

University of Hawaii at Manoa

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Dr. William W. Fox, Jr. Permits Division Office of Protected Resources National Marine Fisheries Service 1315 East-West Highway, Room 13130 Silver Spring, Maryland 20910

Dear Dr. Fox:

Acoustic Thermometry of Ocean Climate (ATOC) Scientific Research Permit

We understand applications have been submitted by Scripps Institution of Oceanography, Institute of Geophysics and Planetary Physics, Acoustic Thermometry of Ocean Climate Program for a Scientific Research Permit "to take by incidental harassment..." certain species of marine mammals and sea turtles. As Associate Coordinator of the University of Hawaii's Environmental Center, I attended the public hearing on the ATOC project that was held in Honolulu, Hawaii on the island of Oahu on April 14, 1994 to become apprised of the plans and potential issues of concern attendant to the ATOC project. In the interest of encouraging rational decisions with regard to the issuance of the requested research permit as well as thoughtful attention to the concerns voiced at the hearing I am providing these comments.

My comments will focus on six general areas:

- 1. The potential role of the Environmental Center in the ATOC permitting process;
- 2. My understanding of the nature of the project and issues of concern as presented at the hearing;
- 3. The procedures that have been followed to date with regard to the permitting process;

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- 4. Procedures that might appropriately be considered in the short term;
- 5. Procedures that would be appropriate for the longer term; and finally,
- 6. The potential future involvement of the Environmental Center with regard to the review of environmental documents generated for the ATOC project.

Potential Role of the Environmental Center in the Permitting Process.

The Environmental Center of the University of Hawaii was established in 1970 by action of the Hawaii State Legislature with the express mandate, "to make most effective the contribution of the University [of Hawaii] to problems of determining and maintaining optimum environmental quality" [Section 341-5(a) Hawaii Revised Statutes (HRS)]. In fulfilling this mandate, the Environmental Center routinely reviews and coordinates technical expertise pertinent to environmental management from throughout the statewide University of Hawaii system. Our "normal" review procedure involves the identification of key issues of concern as derived from permit applications, environmental impact assessments or statements, or other environmentally related documents prepared pursuant to statutory or regulatory requirements. These documents are then distributed to faculty and staff within the statewide University system with specific expertise in the topics under Objective evaluations are sought from "our reviewers", their written consideration. comments are received, and a formal "review" paper is then prepared by our Center staff that synthesizes the reviewer's comments. The Environmental Center is not an "advocacy" organization, but rather strives to offer objective and rational analyses of topics of potential environmental significance or concern to the State of Hawaii in order to improve the informational basis for decision making.

Nature of the Project.

The ATOC project proposes to monitor long term changes in ocean temperatures by periodically measuring the velocity of the transmission of sound over large oceanic distances. Such measurements can provide important records of ocean heat content which relates directly to global climate change. Using such documentation, political decision makers will be better able to develop and implement informed environmental management practices. According to the information presented and distributed at the public hearing on Oahu (April 14, 1994) the ATOC project proposes to generate a low frequency sound in the range of 60-90 Hz at depths of approximately 3000 feet (850-900 meters) at an intensity of about 195 dB, and with a spectrum level for the peak frequency (70 Hz) at 182 dB. For the initial sampling period of some 2.5 months, the sampling frequency will be every 4 hours for a period of 20 minutes to provide baseline data corrected for tidal effects. Intensity will vary over this 20 minute period beginning with very low initial intensities and gradually building to the maximum 195 dB for about 10 minutes followed by a subsequent gradual decrease in intensity to the beginning condition. After the initial 2.5 month sampling period, the sampling frequency will be adjusted to meet the technical needs of the project and is anticipated to be of the order of 1-2 times per day. Variation in intensity over each sampling cycle will continue as in the initial sampling period. Sounds generated will be received using existing receivers in the North Pacific formerly used by the Navy in their submarine monitoring program. According to the presentation, the sounds produced will be similar in intensity to those produced by a large ship or tanker. Furthermore, the sounds will be produced with a bandwidth of 20 Hz and, except for in the immediate vicinity of the sound source, will only be distinguishable from the "normal" background noise by the specially focused receivers.

Present Permit Procedures.

My impression from the public hearing in Honolulu, was that few people were aware of the ATOC experiment or the request for the Scientific Research Permit until only a few days before the hearing. It was apparent that public notification, or even adequate notification of NMFS personnel in Honolulu, had not been properly carried out with regard to the requested permit. Furthermore, it was also readily apparent that much of the public testimony reflected erroneous information derived by various news services from alarmist language used in the application for the Scientific Research Permit. Instead of providing thoughtful testimony based on factual issues and concerns, much of the testimony reflected beliefs that the ATOC project was requesting permission to "take" (read..."kill or otherwise seriously harm...") any number of marine organisms, and public sentiment was understandably opposed.

