actual)

i. Disposition of data

j. Statement that Chief Scientist will supply a separate report entitled "Cruise Results" which will become a part of the Cruise Report.

Charles K. Townsend
Rear Admiral, NOAA
Director, Pacific Marine Center

Richard S. Shomura
Director, Honolulu Laboratory

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
Honolulu Laboratory
P. O. Box 3830
Honolulu, Hawaii 96812

July 17, 1981

CRUISE REPORT

VESSEL: Townsend Cromwell, cruise 81-03 (TC-94), Part I

CRUISE PERIOD: May 11-June 1, 1981

AREA OF OPERATION: Hawaiian Archipelago (Kawaihae Bay to French Frigate Shoals)

TYPE OF OPERATION: Personnel from the National Marine Fisheries Service (NMFS) and the University of Hawaii, Sea Grant Program (UHSG), participated in a survey and assessment of various physical, chemical, and biological parameters pertinent to energy flow, productivity, and mineral cycling at two representative areas in the Hawaiian Archipelago--Kawaihae Bay and French Frigate Shoals.

ITINERARY:

May 11 - Departed Snug Harbor, Honolulu and proceeded to Kawaihae Bay with Kikkawa, Ferguson, Finn, Kam, Taguchi, and Taira on board.

12 - Arrived Kawaihae Bay and commenced operations.

16 - Departed Kawaihae Bay and proceeded to Kewalo Basin, Honolulu.

17 - Touch and go Kewalo Basin and disembarked Kam; embarked Conant, Lyle, Newman, and Reshkin.

18 - Touch and go Nihoa and disembarked Conant and Newman.

20 - Arrived French Frigate Shoals and commenced the Northwestern Hawaiian Islands (NWHI) portion of the operation. Embarked Hirota.

29 - Departed French Frigate Shoals and proceeded to Snug Harbor.

June 1 - Arrived Snug Harbor; disembarked NMFS and UHSG personnel. End of Part I.

MISSIONS AND RESULTS

A. Conduct a quantitative assessment of various physical, chemical, and biological parameters pertinent to energy flow, productivity, and mineral cycling at representative areas in the Hawaiian and NWHI regions.

1. Of the 33 CTD casts, 11 were made at Kawaihae Bay, of which 6 were on time series and 5 were on transect stations. At French Frigate Shoals, 12 stations were time series and 10 were transect stations.

2. Thirteen in situ and quasi in situ primary productivity stations to measure ^{14}C and ^{15}N uptake were occupied. These included 3 stations at Kawaihae Bay and 10 at French Frigate Shoals.

3. Particle flux trappings were conducted once at Kawaihae Bay and three times at French Frigate Shoals at depths of 200 and 350 m at offshore deployments and at 17 m on the inshore stations.

4. Measurements of the incident quantum flux were taken continuously throughout the cruise.

5. At French Frigate Shoals four drift drogues were released, three of them 10 miles from La Perouse and the other inshore.

6. Samplings for plankton were done with the 72-cm bongo nets in 15 oblique tows to 200 m and from 70 hauls of the vertical micro-macroplankton bongo nets. Surface larval fish samplings were conducted from 25 tows of the neuston net. Deeper samplings were done with seven tows of the 1 m^2 net and four tows of the 4 m^2 net.

7. Other observations and measurements included 37 XBT casts, 19 Secchi disc readings, 5 vertical light-attenuation profiles, 1 vertical profile of the in situ fluorescence with a CTD cast, and 198 chlorophyll a and phaeopigment samplings. In addition, the scientific personnel collected 396 nutrient samples, 494 ammonia samples, and 235 particulate carbon and nitrogen samples from 34 hydrocast sites.

8. Three night-light stations were occupied while anchored off Tern Island.

B. Miscellaneous observations and activities.

1. Three handline stations were conducted around French Frigate Shoals. Handline fishing was done with four powered gurdies, each with a single line of four hooks. The catch included 29 opakapaka, Pristipomoides

filamentosus; 3 kalikali, P. sieboldii, 2 gindai, P. zonatus; 10 thick-lipped ulua, Caranx cheilio; 8 hapuupuu, Epinephelus quernus; and 3 kahala, Seriola dumerili. Catch rate was 2.75 fish per line-hour.

2. Indirect trolling was conducted between stations and while en route to and from operational sites. Trolling was concentrated on the southern part of Necker Bank for about 5.5 h with a catch of about 0.91 fish per line-hour. There were 17.25 line-hours of trolling around French Frigate Shoals with only one fish taken. The trolling catch included kawakawa, Euthynnus affinis; yellowfin tuna, Thunnus albacares; and wahoo, Acanthocybium solandri.

3. Samples of fish tissue for ciguatera analyses were taken from the dorsal anterior region, ventral abdominal region, and the anal region of 46 fishes.

4. Complete weather observations were made at 0000, 0600, 1200, and 1800 (universal coordinated time) by the ship's personnel.

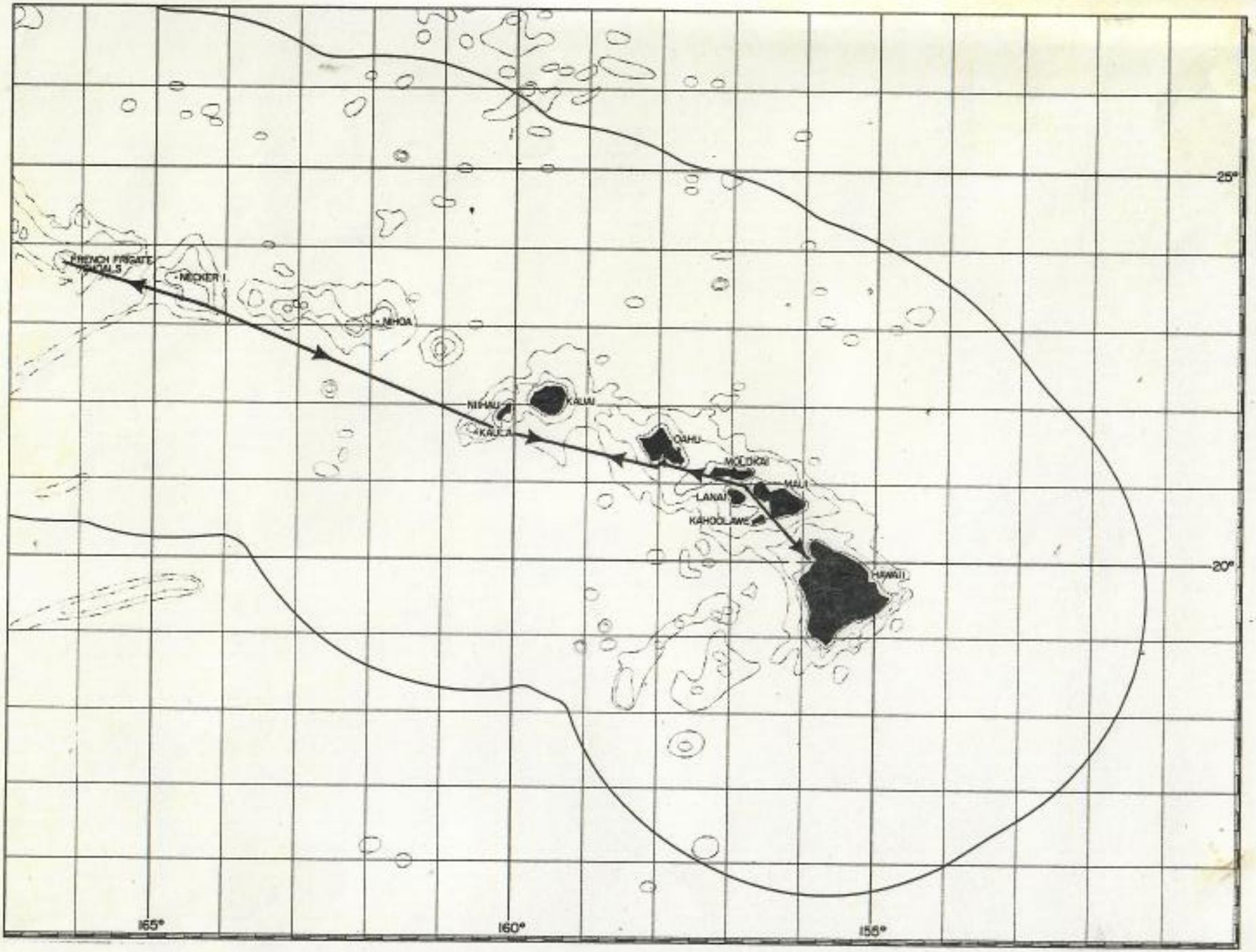
SCIENTIFIC PERSONNEL: Bert S. Kikkawa, Chief Scientist, Research Assistant, NMFS, Southwest Fisheries Center, Honolulu Laboratory

Sheila Conant, Cooperating Scientist, University of Hawaii (May 17-18)
Robert Ferguson, Cooperating Scientist, UHSG
James A. Finn, Cooperating Scientist, UHSG
Jed Hirota, Cooperating Scientist, UHSG (May 20-June 1)
Alan Kam, Cooperating Scientist, UHSG (May 11-17)
Glen Lyle, Cooperating Scientist (May 17-June 1)
Audrey Newman, Cooperating Scientist, U.S. Fish and Wildlife Service (May 17-18)
Steve Reshkin, Cooperating Scientist, UHSG (May 17-June 1)
Satoru Taguchi, Cooperating Scientist, UHSG
Robert Taira, Cooperating Scientist, UHSG

Submitted by: Bert S. Kikkawa
Bert S. Kikkawa
Chief Scientist

Approved by: Richard S. Shomura
Richard S. Shomura
Director, Honolulu Laboratory

Attachment



Track chart for Townsend Cromwell, cruise 81-03 (TC-94), Part I.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

May 12, 1982

5/17
W65 → RNL SR

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

DO

Dear Richard:

We are pleased to transmit to you a copy of Specifications & Requirements for Northwestern Hawaiian Islands Nearshore Fishery Research and Survey Vessel Charter through which we plan to charter a vessel for continuing our research of the NWHI aquatic resources. A cruise schedule (Attachment I) is included with a tentative time frame for the NWHI stops. The survey is anticipated to start on or about July 1, 1982 and run for 30 days.

