Compatibility Determination

Use: Wildlife Observation and Photography

Refuge Name: Hawaiian Islands National Wildlife Refuge (NWR), Papahānaumokuākea Marine National Monument

City/County and State: City and County of Honolulu, State of Hawai'i

Establishing and Acquisition Authority(ies):

The Hawaiian Islands Reservation was established by President Theodore Roosevelt through Executive Order (EO) 1019, dated February 3, 1909.

In 1940, President Franklin D. Roosevelt signed Presidential Proclamation (PP) 2416, which changed the name of the Reservation to the Hawaiian Islands NWR, but did not add to or otherwise modify the Reservation's purposes.

On June 15, 2006, President Bush signed PP 8031 making the Hawaiian Islands NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112).

Refuge Purpose(s):

The purpose of the Hawaiian Islands Reservation is "...as a preserve and breeding ground for native birds..." (EO 1019).

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Wilderness Management Objectives:

Portions of the Hawaiian Islands NWR were proposed for designation as wilderness under the Wilderness Act of 1964. Per FWS policy and Department of the Interior regulation (50 CFR Part 35), proposed wilderness is managed to preserve its wilderness character until such time as Congress takes action on the proposal, and is managed according to wilderness management objectives found in 6 Refuge Manual 8.3:

1. To manage the land to accomplish refuge purposes in such a way so as to preserve the wilderness resource for future benefit and enjoyment of the public; and

2. To provide opportunities for education, research, solitude, and recreation where these activities are compatible with refuge purposes.

Description of Use(s):

The 1997 amendments to the National Wildlife Refuge System Administration Act of 1966 defined wildlife observation and photography as wildlife-dependent public uses. In that Act, the U.S. Congress charged that such uses be given special consideration in planning for and management of the National Wildlife Refuge System. When determined compatible on a refuge-specific basis, these uses are priority general public uses of that national wildlife refuge. National wildlife refuges are to seek opportunities to allow these uses in an appropriate and compatible manner.

The Hawaiian Islands NWR is not currently open to general public access, thus there would be few instances of public wildlife observation and photography. The purpose of this compatibility determination (CD) is to cover all individuals who come to the Refuge through a variety of means and would like to observe and photograph wildlife for personal enjoyment but are not covered under another CD. This could include but is not is limited to official guests or visiting government employees or contractors, dignitaries, and teachers. Through this process we ensure the legality of this activity and protect the resources involved. On occasion, dignitaries or other special guests accompany U.S. Fish and Wildlife Service (FWS) employees performing their official duties. Additionally, other agency personnel with or without guests may be working on the Refuge. As such, these members of the general public and other agencies would be "incidentally" observing and photographing wildlife and other Refuge natural and cultural resources for noncommercial purposes.

Following are examples of this type of use. A congressional staffer may need to make a fact finding trip to one of the islands to determine the current state of and need for additional facilities. Due to the remote nature and the limited travel options, they would probably accompany a FWS employee performing his/her official duties. During this visit, they would observe and photograph wildlife. In a different instance, another agency staff member may travel to the Refuge for official government work and take pictures and view Monument resources. Periodically, the National Oceanic and Atmospheric Administration (NOAA) would transport teachers as part of the "Teacher at Sea Program" to the Refuge, where they could view and photograph wildlife. This program and the experience enable teachers to gain a firsthand experience of the national and cultural wonders of the Refuge and Monument and share it with their students back in the classroom. Most, but perhaps not all, of this particular activity would be covered under the Environmental Education and Interpretation CD.

Presently the Refuge has approximately 200 individuals each year participating in this use, primarily researchers and crew on NOAA vessels. The FWS expects this number to triple over the next 15 years as research and management actions in the Monument increase.

These types of activities could occur on or around any of the islands within the Refuge but would be subject to all Refuge-specific conditions that restrict locations, times, number of visitors, etc. (see the Stipulations Necessary to Ensure Compatibility section). Some islands (e.g., Pearl and Hermes Atoll, Maro Reef, Lisianski Island) seldom receive a visit and others (e.g., Nihoa, Laysan Island, and French Frigate Shoals) may have several visitors per year. On all occasions, the persons would be accompanied by a Government employee or receive a detailed orientation from the employee and would be required to observe all policies and regulations regarding disturbance and observation distance. The number of annual visits and visitors would be controlled by the Refuge through the Monument's permitting process.

The FWS has some facilities and equipment available for this use, which include limited lodging and motorboats. The FWS is responsible for the costs of upkeep and replacement of these items.

Availability of Resources:

The FWS anticipates a minimal number of people requesting to engage in this use and accompany FWS employees while they perform their normal governmental operational and maintenance duties. Transportation to the Refuge is very costly due to its remote location. Persons covered under this CD would be expected to pay all costs over and above the cost of normal refuge operations or be covered under an agency that would be responsible for such costs. In cases where no funds and/or space are available, the activity would not occur.

The Refuge has sufficient staff time and other resources to allow this use at the current levels.

Category and Itemization	One-time ($)	Annual ($/yr)
Administration and Management		$2,500
Maintenance		$0
Monitoring		$2,000
Special equipment, facilities or improvements		$0
Offsetting revenues		$0

The numbers above reflect the current estimated costs. Estimated costs were calculated using 5% of the base cost of a GS-5 refuge biological technician and a 5% cost of a GS-9 refuge manager assuming that this priority activity would use that "portion of a year" to administer.

Transportation costs to reach the Refuge are paid by the participant or covered by another agency.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to cultural or historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies,

Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at

each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Due to the very limited nature of this activity, we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Monument would not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Web sites at http://www.fws.gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of national wildlife refuge and Monument conditions and restrictions is included in this CD and 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All projects would be monitored to ensure the use remains compatible and natural, cultural, and historic resources (which include but are not limited to: nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Nihoa finches, Nihoa millerbirds, Laysan finches, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Refuge.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their projects. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate wildlife observation and photography that is already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

All persons arriving are provided cultural briefing information, as well as orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance for seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. Permittees are required to go through orientation immediately upon arrival.

Permittees would not be allowed to approach closer than 150 feet to Laysan duck wetlands.

Tern Island-based vessels involved in permitted activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Permittees planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow permittee observation of approaching spinner dolphins but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for permittee observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon, as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Justification:

When determined compatible on a refuge-specific basis, wildlife observation and photography are priority public uses of that national wildlife refuge. The Hawaiian Islands NWR is closed to entry and use by the general public. However, there would be occasions when guests, dignitaries, and teachers visit. It is only natural that in a place as exotic and teeming with wildlife as the Hawaiian Islands NWR, these people would also be enjoying incidental wildlife observation and photography. The stipulations included herein would allow such uses to occur in a compatible manner. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened.

Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

____X_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

_____ Mandatory 10-year reevaluation date (for non-wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

References Cited:

Antonelis, G.A., J.D. Baker, T.C. Johanos, R.C. Braun, A.L. Harting. 2006. Hawaiian Monk Seals (*Monachus schauinslandi*): Status and Conservation Issues. *Atoll Research Bulletin* 543:75-101.

Bejder, L., S. M. Dawson, and J. A. Harraway. 1999. Responses by Hector's dolphins to boats and swimmers in porpoise bay, New Zealand. 15(3):738-750.

Chesher, R. H. 1969. Destruction of Pacific corals by the sea star *Acanthaster planci*. Science 165(3890):280-283.

Coloma-Agaran, G. 2003. First Quarterly report for Nuisance Seaweed Control, Kihei, Maui, Hawai'i. Report submitted to EPA.

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Fowler, G.S. 1995. Ecotourism, field studies and stress: behavioral and hormonal responses of Magellanic penguins to nest site disturbance. Abstracts to Pacific Seabird Group Annual Meeting, 1995.

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Hawkins, J. P., C. M. Roberts, T. V. T. Hof, K. D. Meyer, J. Tratalos, and C. Aldam. 1999. Effects of recreational scuba diving on Caribbean coral and fish communities. Conservation Biology 13(4):888-897.

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Kitaysky, A., M. Benowitz-Fredericks, Z. Kitaiskaia, M. Shultz, and B. Zaun. 2003. Effects of tourist disturbance on stress physiology of wedge-tailed shearwaters (*Puffinus pacificus*) chicks at Kilauea Point National Wildlife Refuge, Kauai, Hawaii. Unpubl. refuge report.

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National Marine Fisheries Service. 2007. Recovery Plan for the Hawaiian Monk Seal (*Monachus schauinslandi*). Second Revision. National Marine Fisheries Service, Silver Spring, MD. 165 pp.

Nimon, A.J., R.C. Schroter, and B. Stonehouse. 1995. Heart rate of disturbed penguins. Nature 374:415.

Presidential Proclamation 2416, 1940. Renaming the Hawaiian Islands Reservation as the Hawaiian Islands National Wildlife Refuge.

Presidential Proclamation 8031, 15 June 2006 (71 FR 36443). Establishing the Northwestern Hawaiian Islands as a marine national monument.

Presidential Proclamation 8112, 6 March 2007. Establishment of the Papahānaumokuākea Marine National Monument (72 FR 10031).

Ragen, T. 1997. Human Activities Affecting the Population Trends of the Hawaiian Monk Seal. Conservation of Long-Lived Marine Animals Conference. 24 August 1997; Monterey, CA.

Refuge Determination:

FWS Superintendent,
Papahānaumokuākea Marine National Monument

(Signature) Date: 11/20/08

Project Leader,
Hawaiian and Pacific
Islands NWRC

(Signature) Date 11/20/08

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting.

(Signature) Date 12-10-08

Regional Chief,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12/10/08

Compatibility Determination

Use: Environmental Education and Interpretation

Refuge Name: Hawaiian Islands National Wildlife Refuge (NWR), Papahānaumokuākea Marine National Monument

City/County and State: City and County of Honolulu, State of Hawai'i

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2. To provide opportunities for education, research, solitude, and recreation where these activities are compatible with refuge purposes.

Description of Use(s):

The 1997 amendments to the National Wildlife Refuge System Administration Act of 1966 defined environmental education and interpretation as wildlife-dependent public uses. In that Act, the U.S. Congress charged that such uses be given special consideration in planning for and management of the National Wildlife Refuge System. When determined compatible on a refuge-specific basis, these uses are priority general public uses of that national wildlife refuge. National wildlife refuges are to seek opportunities to allow these uses in an appropriate and compatible manner.

Both environmental education and interpretation strive to convey an understanding and appreciation of national wildlife refuge resources, the issues that affect them, and the techniques and programs pursued in their management. For this reason these two uses have been combined in one compatibility determination (CD).

Due to the remote location of the Hawaiian Islands NWR and its limited accessibility, funding, and staffing, few opportunities for onsite environmental education and interpretive programs are available. However, with co-management of the Papahānaumokuākea Marine National Monument and new technology, we may be able to offer offsite programs through satellite transmissions to schools around the world. Additionally, from time to time private videographers and photographers may wish to develop environmental education and interpretation materials. These noncommercial activities by videographers covered under this CD would be subject to the same restrictions as the CD for commercial operators (CD for Photography, Videography, and Audiography).

In the future, these activities could occur on any of the islands within the Refuge during the year, but would only be led by government personnel and/or contractors and would be subject to all Refuge-specific conditions that restrict locations, times, number of visitors, etc. (see the Stipulations Necessary to Ensure Compatibility section). Any access for the public to participate in these activities would be primarily by boat and airplane, thus greatly restricting the opportunities for environmental education and interpretation. The number of annual visits and visitors would be controlled by the Refuge through the Monument's permitting process.

Specific examples of where this CD might apply are included in the Monument Management Plan as:

1) Section 3.1.1, Activity MCS-3.3: Include an educational component in marine research expeditions.
2) Section 3.5.4, Activity OEL-1.5, Continue Teacher- and Class-at-Sea programs on an annual basis.

Two National Oceanic and Atmospheric Administration (NOAA) vessels (*Oscar Elton Sette* and the *Hi'ialakai*) currently transit the Northwestern Hawaiian Islands, generally making three voyages total each year. During each voyage, there is usually one teacher aboard participating in the program who has the opportunity to visit the Refuge. In addition, in 2005 NOAA sponsored a "boatload of educators" tour within the Refuge. The Refuge expects the number of visits by NOAA vessels with teachers to triple in the next 15 years.

Onsite interpretation of the natural, historic, and cultural resources of the Hawaiian Islands NWR also occurs in association with research expeditions. Generally each ship carries an outreach staff member who works with the researchers and crew to transmit web-based features about their activities and Refuge

resources. Occasionally they may visit the field camps at Tern Island or Laysan Island for brief daytime only visits on boats provided by the NOAA ship. These interpretive activities are expected to continue in the future. Cultural resource activities and practices by Native Hawaiians, which includes access for cultural practitioners, are also covered under a separate CD (Cultural Resource Activities and Practices).

NOAA also offers an ongoing Teacher-at-Sea Program. This program enables teachers to gain firsthand experience of science and life at sea. Participation allows teachers to enrich their classroom curricula with a depth of understanding made possible by living and working side-by-side, day and night, with those who contribute to the world's body of oceanic and atmospheric scientific knowledge.

In the Teacher-at-Sea program, teachers apply and have three choices of vessel types; 1) Fisheries Research, 2) Oceanographic and Coastal Research, and 3) Hydrographic Surveys. They are usually at sea from 1-3 weeks and work the same shifts as the researchers. This sea based experience provides them excellent information for developing school programs and helps NOAA meet the objectives of their mission by promoting among teachers and their students a greater awareness of the need to understand and protect the world's oceans and their resources.

The Monument Management Plan also proposes to use telepresence technology for educational and outreach activities (section 3.5.4, Ocean Ecosystems Literacy). Technologies such as underwater video cameras, real-time video transmission, virtual field trips, and formal distance learning programs may be feasible from the Refuge in the future.

Availability of Resources:

The FWS has very limited staff, facilities, and equipment available for this use. The FWS is responsible for the costs of upkeep and replacement of these items. These facilities are described in greater detail in the Coordinated Field Operations Action Plan (section 3.6.3) within the Monument Management Plan.

Category and Itemization	**One time ($)**	**Annual ($/yr)**
Administration and Management		$5,250
Maintenance		$2,000
Monitoring		$5,250
Special equipment, facilities or improvements		$25,000
Offsetting revenues (estimated)		

Orientation and monitoring of impacts would be completed by the Refuge staff (5 % GS-7 Assistant Refuge Manager, $2,250; 5 % GS-9 Refuge Manager, $3,000). Additional maintenance of current facilities may be required to accommodate more people.