In reviewing the material provided and testimony given at the Oahu hearing, the misinformation problem became obvious. The lack of understanding by the public of the actual definition of the word "take" in the context of the Scientific Research Permit was perhaps the single most problematic issue. According to the Marine Mammal Protection Act PL 95-136 as amended, Section 3 (12), "the term 'take' means to harass, hunt, capture, or kill any marine mammal. The opening remarks by the NMFS representative, and the presentation given by the ATOC researchers, made it clear that the ATOC experiment would not hunt, capture, or kill any marine mammal (or other marine organism for that matter). Unfortunately, the written hearing notice materials did not make that distinction. Hence, many of those testifying in opposition to the permit were basing their position on the presumption that the experiment would/could result in death or serious harm to marine animals. It seems likely that a great deal of the concern generated over this project could have been avoided if the various notices in the Federal Register and for the Public Hearings had explained the purpose of the scientific research permit in layman's terms, and in particular that the use of the term "take" was a formality of the Research Permit and that it did not, as used in this permit, mean "take" as in kill, hunt, or capture.

As to the potential of the ATOC experiment to "harass" animals, the issue was not so clear. There is no federal statutory definition of "harass". Webster's New World Dictionary defines "harass" as, "to trouble, worry, or torment...." Whether the ATOC sound source would "harass" marine organisms, specifically whales, dolphins, or turtles, then becomes a valid question but one reasonably amenable to examination. One can test the effects of various sound sources on the behavior of both captive and "wild" populations of marine animals. In point of fact, many studies have been done on this precise topic. Considerable data exist on the behavior of marine mammals to various anthropogenically generated ocean noises. Baseline data are available for several species of marine mammals and are currently being gathered by the marine mammal researchers of the ATOC team, as well as by marine mammal researchers on both the East and West coasts and in Hawaii. It seems highly unlikely, given the frequency, intensity, procedure, duration, and short term (2.5 month) sampling period that the ATOC experiment would "harass" marine animals any more, and perhaps significantly less, than the thousands of large ships that travel the North Pacific at any given time.

Procedures That May Be Appropriate in the Short Term.

I would have expected that an Environmental Assessment for the initial 2.5 months study would have been prepared pursuant to regulations promulgated under the National Environmental Policy Act (NEPA). The preparation of an Environmental Assessment permits the orderly and comprehensive review and disclosure of information relating to proposed research and would most efficiently and effectively permit the evaluation of the potential significance of the proposed activities. Given that the sound source does not significantly differ from adding an additional large ship to the water for brief intervals of time, and that the initial duration of the experiment is very short (2.5 months) and may presumably be scheduled outside of the main humpback whale migration to Hawaii, it would appear that the potential for significant environmental impacts is negligible and that a Finding of No Significant Impact (FONSI) may be likely.

Because of the public concern generated by the lack of valid information and misunderstandings previously mentioned, I understand that a decision has now been reached to require the preparation of an Environmental Impact Statement (EIS) for the ATOC project. While it would appear that most of the information needed for the initial part of the project is already available, information for the longer term (2 year) period will likely be influenced by the results gathered in the first 2.5 months. Therefore, if an EIS is to be required, I suggest that it be brief for the preliminary sampling scheduled, with provision for the preparation of a subsequent supplemental statement or addendum, that would include the results obtained in the initial data gathering period.

Procedures for the Longer Term.

Given the public concern over this project and the various federal statutory provisions that apply, analysis of the impacts of the longer term, 2 year sampling program are likely to benefit from the full disclosure afforded by the preparation of an EIS. Such a document would provide for integration of the results of the monitoring being carried out during the initial sampling period under the terms of the Assessment or EIS (if the latter is indeed required). Subsequent, longer term continuation of the ATOC project, i.e. 10 or more years, if that appears likely, should be analyzed under provisions for programmatic assessment of impacts, as the results of the monitoring data indicate.

Potential Future Role of the Environmental Center.

In accordance with our standard review procedures, the Environmental Center anticipates conducting a formal review of the environmental documentation pertinent to the proposed ATOC research project when it becomes available.

We appreciate the opportunity to comment on the environmental review process being undertaken for this project and hope you will find our comments useful in the preparation of your decision on the application for a research permit. We look forward to the opportunity to participate in the review process of whatever document(s) is produced for the ATOC project and would appreciate being kept on your mailing list for future documents and information pertinent to this subject.

Sincerely,

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Jacquelin N. Miller Associate Environmental Coordinator

cc: John Naughton, NMFS, Hwaii Eugene Nitta, NMFS, Hawaii Walter Munk, SIO, IGPP, Univ. of Calif. David Hyde, SIO, IGPP, Univ. of Calif. Christopher Clark, BRP, Cornell Univ. Bernd Wursig, MMRL, Texas A&M Univ. Joseph R. Mobley, Jr., Univ. of Hi. Doak Cox, Emeritus, Univ. of Hi. John Craven, Univ. of Hi. Fred Mackenzie, Univ. of Hi. Deborah Woodcock, Univ. of Hi. Hans-Jurgen Krock, Univ. of Hi. Peter Rappa, Univ. of Hi. Lorenz Magaard, Univ. of Hi.