Sincerely yours,

Henry M. Sakuda

HENRY M. SAKUDA, Director
Division of Aquatic Resources

Enclosure: Specifications and Requirements for Northwestern Hawaiian Islands Nearshore Fisheries Research and Survey Vessel Charter and Attachment I

Specifications & Requirements

for

NORTHWESTERN HAWAIIAN ISLANDS

NEARSHORE FISHERIES RESEARCH AND SURVEY VESSEL CHARTER

I. Introduction

The State of Hawaii, Department of Land and Natural Resources (DLNR), is engaged in a study to assess the terrestrial and aquatic resources of the Northwestern Hawaiian Islands (NWHI), pursuant to a cooperative Tripartite Agreement with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS). In accordance with the terms of the Agreement, the DLNR's Division of Aquatic Resources is collecting baseline data on the nearshore living resources, from the fast land areas exposed to spray and wave action, seaward to about 66 feet in water depth. Together with the results of assessments of terrestrial and offshore resources being made by the FWS and the NMFS respectively, the data will be used as the basis for future State and Federal management decisions concerning living resources in the NWHI.

The primary objectives of the nearshore fishery resources assessment are to determine species composition and diversity of the resource, and to estimate their densities. In addition, size ranges, distribution, annual variations of abundances, diet items, spawning periods, growth, migration, behavioral characteristics, and ciguatoxin levels of certain fish species are being investigated. Moreover, identification of macro-algae and macro-invertebrates, density estimates of certain shellfish species, and behavioral characteristics of certain wildlife resources are noted. Assessment activities in the NWHI are conducted largely from skiffs launched from a support vessel.

II. Scope of Charter

The State of Hawaii, DLNR, will contract a vessel suitable to support the Division of Aquatic Resources' summer, 1982, nearshore activities at Nihoa Island, Necker Island, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan Island, Lisianski Island, and Pearl and Hermes Reef, with an option to continue to Midway Islands for refueling purposes contingent upon the State arranging for proper approvals from the Navy. In brief, the chartered vessel will be required to perform the following functions: (1) provide transportation for six researchers, with equipment, gear and supplies, from Honolulu to the aforementioned areas and return; (2) provide lodging and meals for the scientific party as described under IV. Eligibility Requirements, item H; (3) launch and retrieve at anytime, one or more inflatable boats of varying size and weight, equipped with outboard motors and containing survey equipment, gear and supplies; and (4) provide other reasonable general assistance and support for the scientific party as may be requested and/or required. It should be noted that most of the travel between the aforementioned survey areas will be conducted at night in order to maximize the daylight hours available for survey work.

The proposed charter period for the vessel shall be for approximately 30 days, commencing on or about July 1, 1982 but not later than August 1, 1982. The Department, however, reserves the option to reduce or extend the said charter period prior to entering into the agreement with the owner of the

The State of Hawaii, Department of Land and Natural Resources (DLNR), is engaged in a study to assess the terrestrial and aquatic resources of the Northwestern Hawaiian Islands (NWHI), pursuant to a cooperative Tripartite Agreement with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS). In accordance with the terms of the Agreement, the DLNR's Division of Aquatic Resources is collecting baseline data on the nearshore living resources, from the fast land areas exposed to spray and wave action, seaward to about 66 feet in water depth. Together with the results of assessments of terrestrial and offshore resources being made by the FWS and the NMFS respectively, the data will be used as the basis for future State and Federal management decisions concerning living resources in the NWHI.

The primary objectives of the nearshore fishery resources assessment are to determine species composition and diversity of the resource, and to estimate their densities. In addition, size ranges, distribution, annual variations of abundances, diet items, spawning periods, growth, migration, behavioral characteristics, and ciguatoxin levels of certain fish species are being investigated. Moreover, identification of macro-algae and macro-invertebrates, density estimates of certain shellfish species, and behavioral characteristics of certain wildlife resources are noted. Assessment activities in the NWHI are conducted largely from skiffs launched from a support vessel.

II. Scope of Charter

The State of Hawaii, DLNR, will contract a vessel suitable to support the Division of Aquatic Resources' summer, 1982, nearshore activities at Nihoa Island, Necker Island, French Frigate Shoals, Gardner Pinnacles, Maro Reef, Laysan Island, Lisianski Island, and Pearl and Hermes Reef, with an option to continue to Midway Islands for refueling purposes contingent upon the State arranging for proper approvals from the Navy. In brief, the chartered vessel will be required to perform the following functions: (1) provide transportation for six researchers, with equipment, gear and supplies, from Honolulu to the aforementioned areas and return; (2) provide lodging and meals for the scientific party as described under IV. Eligibility Requirements, item H; (3) launch and retrieve at anytime, one or more inflatable boats of varying size and weight, equipped with outboard motors and containing survey equipment, gear and supplies; and (4) provide other reasonable general assistance and support for the scientific party as may be requested and/or required. It should be noted that most of the travel between the aforementioned survey areas will be conducted at night in order to maximize the daylight hours available for survey work.

The proposed charter period for the vessel shall be for approximately 30 days, commencing on or about July 1, 1982 but not later than August 1, 1982. The Department, however, reserves the option to reduce or extend the said charter period prior to entering into the agreement with the owner of the vessel, subject to the accepted bid price and availability of funds.

In addition to the foregoing and on her delivery, the vessel must be: (1) ready to sail and perform; (2) with clean-swept holds; (3) tight, staunch, strong and in every way properly inspected and fitted; and (4) registered and commissioned, in compliance with State and Federal laws and regulations, to be employed in fisheries and oceanographic research (including a full complement

of officers, engineers and crew as may be deemed appropriate and required for a vessel of her tonnage).

III. Work Plans

A proposed Cruise Plan is attached (Attachment 1). The Plan is not rigid, but rather flexible and open whereby detailed plans for study activities in each area will be jointly prepared by the Division of Aquatic Resources and the Captain of the chartered vessel prior to initiating the cruise. It is anticipated that adjustments may be required to the planned activities while at sea to accommodate for vagaries of weather, sea condition, and other uncontrollable factors. Such modifications shall be effected by mutual agreement between the scientific party and the Captain.

The chartered vessel will depart from and return to the port of Honolulu, Oahu, Hawaii.

IV. Eligibility Requirements

Any U.S. vessel may submit a proposal for the charter as shown in Attachment 1 (Cruise Plan). However, the vessel selected must meet the following minimum specifications:

1. Meet University National Oceanographic Laboratory System Research Vessel Safety Standards of May, 1976 (Attachment 2);

2. Undertake charter for all expected weather conditions with proven ability to perform contracted tasks;

3. Be operated by an experienced, capable Captain licensed by the United States Coast Guard to operate or navigate passenger carrying vessels and with familiarity of the NWHI, and an experienced crew, one member of which shall also be capable of operating the vessel at normal efficiency should the Captain become incapacitated;

4. Possess an overall length of 60 feet or more;

5. Possess a freezer capacity of not less than 50 cubic feet for storage of scientific specimens, exclusive of requirement for frozen food stores;

6. Possess sufficient fuel and lube oil capacities to travel not less than 2,500 miles (1,300 miles if undertaking Midway refueling option) without replenishment;

7. Possess minimum cruising speed of eight (8) knots;

8. Possess six (6) fixed berths for use by scientific party, exclusive of those required for complement of officers, engineers, and crew;

9. Possess at least one shower or bathing facility (preferably with heated freshwater);

10. Carry sufficient freshwater supply for drinking and cooking throughout a cruise of up to 30 days without replenishment;

11. Carry sufficient food stores for a cruise of up to 30 days without

and other uncontrollable factors. Such modifications shall be effected by mutual agreement between the scientific party and the Captain.

The chartered vessel will depart from and return to the port of Honolulu, Oahu, Hawaii.