Additional funding for specialized telepresence technology would need to be made available (either through the FWS budget system or from an outside source) in order to allow this use to occur in a compatible manner. Should internal funding not materialize, the FWS would seek outside funding (e.g., from other agency partners or private conservation organizations.)

Transportation costs to reach the Refuge and are paid for by the participant or covered by another agency.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; and (9) the accidental introduction and establishment of nonnative species to the Monument. All activities would be designed and managed in a manner to eliminate or minimize these impacts. All environmental education and interpretive activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When participants are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native

habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Environmental Education

Impacts from visitors would be minimal and infrequent. Additionally, terrestrial and marine viewing areas would be carefully selected to limit wildlife disturbance and potential impacts to cultural resources.

Minimal to no impact on Monument resources is anticipated from offsite programs, designed to bring the place to the people rather than the people to the place. Educational demonstrations would be conducted or supervised by trained FWS-approved guides.

The specific impacts of the NOAA Teacher-at-Sea Program would be the same for any on island activities and would be permitted requiring the same restrictions as others. The Teacher-at-Sea permitting requirements are also covered under another CD (Operations of Co-managing Agencies).

Interpretation

Minimal impact to Refuge resources is anticipated, since only trained FWS-approved guides would conduct interpretive talks and would avoid sensitive wildlife and cultural areas.

Impacts may occur to nesting seabirds, Hawaiian monk seals (*Monachus schauinslandi*), and Hawaiian green turtles (*Chelonia mydas*) may occur if visitors and residents were to wander off guided interpretive

walks. Possible impacts include: 1) destruction of Bonin petrels (*Pterodroma hypoleuca*), Tristram's storm petrels *(Oceanodroma tristrami),* or wedge-tailed shearwaters (*Puffinus pacificus*) nesting burrows; 2) smashing, injuring or killing a seabird egg, chick, or adult by stepping on the bird or its nest; 3) negatively affecting seabird nesting success by causing abandonment;, 4) allowing seabird egg predation by shorebirds by flushing incubating adults; and (5) disturbing or deterring a resting monk seal or green turtle from a preferred haulout, molting, or pupping/nesting location. Fowler (1995) studied seabird colonies with ecotourism operations and documented that birds located away from frequently visited areas react strongly to any human activity. Birds were observed to habituate to high levels of constant visitation, but not to less constant (although regular) visitation. Therefore, birds located far from trails are more likely to be disturbed from wandering visitors or residents. Monk seal research has documented that pregnant females would abandon preferred pupping locations due to human disturbance (Kenyon 1972).

Talks may be located near seabird colonies, but leaders and participants would not enter into the main colony area for these talks. Keeping the group at the edge of the colony would help to limit stress levels. Studies have shown that birds can adapt to repeated disturbance (Fowler 1995), so selection of an area where the birds are regularly viewed by FWS personnel and visitors would minimize the impact of this activity.

Due to the very limited nature of this activity, we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). It may be appropriate to set a limit to the number of participants allowed under this use even if staff are available to coordinate the activities. Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Refuge and Monument would not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Web sites at http://www.fws.gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All projects would be monitored to ensure the use remains compatible and natural, cultural, and historic resources (which include but are not limited to: nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Nihoa finches, Nihoa millerbirds, Laysan finches, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Refuge.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate environmental education and interpretation that is already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

All persons arriving are provided cultural briefing information, as well as orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance for seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. Permittees are required to go through orientation immediately upon arrival.

Permittees would not be allowed to approach closer than 150 feet to Laysan duck wetlands.

Tern Island-based vessels involved in permitted activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Permittees planning to engage in water-related activities during the albatross fledging season (June-July)

would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon, as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy. Anchors will be lowered into place rather than tossed overboard to provide a more controlled placement.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Justification:

When determined compatible on a station specific basis, environmental education and interpretation are priority public uses of that national wildlife refuge. The Hawaiian Islands NWR is closed to entry and use by the general public. However, there are occasions where environmental education and interpretation occur in a very limited manner and usually in the company of another government employee (e.g., a person accompanying a government employee who does not recognize or understand the Refuge resources). Additionally, funding and technologies may become available in the future to increase environmental education and interpretation. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____X_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

_____ Mandatory 10-year reevaluation date (for non-wildlife-dependent public uses

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

References Cited:

Antonelis, G.A., J.D. Baker, T.C. Johanos, R.C. Braun, A.L. Harting. 2006. Hawaiian Monk Seals (*Monachus schauinslandi*): Status and Conservation Issues. *Atoll Research Bulletin* 543:75-101.

Bejder, L., S. M. Dawson, and J. A. Harraway. 1999. Responses by Hector's dolphins to boats and swimmers in porpoise bay, New Zealand. 15(3):738-750.

Chesher, R. H. 1969. Destruction of Pacific corals by the sea star *Acanthaster planci*. Science 165(3890):280-283.

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Fowler, G.S. 1995. Ecotourism, field studies and stress: behavioral and hormonal responses of Magellanic penguins to nest site disturbance. Abstracts to Pacific Seabird Group Annual Meeting, 1995.

Gerrodette, T.G., and W.G. Gilmartin. 1990. Demographic consequences of changed pupping and hauling sites of the Hawaiian monk seal. Conservation Biology 4:423-430.

Hawkins, J. P., C. M. Roberts, T. V. T. Hof, K. D. Meyer, J. Tratalos, and C. Aldam. 1999. Effects of recreational scuba diving on Caribbean coral and fish communities. Conservation Biology 13(4):888-897.

Jungius, H. and U. Mirsch. 1979. Changes in heartbeats in nesting birds at Galapagos by human disturbance. Journal of Field Ornithology. 120:299-310.

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Kitaysky, A., M. Benowitz-Fredericks, Z. Kitaiskaia, M. Shultz, and B. Zaun. 2003. Effects of tourist disturbance on stress physiology of wedge-tailed shearwaters (*Puffinus pacificus*) chicks at Kilauea Point National Wildlife Refuge, Kauai, Hawaii. Unpubl. refuge report.

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Nimon, A.J., R.C. Schroter, and B. Stonehouse. 1995. Heart rate of disturbed penguins. Nature 374:415.

Presidential Proclamation 2416, 1940. Renaming the Hawaiian Islands Reservation as the Hawaiian Islands National Wildlife Refuge.

Presidential Proclamation 8031, 15 June 2006 (71 FR 36443) Establishing the Northwestern Hawaiian Islands as a marine national monument.

Presidential Proclamation 8112, 6 March 2007. Establishment of the Papahānaumokuākea Marine National Monument (72 FR 10031).

Ragen, T. 1997. Human Activities Affecting the Population Trends of the Hawaiian Monk Seal. Conservation of Long-Lived Marine Animals Conference. 24 August 1997; Monterey, CA.

Refuge Determination:

FWS Superintendent,
Papahānaumokuākea Marine National Monument

(Signature) Date: 11/20/08

Project Leader,
Hawaiian and Pacific
Islands NWRC

(Signature) Date 11/20/08

Concurrence:

Acting

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12-10-08

Regional Chief,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12/10/08

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Hawaiian Islands National Wildlife Refuge

Use: Commercial Photography, Videography, Filming, or Audio Recording

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✔	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ✔ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ____ Appropriate ✔

Refuge Manager: [signature] Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry W. [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

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Compatibility Determination

Use: Commercial Photography, Videography, Filming, or Audio Recording

Refuge Name: Hawaiian Islands National Wildlife Refuge (NWR), Papahānaumokuākea Marine National Monument

City/County and State: City and County of Honolulu, State of Hawai'i

Establishing and Acquisition Authority(ies):

The Hawaiian Islands Reservation was established by President Theodore Roosevelt through Executive Order (EO) 1019, dated February 3, 1909.

In 1940, President Franklin D. Roosevelt signed Presidential Proclamation (PP) 2416, which changed the name of the Reservation to the Hawaiian Islands NWR, but did not add to or otherwise modify the Reservation's purposes.

On June 15, 2006, President Bush signed PP 8031 making the Hawaiian Islands NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112).

Refuge Purpose(s):

The purpose of the Hawaiian Islands Reservation is "...as a preserve and breeding ground for native birds..." (EO 1019).

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Wilderness Management Objectives:

Portions of the Hawaiian Islands NWR were proposed for designation as wilderness under the Wilderness Act of 1964. Per FWS policy and Department of the Interior regulation (50 CFR Part 35), proposed wilderness is managed to preserve its wilderness character until such time as Congress takes action on the proposal and managed according to wilderness management objectives found in 6 Refuge Manual 8.3:

1. To manage the land to accomplish refuge purposes in such a way so as to preserve the wilderness resource for future benefit and enjoyment of the public; and

2. To provide opportunities for education, research, solitude, and recreation where these activities are compatible with refuge purposes.

Description of Use(s):

Commercial photography, video, filming, and audio recording ("recording") are considered in this compatibility determination (CD). This use has occurred in the past (in recent years, 1-2 permits annually have been issued for this type of use on the Refuge) and future requests for this use are expected to grow. The use typically involves creating a documentary film, taking still photographs, or recording wildlife sounds for commercial purposes. Commercial "recording" activities not related to natural, historic, or cultural subjects are not covered under this CD (e.g., swimsuit calendar photography, filming a movie unrelated to the Refuge mission, etc.). For example, the permittee may wish to make a film on the variety of wildlife seen on the islands or on the life cycles of a specific animal or plant. After filming and editing, the permittee would attempt to sell the film to a commercial television station for viewing. People choose to engage in "recording" activities in the Hawaiian Islands NWR because of the pristine nature of the Refuge, and its exotic and approachable wildlife. Films, photographs, and other recordings made in this area are especially appealing to the general public because it exposes an exotic locale which is closed to general public access.

Photography, video, filming, and audio recording of a noncommercial nature are addressed under separate CDs (Environmental Education and Interpretation, and Wildlife Observation and Photography). Also, this CD does not apply to bona fide news media activities, which are authorized under Co-Trustee Conservation and Management permits.

Commercial photography, video, filming, and audio recording may be conducted on or around Refuge islands or waters within the areas of our jurisdiction. Although applications for this activity may be for any time during the year, some time restrictions may be required to limit disturbance. This may include such specifications as time of day and seasonal restrictions.

A specific example of where this CD might apply is included within the Monument Management Plan as:

1) Section 3.4.5, Activity CBO-2.3: Support other entities' efforts to broaden knowledge of and appreciation for Monument resources and management priorities.

The use may be conducted on foot, from the air, from boats and/or in the water using commercial recording equipment. Very specific conditions would be developed by the FWS to minimize or avoid adverse impacts to Monument resources and are listed under Stipulations Necessary to Ensure Compatibility in this document.

In order to ensure there are no negative impacts to the Refuge or Monument resources, the applicant would first have to obtain a Monument permit, which is reviewed and signed by all Co-Trustees. Additionally, when conducting actual onsite operations, the applicant would be accompanied by a FWS-approved guide to ensure compliance of the permit conditions and prevent any unforeseen negative impacts to the Refuge or Monument resources.

Availability of Resources:

At present the Refuge can only accommodate one or two commercial photography, video, filming, and audio recording operations within a given year. If the number of applicants begins to increase, additional staffing would be required. The FWS requires the permittee to offset any cost incurred by the Refuge.

FWS has some facilities and equipment available for this use, such as limited lodging and motorboats. FWS is responsible for the costs of upkeep and replacement of these items.

Category and Itemization	One-time ($)	Annual ($/yr)
Administration and Management		$2,250
Maintenance		
Monitoring & Research		$1,750
Special equipment, facilities, or improvements		
Offsetting revenues		actual costs

The above annual cost reflects cost to manage the program and prevent impacts to the natural resources. Estimated costs were calculated using 5% of the base cost of a GS-5 refuge biological technician and a 5% cost of a GS-9 refuge manager assuming that this activity would use that "portion of a year" to administer. The one-time administration and monitoring cost reflects the approximate cost per commercial photography, video, filming, and audio recording operation incurred by the Refuge and the offsetting cost reflects the reimbursement provided by the permittee. The offsetting cost should always be equal to the Refuge-incurred cost and would come to the Refuge in the form of fees paid by the commercial photographers. These fees should at least equal our costs to administer the use, including any costs associated with facilities, equipment, supplies, and services.

Transportation costs to reach the Refuge are paid by the participant or covered by another agency.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to cultural or historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating

stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at

each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Due to the limited frequency of this activity, we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). It may be appropriate to set a limit to the number of participants allowed under this use even if staff are available to coordinate the activities. Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Refuge and Monument would not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Web sites at http://www.fws.gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended, and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

X Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All permit holders would be required to submit a report to the Refuge that summarizes their activities at the Refuge. The report would include at a minimum the following: title, fiscal year, progress, products and distribution, problems encountered, proposed resolution to problems, preparer, and date prepared.

All projects would be monitored by Refuge staff to ensure the use remains compatible and resources (which include but are not limited to: nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Laysan finches, Nihoa finches, Nihoa millerbirds, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Refuge.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate wildlife observation and photography that is already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

All persons arriving to the Refuge are provided orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the

wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. All persons arriving to the Refuge are required to go through orientation immediately upon arrival.

Permittees would not be allowed to approach closer than 150 feet to Laysan duck seeps unless authorized to do so by FWS staff.

Tern Island-based vessels involved in permitted activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Permittees planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow observation, photography, or other recording of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon, as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy. Anchors will be lowered into place rather than tossed overboard to control placement.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Permittee would be responsible to cover all Refuge costs associated with the recording activity.

Permittee would be required to be accompanied by FWS-approved guides.

Permittee would provide FWS and Co-Trustees with at least one free copy of all commercial products generated on the Refuge for noncommercial use promoting the Monument, Refuge, and the National Wildlife Refuge System.

All commercial films, books, and other recordings of images and sounds collected on the Refuge would need to reference the fact that they were collected on the Refuge and also state in the products that the Refuge is closed to general public use.