IV. Eligibility Requirements

Any U.S. vessel may submit a proposal for the charter as shown in Attachment 1 (Cruise Plan). However, the vessel selected must meet the following minimum specifications:

1. Meet University National Oceanographic Laboratory System Research Vessel Safety Standards of May, 1976 (Attachment 2);

2. Undertake charter for all expected weather conditions with proven ability to perform contracted tasks;

3. Be operated by an experienced, capable Captain licensed by the United States Coast Guard to operate or navigate passenger carrying vessels and with familiarity of the NWHI, and an experienced crew, one member of which shall also be capable of operating the vessel at normal efficiency should the Captain become incapacitated;

4. Possess an overall length of 60 feet or more;

5. Possess a freezer capacity of not less than 50 cubic feet for storage of scientific specimens, exclusive of requirement for frozen food stores;

6. Possess sufficient fuel and lube oil capacities to travel not less than 2,500 miles (1,300 miles if undertaking Midway refueling option) without replenishment;

7. Possess minimum cruising speed of eight (8) knots;

8. Possess six (6) fixed berths for use by scientific party, exclusive of those required for complement of officers, engineers, and crew;

9. Possess at least one shower or bathing facility (preferably with heated freshwater);

10. Carry sufficient freshwater supply for drinking and cooking throughout a cruise of up to 30 days without replenishment;

11. Carry sufficient food stores for a cruise of up to 30 days without replenishment for its crew and 6 members of the scientific party;

12. Be equipped with a boom or equivalent equipment and necessary tackle, in good operating condition to allow launching and retrieving of inflatable boats up to 19 feet in length with motor(s), survey equipment, gear and supplies (estimated maximum weight of 1,200 pounds);

13. Possess suitable gasoline storage capabilities for up to 150 gallons and storage for nine, filled six-gallon, outboard motor gas cans in addition to chartered vessel's own fuel store requirements;

14. Possess sufficient deck space for storage of 19-foot and 15-foot inflatable boats, inflated and ready for operation;

15. Possess galley with appropriate appliances and fixtures and to prepare daily meals acceptable to personnel aboard the vessel;

16. Possess a readily accessible, dry storage area of about 500 cubic feet;

17. Possess, rent or lease a SCUBA air compressor which is capable of producing OSHA-certified air and have an appropriate area to operate the air compressor;

18. Possess a radio-telephone communication system in operating condition capable of maintaining daily radio contact with a designated "home base" on Oahu, and other authorized marine radio stations including weather information and designated VHF through which contact can be maintained with the scientific party;

19. Possess navigational and radar systems in good operating condition;

20. Possess a depth recorder in good operating condition;

21. Possess adequate safety, medical and life saving equipment and supplies, including an Emergency Position Indicator Rescue Beacon as required by State and Federal laws and regulations.

The Division of Aquatic Resources shall be responsible for, but not limited to, providing inflatable boats, outboard motors with gasoline and oil for their operation.

The contractor of the vessel shall be required to discharge the following functions:

A. Procure and maintain collision and personal liability insurance in the amount of $1 million, with a deductible not exceeding $5,000;

B. Sign an agreement holding the United States Government and the State of Hawaii harmless in the event of injury to crew members or damage to the vessel and its equipment or third parties during the term of the charter;

C. Have a marine survey inspection conducted on the vessel within the 12-month period preceding commencement of the charter;

D. Have the vessel's crew assist in all phases of research activity, as long as giving such assistance does not interfere with the operation and safety of the vessel;

E. Maintain the vessel and its equipment and gear in good operating condition at all times during the contract period;

F. Supply and pay for all fuel and lube oil for operation of the chartered vessel during the chartered period; if undertaking Midway

feet;

17. Possess, rent or lease a SCUBA air compressor which is capable of producing OSHA-certified air and have an appropriate area to operate the air compressor;

18. Possess a radio-telephone communication system in operating condition capable of maintaining daily radio contact with a designated "home base" on Oahu, and other authorized marine radio stations including weather information and designated VHF through which contact can be maintained with the scientific party;

19. Possess navigational and radar systems in good operating condition;

20. Possess a depth recorder in good operating condition;

21. Possess adequate safety, medical and life saving equipment and supplies, including an Emergency Position Indicator Rescue Beacon as required by State and Federal laws and regulations.

The Division of Aquatic Resources shall be responsible for, but not limited to, providing inflatable boats, outboard motors with gasoline and oil for their operation.

The contractor of the vessel shall be required to discharge the following functions:

A. Procure and maintain collision and personal liability insurance in the amount of $1 million, with a deductible not exceeding $5,000;

B. Sign an agreement holding the United States Government and the State of Hawaii harmless in the event of injury to crew members or damage to the vessel and its equipment or third parties during the term of the charter;

C. Have a marine survey inspection conducted on the vessel within the 12-month period preceding commencement of the charter;

D. Have the vessel's crew assist in all phases of research activity, as long as giving such assistance does not interfere with the operation and safety of the vessel;

E. Maintain the vessel and its equipment and gear in good operating condition at all times during the contract period;

F. Supply and pay for all fuel and lube oil for operation of the chartered vessel during the chartered period; if undertaking Midway refueling option, the contractor shall arrange for payment of fuel at Midway;

G. Provide and pay for all expenses, such as, maintenance, wages of the Captain, engineers and crew, and all other vessel expenses for the operation of the chartered vessel;

H. Provide food and freshwater stores for a cruise of up to 30 days; food items shall be mutually agreed upon between the contractor and scientific party and food cost shall be proportionally divided among the crew members and the scientific party after the successful contractor has been selected.

I. Agree to have the contract payment reduced by prorating on a daily basis based on the total sum due the contractor, only if the vessel fails to render the required services under the terms of the contract because of machinery breakdown, defects on the vessel or equipment, absence of a qualified captain or engineer, or other failures on the part of the contractor for a period of two consecutive days. In the event of any such failures, then beginning of the third day until resumption of normal operations, the daily rate of the charter fee shall be deducted per day from the total amount of the contract. Notwithstanding the foregoing, if the total number of charter days lost for reasons as outlined above exceeds four days during the entire term of contract, then the daily rate of the charter fee shall be deducted per day from the total amount of the contract for each day in excess of 4 days that the vessel fails to render services. It is understood that any days lost as a result of failures mentioned above may be recovered at the option of the contractor, subject to the consent of the DLNR, providing the vessel continues operating for an equal number of days beyond the 30-day charter;

J. If undertaking Midway refueling option, the State will coordinate requirements necessary for Midway Entry Authorization and for U.S. Custom clearance.

K. All persons tied to the operation of the vessel shall not be in arrears to requirements mandated by State and Federal laws.

L. No commercial fishing will be allowed during the charter period.

M. Keep accurate daily logs during the charter period, including periodic notations of time and position of the vessel, and supply a copy of the ship's log to the Division of Aquatic Resources if so requested;

N. Read, understand and document these specifications, as provided, together with all attachments thereto; and

O. Enter into and abide by the Charter Agreement.

V. Charter Payment

Charter fees will be paid a flat, daily, fee schedule, to cover days spent in transit and at anchor and in accordance with Section IV under Eligibility Requirements during the charter period. Payment will be made upon the receipt of the invoices by the DLNR from the contractor of the vessel for all or any part of the completed charter as may be mutually agreeable to both parties.

VI. Charter Termination

The DLNR reserves the right to cancel the charter at any time if the vessel fails to comply with the intent of the survey project. Consultation

consecutive days. In the event of any such failures, then beginning of the third day until resumption of normal operations, the daily rate of the charter fee shall be deducted per day from the total amount of the contract. Notwithstanding the foregoing, if the total number of charter days lost for reasons as outlined above exceeds four days during the entire term of contract, then the daily rate of the charter fee shall be deducted per day from the total amount of the contract for each day in excess of 4 days that the vessel fails to render services. It is understood that any days lost as a result of failures mentioned above may be recovered at the option of the contractor, subject to the consent of the DLNR, providing the vessel continues operating for an equal number of days beyond the 30-day charter;

J. If undertaking Midway refueling option, the State will coordinate requirements necessary for Midway Entry Authorization and for U.S. Custom clearance.

K. All persons tied to the operation of the vessel shall not be in arrears to requirements mandated by State and Federal laws.

L. No commercial fishing will be allowed during the charter period.

M. Keep accurate daily logs during the charter period, including periodic notations of time and position of the vessel, and supply a copy of the ship's log to the Division of Aquatic Resources if so requested;

N. Read, understand and document these specifications, as provided, together with all attachments thereto; and

O. Enter into and abide by the Charter Agreement.

V. Charter Payment

Charter fees will be paid a flat, daily, fee schedule, to cover days spent in transit and at anchor and in accordance with Section IV under Eligibility Requirements during the charter period. Payment will be made upon the receipt of the invoices by the DLNR from the contractor of the vessel for all or any part of the completed charter as may be mutually agreeable to both parties.

VI. Charter Termination

The DLNR reserves the right to cancel the charter at any time if the vessel fails to comply with the intent of the survey project. Consultation with the vessel operator covering contract violations will be held prior to any such action being taken.

NWHI CRUISE SCHEDULE

Day 1 - Depart Honolulu am, transit to Nihoa Island

Day 2 - Arrive Nihoa Island am, conduct survey, Depart Nihoa Island pm transit to Necker Island

Day 3 - Arrive Necker Island am, conduct survey, Depart Necker Island pm transit to French Frigate Shoals

Day 4 - Arrive French Frigate Shoals am, conduct survey

Day 5 - Conduct survey at French Frigate Shoals

Day 6 - French Frigate Shoals conduct survey am, Depart French Frigate Shoals pm transit to Gardner Pinnacles

Day 7 - Arrive Gardner Pinnacles am, conduct survey, Depart Gardner Pinnacles pm transit to Maro Reef

Day 8 - Arrive Maro Reef am, conduct survey

Day 9 - Maro Reef conduct survey am, Depart Maro Reef pm transit to Laysan Island

Day 10 - Arrive Laysan Island am, conduct survey, Depart Laysan Island pm transit to Lisianski Island

Day 11 - Arrive Lisianski Island am, conduct survey

Day 12 - Conduct survey at Lisianski Island, Depart Lisianski Island pm transit to Pearl & Hermes Reef

Day 13 - Arrive Pearl & Hermes Reef am, conduct survey

Day 14 - Conduct survey at Pearl & Hermes Reef

Day 15 - Conduct survey at Pearl & Hermes Reef*

Day 16 - Conduct survey at Pearl & Hermes Reef*

Day 17 - Conduct survey at Pearl & Hermes Reef* or

Midway Refueling Option*

Day 15 - Conduct survey at Pearl & Hermes Reef am, Depart Pearl & Hermes Reef pm transit to Midway Islands

Day 16 - Arrive Midway Islands am, refuel, Depart Midway Islands pm transit to Pearl & Hermes Reef

Day 17 - Arrive Pearl & Hermes Reef, conduct survey

Day 18 - Conduct survey at Pearl & Hermes Reef

Day 19 - Pearl & Hermes Reef conduct survey am, Depart Pearl & Hermes Reef pm transit to Lisianski Island

Day 20 - Arrive Lisianski Island am, conduct survey, Depart Lisianski Island pm transit to Laysan Island

Day 6 - French Frigate Shoals conduct survey am, Depart French Frigate Shoals pm transit to Gardner Pinnacles

Day 7 - Arrive Gardner Pinnacles am, conduct survey, Depart Gardner Pinnacles pm transit to Maro Reef

Day 8 - Arrive Maro Reef am, conduct survey

Day 9 - Maro Reef conduct survey am, Depart Maro Reef pm transit to Laysan Island

Day 10 - Arrive Laysan Island am, conduct survey, Depart Laysan Island pm transit to Lisianski Island

Day 11 - Arrive Lisianski Island am, conduct survey

Day 12 - Conduct survey at Lisianski Island, Depart Lisianski Island pm transit to Pearl & Hermes Reef

Day 13 - Arrive Pearl & Hermes Reef am, conduct survey

Day 14 - Conduct survey at Pearl & Hermes Reef

Day 15 - Conduct survey at Pearl & Hermes Reef*

Day 16 - Conduct survey at Pearl & Hermes Reef*

Day 17 - Conduct survey at Pearl & Hermes Reef* or

Midway Refueling Option*

Day 15 - Conduct survey at Pearl & Hermes Reef am, Depart Pearl & Hermes Reef pm transit to Midway Islands

Day 16 - Arrive Midway Islands am, refuel, Depart Midway Islands pm transit to Pearl & Hermes Reef

Day 17 - Arrive Pearl & Hermes Reef, conduct survey

Day 18 - Conduct survey at Pearl & Hermes Reef

Day 19 - Pearl & Hermes Reef conduct survey am, Depart Pearl & Hermes Reef pm transit to Lisianski Island

Day 20 - Arrive Lisianski Island am, conduct survey, Depart Lisianski Island pm transit to Laysan Island

Day 21 - Arrive Laysan Island am, conduct survey, Depart Laysan Island pm transit to Maro Reef

Day 22 - Arrive Maro Reef am, conduct survey

Day 23 - Conduct survey at Maro Reef

Day 24 - Maro Reef conduct survey am, Depart Maro Reef pm transit to Gardner Pinnacles

Day 25 - Arrive Gardner Pinnacles am, conduct survey, Depart Gardner Pinnacles pm transit to French Frigate Shoals

Day 26 - Arrive French Frigate Shoals am, conduct survey

Day 27 - Conduct survey at French Frigate Shoals am, Depart French Frigate Shoals pm transit to Necker Island

Day 28 - Arrive Necker Island am, conduct survey, Depart Necker Island pm transit to Nihoa Island

Day 29 - Arrive Nihoa Island am, conduct survey, Depart Nihoa Island pm transit to Honolulu

Day 30 - Arrive Honolulu pm, end of cruise

copy sent to Bob 5-14-82

23 December 80

Dear Bob and John:

An idea that I forgot to discuss with you before leaving Tehn relates to a small "experiment" to test the saltwater integrity of the concrete on East. I should have set this up before leaving, but I didn't, and I would greatly appreciate your help at this time. What needs to be done is to bring about 5 chunks of the broken concrete of different sizes to Tehn. Record the weight of the total amount, and place the chunks into the ocean near the tide gauge where they can be retrieved and inspected at a later date (6-12 months from now). I believe that it would be good for us to know if this material will degrade in flowing seawater and, if so, how rapidly. Oh yes, if and when you are able to do this, please select concrete chunks that resulted from the large slab - not the smaller and newer slab that contained reinforcing rods. The differences in concrete should be quite apparent.

I'll send Rob a xeroxed copy

George - Thanks for the field camp tagging tips and the research authors.

On 30 April I tagged an adult ♀ at Tem, used tag # 5457 on LFF. Distal portion of LRF had been bitten off sometime ago and now well healed. 5456

I have only one tag left and will use more if you send some out and will try to get a second tag on some of the animals.

John

5-13-82

Sent (5471-5475)(5 total) + (6351-6375) - 25 total

Received 5/10/82

Exploring the Neighbor Islands: How to Get the Most From Your Neighbor Island Visit

1982

(M5GIQ2411)
Films, handouts, and other materials will be utilized to provide the best data available for class participants' present and future travel plans in Hawaii. Optional neighbor island trips will be offered to those interested.

Schedule:

April 21 HAWAI'I ISLAND—"The Big Island Is Hawaii!" Special focus: Volcanoes and Island Building "From snow-capped volcanoes to black, green, and white sandy beaches, the Big Island is something special!"

April 28 MAUI: The Valley Isle Special Focus: Archaeology, historic sites, and culture of early Hawai'i. From Haleakala to Hana and Lahaina, Maui offers a wide variety of scenic, historic, and modern excitement.

May 5 MOLOKA'I AND LANA'I: Two places where Old Hawaii still dominates. Special Focus: Trees, flowers, and growing things. The smallest two of the major islands retain much remote and quaint charm from an earlier era.

May 12 O'AHU: The Gathering Place Special Focus: Birds, reptiles, and animals. O'ahu has its own "Neighboring islets," and a lot of out-of-the-way places easily accessible, yet little known.

May 19 KAUA'I: The Garden Isle Special Focus: Hiking/backpacking/bicyling/camping. The Garden Isle is the oldest of the main islands, and mother nature has worked longer here to fashion spectacular beauty.

May 26 THE NORTHWEST HAWAIIAN ISLANDS: Remote, beautiful, natural, preserve. Special Focus: Swimming/diving/ocean life. Oldest of the Hawaiian Islands, stretching from Kaua'i and Ni'ihau to Midway and Kure, these islands abound with natural wonders and creatures.

● Tenney Theatre, St. Andrews Cathedral, Queen Emma Square, Apr 21-May 26, Wed, 7-9 pm, 6 mtgs, $15 series, $3 single at door.

Willis H. Moore, M.Ed., Executive Secretary-Treasurer, Hawaii Geographic Society

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

11/12/8

WPPO	
DEG	
JJN	
ETN	
HEW	
~~WCS~~	
SLA	
MCS	
GKH	

F/MM2:PAC

NOV 3 1982

Mr. Richard J. Myshak
Regional Director
Fish and Wildlife Service
500 N.E. Multnomah Street
Portland, Oregon 97232

P1b

Dear Mr. Myshak:

Enclosed is the Biological Opinion prepared by National Marine Fisheries Service (NMFS) pursuant to Section 7(b) of the Endangered Species Act concerning impacts to monk seals and green sea turtles from refuge management activities in the Hawaiian Islands National Wildlife Refuge. The list of activities considered comprises - patrol and enforcement actions, conducting periodic status surveys of wildlife and plants in the Refuge, habitat manipulation projects, activities covered by special use permits, and the use of Tern Island as a research facility. The impacts of implementing the draft Memorandum of Agreement (MOA) between the NMFS and the FWS for management of monk seals in the Refuge and the impacts of management decisions resulting from application of the results of the Tripartite studies also are addressed.