Justification:

Allowing commercial photography, video, filming, and audio recording as an economic wildlife-dependent use would contribute to the achievement of the Refuge purpose and the mission of the FWS. The products may reach groups of people that would not normally know about the Refuge. The services provided by commercial filmmakers are also beneficial to expand public appreciation for and understanding of unique wildlife, diverse native habitats, management programs, and the mission of the National Wildlife Refuge System.

By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Conditions imposed by the Refuge and Monument in their permits for photography, video, filming, and audio recording would ensure that these wildlife-dependent activities occur without adverse effects to Refuge resources or other permittees.

This proposed activity contributes to the mission of the FWS. In addition to reaching the general public through educational wildlife media, the end products may provide an educational opportunity to a much broader distribution of people who may not have the opportunity to visit and personally view these remote and very unique resources. The media products produced by these commercial operations would also be beneficial in promoting the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X_____ Mandatory 10-year reevaluation date (for nonwildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

References Cited:

Antonelis, G.A., J.D. Baker, T.C. Johanos, R.C. Braun, A.L. Harting. 2006. Hawaiian Monk Seals (*Monachus schauinslandi*): Status and Conservation Issues. *Atoll Research Bulletin* 543:75-101.

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Nimon, A.J., R.C. Schroter, and B. Stonehouse. 1995. Heart rate of disturbed penguins. Nature 374:415.

Presidential Proclamation 2416, 1940. Renaming the Hawaiian Islands Reservation as the Hawaiian Islands National Wildlife Refuge.

Presidential Proclamation 8031, 15 June 2006 (71 FR 36443). Establishing the Northwestern Hawaiian Islands as a marine national monument.

Presidential Proclamation 8112, 6 March 2007. Establishment of the Papahānaumokuākea Marine National Monument (72 FR 10031).

Ragen, T. 1997. Human Activities Affecting the Population Trends of the Hawaiian Monk Seal. Conservation of Long-Lived Marine Animals Conference. 24 August 1997; Monterey, CA.

Refuge Determination:

FWS Superintendent,
Papahānaumokuākea Marine National Monument

(Signature) Date: 11/20/08

Project Leader,
Hawaiian and Pacific
Islands NWRC

(Signature) Date 11/20/08

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

(Signature) Date 12-10-08

Regional Chief,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12/10/08

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Hawaiian Islands National Wildlife Refuge

Use: Cultural Resource Activities and Practices

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✓	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✓	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✓	
(d) Is the use consistent with public safety?	✓	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✓	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✓	
(g) Is the use manageable within available budget and staff?	✓	
(h) Will this be manageable in the future within existing resources?	✓	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✓	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✓	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ✓ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ___ Appropriate ✓

Refuge Manager: [signature] Date: 11/20/08

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.

If found to be Appropriate, the refuge supervisor must sign concurrence.

Refuge Supervisor: [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

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Compatibility Determination

Use: Cultural Resource Activities and Practices

Refuge Name: Hawaiian Islands National Wildlife Refuge (NWR), Papahānaumokuākea Marine National Monument

City/County and State: City and County of Honolulu, State of Hawai'i

Establishing and Acquisition Authority(ies):

The Hawaiian Islands Reservation was established by President Theodore Roosevelt through Executive Order (EO) 1019, dated February 3, 1909.

In 1940, President Franklin D. Roosevelt signed Presidential Proclamation (PP) 2416, which changed the name of the Reservation to the Hawaiian Islands NWR, but did not add to or otherwise modify the Reservation's purposes.

On June 15, 2006, President Bush signed PP 8031 making the Hawaiian Islands NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112).

Refuge Purpose(s):

The purpose of the Hawaiian Islands Reservation is "...as a preserve and breeding ground for native birds..." (EO 1019).

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Wilderness Management Objectives:

Portions of the Hawaiian Islands NWR were proposed for designation as wilderness under the Wilderness Act of 1964. Per FWS policy and Department of the Interior regulation (50 CFR Part 35), proposed wilderness is managed to preserve its wilderness character until such time as Congress takes action on the proposal and managed according to wilderness management objectives found in 6 Refuge Manual 8.3:

1. To manage the land to accomplish refuge purposes in such a way so as to preserve the wilderness resource for future benefit and enjoyment of the public; and

2. To provide opportunities for education, research, solitude, and recreation where these activities are compatible with refuge purposes.

Description of Use(s):

Presidential Proclamation 8031 defines Native Hawaiian Practices as "...cultural activities conducted for the purposes of perpetuating traditional knowledge, caring for and protecting the environment, and strengthening cultural and spiritual connections to the Northwestern Hawaiian Islands that have demonstrable benefits to the Native Hawaiian community. This may include, but is not limited to, the non-commercial use of Monument resources for direct personal consumption while in the monument."

Cultural resource activities and practices are a means to honor, continue and expand upon the traditional knowledge and practices that are vital to the Native Hawaiian community. They continue to remind and teach the Native Hawaiian connections and relationships that have been passed down from generation to generation.

Activities could involve, but are not limited to, voyaging by traditional sailing canoes with at least one support vessel to one or more of the islands within the Monument. Although requests for general access may be received for any of the islands within the Monument, most often the activity would occur on either Nihoa or Mokumanamana (Necker Island) in the Hawaiian Islands NWR. The use may be conducted at any time during the year, but would most often occur during equinoxes and solstices. The permittees would explore where Native Hawaiians' ancestors traveled and practiced their culture, teach others the Native Hawaiian culture and history, practice living and traveling as ancestors did, and make a spiritual connection with nature and ancestors. The use may include overnight visits on some islands, sailing by canoe to the islands, celestial navigation, spiritual ceremonies, and presentation of offerings. However, camping on Nihoa Island or Mokumanamana is not considered under this CD due to the lack of appropriate and suitable sites (rugged terrain, and presence of cultural sites and endangered species) on these islands. Cultural practitioners requesting to camp on these islands would require the Service to complete additional determinations for appropriateness and compatibility.

More specific examples of where this CD might apply are listed in the Monument Management Plan under:

1) Section 3.1.2, Activity NHCH-2.3, Facilitate field research and cultural education opportunities annually during the field season.
2) Section 3.1.2, Activity NHCH-2.6, Support Native Hawaiian cultural accesses to assure cultural research needs are met.

The study and use of native fish, wildlife, plants, and their habitats by Native Hawaiians is integral to their cultural practices. However this activity is not a wildlife-dependent use as defined by the National Wildlife Refuge System Administration Act of 1966, as amended.

This activity could include fishing and gathering of renewable natural resources for ceremonial, religious, nutritional, and other traditional and cultural purposes. Resources of interest may include, but are not limited to, shed feathers, fish, shells, or salt. Gathering of resources of interest may be requested in Native Hawaiian Practices Permit applications and considered by Monument managers on a case-by-case basis. Approval of these requests must include, but are not limited to, consideration of surplus populations available for harvest; maintenance of biological integrity and diversity; maintenance of self-sustaining populations; permittee possession of other necessary permits (e.g., for migratory birds), etc.

Since the establishment of the Monument, only two Native Hawaiian practices permits have been issued. One permit allowed 14 Native Hawaiians to anchor off of Nihoa and Mokumanamana Islands and conduct cultural ceremonies on the islands for no more than 2 full days.

Native Hawaiian practitioners must first apply for and receive a permit from the Monument. After issuance, the practitioners would normally travel to the island(s) by boat and conduct the activity on land or in the water. The FWS would typically expect 1 boat per permit (2, if a support vessel is accompanying a traditional sailing canoe) with less than 15 people and would anticipate fewer than 3 permits per year. An FWS approved guide would accompany all parties permitted to engage in this use to increase safety, ensure the activity is compatible, and does not impact other Refuge or Monument resources or other permitted uses.

Activities at Native Hawaiian cultural and historic sites are subject to consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA). The FWS will work with the State Historic Preservation Office and the Office of Hawaiian Affairs to determine if the proposed activities are compatible and not likely to negatively affect the cultural or historic site.

No facilities are dedicated solely to these uses that need to be covered by this compatibility determination.

Availability of Resources:

No funding presently exists specifically for this use. However, the occurrence of this activity is currently infrequent and is not expected to grow significantly in the near future, thus the costs to the Refuge are minimal and can be accommodated within the existing budget. The issuance of the permit and FWS staff time to act as a guide for the cultural group account for the major costs.

Category and Itemization	**One-time ($)**	**Annual ($/yr)**
Administration and Management		$2,000
Maintenance		
Monitoring		$2,000
Special equipment, facilities or improvements		
Offsetting revenues		

The cost reflects the estimated Refuge current expense for this use (5% of a GS-12 wildlife biologist).

Transportation costs to reach the Refuge are paid for by the participant or covered by another agency.

Anticipated Impacts of the Use(s):

Short-term impacts should be very minimal since the applicant must follow very strict permit regulations (i.e., quarantine procedures for each island) and have a FWS-approved guide. Some minimal disturbance of wildlife may occur from the parties entering and leaving the islands. The permit does not allow disturbance or collection of the historic or cultural resources. However, we recognize some of the Native Hawaiian cultural/spiritual practices may involve moving stones which would not be considered disturbance.

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance

to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to cultural or historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

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thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Due to the very limited nature of this activity (i.e., 1- to 2-day duration limited to access to one or two islands), we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). It may be appropriate to set a limit to the number of participants allowed under this use even if staff are available to coordinate the activities. Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Refuge and Monument would not be permitted.

Currently only Nihoa and Mokumanamana have known Native Hawaiian cultural and historic sites; however, additional sites may yet be discovered. Therefore, all activities within the Refuge, even those that have received strict permits, have the potential to affect unknown archaeological sites. Much remains to be learned from the archaeological sites: therefore, any disturbance may reduce the potential for future knowledge. It is critical that individuals participating in an approved activity cease immediately if a potentially new artifact or site is inadvertently discovered. Many of the stones that constitute these sites will be walked upon by visitors, consequently, some may move slightly.

It is very difficult if not impossible to overnight within the Refuge without impacting wildlife. Even small amounts of noise and light can impact wildlife. Birds may be displaced from their nest/eggs and their roosts. Others with principally nocturnal behaviors may be distracted from foraging. All noise and light sources must be kept to a minimum. Overnight observation and resting sites must be chosen carefully to minimize damage to nesting birds. Because of the very rugged terrain, individuals attempting to leave the confines of the camp at night may suffer falls resulting in serious injury or death. Movement at night may also destroy seabird nests. Overnighting individuals should be in place ½ hour prior to dusk and remain until sunrise the next day when there is adequate light to move safely without falling or destroying seabird nests.

Many landing sites within the Refuge are difficult to navigate, contain treacherous rocks, and are exposed to heavy surf. Landing at some sites can be extremely dangerous even in calm seas. Because weather and sea conditions can change unexpectedly, specific decision criteria for when it is safe to attempt a landing should be established ahead of time and procedures and equipment appropriate for the skill levels of all the participants be used for landing. Contingency plans for water rescue should be put in place in case the landing vessel experiences problems. Early return to the main transport vessel should be considered if conditions for safe departure begin to deteriorate.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Websites at http://www/fws/gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended, and as determined by the Co-Trustees of the. The Monument is of national interest; therefore, the availability of the Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

X Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-

Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

Persons desiring access for cultural purposes to areas not generally open to the public would be required to obtain a Native Hawaiian Practices Permit from the Monument. These permit applications are reviewed by select cultural practitioners or cultural resource managers to ensure the proposed activities meet the findings outlined in the Proclamation. Permits issued may stipulate more detailed access restrictions and regulations to protect wildlife.

All projects would be monitored by Refuge staff to ensure the use remains compatible and cultural and natural resources (which include but are not limited to nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Laysan finches, Nihoa finches, Nihoa millerbirds, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Monument.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their projects. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate wildlife observation and photography that is already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

All trash, human waste, etc., will be removed from the islands upon departure.

All persons traveling to the Refuge are provided cultural briefing information, as well as orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance.

Permittees would not be allowed to approach closer than 150 feet to Laysan duck wetlands.

Tern Island-based vessels involved in permitted activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Permittees planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).
Power boat operators may slow to allow permittee observation of approaching spinner dolphins but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for permittee observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon, as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Any alteration of the Refuge's natural or cultural resources through this use (including movement of stones on islands) would be approved and overseen by FWS personnel.

As part of their permit, users would be required to certify that their use of the Refuge and its natural and cultural resources, including any items collected from the Refuge, is of a noncommercial nature.

An FWS-approved guide may be required to accompany permittees.

One or more support vessels may accompany Hawaiian sailing canoes during their voyages for safety.

Justification:

This use is an important component of the Native Hawaiian culture, and Presidential Proclamation 8031 recognizes its significance and provided for this use when certain conditions are met. FWS possesses the resources to manage this use at the current levels. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X____ Mandatory 10-year reevaluation date (for non-wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Presidential Proclamation 8031, 15 June 2006 (71 FR 36443). Establishing the Northwestern Hawaiian Islands as a marine national monument.

Presidential Proclamation 8112, 6 March 2007. Establishment of the Papahānaumokuākea Marine National Monument (72 FR 10031).

Ragen, T. 1997. Human Activities Affecting the Population Trends of the Hawaiian Monk Seal. Conservation of Long-Lived Marine Animals Conference. 24 August 1997; Monterey, CA.

Refuge Determination:

FWS Superintendent,
Papahānaumokuākea Marine National Monument

(Signature) Date: 11/20/08

Project Leader,
Hawaiian and Pacific
Islands NWRC

(Signature) Date 11/20/08

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

(Signature) Date 12-10-08

Regional Chief,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12/10/08

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Hawaiian Islands National Wildlife Refuge

Use: Research, Scientific Collecting, and Surveys

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✔	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ✔ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate_____ Appropriate ✔

Refuge Manager: [signature] Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry W. [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

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Compatibility Determination

Use: Research, Scientific Collecting, and Surveys

Refuge Name: Hawaiian Islands National Wildlife Refuge (NWR), Papahānaumokuākea Marine National Monument

City/County and State: City and County of Honolulu, State of Hawai'i

Establishing and Acquisition Authority(ies):

The Hawaiian Islands Reservation was established by President Theodore Roosevelt through Executive Order (EO) 1019, dated February 3, 1909.

In 1940, President Franklin D. Roosevelt signed Presidential Proclamation (PP) 2416, which changed the name of the Reservation to the Hawaiian Islands NWR, but did not add to or otherwise modify the Reservation's purposes.

On June 15, 2006, President Bush signed PP 8031 making the Hawaiian Islands NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112).