The NMFS believes that routine Refuge management activities are not likely to jeopardize the continued existence of monk seals or green sea turtles. Some activities, such as future habitat manipulation projects and management decisions likely to result from the Tripartite studies are too vague to evaluate at this time. We recommend that such activities be subjected to the Section 7 consultation process as they arise. Additional recommendations are offered to minimize the possibilities of adverse impacts from research and management activities within the Refuge. We believe these recommendations to be reasonable and encourage the Refuge to adopt them.

The FWS must reinitiate consultation if new information reveals impacts that may affect listed species or their habitat, the identified activities are subsequently modified, or a new species is listed, or critical habitat is designated that may be affected by the identified activities or programs.

Sincerely yours,

William G. Stevenson

for William G. Gordon
Assistant Administrator
for Fisheries

Enclosure

FILE COPY

cc: [illegible] (w/encl.),
F/SWR, GCSW (w/encl.), GCF (w/encl.), Fx31, F-Carmen Blondin
Marine Mammal Commission (w/encl.)
NMFS:F/MM2:PACarter/blm:634-7471:10-14-82 [pr 1/Myshak #102]

CODE	SURNAME	DATE	CODE	SURNAME	DATE
F/MM2	Carter	10/14	[illegible]	[illegible]	10/27
F/MM2	Harris	10/18	F/M	[illegible]	10/21
GCF	G. Beck	10/18	F/M	C. Bland	10/29

FX3

NOAA FORM 61-2

ENDANGERED SPECIES ACT
SECTION 7 CONSULTATION AND BIOLOGICAL OPINION

REQUESTING AGENCY: Fish and Wildlife Service

ACTIVITY: Activities associated with routine management of the Hawaiian Islands National Wildlife Refuge and Fish and Wildlife Service involvement in the Tripartite Agreement for the Survey and Assessment of the Living Resources of the Northwestern Hawaiian Islands.

CONSULTATION CONDUCTED BY: National Marine Fisheries Service

DATE ISSUED: NOV 3 1982

BACKGROUND INFORMATION

By letter of April 2, 1980, the Fish and Wildlife Service (FWS) requested formal consultation under Section 7 of the Endangered Species Act of 1973, as amended (ESA), for possible impacts on the Hawaiian monk seal and the green sea turtle from routine refuge management activities and FWS involvement in the Tripartite studies.

HAWAIIAN ISLANDS NATIONAL WILDLIFE REFUGE

On February 3, 1909, President Roosevelt created the Hawaiian Islands Reservation (later the Hawaiian Islands National Wildlife Refuge) by Executive Order No. 1019. The Reservation was administered by the Department of Agriculture and included Cure (Kure) Island, Pearl and Hermes

Reef, Lysianski (Lisianski) Island, Laysan Island, May (Maro) Reef, Dowsett's Reef, Gardner Island (Pinnacles), Two Brothers Reef, French Frigate Shoals, Necker Islands, Frost Shoal, and Bird (Nihoa) Island.

In 1936, Kure Island was placed under the jurisdiction of the Navy by Executive Order No. 7299 and was turned over to the Territory of Hawaii in November, 1952 by Executive Order No. 10413. In 1939, jurisdiction over the Reserve was transferred to the Department of the Interior following a reorganization of the Executive Branch of the Government whereby the Bureau of Biological Survey, which administered the Refuge, was transferred to the Department of the Interior and renamed the Fish and Wildlife Service. A year later, the Hawaiian Islands Reservation was changed officially to the Hawaiian Islands National Wildlife Refuge (HINWR) by Presidential Proclamation No. 2416.

On December 27, 1951, the FWS and the Board of Commissioners of Agriculture and Forestry of the Territory of Hawaii entered into an agreement which authorized the concurrent designation of the lands and waters of the HINWR as a sanctuary for migrating birds and other wildlife under territorial laws and regulations. A year later, all of the HINWR Islands plus Kure were designated a State Wildlife Refuge by Resolution No. 7 of the Board of Commissioners.

birds and mammals

Although the exact Refuge boundaries were not specified in the Executive Order, Presidential Proclamation No. 2416, or the Territorial Board Resolution, the FWS has maintained that, based on the original Executive Order, they have jurisdiction over submerged lands and waters as well as the emergent lands within the following boundaries:

1. Pearl and Hermes Reef and French Frigate Shoals -- the boundary follows the outer face of the barrier reef and where breaks occur on the barrier reef, a line drawn from headland to headland.

2. Nihoa Island, Necker Island, Gardner Pinnacles and Lisianski Island -- the boundary of the low, low water mark.

3. Laysan Island -- the boundary follows the outer face of the fringing reef and where breaks occur in the fringing reef, a line drawn from headland to headland.

4. Maro Reef -- the boundary follows the lines drawn from headland to headland, to headland, here referring to the U.S. Coast and Geodetic Survey map. Maro Reef has only one rock (actually a large log) that protrudes about two feet above water. There is no clearly defined barrier or fringing reefs.

These boundaries also are based on a 1973 proposed Memorandum of Agreement between the State of Hawaii and the FWS. The tentative boundary agreement was signed by the then Acting Governor Ariyoshi and submitted with management considerations which were unacceptable to the FWS. Consequently, the Agreement was never concluded formally. Nevertheless, the FWS considers the boundary of the Refuge to be specified as above.

The primary objective of the FWS in managing the HINWR is "...the restoration, preservation, development and management of wildlife and the wildlands habitat; for the protection and preservation of endangered or threatened species and their habitat and for the management of wildlife and wildlands to obtain the maximum benefits from these resources." (50 C.F.R. §25.11(b), emphasis added).

The only inhabited island within the HINWR is Tern Island at French Frigate Shoals, a coral atoll situated almost at the midpoint of the 1600 mile long Hawaiian archipelago. Tern Island is one of 13 named islets in French Frigate Shoals and is considered by the Federal Government to be a Federally-owned segment of the HINWR. In 1942, the Navy converted the original 11 acre islet into a 57 acre airstrip to support naval operations during World War II. Except for a period of intermittent use between 1946-1952, the island has been continuously inhabited since its modification.

In 1944, the U.S. Coast Guard established a LORAN-A station at East Island, French Frigate Shoals. This station was moved to Tern Island in 1952. Operation of the LORAN station was conducted under the Cooperative Agreement between the U.S. Coast Guard and the Bureau of Sport Fisheries and Wildlife (now Fish and Wildlife Service) signed in March, 1967. In recent years, orders from the Commander, 14th Coast Guard District and a Special Use Permit from the HINWR restricted unnecessary vessel traffic within the HINWR boundaries; restricted visitation to other islands in the atoll; and controlled diving, fishing, and other recreational activities outside the Refuge as well as the special areas surrounding Tern Island. In July, 1979, the Coast Guard officially closed the LORAN station and removed all Coast Guard personnel. The FWS now maintains an interim caretaker complement there, pending final management decisions arising from the Tripartite Studies.

DESCRIPTION OF ACTIVITIES

Routine Refuge management activities that are conducted by the Refuge staff and associated FWS personnel include:

1. Patrol and enforcement: At least one trip is made each year to all of the islands comprising the HINWR. These trips provide an indication of illegal entries into the refuge and the possible extent of trespasses. They also provide a minimal deterrence to illegal entry.

2. Status surveys: These include such activities as determining the number of monk seals and composition of the population on each island by shore counts or vessel surveys from nearshore; the number and status of endangered millerbirds, Nihoa finches, Laysan finches, and Laysan ducks by means of line tfansects and nesting surveys; population estimates for various species of seabirds and their distribution by line transects and nesting surveys; and monitoring the status of green turtles by conducting beach counts and nesting surveys.

3. Habitat manipulation: On occasion, efforts are made to control some of the species of exotic plants which have become established on some islands. These plants encroach upon nesting areas and hinder the movements of some species of seabirds. These efforts are infrequent and none are planned for the near future. In 1981, concrete pads left over from the old LORAN station at East Island, French Frigate Shoals, were removed in order to provide additional turtle nesting habitat. Control of introduced rats and cats may be necessary in some areas.

4. Permits: Special Use Permits are issued to those individuals and agencies with a legitimate need to enter the Refuge. They are issued under the provisions of 50 C.F.R. Subchapter C, Part 25, §25.41 through 25.44 for access as well as the activity authorized. For the purpose of this consultation we have not reviewed all of the projects ongoing in the refuge but have considered only the adequacy of permit conditions in controlling

harassment of monk seals and green sea turtles and alleviating adverse impacts to the habitat of these species.

5. Tern Island, French Frigate Shoals: The facilities at Tern Island are presently being maintained by the FWS in a caretaker capacity. FWS personnel on the island ensure compliance by researchers with HINWR regulations and permit conditions, assist in authorized projects, and provide emergency services as needed.

The FWS and the NMFS are working toward completing a Memorandum of Agreement (MOA) for the management and protection of monk seals. This MOA will ensure cooperation in the enforcement of laws and regulations protecting monk seals and will provide the NMFS with an opportunity to assist the FWS in protecting monk seals from adverse impacts related to the above activities. The MOA provides the FWS the opportunity to participate in NMFS research and management activities related to monk seals to ensure NMFS actions are consistent with HINWR policies and regulations.

In addition to routine refuge management activities, the FWS has been involved in a Tripartite Cooperative Agreement for the survey and assessment of the living resources of the Northwest Hawaiian Islands (NWHI). Other cooperators in this agreement are the State of Hawaii and the NMFS. For the most part, the field studies outlined in this agreement have been completed. Data analysis and manuscript preparation are scheduled for completion by the end of 1982. These results will be utilized in making management decisions regarding future conservation and/or utilization of Northwestern Hawaiian Island resources.

LIST OF THE SPECIES THAT MAY OCCUR IN THE ACTIVITY AREA

Hawaiian monk seal (Monachus schauinslandi) - endangered

Green sea turtle (Chelonia mydas) - threatened

BIOLOGY AND DISTRIBUTION OF SPECIES

The Hawaiian monk seal population was almost eliminated due to sealing and harassment in the nineteenth century. Historical records indicate that monk seals were utilized for oil and pelts during that time. Only the cessation of sealing and the monk seal's isolated habitat in the NWHI allowed the species to survive.

Reliable estimates of the size of the monk seal population are not available. Insufficient information on haul out patterns and differences in age and sex composition of the seals at each island or atoll make extrapolation of counts to population estimates difficult. Counts of hauled out seals provide the primary data base from which population estimates have been made. These counts, which have been made almost annually since the 1950's, indicate that the population is now small and that there was a decline during the 1950's and early 1960's. Counts within the NWHI since the mid-1960's have remained fairly stable.

There has been a definite decline in the number of monk seals at the westernmost islands: Kure, Midway, Pearl and Hermes Reef, Lisianski, and Laysan. The greatest declines have been observed at Pearl and Hermes Reef and Midway where means of recent counts have shown a 90 percent decrease from counts made in 1957 and 1958. At Lisianski and Kure the means of counts made from 1976 to 1979 show decreases from counts made in the late

1950's of 65 percent and 75 percent, respectively. The counts at Laysan have shown the least decline, about 50 percent. Generally the reasons for these declines are not well known. Kenyon (1972) has attributed the decline at Kure and Midway to human disturbance.

While the population as a whole has declined the counts at French Frigate Shoals, Necker, and Nihoa indicate an increase in the number of monk seals utilizing these easternmost islands. The population at French Frigate Shoals has increased by about sixfold but has shown no trend since 1975. Immigration from disturbed areas does not appear to be an important factor, because data from tagged seals indicate there was no more movement of animals into French Frigate Shoals than into other Island populations. Strict-use permits issued by the HINWR have limited human activity at Tern Island and in nearshore waters. These controls combined with the long distance between Tern Island and the other islets at French Frigate Shoals have reduced the impacts of human activity and could have contributed to the increase of monk seals at French Frigate Shoals. The counts at Necker and Nihoa have increased from 0 in 1957 and 1958 to 46 in 1977. This increase is unlikely to continue as there is little suitable unutilized beach habitat left.

The breeding range of the monk seal is restricted to the ten NWHI. They have been observed in waters around the main Hawaiian Islands and as far away as Johnston Atoll (240 nmi SW of French Frigate Shoals). There is no evidence to indicate that the range has been significantly different from this, although Kenyon (1972) postulated that prior to the arrival of the Polynesians, monk seals bred on favorable beaches of the main Hawaiian Islands.

Coral sand beaches are the preferred habitat for pupping, hauling out, and nursing. Based on observations of mating behavior, the nearshore waters adjacent to pupping and hauling beaches also are part of the breeding habitat. Protected reef and water areas adjacent to reefs and beaches are utilized extensively by adult females with nursing pups and weaned pups that are learning to feed. Pupping occurs from late December to mid-August with the majority of pups born between March and May. Females do not leave their pups during the five to six week nursing period, and the pups gain many times their birth weight during this short interval. During their first year, while they are learning to fend for themselves, pups loose a substantial percentage of their body weight. Therefore, we expect that interruptions in nursing or premature weaning will diminish a pup's chances for survival.

When at the breeding islands, monk seals feed on fish and invertebrates associated with the coral structures of the inner reef and outer reef slopes. Known prey items include octopus, spiny lobster, eels, and various species of reef fish.

A monk seal recovery team has been established for the purpose of developing a management plan to promote the conservation and recovery of the monk seal populations. This plan will include a list of research priorities designated to define the position of the monk seals in the NWHI ecosystem, identify causes for the decline of the monk seal population, and determine management measures necessary to eliminate factors contributing to the decline, including minimizing monk seal/human interactions.

Green Sea Turtle (Chelonia mydas)

The Hawaiian green sea turtle population has declined due to loss of habitat and exploitation for meat and oil. The only remaining nesting

sites for green sea turtles in the Hawaiian Archipelago are in the NWHI. Nesting sites in the main Hawaiian Islands have been eliminated through modification of habitat and harvesting of eggs and turtles.

Even though most of the NWHI are included in a National Wildlife Refuge, this refuge status did not serve as a significant deterrent to the exploitation of turtles until recent years. In 1946, a commercial fishing base was established at French Frigate Shoals. Both turtles and fish were captured in the area and transported to Honolulu by aircraft. The abandoned airstrip on Tern Island was utilized as a base of operations. One of two fishing companies using the base estimated taking about 200 turtles from 1946, until they terminated operations in 1948. During the summer of 1959, turtles were again taken at French Frigate Shoals by a commercial fishing company based in Honolulu.

In excess of 90 percent of all breeding by Hawaiian green sea turtles occurs at French Frigate Shoals. Within French Frigate Shoals nesting occurs at East, Whale-Skate, Trig, Tern, Gin, and Little Gin Islands. The approximate number of females nesting annually at French Frigate Shoals has ranged from a minimum of 94 in 1976 to a minimum of 248 in 1978, with an annual mean number of 180 for the period, 1973-1980. Nesting occurs from the middle of May to early August with the peak season during late June. The majority of breeding females nest on East (55 percent) and Whale-Skate (35 percent) Islands. Preliminary results from a recently completed tagging study at French Frigate Shoals indicated that for the most part the females remain in nearshore shallow waters adjacent to the nesting beaches during the internesting interval.

Incubation lasts approximately two to three months with a mean average of just over 64 days. It is unknown if the population of green turtles at

French Frigate Shoals is stable at the present time. The number of females nesting annually since 1973 has flucuated substantially, and no trends can be detected.

The remainder of the nesting population of Hawaiian green sea turtles is found on the islets of Pearl and Hermes Reef, Lisianski Island, and Laysan Island (Balazs, 1979).

Although the majority of the green sea turtle grazing areas thus far identified are found in the main Hawaiian Islands, juvenile turtles have been observed feeding on Caulerpa sp., Codium sp. and small anthozoans that grow on the calcareous reef structures near East, Whale-Skate, and Tern Islands at French Frigate Shoals.

At undisturbed sites in the NWHI, green sea turtles exhibit the uncommon behavior of coming ashore to bask. This is a behavior that is exhibited by adults of both sexes and, to a lesser extent, immature turtles larger than 35 cm. in length (Balazs, 1979). This behavior increases the potential for sea turtle/human interactions because it results in sea turtles being ashore where they are subject to harassment by researchers, refuge personnel, and trespassers.

With the exception of La Perouse Pinnacle, basking occurs on all of the islands at French Frigate Shoals, as well as on several unnamed seasonally occurring sandbars. The northern shore of Trig Island and the northeastern shore of Whale-Skate Island are the most heavily utilized during all months of the year by the resident aggregation. At East Island, basking tends to coincide more with the breeding season (April-September). As with nesting, turtles display a high degree of site fidelity for basking on a particular island. The greatest numbers of basking turtles are found throughout French Frigate Shoals during late May and June due to the presence of

migratory breeding assemblage. The incidence of basking then declines as the breeding season progresses. Basking also occurs at Pearl and Hermes Reef, Laysan Island, and Lisianski Island, although to a lesser extent than at French Frigate Shoals due to the smaller numbers of turtles.

POTENTIAL IMPACTS ON SPECIES

The greatest potential impact to the monk seal and green sea turtle population from the five Refuge Management activities outlined above is harassment. Kenyon (1972) attributed the decrease of monk seals at Kure and Midway to harassment associated with activities such as construction and beachcombing. The recent increase in monk seals hauling out at Tern Island, French Frigate Shoals, supports Kenyon's position. Since the Coast Guard left Tern Island in 1979, the beaches have been relatively undisturbed, and monk seals are now hauling out on those beaches. Recent counts indicate up to 60 monk seals may be utilizing Tern Island.

Green turtles apparently faced the same sorts of displacement pressures during the tenure of the Coast Guard and may begin to use Tern Island more heavily as a nesting site and basking area in the near future provided levels of human activity remain low.