Refuge Purpose(s):

The purpose of the Hawaiian Islands Reservation is "...as a preserve and breeding ground for native birds..." (EO 1019).

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Wilderness Management Objectives:

Portions of the Hawaiian Islands NWR were proposed for designation as wilderness under the Wilderness Act of 1964. Per FWS policy and Department of the Interior regulation (50 CFR Part 35), proposed wilderness is managed to preserve its wilderness character until such time as Congress takes action on the proposal and managed according to wilderness management objectives found in 6 Refuge Manual 8.3:

1. To manage the land to accomplish refuge purposes in such a way so as to preserve the wilderness resource for future benefit and enjoyment of the public; and

2. To provide opportunities for education, research, solitude, and recreation where these activities are compatible with refuge purposes.

Description of Use(s):

When determined compatible on a refuge-specific basis, research, scientific collecting, and surveys (research) are allowable uses and are conducted on refuge lands and waters by independent researchers, partnering agencies, and educational groups. FWS defines these uses as:

- Research: Planned, organized, and systematic investigation of a scientific nature.
- Scientific collecting: Gathering of refuge natural resources or cultural artifacts for scientific purposes.
- Surveys: Scientific inventory or monitoring.

The types of research vary greatly, but mostly revolve around birds, marine animals, sea turtles, coral reefs, the marine environment, fish population dynamics, marine debris, contaminants, habitat classification and restoration, and cultural and historic resources.

Presently on the Refuge 29 research projects are ongoing, which is representative of the numbers of projects that have occurred annually on the Refuge for the past 5 years. This number is expected to greatly increase in the next 10 years. Current research projects include but are not limited to: coral reef assessment, fledgling albatross movements, Bonin petrel (*Pterodroma hypoleuca*) abundance and distribution, juvenile reef fish recruitment, radio wave analysis, greenhouse gas monitoring, shark movement, and marine debris deposition analysis. The number of researchers on the islands at any one time ranges from 0 (Lisianski Island) to 10 people (Tern Island).

More specific examples of where this CD might apply are included in the Monument Management Plan, which lists approximately 80 proposed actions that would generate a multitude of research projects in the future. These proposed actions fall under the following categories: Native Hawaiian culture and history, historic resources, maritime heritage, threatened and endangered species, migratory birds, habitat management and conservation, marine debris, alien species, and maritime transportation and aviation. Examples of such activities include:

1) Section 3.2.1, Activity TES-4.2, Conduct studies to examine the correlation between reproductive success and contaminant loads.
2) Section 3.2.2, Activity MTA-2.1, Conduct studies on potential aircraft and vessel hazards and impacts.

Research proposals may be for any time of the year and on any of the islands and/or surrounding waters within the Refuge. However, the Refuge may limit the time and location of research projects to ensure that negative impacts to Refuge resources are avoided or limited.

Each research, scientific collection, or survey project would undoubtedly have different protocols and methodologies; therefore, each study necessitates its own scientific review. Each research project would be carefully reviewed to prevent any significant short-term, long-term or cumulative impacts. New research requests would be evaluated by refuge staff by comparing them to ongoing or recently completed research on the Refuge to determine if the species studied, methodologies used, or habitat type and locations used may lead to undesirable cumulative impacts. All projects would be subjected to the Monument permitting process, in which the Refuge also participates. This high level of review would help ensure all levels and types of impacts are carefully considered before any permit for research is issued. Within the permit, conditions would be clearly defined so as to protect and conserve the existing

natural, cultural, and historic resources found within the Monument. Standard and specific conditions are included in this CD under Stipulations Necessary to Ensure Compatibility.

This use has been primarily proposed because the collecting and analyzing of scientific data is extremely valuable to the FWS for its ongoing management of the Refuge and Monument. The gathered information would also used by other scientists and teachers around the world. The published manuscripts from this research help to support achievement of the FWS mission and Refuge purposes, and disseminate scientific information about the significance of the Monument to other researchers and the public.

The FWS has some facilities and equipment available for this use that includes office space, housing, motorboats, dive tanks, and bird banding supplies. Users pay fees to use these facilities and equipment or they supply their own.

Availability of Resources:

The Refuge's extreme remoteness makes the operation and maintenance of its airfield, buildings, and infrastructure very costly for FWS. Therefore, appropriate fees would be charged for research projects occurring on the Refuge to help FWS defray their operational costs.

The FWS has sufficient staffing and funding to administratively support and monitor research that is currently taking place. Any significant increase in the number of research projects would create a need for additional employees to oversee the administration and monitoring of the researchers and their projects.

Any significant additional cost to the Refuge caused by researchers must be offset by the sponsoring agency or organization.

Category and Itemization	**One-time ($)**	**Annual ($/yr)**
Administration and Management		$2,000
Maintenance		$10,000
Monitoring & Research		$4,650
Special equipment, facilities, or improvements		$0
Offsetting revenues		$0

The numbers above reflect the current estimated costs. Estimated costs were calculated using 10 % of the base cost of a GS-7 assistant refuge manager and a 3 % cost of a GS-9 refuge manager assuming that the activity would use the estimated "portion of a year" to administer.

Transportation costs to reach the Refuge are paid for by the participant or covered by another agency.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and

Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to cultural or historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral

beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Although a single research project for a single year may cause few, if any, negative resource impacts, it may in fact cause cumulative impacts over multiple years or when considered additively with all research projects in the Monument. Therefore, it is critical for Monument managers to examine all projects with a multi-year timeframe in mind and consider all research that is planned concurrently in the Monument before approval is granted. It may be appropriate to set a limit to the number of research projects occurring in a particular habitat or relative to a single species or species group, even if staff are available to coordinate the projects. Based on the shorter-term nature of the majority of the 29 research projects currently occurring at the Refuge, the probability of cumulative impacts is low.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Websites at http://www.fws.gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended, and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the Draft Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands," which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All research permit holders would be required to submit an annual report to the Monument that summarizes their activities for a given year and a final report when the project is completed. The report would include at a minimum the following: study title, fiscal year, progress, important findings, problems encountered, proposed resolution to problems, disposition of any collected samples, preparer, and date prepared.

All projects would be monitored by Refuge staff to ensure the use remains compatible and resources (which include but are not limited to nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Laysan finches, Nihoa finches, Nihoa millerbirds, native plants and insects, and cultural and historic resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Refuge.

If the proposed research methods would impact or potentially impact Refuge resources (habitat or wildlife), it must be demonstrated that the research is essential (i.e., critical to survival of a species; Refuge islands provide only or critical habitat for a species; or assessment and/or restoration after cataclysmic events), and the researcher must identify the issues in advance of the impact. Highly intrusive or manipulative research is generally not permitted in order to protect native bird and marine mammal populations.

Researchers are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

Researchers will adhere to current species protocols for data collection.

The Refuge Manager or designee can suspend/modify conditions/terminate wildlife observation and photography that is already permitted and in progress should unacceptable, unforeseen, or unexpected

impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

Visitors, researchers, and residents are provided orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance.

Researchers would be required to obtain the appropriate Monument permit type. These permits stipulate more detailed access restrictions and regulations to protect wildlife. At the discretion of the Refuge Manager, FWS-approved guides may be assigned to accompany researchers into particularly sensitive areas. Additional fees (approximately equal to the actual cost to the Refuge) would be charged for such special services.

Visitors and researchers would not be allowed to approach closer than 150 feet to Laysan duck wetlands without specific approval from FWS staff.

Tern Island-based vessels involved in research activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Visitors and researchers planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water-related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow visitor and researcher observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for visitor and researcher observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon, as well as preferred Hawaiian monk seal haulout, molting, and pupping sites and green turtle high use areas such as East Island.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy. Anchors will be lowered into place rather than tossed overboard to control placement.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

All publications would need to reference the fact that research took place on the Refuge and also state that the Refuge is closed to general public use.

Justification:

Research on the Refuge and in the Monument is inherently valuable to the FWS, since it is intended to expand the knowledge base of those who are given the responsibility of managing the resources found within. This is particularly true in this case where many of the resources remain in pristine condition and detailed information is lacking for a portion of these species. In many cases, if it were not for the Refuge providing access to the lands and waters along with some support, the research would never take place and less scientific information would be available to FWS to aid in managing and conserving the Refuge and the Monument resources. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X_____ Mandatory 10-year reevaluation date (for nonwildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

X Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

References Cited:

Antonelis, G.A., J.D. Baker, T.C. Johanos, R.C. Braun, A.L. Harting. 2006. Hawaiian Monk Seals (*Monachus schauinslandi*): Status and Conservation Issues. *Atoll Research Bulletin* 543:75-101.

Bejder, L., S. M. Dawson, and J. A. Harraway. 1999. Responses by Hector's dolphins to boats and swimmers in porpoise bay, New Zealand. 15(3):738-750.

Chesher, R. H. 1969. Destruction of Pacific corals by the sea star *Acanthaster planci*. Science 165(3890):280-283.

Coloma-Agaran, G. 2003. First Quarterly report for Nuisance Seaweed Control, Kihei, Maui, Hawai'i. Report submitted to EPA.

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Executive Order 1019. 3 February 1909. Establishing the Hawaiian Islands Reservation.

Fowler, G.S. 1995. Ecotourism, field studies and stress: behavioral and hormonal responses of Magellanic penguins to nest site disturbance. Abstracts to Pacific Seabird Group Annual Meeting, 1995.

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Hawkins, J. P., C. M. Roberts, T. V. T. Hof, K. D. Meyer, J. Tratalos, and C. Aldam. 1999. Effects of recreational scuba diving on Caribbean coral and fish communities. Conservation Biology 13(4):888-897.

Jungius, H. and U. Mirsch. 1979. Changes in heartbeats in nesting birds at Galapagos by human disturbance. Journal of Field Ornithology. 120:299-310.

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Kitaysky, A., M. Benowitz-Fredericks, Z. Kitaiskaia, M. Shultz, and B. Zaun. 2003. Effects of tourist disturbance on stress physiology of wedge-tailed shearwaters (*Puffinus pacificus*) chicks at Kilauea Point National Wildlife Refuge, Kauai, Hawaii. Unpubl. refuge report.

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National Marine Fisheries Service. 2007. Recovery Plan for the Hawaiian Monk Seal (*Monachus schauinslandi*). Second Revision. National Marine Fisheries Service, Silver Spring, MD. 165 pp.

Nimon, A.J., R.C. Schroter, and B. Stonehouse. 1995. Heart rate of disturbed penguins. Nature 374:415.

Presidential Proclamation 2416, 1940. Renaming the Hawaiian Islands Reservation as the Hawaiian Islands National Wildlife Refuge.

Presidential Proclamation 8031, 15 June 2006 (71 FR 36443). Establishing the Northwestern Hawaiian Islands as a marine national monument.

Presidential Proclamation 8112, 6 March 2007. Establishment of the Papahānaumokuākea Marine National Monument (72 FR 10031).

Ragen, T. 1997. Human Activities Affecting the Population Trends of the Hawaiian Monk Seal. Conservation of Long-Lived Marine Animals Conference. 24 August 1997; Monterey, CA.

Refuge Determination:

FWS Superintendent,
Papahānaumokuākea Marine National Monument

_____ Date: 11/20/08
(Signature)

Project Leader,
Hawaiian and Pacific
Islands NWRC

_____ Date 11/20/08
(Signature)

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

_____ Date 12-10-08
(Signature)

Regional Chief,
National Wildlife
Refuge System
Pacific Region

_____ Date 12/10/08
(Signature)

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Hawaiian Islands National Wildlife Refuge

Use: Operations of Monument Co-Managing Agencies

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✔	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ✔ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ___ Appropriate ✔

Refuge Manager: [signature] Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry W. [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Compatibility Determination

Use: Operations of Monument Co-managing Agencies

Refuge Name: Hawaiian Islands National Wildlife Refuge (NWR), Papahānaumokuākea Marine National Monument

City/County and State: City and County of Honolulu, State of Hawai'i

Establishing and Acquisition Authority(ies):

The Hawaiian Islands Reservation was established by President Theodore Roosevelt through Executive Order (EO) 1019, dated February 3, 1909.

In 1940, President Franklin D. Roosevelt signed Presidential Proclamation (PP) 2416, which changed the name of the Reservation to the Hawaiian Islands NWR, but did not add to or otherwise modify the Reservation's purposes.

On June 15, 2006, President Bush signed PP 8031 making the Hawaiian Islands NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112).

Refuge Purpose(s):

The purpose of the Hawaiian Islands Reservation is "...as a preserve and breeding ground for native birds..." (EO 1019).

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Wilderness Management Objectives:

Portions of the Hawaiian Islands NWR were proposed for designation as wilderness under the Wilderness Act of 1964. Per FWS policy and Department of the Interior regulation (50 CFR Part 35), proposed wilderness is managed to preserve its wilderness character until such time as Congress takes action on the proposal and managed according to wilderness management objectives found in 6 Refuge Manual 8.3:

1. To manage the land to accomplish refuge purposes in such a way so as to preserve the wilderness resource for future benefit and enjoyment of the public; and

2. To provide opportunities for education, research, solitude, and recreation where these activities are compatible with refuge purposes.

Description of Use(s):

Papahānaumokuākea Marine National Monument is co-managed by FWS, the National Oceanic and Atmospheric Administration (NOAA) and the State of Hawai'i (State). The Hawaiian Islands NWR is part of the Monument. This compatibility determination (CD) covers joint operational activities within the Hawaiian Islands NWR by NOAA and the State, which includes but is not limited to the joint use of facilities, small boats, vessels and aircraft, and coordinated field activities. All activities covered under this CD are reviewed by the Co-Trustees through their Monument permitting process.

Some examples of this joint-use include but are not limited to NOAA and the State: 1) sharing and using FWS living facilities, 2) conducting monitoring (not research) of plants and animals (research is covered in a separate CD), and 3) using FWS docking or landing facilities for their vessels and aircraft; and FWS, NOAA, and the State: 4) jointly using airplanes and ships for transporting supplies.

More specific examples of where and under what conditions this CD would apply are listed in the Monument Management Plan under:

1) Section 3.3.1, Activity MD-1.1, Continue working with partners to remove marine debris in the Monument and reduce additional debris entering the Monument.
2) Section 3.2.1, Activity TES-1.2, Support and facilitate emergency response for monk seals.

This is not a wildlife-dependent public use as defined by the National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd-668ee).

These year-round, joint use and management activities occur throughout the Monument. This CD primarily covers facilities at Tern and Laysan Islands; field camps elsewhere in the refuge; use of small boats, vessels, and aircraft; and coordinated field activities within the Hawaiian Islands NWR. By coordinating these field activities, sharing infrastructure and equipment, the Co-Trustees can ensure safe and efficient management and monitoring operations while avoiding impacts to the natural, historic, and cultural resources within the Monument.

A Monument permit for all these types of operations and activities is issued by the Co-Trustees. The permit contains standard and specific operating requirements. Each Co-Trustee reviews all proposed activities by FWS, NOAA, State, and agency partners, contractors, and cooperators to ensure the protection of the Monument's unique environment.

This activity/use is proposed because the Presidential Proclamation 8031 establishes a coordinated regime within the Northwestern Hawaiian Islands. This allows all Monument personnel from FWS, NOAA, and the State to work together, and share facilities, equipment, and management activities.

FWS has some facilities and equipment available for this use at Tern Island that includes office space, housing, motorboats, dive tanks, and tools. Users share the cost of maintenance and replacement of these items or supply their own for special operational needs.

Availability of Resources:

The availability of resources is not entirely applicable to this CD, because the three co-managing agencies generally share costs involved or exchange costs borne by one agency for in kind services. The FWS

operates its stations under a full cost recovery requirement. Monument co-managing agencies will develop cooperating agreements that clearly identify the cost sharing arrangements. Increases in annual operating costs due to increased presence will be borne by the co-managing agencies with no additional cost borne by the FWS.

Transportation costs to reach the Refuge are paid by the individual agency or exchanged for in kind service.

Category and Itemization	**One-time ($)**	**Annual ($/yr)**
Administration and Management		$4,400
Maintenance		$10,000
Monitoring		$4,000
Special equipment, facilities or improvements		NA
Offsetting revenues		NA

The numbers above reflect the current estimated costs. Estimated costs were calculated using 8% of the base cost of a GS-9 refuge manager assuming that activity would use that estimated "portion of a year" to administer. Maintenance includes the buildings and other facilities on Tern Island and a tent camp on Laysan Island. If a year-round tent camp is also established at Pearl and Hermes Atoll, costs would be shared between the appropriate agencies. Monitoring would include the 8% of the base cost of a GS-7 assistant refuge manager assuming that activity would use that estimated "portion of a year" to administer.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to cultural or historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating

stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at

each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Due to the very limited nature of this activity, we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Monument would not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Websites at http://www.fws.gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended and as determined by the Co-Trustees of the Monument. The Monument is of national interest, therefore, the availability of the draft Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of NWR and Monument conditions and restrictions is included in this CD and/or 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All projects would be monitored by Refuge staff to ensure the use remains compatible and natural, cultural and historic resources (which include but are not limited to: nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Laysan finches, Nihoa finches, Nihoa millerbirds, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Monument.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate activities that are already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

Co-managers are provided cultural briefing information, as well as orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance.

At the discretion of the Refuge Manager, FWS-approved guides may be assigned to accompany permittees into particularly sensitive areas. Additional fees (approximately equal to the actual cost to the Refuge) would be charged for such special services.

Permittees would not be allowed to approach closer than 150 feet to Laysan duck wetlands.

Tern Island-based vessels involved in permitted activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Permittees planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow permittee observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for permittee observation, but entering the water would not be allowed.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Justification:

Presidential Proclamation 8031 establishes a coordinated management regime for Papahānaumokuākea Marine National Monument. This allows all Monument personnel from FWS, NOAA, and the State to work together, and share facilities, equipment, and management activities so the Monument's natural, cultural, and historic resources may be enjoyed and protected in perpetuity. The FWS, NOAA, and the State each have their own special expertise and experience and working together to achieve purposes of the Monument and the Refuge is cost-effective and produces synergistic benefits. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X_____ Mandatory 10-year reevaluation date (for nonwildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Presidential Proclamation 8031, 15 June 2006 (71 FR 36443). Establishing the Northwestern Hawaiian Islands as a marine national monument.

Presidential Proclamation 8112, 6 March 2007. Establishment of the Papahānaumokuākea Marine National Monument (72 FR 10031).

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Refuge Determination:

FWS Superintendent,
Papahānaumokuākea Marine National Monument

(Signature) Date: 11/20/08

Project Leader,
Hawaiian and Pacific
Islands NWRC

(Signature) Date 11/20/08

Concurrence:

Acting

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12-10-08

Regional Chief,
National Wildlife
Refuge System
Pacific Region

(Signature) Date 12/10/08

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Hawaiian Islands National Wildlife Refuge

Use: Sustenance Fishing

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?		✔
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?		✔
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ✔ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ✔ **Appropriate** ___

Refuge Manager: [signature] Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Finding of Appropriateness of a Refuge Use: Attachment 1

Use: Sustenance Fishing

Additional information regarding the U.S. Fish and Wildlife Service evaluation of proposed Sustenance Fishing at Hawaiian Islands National Wildlife Refuge, Papahānaumokuākea Marine National Monument.

(c) The use is not consistent with applicable Executive orders and Department and Service policies:

Presidential Proclamation 8031 states: "The Secretaries may permit sustenance fishing outside of any Special Preservation Area as a term or condition of any permit issued under this proclamation."

The Hawaiian Islands NWR is within Special Preservation Areas (SPAs) designated by Proclamation 8031. The authority to allow sustenance fishing within SPAs was not granted the Secretaries of Commerce and the Interior. Therefore, this proposed activity is not consistent with applicable Executive orders, etc., and is found Not Appropriate.

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge

Use: Operations by Monument Co-Managing Agencies

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✔	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will **generally** not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ___ No ✔

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate___ **Appropriate** ✔

Refuge Manager: _____ Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry W. [illegible] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Compatibility Determination

Use:	Operations of Monument Co-managing Agencies
Station Name:	Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument
City/County and State:	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is considered an unincorporated, insular area of the United States (General Accounting Office 1997), and lies outside the State of Hawai'i

Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay Refuge by a cooperative agreement with the U.S. Navy (Navy) under the authority of the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended (U.S. Navy and U.S. Fish and Wildlife Service 1988). Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the Navy. The Naval Air Facility at Midway was operationally closed in 1993. Facility cleanup was completed by June 30, 1997, when the Navy and its contractors departed. Jurisdiction and control for Midway Atoll were officially transferred from the Navy to the FWS under Executive Order (EO) 13022, signed by President Clinton on October 31, 1996, which superseded earlier orders that assigned responsibility for Midway to the Navy. Secretary of the Interior Babbitt signed Secretary's Order 3217 on September 13, 2000, designating Midway Atoll NWR concurrently as the Battle of Midway National Memorial. On June 15, 2006, President Bush signed Presidential Proclamation (PP) 8031 making Midway Atoll NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112). Under PP 8031, Midway has unique authority and responsibility as a Special Management Area.

Refuge Purpose(s):

The following primary purposes of the Refuge were included in EO 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the U.S. Department of the Interior:

1. Maintaining and restoring biological diversity within the refuge;

2. Providing for the conservation and management of fish and wildlife and their habitats within the refuge;

3. Fulfilling the international treaty obligations of the United States with respect to fish and wildlife;

4. Providing opportunities for scientific research, environmental education, and compatible wildlife-dependent recreational activities; and

5. In a manner compatible with refuge purposes, recognizing and maintaining Midway's historic significance.

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Battle of Midway National Memorial Purpose:

"[S]o that the heroic courage and sacrifice of those who fought against overwhelming odds to win an incredible victory will never be forgotten."

Cooperative Agreement with U.S. Navy

The following purposes were included in the cooperative agreement between the Navy and FWS (U.S. Navy and U.S. Fish and Wildlife Service 1988) under the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended. Pertinent language in those statutes includes:

1. ". . . for the development, advancement, management, conservation and protection of fish and wildlife resources . . . for the benefit of the U.S. Fish and Wildlife Service, in performing its activities and services" (Fish and Wildlife Act of 1956).

2. ". . . shall be administered by the Secretary of the Interior directly in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon . . ." (Fish and Wildlife Coordination Act of 1934)

3. "...consolidate the authorities... for... the conservation of fish and wildlife...." (National Wildlife Refuge System Administration Act of 1966, as amended)

Description of Use(s):

Papahānaumokuākea Marine National Monument is co-managed by FWS, the National Oceanic and Atmospheric Administration (NOAA) and the State of Hawai'i (State). Midway Atoll NWR is a part of the Monument. This compatibility determination (CD) covers joint operational activities within Midway Atoll NWR by NOAA and the State, which includes but is not limited to the joint use of facilities, small boats, vessels, and aircraft, and coordinated field activities. All activities covered under this CD are reviewed by the Co-Trustees through the Monument permitting process.

Some examples of this joint-use include, but are not limited to, NOAA and the State: 1) sharing and using FWS living facilities, 2) conducting monitoring (not research) of plants and animals (research is

addressed in a separate CD), 3) using FWS docking or landing facilities for their vessels and aircraft, and FWS, NOAA, and the State: 4) jointly using airplanes and ships for transporting supplies.

More specific examples of where and under what conditions this CD would apply are listed in the Monument Management Plan under:

1) Section 3.3.1, Activity MD-1.1, Continue working with partners to remove marine debris in the Monument and reduce additional debris entering the Monument.
2) Section 3.2.1, Activity TES-1.2, Support and facilitate emergency response for monk seals.
3) Section 3.6.3, Activity CFO-6.2, Within 2 years, station additional vessels at Midway for use during the summer marine research field season.

Joint operations on Midway Atoll also are proposed within the Midway Atoll National Wildlife Refuge Conceptual Site Plan (see Volume 4 of the MMP).

This is not a wildlife dependent use as defined by the National Wildlife Refuge System Administration Act, as amended (16 U.S.C. 668dd-668ee).

Most of the activities would occur on Sand Island, but could occur on or in any of the lands and/or waters of Midway Atoll NWR.

These year-round, joint use and management activities occur throughout the Monument. This CD primarily covers facilities at Sand Island; use of small boats, vessels, and aircraft; and coordinated field activities within Midway Atoll NWR. By coordinating these field activities and sharing infrastructure and equipment, the Co-Trustees can ensure safe and efficient management and monitoring operations while avoiding or minimizing adverse impacts to the natural, cultural, and historic resources within the Monument. Current co-management uses include approximately 12 projects/programs, some of which are one-time or once-per-year events and others of which occur continuously, year-round. At any one time, these several projects/programs involve up to 15 people. Throughout the year, the number of people currently on the Refuge participating in this use averages 4-6, but could significantly increase in coming years.

A Monument permit for all these types of operational activities is issued by the Co-Trustees. The permit contains standard and specific operating requirements. The Monument Management Board reviews all proposed activities by FWS, NOAA, State, and agency partners, contractors, and cooperators to ensure the protection of the Monument's unique resources.

This activity/use is proposed because the Presidential Proclamation 8031 establishes a coordinated regime within the Northwestern Hawaiian Islands. This allows all Monument personnel from FWS, NOAA, and the State to work together, and share facilities, equipment, and management activities.

FWS has some facilities and equipment available for this use on Sand Island that includes office space, housing, motorboats, dive tanks, heavy equipment, harbor, piers, runway, dining hall, and tools. Users share the cost of maintenance and replacement of these items or supply their own for special operational needs.

Availability of Resources:

The availability of resources is not entirely applicable to this CD, because the three co-managing agencies generally share costs involved or exchange costs borne by one agency for in-kind services. At Midway Atoll NWR the FWS, in partnership with the Federal Aviation Administration (FAA), operates under a

full-cost recovery requirement. Under situations where FWS and FAA costs are increased, such as travel to and onsite living on Sand Island, the FWS and FAA requires payment by any outside agency/individual. A permanent operational presence of other agencies on Midway will increase annual maintenance, special equipment, facilities or improvement costs. Monument co-managing agencies and the FAA will develop cooperating agreements that clearly identify the cost sharing arrangements. Increases in these annual operating costs due to increased presence will be borne by the co-managing agencies with no additional cost borne by the FWS or FAA.

Transportation costs to reach the Refuge are paid for by the individual agency or exchanged for in-kind service.

Category and Itemization	**One-time ($)**	**Annual ($/yr)**
Administration and Management		$6,800
Maintenance		NA
Monitoring & Research		$6,000
Special equipment, facilities or improvements		NA
Offsetting Revenues		$0

The numbers above reflect the current estimated costs. Estimated costs for Administration and Management and Monitoring and Research were calculated using 8% of the base cost of a GS-13 refuge manager and a GS-12 assistant refuge manager assuming those activities would use that estimated "portion of a year" to administer.

Anticipated Impacts of the Use(s):

Possible impacts from persons involved in operations by Monument co-managing agencies include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument ; and (10) impacts to historic resources. All activities would be designed and managed in a manner to eliminate or minimize these impacts. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon *et al.,* 1995 and Kataysky *et al.,* 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When co-managers are observing and working in the vicinity of albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky *et al.* (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Contact periods for any particular bird or group of birds would be kept to 15 minutes or less for

this reason. It is important to note that even wildlife photography by professionals or amateurs can often be disturbing depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining, with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats, kayaks, or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (Verbesina encelioides) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (Schistocerca nitens) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if

the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Each activity by any of the co-managing agencies would be carefully reviewed to eliminate if possible and/or prevent any significant short-term, long-term or cumulative impacts. All proposals would have to go through the Monument permitting process, which requires review by the other Monument Co-Trustees. This high level of review would help ensure that impacts of any kind are carefully considered before any permit for co-managing agencies activities is issued.

Proposals that may have a long-term negative impact to the Refuge and/or Monument natural, cultural, or historic resources would generally not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through Monument Websites at http://www/fws/gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended, and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the MMP (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each co-manager would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and/or 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. Depending upon the type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands in the Monument must adhere to the "Special Conditions for Movement to and from Islands," which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All projects would be monitored by Refuge staff to ensure the use remains compatible and natural, cultural, and historic resources (which include but are not limited to: nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Monument.

If the proposed operations would impact or potentially impact Monument resources (habitat or wildlife), it must be demonstrated that the activities are essential, and the co-manager must identify the issues in advance of the impact. In order to protect native bird and marine mammal populations, highly intrusive or manipulative operations are generally not permitted.