Patrol and enforcement trips and status surveys are generally combined activities that occur about once a year. Although these activities are not subject to the conditions of a special use permit, the personnel involved are cognizant of the sensitivity of NWHI wildlife to disturbance and employ techniques to minimize the impacts of their presence. These techniques include landing on unoccupied beaches and remaining hidden, or keeping a minimum distance away from monk seals and sea turtles whenever possible.

Habitat manipulation is also an occasional activity that could affect monk seals and sea turtles. If performed with appropriate safeguards these efforts could have beneficial effects. For example, the removal of the concrete pads at East Island, French Frigate Shoals, made available more sea turtle nesting habitat. Depending on the degree of manipulation this activity could result in adverse impacts. Again, the most likely adverse impact would be abandonment of habitat due to incidental harassment. This is not an immediate concern, since the FWS has no plans for habitat modification in the foreseeable future.

Activities conducted under special use permits are the most frequently occurring activities in the Refuge and the activities most in need of supervision and regulation. In most instances the projects or studies conducted within the Refuge under Special Use Permits do not directly involve either monk seals or green sea turtles, but may affect either or both species through disturbance or accidental entanglement. Examples of such potential interaction include but are not limited to:
(1) Disorientation and increased susceptibility to predation of turtle hatchlings attracted to night light fishing stations and deck lights of anchored vessels during certain times of the year; (2) entanglement of monk seals and turtles in nets, set lines, fishing lines, traps, and mooring lines; (3) displacement of hauled out monk seals and basking green turtles from preferred beaches; (4) disruption of turtle nesting behavior; and (5) disruption of monk seal nursing, breeding, and pupping behaviors. Any or all of these potential impacts may result from researchers attempting to land and go ashore on certain islands, establishing camp sites, conducting censuses or observations of fish and wildlife on land and in nearshore

waters, or collecting samples of fish and invertebrates for other research purposes.

From 1978 through 1981, 22 Special Use Permits were issued to NMFS, the University of Hawaii, and the Coast Guard. These permits covered specific areas such as Nihoa Island, Necker Island, and French Frigate Shoals, as well as the entire Refuge from Necker Island to Pearl and Hermes Reef. During this same period the State of Hawaii conducted their Tripartite Studies without Special Use Permits, maintaining the conditions of the Tripartite Agreement obviated the need for permits.

Given this level of activity, the conditions attached to the Special Use Permits appear to be adequate for minimizing the impacts of authorized activities. These conditions may include specification of anchorages, landing sites, camping sites, limitations on dates of access to sensitive areas, other area restrictions, and specifications on minimum distances to be maintained when in the vicinity of sensitive species.

The reoccupation of Tern Island by monk seals indicates that current levels of FWS activity there are below the threshold of human activity which adversely impacts monk seals and probably sea turtles. We believe maintaining Tern Island as a research support station is beneficial to monk seals and sea turtles. The presence of FWS personnel provides a deterrence to illegal entry and ensures that special use permit holders abide by Refuge regulations and permit conditions while allowing collection of information to define the parameters which regulate population growth of the threatened and endangered species in the NWHI.

No adverse impacts are expected to arise from the implementation of the MOA for managing and protecting monk seals. When implemented, the

agreement will ensure coordination between the FWS and the NMFS regarding monk seal research, management, and enforcement activities. This should facilitate efforts to protect the population. Thus, the agreement should have a positive impact.

No additional impacts are expected from the Tripartite agreement since the field studies have been concluded. The information provided by those studies will be utilized in making management decisions regarding conservation and utilization of NWHI resources and future uses of Tern Island. These management decisions could have severe impacts on monk seals and sea turtles. At this stage, such decisions are too nebulous for consideration.

CONCLUSION

We believe that routine patrol and enforcement activities and biological surveys are not likely to jeopardize the continued existence of Hawaiian monk seals or green sea turtles. These activities are conducted on an infrequent basis and the personnel involved are cognizant of precautions that are necessary to minimize incidental harassment. The FWS could afford additional assurances by subjecting these activties to the same conditions as non-FWS activities conducted under the authority of special use permits.

Habitat manipulation projects conducted through 1981 appear to have been beneficial in that they have resulted in maintenance of or increases in habitat available to monk seals and green sea turtles. If future projects are of a similar scope and conducted in a similar fashion, we would expect no adverse impacts. Since the FWS has no plans for habitat modification in the near future, we venture no opinion of future impacts. We believe

future projects should be subjected to the Section 7 consultation process, at least through the informal consultation stage, so that the NMFS may assist the FWS in ensuring future habitat manipulation projects do not jeopardize monk seal or green sea turtle populations.

The current level of non-FWS activity in the refuge authorized by special use permits appears not to be aversely impacting monk seals or green sea turtles. The conditions attached to the special use permits, if adhered to, should be sufficient to protect monk seals and green sea turtles from disturbance and incidental take. We believe that, as interest in the NWHI increases, the level of activity will increase to the point where permit restriction will become ineffective in alleviating the adverse effects of human presence on monk seals and sea turtles. Therefore, the FWS should work with the NMFS through the Section 7 consultation process or through the process implementing the Hawaiian Monk Seal Recovery Plan to establish a ceiling on the level of activity that will be allowed in the HINWR. This ceiling could be established based on a review of historic levels of permitted activity, analysis of trends in activity levels, and types of activity, and information being collected and in the literature regarding impacts of human presence in the NWHI on monk seals and green sea turtles.

The last routine refuge management activity considered in this opinion is the maintenance of Tern Island, French Frigate Shoals, as a research support base. This is an interim status. The final use of Tern Island will be decided based on consideration of information provided by the Tripartite studies and we assume, after some negotiation between the FWS, the State of Hawaii, and the NMFS. Our position on the use of Tern Island

was defined in our March 11, 1981, Biological Opinion to the FWS regarding the use of Tern Island as a fishery support base. We believe that opinion remains valid.

The draft MOA for management of monk seals, when implemented, will provide additional measures to ensure protection of the monk seal population, but will provide no similar means for ensuring coordination in matters pertaining to green sea turtles. We believe the FWS and the NMFS should amend this MOA to include green sea turtles, and the agencies should strive for implementation of the MOA at the earliest date possible.

The Tripartite Agreement for the Survey and Assessment of the Living Resources of the Northwestern Hawaiian Islands is near completion. The management decisions made based on the information provided by these studies could have severe impacts on monk seals and green sea turtles. Decisions that may affect the threatened and endangered species populations of the NWHI must be should be subjected to the Section 7 consultation process.

In summary, the activities discussed above are intended to benefit the wildlife in the HINWR. The cummulative impacts from these activities should be positive. We believe that the current level of routine refuge management activities are not likely to jeopardize the continued existence of the Hawaiian monk seal or green sea turtle populations in the HINWR. Several of the activities considered in this opinion are of an intermittent nature, making an assessment of future impacts difficult. Therefore, the FWS should continue employing the Section 7 consultation process whenever they believe one or more of these activities may affect the threatened and endangered populations in the HINWR.

RECOMMENDATIONS

Implementation of the following recommendations will provide additional safeguards and enhance the FWS' efforts to protect and promote the recovery of monk seal and green sea turtle populations.

1. We recommend that routine Refuge activities be subject to the same conditions as non-FWS activities authorized by Special Use Permits. Recognizing that some of the statutory and regulatory requirements of the Refuge may preclude these restrictions, we recommend further consultation and discussion between the Hawaii Area Offices of the NMFS and the FWS in those instances where conflicts between management activities and threatened or endangered species arise.

2. We recommend that future habitat manipulation projects which may affect monk seals or green sea turtles be subjected to the Section 7 consultation process. The informal consultation process should be utilized first. In this manner projects may be designed so as not to adversely affect threatened and endangered populations. In addition, informal consultations should facilitate the designing and timely completion of habitat manipulation projects. In the event issues need to be elevated to a higher level for resolution, the formal consultation process should be implemented.

3. We recommend that the FWS establish a ceiling on the level of activity that is allowed in the HINWR. Monk seals and green sea turtles are sensitive to human disturbance. Without control over the level of activity in the HINWR, the threshold at which incidental disturbance begins to adversely affect monk seals and green sea turtles may be exceeded.

4. We recommend that the Refuge make every effort to ensure compliance with the conditions of each Special Use Permit issued. This may require the presence of FWS or NMFS observers for each project or vessel cruise.

5. We recommend that before implementing any management actions recommended by the participants of the Tripartite Agreement, the FWS assess the potential impacts to monk seal and green sea turtle populations. In the case where the monk seal and green sea turtle populations may be affected, the Section 7 consultation process should be implemented.

6. We recommend that the proposed MOA between the NMFS, Southwest Region and the FWS, HINWR "Regarding Management and Protection of the Hawaiian Monk Seal" be expanded to include green sea turtles and implemented as soon as practicable. ← ?

REINITIATION OF CONSULTATION:

Consultation must be reinitiated if (1) new or additional information reveal impacts of the identified programs that may affect listed species or their habitat including but not limited to significant increase in human activity in the HINWR; (2) the identified programs are subsequently modified; (3) a new species is listed that may be affected by the identified activities or programs.