Co-managers are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their projects. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate an activity that is already permitted and in progress on the Refuge, should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

The beaches on Spit and Eastern Island are closed (unless special permission is granted) as well as the southern and western beaches on Sand Island. Power boats are not allowed to travel closer than 500 feet from these closed beaches, except for activities occurring on Eastern Island that would necessitate tying up to the pier.

Co-managers are provided cultural briefing information, as well as orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green sea turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. All Monument co-managers are required to go through orientation immediately upon arrival or early the next day in the case of an unusually late arrival.

Monument co-managers who desire access to areas not generally open to the public would be required to abide by more detailed access restrictions and regulations to protect wildlife. At the discretion of the Refuge Manager, FWS-approved guides may be assigned to accompany co-managers into particularly sensitive areas.

All trips to Eastern Island for activities would be closely supervised by FWS-approved guides. Boats would tether to either end of the 150-foot pier, and disembarking passengers would be briefed on proper behavior to minimize disturbance to Hawaiian monk seals or green turtles that may be present. During periods of intensive tern nesting, routes would be carefully selected to minimize disturbance. Co-managers would be advised to travel in single file in an expeditious manner through the colony.

Photography would be allowed at the beginning and end of such a transit, not in the middle, to reduce the length of disturbance to the core nesting population. Restrictions on access to sensitive areas would be enforced. Spit Island would be off limits unless co-managers accompany FWS-approved guides and have FWS authorization.

Co-managers would not be allowed to approach closer than 150 feet to Laysan duck seeps.

Vessels involved in activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Within the inner harbor, boats must remain within speed limits of 10 knots. Co-managers planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities would not be permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon (Fig. 1), as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Co-managers and their luggage would may be subject to an inspection for insects and plants prior to departing Honolulu, and again when leaving Midway to reduce the possibility of alien species introductions. Co-managers would be asked to clean their shoes and other clothing before coming to Midway through advance introductory materials. Anyone bringing their own snorkel or dive gear to Midway would be required to treat the gear to prevent the inadvertent introduction or transmission of alien species.

Two stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud noise would be associated with this program.

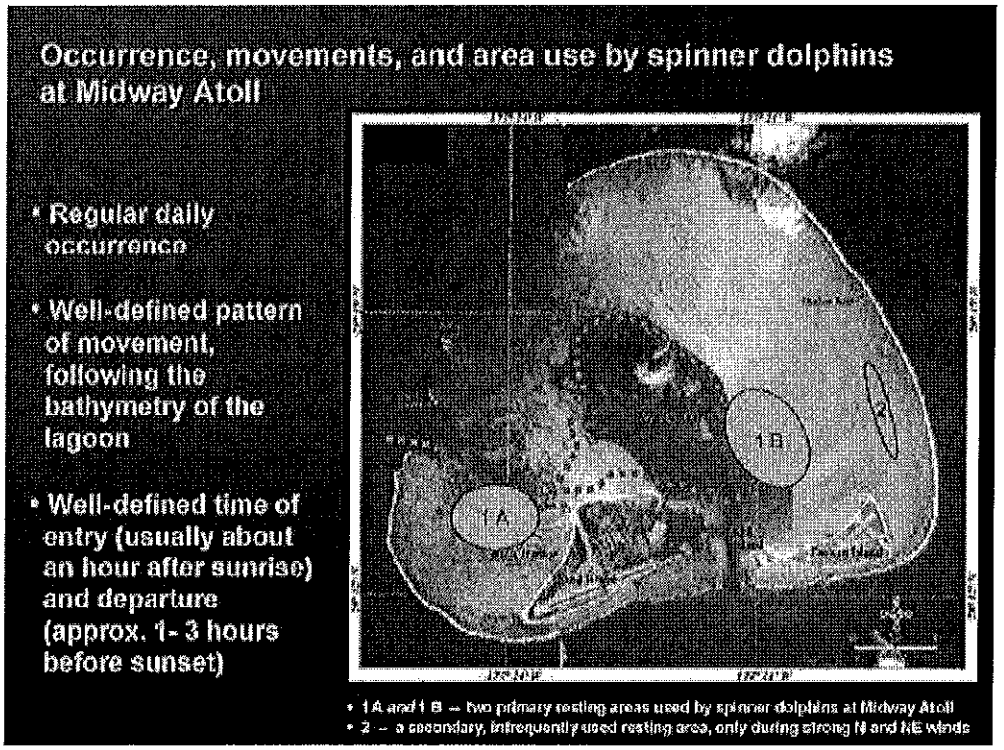

Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarkski)

Activities may be temporarily or permanently halted for purposeful violations of closed beaches and endangered species regulations.

Justification:

Presidential Proclamation 8031 establishes a coordinated management regime for Papahānaumokuākea Marine National Monument. This allows all Monument personnel from FWS, NOAA, and the State to work together, and share facilities, equipment, and management activities so the Monument's natural, cultural, and historic resources may be enjoyed and protected in perpetuity. The FWS, NOAA, and the State each have their own special expertise and experience, and working together to achieve purposes of the Monument and the Refuge is cost-effective and produces synergistic benefits. The stipulations included herein would allow such uses to occur in a compatible manner. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X_____ Mandatory 10-year reevaluation date (for nonwildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Refuge Determination:

Refuge Manager
Approval: _____ Date: 11/20/08
(Signature)

FWS Superintendent,
Papahānaumokuākea Marine National Monument

_____ Date: 11/20/08
(Signature)

Project Leader,
Hawaiian and Pacific
Islands NWRC

_____ Date 11/20/08
(Signature)

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

_____ Date 12-10-08
(Signature)

Regional Chief,
National Wildlife
Refuge System
Pacific Region

_____ Date 12/10/08
(Signature)

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge

Use: Research, Scientific Collecting, and Surveys

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✔	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ___ No ✔

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ___ **Appropriate** ✔

Refuge Manager: _____ Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry G. _____ Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Compatibility Determination

Use:	Research and Surveys
Station Name:	Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument
City/County and State:	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is considered an unincorporated, insular area of the United States (General Accounting Office 1997), and lies outside the State of Hawai'i

Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay Refuge by a cooperative agreement with the U.S. Navy (Navy) under the authority of the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Act of 1966 (U.S. Navy and U.S. Fish and Wildlife Service 1988). Under this agreement, administrative responsibility for the Refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the Navy. The Naval Air Facility at Midway was operationally closed in 1993. Facility cleanup was completed by June 30, 1997, when the Navy and its contractors departed. Jurisdiction and control for Midway Atoll were officially transferred from the Navy to the FWS under Executive Order (EO) 13022, signed by President Clinton on October 31, 1996, which superseded earlier orders that assigned responsibility for Midway to the Navy. Secretary of the Interior Babbitt signed Secretary's Order (SO) 3217 on September 13, 2000, designating Midway Atoll NWR concurrently as the Battle of Midway National Memorial. On June 15, 2006, President Bush signed Presidential Proclamation (PP) 8031 making Midway Atoll NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112). Under PP 8031, Midway has unique authority and responsibility as a Special Management Area.

Refuge Purpose(s):

The following primary purposes of the Refuge were included in EO 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the U.S. Department of the Interior:

1. Maintaining and restoring biological diversity within the refuge;

2. Providing for the conservation and management of fish and wildlife and their habitats within the refuge;

3. Fulfilling the international treaty obligations of the United States with respect to fish and wildlife;

4. Providing opportunities for scientific research, environmental education, and compatible wildlife-dependent recreational activities; and

5. In a manner compatible with refuge purposes, recognizing and maintaining Midway's historic significance.

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Battle of Midway National Memorial Purpose:

"[S]o that the heroic courage and sacrifice of those who fought against overwhelming odds to win an incredible victory will never be forgotten."

Cooperative Agreement with U.S. Navy

The following purposes were included in the cooperative agreement between the Navy and FWS (U.S. Navy and U.S. Fish and Wildlife Service 1988) under the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended. Pertinent language in those statutes includes:

1. ". . . for the development, advancement, management, conservation and protection of fish and wildlife resources . . . for the benefit of the U.S. Fish and Wildlife Service, in performing its activities and services" (Fish and Wildlife Act of 1956).

2. ". . . shall be administered by the Secretary of the Interior directly in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon . . ." (Fish and Wildlife Coordination Act of 1934)

3. "...consolidate the authorities... for... the conservation of fish and wildlife...." (National Wildlife Refuge System Administration Act of 1966, as amended)

Description of Use(s):

When determined compatible on a refuge-specific basis, research, scientific collecting, and surveys (research) are allowable uses and are conducted on NWR lands and waters by independent researchers, partnering agencies, and educational groups. The FWS defines these uses as:

- Research: Planned, organized, and systematic investigation of a scientific nature.
- Scientific collecting: Gathering of refuge natural resources or cultural artifacts for scientific purposes.
- Surveys. Scientific inventory or monitoring.

The types of research vary greatly, but mostly revolve around birds, marine animals, sea turtles, coral reefs, the marine environment, fish population dynamics, marine debris, contaminants, habitat classification and restoration, and historic resources.

Presently at Midway Atoll 14 research projects are ongoing, which is representative of the number of projects that has occurred at year at Midway for the past 5 years. This number is expected to greatly increase in the next 10 years. Current research projects include but are not limited to coral reef assessment, fledgling albatross movements, Bonin petrel (*Pterodroma hypoleuca*) abundance and distribution, juvenile reef fish recruitment, radio wave analysis, greenhouse gas monitoring, shark movement, and marine debris deposition analysis. The number of researchers on the Refuge ranges from 0 to 10 people at one time.

More specific examples of where this CD might apply are included in the Monument Management Plan, which lists approximately 80 proposed actions that would generate a multitude of research projects in the future. These proposed actions fall under the following categories: Native Hawaiian culture and history, historic resources, maritime heritage, threatened and endangered species, migratory birds, habitat management and conservation, marine debris, alien species, and maritime transportation and aviation. Examples of such activities include:

1) Section 3.2.1, Activity TES-4.2, Conduct studies to examine the correlation between reproductive success and contaminant loads.
2) Section 3.2.2, Activity MTA-2.1, Conduct studies on potential aircraft and vessel hazards and impacts.

Research proposals may be for any time of the year and on any of the islands and/or surrounding waters within the Refuge. However, the Refuge may limit the time and location of research projects to ensure that negative impacts to NWR resources are avoided or limited.

Each research or survey project would undoubtedly have different protocols and methodologies; therefore, each study necessitates its own scientific review. Each research project would be carefully reviewed to prevent any significant short-term, long-term or cumulative impacts. New research requests would be evaluated by Refuge staff by comparing them to ongoing or recently completed research on the Refuge to determine if the species studied, methodologies used, or habitat type and locations may lead to undesirable cumulative impacts. All projects would be subjected to the Monument permitting process, in which the Refuge also participates. This high level of review would help ensure all levels and types of impacts are carefully considered before any permit for research is issued. Within the permit, conditions would be clearly defined so as to protect and conserve the existing natural, cultural, and historic resources found within the Monument. Standard and specific conditions are included in this CD under Stipulations Necessary to Ensure Compatibility.

This use has been primarily proposed because the collecting and analyzing scientific data is extremely valuable to the FWS for its ongoing management of the Refuge and Monument. The gathered information would also used by other scientists and teachers around the world. The published manuscripts from this research help to disseminate the FWS mission and the significance of the Monument to other researchers and the public.

The FWS has some facilities and equipment available for this use that include office space, housing, motorboats, dive tanks, and bird banding supplies. Users pay fees to use these facilities and equipment or they supply their own.

Availability of Resources:

Midway Atoll's extreme remoteness makes the operation and maintenance of its airfield, harbor, buildings, and infrastructure very costly for FWS. Therefore, appropriate fees would be charged for research projects occurring at Midway Atoll to help FWS defray their operational costs. A complete and updated fee schedule can be found at the refuge internet website at: http://midway.fws.gov.

The FWS has sufficient staffing and funding to administratively support and monitor research that is currently taking place. Any significant increase in the number of research projects would create a need for additional employees to oversee the administration and monitoring of the researchers and their projects.

Any significant additional cost to the Refuge caused by researchers must be offset by the sponsoring agency or organization.

Category and Itemization	**One-time ($)**	**Annual ($/yr)**
Administration and Management		$4,000
Maintenance		$10,000
Monitoring & Research		$8,000
Special equipment, facilities or improvements		$0
Offsetting revenues		Some fees would be collected from researchers

The numbers above reflect the current estimated costs. Estimated costs were calculated using 10 % of the base cost of a GS-11 refuge biologist and a 3 % cost of a GS-13 refuge manager assuming that this priority use would use that portion of a year to administer. Off-setting revenues are fees paid by researchers for their stay on Midway Atoll and obtaining a project permit. These fees include boat rentals, housing, a research/project fee as well as others, and would amount to approximately the cost of administering this use.

Permittees would pay the cost of their transportation to the Refuge.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed

information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also

varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Although a single research project for a single year may cause few, if any, negative resource impacts, it may in fact cause cumulative impacts over multiple years or when considered additively with all research projects in the Monument. Therefore, it is critical for Monument managers to examine all projects with a multi-year timeframe in mind and consider all research that is planned concurrently in the Monument before approval is granted. It may be appropriate to set a limit to the number of research projects occurring in a particular habitat or relative to a single species or species group, even if staff are available to coordinate the projects. Based on the shorter-term nature of the majority of the 14 research projects currently occurring at Midway, the probability of cumulative impacts is low.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Websites at http://www.papahanaumokuakea.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended and as determined by the Co-Trustees of the. The Monument is of national interest; therefore, the availability of the Draft Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR, Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel within the Monument to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All research permit holders would be required to submit an annual report to the Monument that summarizes their activities for a given year and a final report when the project is completed. The report would include at a minimum the following: study title, fiscal year, progress, important findings, problems encountered, proposed resolution to problems, disposition of any collected samples, preparer, and date prepared.

All projects would be monitored by Refuge staff to ensure the use remains compatible and resources (which include but are not limited to nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, Laysan finches, Nihoa finches, Nihoa millerbirds, native plants and insects, and cultural and historic resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Refuge.

If the proposed research methods would impact or potentially impact Refuge resources (habitat or wildlife), it must be demonstrated that the research is essential (i.e., critical to survival of a species; Refuge islands provide only or critical habitat for a species; or assessment and/or restoration after cataclysmic events), and the researcher must identify the issues in advance of the impact. Highly intrusive or manipulative research is generally not permitted in order to protect native bird and marine mammal populations.

Researchers are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

Researchers will adhere to current species protocols for data collection.

The Refuge Manager or designee can suspend/modify conditions/terminate wildlife observation and photography that is already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

The beaches on Spit and Eastern Island would be closed to researchers (unless special permission is granted) as well as the southern and western beaches on Sand Island. Power boats would not be allowed to travel closer than 500 feet from these closed beaches, except to tie up to the pier on Eastern Island.

Visitors, researchers, and residents are provided orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. All visitors, researchers, and new residents are required to go through orientation immediately upon arrival or early the next day in the case of an unusually late arrival.

Researchers who desire access to areas not generally opens to the public would be required to obtain the appropriate Monument permit. These permits stipulate more detailed access restrictions and regulations to protect wildlife. At the discretion of the Refuge Manager, FWS-approved guides may be assigned to accompany researchers into particularly sensitive areas. Additional fees (approximately equal to the actual cost to the Refuge) would be charged for such special services.

All trips to Eastern Island for research would be closely supervised by FWS-approved staff and/or guides. Boats would tether to either end of the 150-foot pier, and disembarking passengers would be briefed on proper behavior to minimize disturbance to Hawaiian monk seals or green turtles that may be present. During periods of intensive tern nesting, routes would be carefully selected to minimize disturbance. Visitors and researchers would be advised to travel in single file in an expeditious manner through the colony. Photography would be allowed at the beginning and end of such a transit, not in the middle, to reduce the length of disturbance to the core nesting population. Restrictions on access to sensitive areas would be enforced. Spit Island would be off limits for researchers unless they accompany FWS approved staff and/or guides or have FWS authorization.

Visitors and researchers would not be allowed to approach closer than 150 feet to Laysan duck seeps. The blind at the water catchment basin would allow people to see the species without disturbing them.

Vessels involved in research activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Within the inner harbor, boats must remain within speed limits of 10 knots. Visitors and researchers planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow visitor and researcher observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for visitor and researcher observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon (Fig. 1), as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

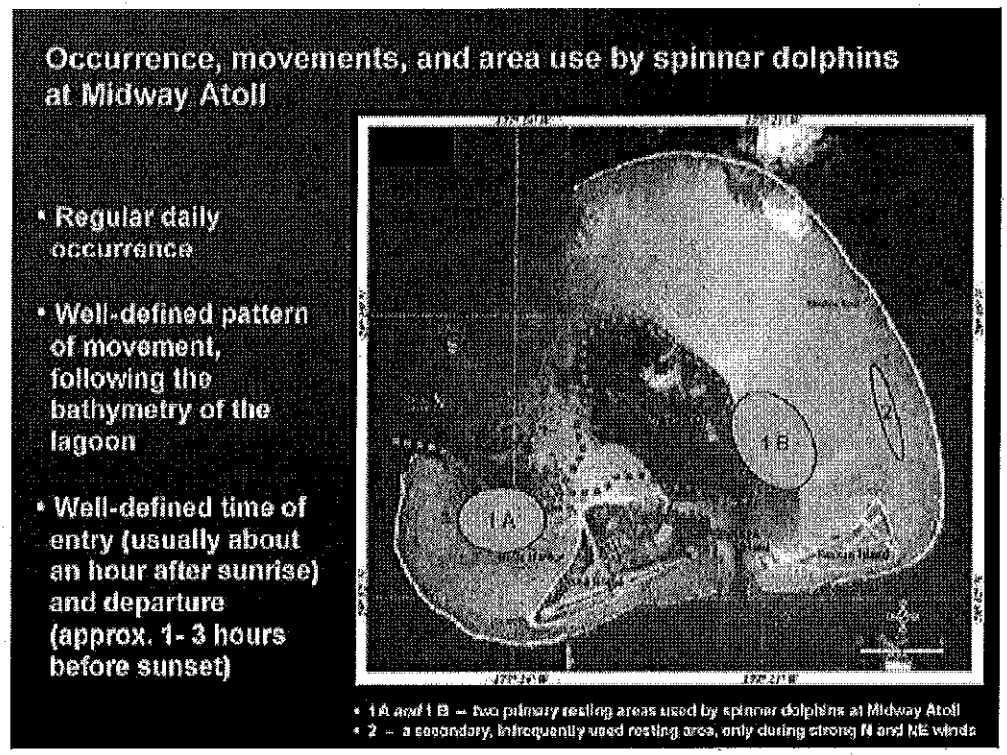

Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarkski).

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Power boats taking visitors and researchers to Eastern Island or snorkeling or diving may encounter spinner dolphins or, less frequently, green sea turtles while traversing the lagoon. Hawaiian monk seals are only rarely observed swimming in the lagoon. Boat operators would be fully briefed on known resting areas of spinner dolphins in the lagoon (Figure 1.1 above) and routes to and from snorkel and dive sites would be plotted to avoid these areas as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

Visitors, researchers, and their luggage would go through an inspection for insects and plants prior to departing Honolulu, and again when leaving Midway to reduce the possibility of alien species introductions. Visitors and researchers would be asked to clean their shoes and other clothing before coming to Midway through advance introductory materials. Anyone bringing their own snorkel or dive gear to Midway would be required to treat the gear to prevent the inadvertent introduction or transmission of alien species.

A review of files documenting past visitor/researcher violations of closed beaches and/or monk seal disturbance shows that many of the people had not received orientation to the Refuge and closed areas. Strict compliance with the orientation policy would address many of those types of violations. Some of

the documented violations were clearly due to poor or nonexistent signing. A new sign plan will be developed by Refuge staff and all signs put in place by 2009. Temporary signs may be used prior to that time. Research permits may be temporarily or permanently withdrawn for purposeful violations of closed beached and endangered species regulations.

All publications would need to reference the fact that research took place on the Refuge.

Justification:

Research in the Monument is inherently valuable to the FWS, since it is intended to expand the knowledge base of those who are given the responsibility of managing the resources found within. This is particularly true in this case where many of the resources remain in pristine condition and detailed information is lacking from a portion of these species. In many cases, if it were not for the Refuges providing access to the lands and waters along with some support, the research would never take place and less scientific information would be available to FWS to aid in managing and conserving Midway's and the Monument's resources. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X_____ Mandatory 10-year reevaluation date (for non-wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Refuge Determination:

Refuge Manager
Approval: _____ Date: 11/20/08
(Signature)

FWS Superintendent,
Papahānaumokuākea Marine National Monument

_____ Date: 11/20/08
(Signature)

Project Leader,
Hawaiian and Pacific
Islands NWRC _____ Date 11/20/08
(Signature)

Concurrence:

Refuge Supervisor
National Wildlife
Refuge System
Pacific Region _____ Date 12-10-08
(Signature)

Regional Chief,
National Wildlife
Refuge System
Pacific Region _____ Date 12/10/08
(Signature)

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FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge

Use: Cultural Resource Activities and Practices

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✓	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✓	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✓	
(d) Is the use consistent with public safety?	✓	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✓	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✓	
(g) Is the use manageable within available budget and staff?	✓	
(h) Will this be manageable in the future within existing resources?	✓	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✓	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✓	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ✓ No ___

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ___ Appropriate ✓

Refuge Manager: [signature] Date: 11/20/08

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.

If found to be Appropriate, the refuge supervisor must sign concurrence.

Refuge Supervisor: [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Compatibility Determination

Use:	Cultural Resource Activities and Practices
Station Name:	Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument
City/County and State:	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is considered an unincorporated, insular area of the United States (General Accounting Office 1997), and lies outside the State of Hawai'i

Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay Refuge by a cooperative agreement with the U.S. Navy (Navy) under the authority of the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Act of 1966 (U.S. Navy and U.S. Fish and Wildlife Service 1988). Under this agreement, administrative responsibility for the Refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the Navy. The Naval Air Facility at Midway was operationally closed in 1993. Facility cleanup was completed by June 30, 1997, when the Navy and its contractors departed. Jurisdiction and control for Midway Atoll were officially transferred from the Navy to the FWS under Executive Order (EO) 13022, signed by President Clinton on October 31, 1996, which superseded earlier orders that assigned responsibility for Midway to the Navy. Secretary of the Interior Babbitt signed Secretary's Order (SO) 3217 on September 13, 2000, designating Midway Atoll NWR concurrently as the Battle of Midway National Memorial. On June 15, 2006, President Bush signed Presidential Proclamation (PP) 8031 making Midway Atoll NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112). Under PP 8031, Midway has unique authority and responsibility as a Special Management Area.

Refuge Purpose(s):

The following primary purposes of the Refuge were included in EO 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the U.S. Department of the Interior:

1. Maintaining and restoring biological diversity within the refuge;
2. Providing for the conservation and management of fish and wildlife and their habitats within the refuge;
3. Fulfilling the international treaty obligations of the United States with respect to fish and wildlife;
4. Providing opportunities for scientific research, environmental education, and compatible wildlife-dependent recreational activities; and
5. In a manner compatible with refuge purposes, recognizing and maintaining Midway's historic significance.

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Battle of Midway National Memorial Purpose:

"[S]o that the heroic courage and sacrifice of those who fought against overwhelming odds to win an incredible victory will never be forgotten."

Cooperative Agreement with U.S. Navy

The following purposes were included in the cooperative agreement between the Navy and FWS (U.S. Navy and U.S. Fish and Wildlife Service 1988) under the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended. Pertinent language in those statutes includes:

1. ". . . for the development, advancement, management, conservation and protection of fish and wildlife resources . . . for the benefit of the U.S. Fish and Wildlife Service, in performing its activities and services" (Fish and Wildlife Act of 1956).

2. ". . . shall be administered by the Secretary of the Interior directly in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon . . ." (Fish and Wildlife Coordination Act of 1934)

3. "...consolidate the authorities... for... the conservation of fish and wildlife...." (National Wildlife Refuge System Administration Act of 1966, as amended)

Description of Use(s):

Presidential Proclamation 8031 defines Native Hawaiian Practices as "...cultural activities conducted for the purposes of perpetuating traditional knowledge, caring for and protecting the environment, and strengthening cultural and spiritual connections to the Northwestern Hawaiian Islands that have demonstrable benefits to the Native Hawaiian community. This may include, but is not limited to, the non-commercial use of Monument resources for direct personal consumption while in the monument."

Cultural resource activities and practices are a means to honor, continue, and expand upon the traditional knowledge and practices that are vital to the Native Hawaiian community. They continue to remind and

teach the Native Hawaiian connections and relationships that have been passed down from generation to generation.

Activities could involve, but are not limited to, voyaging by traditional sailing canoes with one or more support vessels to one or more of the islands within the Monument. The permittees would explore where Native Hawaiians' ancestors traveled, teach others the Native Hawaiian culture and history, practice living and traveling as ancestors did, and make a spiritual connection with nature and the ancestors. The use may include overnight visits on some islands, sailing by canoe to the islands, celestial navigation, spiritual ceremonies, and presentation of offerings. The use may be conducted at any time during the year.

More specific examples of where this CD might apply are listed in the Monument Management Plan under:

1) Section 3.1.2, Activity NHCH-2.3, Facilitate field research and cultural education opportunities annually during the field season.
2) Section 3.1.2, Activity NHCH-2.6, Support Native Hawaiian cultural accesses to assure cultural research needs are met.

The study and use of native fish, wildlife, plants, and their habitats by Native Hawaiians is integral to their cultural practices. However this activity is not a wildlife-dependent use as defined by the National Wildlife Refuge System Administration Act, as amended of 1997.

This activity could include fishing and gathering of renewable natural resources for ceremonial, religious, nutritional, and other traditional cultural purposes. Resources of interest may include, but are not limited to, shed feathers, fish, shells, or salt. Gathering of resources of interest may be requested in Native Hawaiian Practices Permit applications and considered by Monument managers on a case-by-case basis. Approval of these requests must include, but are not limited to, consideration of surplus populations available for harvest; maintenance of biological integrity and diversity; maintenance of self-sustaining populations; permittee possession of other necessary permits (e.g., for migratory birds), etc.

Since the establishment of the Monument, no Native Hawaiian Practices Permit has been issued for Midway Atoll.

Native Hawaiian practitioners must first apply for and receive a permit from the Monument. After issuance, the practitioners would normally travel to Midway by boat or chartered aircraft. If the permittees are authorized to go into areas closed to public uses, an FWS-approved guide would accompany the parties to ensure the activity is compatible and not impacting other Refuge or Monument resources.

The FWS has some facilities and equipment available for this use, which include meeting room space, housing, motorboats, and tools. Users pay fees to use these facilities and equipment or they supply their own. These facilities and equipment are used and maintained for the FWS and other visitor programs in addition to this proposed use.

Activities at Native Hawaiian cultural and historic sites are subject to consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA).

Availability of Resources:

No funding presently exists specifically for this use. However, the occurrence of this activity is infrequent, thus the costs to the Refuge are minimal. The issuance of the permit and the FWS-approved guide for the cultural group account for the major costs of the use.

Category and Itemization	One-time ($)	Annual ($/yr)
Administration and Management		$1,700
Maintenance		$2,000
Monitoring		$1,300
Special equipment, facilities or improvements		$2,000
Offsetting revenues		$7,000

The numbers above reflect the current estimated costs. Estimated costs were calculated using 2% of the base cost of a GS-11 wildlife biologist and a 2% cost of a GS-13 refuge manager assuming that this priority use would use that portion of a year to administer. Off-setting revenues are fees paid by permittees for their stay on Midway Atoll and obtaining a project permit. These fees include boat rentals, housing, a research/project fee as well as others, and would amount to approximately the cost of administering this use. Annual offsetting revenues would be approximately equal to the annual FWS cost of this program.

Permittees would pay the cost of their transportation to the Refuge.

Anticipated Impacts of the Use(s):

Short-term impacts should be very minimal since the applicant must follow very strict permit regulations and have a FWS-approved guide if entering a closed area. Some minimal disturbance of wildlife may occur from the parties entering and leaving the islands.