Nothing in this biological opinion should be construed as authorizing any "take" of endangered or threatened species pursuant to section 10(a) of the ESA nor immunizing any actions from the prohibitions of section 9(a) of ESA.

Literature Cited

Balazs, George H. 1979.
Status of Sea Turtles in the Central Pacific Ocean. In: Proc. of the World Conf. on Sea Turtle Cons. 26-30 Nov. 1979. Wash. D.C.

Kenyon, K.W. 1972.
Man versus the monk seal. J. Mam. 53(4): 687-696.

National Marine Fisheries Service. 1980.
Draft Environmental Impact Statement for Proposed Designation of Critical Habitat for the Hawaiian Monk Seal (Monachus schauinslandi)

Fish and Wildlife Serivce.
Code of Federal Regulations, Title 50 Subchapter C, The National Wildlife Refuge System, Part 25.

FL 30 01

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FISH AND GAME
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

March 25, 1981

Mr. Tom Dinell
Urban and Regional Planning Program
University of Hawaii at Manoa
2424 Maile Way
Honolulu, Hawaii 96822

Dear Mr. Dinell:

Thank you for your letter of January 28, 1981, requesting our comments on the first draft of the issue paper for Marine Sanctuaries. I apologize for the delay in our response. We have restricted our attention to aquatic resources with the assumption that the Division of Forestry and Wildlife will be responding on matters relating to terrestrial flora and fauna including birds. We have a number of concerns about this issue paper and in light of our involvement in the area of marine sanctuaries perhaps a meeting to discuss this issue is appropriate.

We have tried to restrict our comments to specific statements within the paper but would briefly like to mention our thoughts regarding the style and tone of the paper, particularly as expressed in the first several pages. "Unique" is a good word but tends to lose its impact with over use. It is used approximately a dozen times in the first five pages along with the phrase "found nowhere else in the world." The use of the term "vulnerable" to describe Hawaiian ecosystems in particular, should be clarified. Susceptibility to change as well as resiliency should be recognized as natural characteristics common to the various ecosystems. Proper resource management aims at balanced use of the resource and the marine environment with sanctuary designation constituting only one of the many management tools used to ensure stability of the resources.

The correct designation of the NWHI is Northwestern Hawaiian Islands (according to the DPED State Board of Geographical Names). Although the NWHI may be "the best representatives of pristine conditions in low islands and atolls," they are not "representative" of conditions, pristine or otherwise, in the main Hawaiian Islands which constitute more than 99.8% of the State's emergent lands.

We would urge that caution be taken to document as much as possible, statements made in the issue paper which appear to reflect fact. Many of the biological areas referred to in the paper require substantially greater study before statements are made such as "lobsters are a main component of the monk seal diet" (p. 25) or that "the only major monk seal population that...is healthy resides at French Frigate Shoals" (p. 2). In fact, the entire issue of critical habitat designation must be based upon supporting data which are still woefully lacking. This is not to say, however, that we agree with the statement on page 18 that "the knowledge of essential [biological] processes is necessary in order to provide protection for significant resources in the marine environment." Were this an accurate description of State policy, our incomplete understanding of complex ecosystems would have precluded any State management measures. Such is not the case. State policy has been that management efforts are, and should be undertaken, on the basis of the best information available, with adequate consideration given to the many ramifications occasioned by the decision, including socio-economic impacts. Procedures exist for revising management actions based upon new information and experience. We fear that restrictive measures can be imposed based upon insufficient information and conjecture which soon turn to gospel. For instance, if as stated in the paper, that "a lobster fishery in the NWHI may potentially reduce the availability of a basic component in the diet of the Hawaiian monk seal" is accepted as fact before sufficient research is undertaken, the growing lobster fishery could be severely and unfairly curtailed. Your issue paper does note that "the evidence is not conclusive." We submit that it is as yet not even suggestive, and that, therefore, such conjecture, which may prejudice and contradict the State's policy for the NWHI, should be more carefully detailed.

In keeping with the above remarks concerning scientific validity, we suggest that the statement that "90% of the mating of Hawaiian green sea turtles takes place at French Frigate Shoals" should be referenced. It is also in the area of marine turtles that we request greater clarification between federal and state classification with respect to endangered or threatened status. Five species of sea turtles are mentioned (p. 3) with the green sea turtle incorrectly described as endangered (p. 14).

Because the listing by the federal government of the green sea turtle within the "threatened" category has preempted State's authority to manage this resource, the repeal of Regulation 36 is being proposed. The proposed change will bring the State into conformity with the federal action.

The sweeping statement that hunting, fishing and collecting of species is an obvious threat to endangered species and valuable ecosystems must be challenged (p. 7). This is totally unfounded. For example, there is no evidence whatsoever that the aquarium fish industry affects, much less threatens any endangered species. No species utilized by the industry is under any consideration for "endangered" status. It would be best if the section on "taking" of marine life be rewritten.

A considerable amount of attention was given to the subject of the Tripartite Cooperative Agreement and the jurisdictional issues in the NWHI. We do not believe that compatibility of commercial use and protection of endangered species is the "central" issue of the Tripartite Cooperative Agreement as stated on page 19. Certainly this question has been a significant factor in motivating the Agreement. Rather, the central issue is and has been "to evaluate the fish and wildlife resources in the NWHI."

There are five issues listed as "central to the resolution of this dispute" between State and Federal governments, regarding jurisdiction over submerged, archipelagic lands in (but not limited to) the NWHI (p. 20). We concur that resolution of the dispute is greatly desirable. However, the listed issues are peripheral or irrelevant to resolution of the dispute. It is likely that the listed areas may be to some degree eased by resolution of the jurisdictional dispute, but resolution of any or all five would not solve the dispute. In essence, the State claims that Federal jurisdiction ends at the high water mark while Federal agencies claim jurisdiction over the nearshore waters as well.

1. Tern island consists of emergent lands greatly modified by the military during World War II. The State is undoubtedly interested in any final disposition but in the interim period is interested in studying the feasibility of a combined research and tightly controlled experimental commercial fisheries base there.

2. The potential designation of critical habitat stems from provisions of the Endangered Species Act and seems more nearly parallel than central to the jurisdictional dispute.

3. The jurisdictional dispute will probably affect the forms of various Fishery Management Plans, but finalization of the Plans need not await resolution of the dispute.

4. The pending results of the Tripartite Study may intensify the dispute by clarifying the nature and magnitude of the resources at stake. However, it is not likely that the results will be central to resolution of the dispute.

5. The fifth issue of a potential wilderness area in the NWHI also does not appear central to the resolution of the dispute.

The proposed CZM efforts to promote resolution of the NWHI jurisdictional dispute may prove counterproductive. The complexities of the issues are such that a CZM sponsored conference to resolve the dispute is wishful thinking. Resolution is most likely to be achieved through lengthy legal proceedings and arguments.

We would appreciate having a couple of other points in the issue paper clarified. There exists no State "comprehensive fish and wildlife resource management plan," as stated on page 22. As yet, few if any state has met the requirements for such a plan. Please clarify which document you are referring to.

The critique of the Marine Life Conservation District program requires clarification. MLCD proposals or specific provisions within the proposal have met with some public resistence which has resulted in deferment of certain proposals. However, to emphasize that "there is often public resistence" (p. 24) due to lack of public awareness is a misrepresentation. Public sentiment has more often than not provided the impetus for MLCD establishment. The discussion of the MLCD designation process is unfortunately misleading:

a. strategies for communicating information to the public are well established by State, Departmental, and Divisional policy and include newspaper announcements, direct mailings to concerned community groups, public meetings, public hearings, and, finally, the public board meetings at which final recommended approval to the Governor is considered;

b. current and potential users of proposed MLCDs are not only identified but solicited for comments (see a);

c. the potential of MLCDs to function as "nursery grounds" is a consideration in every particular proposal, indeed of the entire MLCD system.

d. specific resources are carefully assessed, and this information is combined with use information (see b) in developing a management regime individually tailored to fit the conditions at each individual MLCD, as is readily apparent from comparison of the regulations (rules) for the existing MLCDs; and

e. MLCDs are, in fact, subject to a program of periodic surveys precisely for monitoring purposes.

Finally, we agree with the recommendation calling for greater public information and education. So much of our work deals with people management rather than direct manipulation of renewable resources that much more stress is warranted in this area.

We disagree that enhancing public participation in the designation process for a Marine Mammal Sanctuary is appropriate. Until we can be assured that a sanctuary would, in fact, protect marine mammals to any greater extent than presently exists while safeguarding the State's many interests in the marine sector, the international, national and local temper and emotion surrounding the protection and preservation of whales, rather than cold hard facts could further polarize present positions without doing anything to help the whales.

We hope that these comments will be accepted in the constructive spirit in which they are offered, and that they will be useful in your efforts at preparing the next draft. We appreciate the magnitude and complexity of your undertaking, and appreciate the opportunity to review the issue papers which directly impact us.

Yours truly,

Kenji Ego

KENJI EGO, Director
Division of Fish and Game

KE:MS:rfm