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; and (9) the accidental introduction and establishment of nonnative species to the Monument. All cultural activities would be designed and managed in a fashion with the best intent to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When participants are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration

disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While a 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (Verbesina encelioides) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (Schistocerca nitens) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if

the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from repeated anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Due to the very limited nature of this activity (i.e., less than 1 week), we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). It may be appropriate to set a limit to the number of participants allowed under this use even if staff are available to coordinate the activities. Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Monument would not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through the Monument Websites at http://www/fws/gov/pacificislands and http://hawaiireef.noaa.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the Draft Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and/or 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. The type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel within the Monument to and from Midway Atoll must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All activities would be monitored by Refuge staff to ensure the use remains compatible and natural, cultural and historic resources (which include but are not limited to: nesting and resting seabirds and other migratory birds, Hawaiian monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, native plants and insects, and cultural and historical resources) are not impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the NWR.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project/use. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate an activity that is already permitted and in progress on the Refuge, should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

The beaches on Spit and Eastern Island would be closed to permittees (unless special permission is granted) as well as the southern and western beaches on Sand Island.. Power boats would not be allowed to travel closer than 500 feet from these closed beaches, except for guided tours to tie up to the pier on Eastern Island.

Persons desiring access for cultural purposes to areas not generally open to the public would be required to obtain a Native Hawaiian Practices Permit from the Monument. These permit applications are reviewed by select cultural practitioners or cultural resource managers to ensure the proposed activities meet the findings outlined in the Proclamation. Permits issued may stipulate more detailed access restrictions and regulations to protect wildlife. At the discretion of the Refuge Manager, FWS-approved guides may be assigned to accompany permittees into particularly sensitive areas. Additional fees (approximately equal to the actual cost to the Refuge) may be charged for such special services.

Visitors, permittees, and residents are provided cultural briefing information, as well as orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. All visitors, permittees, and new residents are required to go through orientation immediately upon arrival or early the next day in the case of an unusually late arrival.

Visitors and permittees would not be allowed to approach closer than 150 feet to Laysan duck wetlands. The blind at the water catchment basin would allow people to see the species without disturbing them.

Vessels involved in permitted activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Within the inner harbor, boats must remain within speed limits of 10 knots.

Visitors and permittees planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow visitor and permittee observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for visitor and permittee observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon (Fig. 1), as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

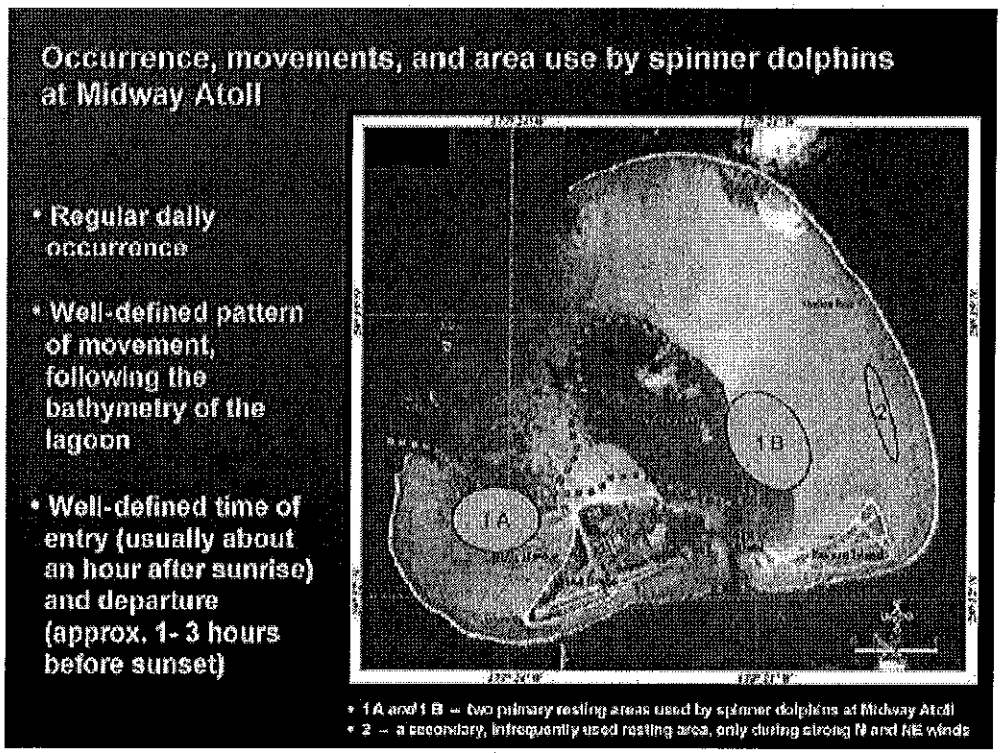

Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarkski)

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Power boats taking visitors and permittees to Eastern Island or snorkeling or diving may encounter spinner dolphins or, less frequently, green sea turtles while traversing the lagoon. Hawaiian monk seals are only rarely observed swimming in the lagoon. Boat operators would be fully briefed on known resting areas of spinner dolphins in the lagoon (Figure 1.1 above) and routes to and from snorkel and dive sites would be plotted to avoid these areas as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

A review of files documenting past visitor/permittee violations of closed beaches and/or monk seal disturbance shows that many of the people had not received orientation to the refuge and closed areas. Strict compliance with the orientation policy would address many of those types of violations. Some of the documented violations were clearly due to poor or nonexistent signing. A new sign plan would be developed by Refuge staff and all signs put in place by 2009. Temporary signs may be used prior to that time. Permits may be temporarily or permanently withdrawn for purposeful violations of closed beached and endangered species regulations.

Visitors, permittees, and their luggage would go through an inspection for insects and plants prior to departing Honolulu and again when leaving Midway to reduce the possibility of alien species introductions. Visitors and permittees would be asked to clean their shoes and other clothing before coming to Midway through advance introductory materials. Anyone bringing their own snorkel or dive gear to Midway would be required to treat the gear to prevent the inadvertent introduction or transmission of alien species.

Any proposed alteration of the Refuge's natural or cultural resources through this use would be approved and overseen by FWS personnel.

Justification:

This use is an important component of the Native Hawaiian culture, and Presidential Proclamation 8031 recognizes its significance and provided for this use when certain conditions are met. The FWS possesses the resources to manage this use at the current levels. By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

___X___ Mandatory 10-year reevaluation date (for non-wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Refuge Determination:

Refuge Manager
Approval: _____ Date 11/20/08
(Signature)

FWS Superintendent,
Papahānaumokuākea Marine National Monument

_____ Date: 11/20/08
(Signature)

Project Leader
Hawaiian and Pacific
Islands NWRC

_____ Date 11/20/08
(Signature)

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

_____ Date 12-10-08
(Signature)

Regional Chief,
National Wildlife
Refuge System
Pacific Region

_____ Date 12/10/08
(Signature)

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge

Use: Commercial Photography, Videography, Filming, or Audio Recording

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	✔	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will **generally** not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ___ No ✔

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate ___ **Appropriate** ✔

Refuge Manager: [signature] Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry W. [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Compatibility Determination

Use:	Commercial Photography, Videography, Filming, or Audio Recording
Station Name:	Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument
City/County and State:	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is considered an unincorporated, insular area of the United States (General Accounting Office 1997), and lies outside the State of Hawai'i

Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay Refuge by a cooperative agreement with the U.S. Navy (Navy) under the authority of the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966 (U.S. Navy and U.S. Fish and Wildlife Service 1988). Under this agreement, administrative responsibility for the Refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the Navy. The Naval Air Facility at Midway was operationally closed in 1993. Facility cleanup was completed by June 30, 1997, when the Navy and its contractors departed. Jurisdiction and control for Midway Atoll were officially transferred from the Navy to the FWS under Executive Order (EO) 13022, signed by President Clinton on October 31, 1996, which superseded earlier orders that assigned responsibility for Midway to the Navy. Secretary of the Interior Babbitt signed Secretary's Order (SO) 3217 on September 13, 2000, designating Midway Atoll NWR concurrently as the Battle of Midway National Memorial. On June 15, 2006, President Bush signed Presidential Proclamation (PP) 8031 making Midway Atoll NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112). Under PP 8031, Midway has unique authority and responsibility as a Special Management Area.

Refuge Purpose(s):

The following primary purposes of the refuge were included in EO 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the U.S. Department of the Interior:

1. Maintaining and restoring biological diversity within the refuge;

2. Providing for the conservation and management of fish and wildlife and their habitats within the refuge;

3. Fulfilling the international treaty obligations of the United States with respect to fish and wildlife;

4. Providing opportunities for scientific research, environmental education, and compatible wildlife-dependent recreational activities; and

5. In a manner compatible with refuge purposes, recognizing and maintaining Midway's historic significance.

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Battle of Midway National Memorial Purpose:

"[S]o that the heroic courage and sacrifice of those who fought against overwhelming odds to win an incredible victory will never be forgotten."

Cooperative Agreement with U.S. Navy

The following purposes were included in the cooperative agreement between the Navy and FWS (U.S. Navy and U.S. Fish and Wildlife Service 1988) under the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended. Pertinent language in those statutes includes:

1. ". . . for the development, advancement, management, conservation and protection of fish and wildlife resources . . . for the benefit of the U.S. Fish and Wildlife Service, in performing its activities and services" (Fish and Wildlife Act of 1956).

2. ". . . shall be administered by the Secretary of the Interior directly in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon . . ." (Fish and Wildlife Coordination Act of 1934)

3. "...consolidate the authorities... for... the conservation of fish and wildlife...." (National Wildlife Refuge System Administration Act of 1966, as amended)

Description of Use(s):

Commercial photography, videography, filming, and audio recording ("recording") are considered a commercial use in this compatibility determination (CD). These activities for noncommercial purposes are considered under separate CDs (Environmental Education and Interpretation, and Wildlife Observation and Photography). Additionally, this CD does not apply to bona fide news media activities, which are authorized under Co-Trustee Conservation and Management permits.

Commercial recording typically involves creating a documentary film, taking still photographs, or recording wildlife sounds that are intended to be or could be sold for income or revenue or traded for goods or services. Commercial "recording" of natural, historic, or cultural subjects are covered under this

CD. An example of a covered activity would be a permittee who wishes to make a film on the variety of wildlife seen on the islands or on the life cycles of a specific animal or plant. After filming and editing, the permittee would attempt to sell the film to a commercial television station for viewing.

Commercial "recording" activities not related to natural, historic, or cultural subjects are not covered under this CD (e.g., swimsuit calendar photography, filming a movie unrelated to the Refuge mission, etc.).

Commercial recording activities may be conducted on or around Refuge islands or waters. Although applications for this activity may be for any time during the year, some time restrictions may be required to limit disturbance. This may include such things as time of day and seasonal restrictions.

More specific examples of where this CD might apply are listed in the Monument Management Plan as:

1) Section 3.4.5, Activity CBO-2.3: Support other entities' efforts to broaden knowledge of and appreciation for Monument resources and management priorities.

The use may be conducted on foot, from the air, from boats and/or in the water using commercial recording equipment. Very specific conditions would be developed by FWS to minimize or avoid adverse impacts to Monument resources and are listed under Stipulations Necessary to Ensure Compatibility in this document.

In order to ensure there are no negative impacts to the Refuge or Monument resources, the applicant would first have to obtain a Monument permit, which is reviewed and signed by all Co-Trustees. Additionally, when conducting actual onsite operations in areas not open to the public, the applicant would be accompanied by a FWS-approved guide to ensure compliance of the permit conditions and prevent any unforeseen negative impacts to the Refuge or Monument resources.

Due of its commercial nature, this use is not a "wildlife-dependent public use" as defined by the National Wildlife Refuge System Administration Act of 1966, as amended. Therefore, it does not enjoy the special consideration in planning and management accorded those six wildlife-dependent uses.

From 2002 to 2007, Midway Atoll has averaged approximately two groups consisting of 2-6 people participating in this use.

This use is being proposed at Midway Atoll NWR because of the pristine nature of the Refuge and its abundance and diversity of wildlife and plants. Films, photographs, and other recordings made in this area are especially appealing to the general public, because they explore, explain, and share an exotic locale that is difficult to visit in person.

Availability of Resources:

At present the Refuge can accommodate the relatively small numbers (two groups of 2-6 people) of commercial photography, videography, filming, and audio recording operations within a given year. If the number of applicants begins to increase significantly, additional staffing would be required. The FWS has some facilities and equipment available for this use, which include meeting room space, housing, motorboats, and tools. Users pay fees to use these facilities and equipment or they supply their own.

Category and Itemization	One-time ($)	Annual ($/yr)
Administration and Management		$3,000

Maintenance		
Monitoring		$2,000
Special equipment, facilities or improvements		
Offsetting revenues		actual costs

The above annual cost reflects cost to manage the program and prevent impacts to the natural resources. Estimated costs were calculated using 3% of the base cost of a GS-13 refuge manager and a 3% cost of a GS-11 wildlife biologist assuming that this activity would use that "portion of a year" to administer. The one-time administration and monitoring cost reflects the approximate cost per commercial photography, videography, filming, and audio recording operation incurred by the Refuge and the offsetting cost reflects the reimbursement provided by the permittee. The offsetting cost should always be equal to the Refuge-incurred cost and would come to the Refuge in the form of fees paid by the commercial photographers. These fees must at least equal our costs to administer the use, including any costs associated with facilities, equipment, supplies, and services.

Transportation costs to reach the Refuge are paid for by the participant or covered by another agency.

Anticipated Impacts of the Use(s):

Possible impacts from this use include: (1) disturbance to nesting and resting seabirds and other migratory birds; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming and feeding in the nearshore marine environment or resting on beaches; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming and feeding in the nearshore marine environment; (4) disturbance to fish, cetaceans, marine invertebrates, and corals; (5) disturbance to Laysan ducks (*Anas laysanensis*), Nihoa finches (*Telespiza ultima*), Nihoa millerbirds (*Acrocephalus familiaris kingi*), and Laysan finches (*Telespiza cantans*); (6) trampling of native plants and insects; (7) damage to corals; (8) accidental release of pollution and contaminants; (9) the accidental introduction and establishment of nonnative species to the Monument; and (10) potential impacts to historic sites. All wildlife observation and photography activities would be designed and managed in a fashion to eliminate or minimize these impacts. However, even with proper management and execution of a well planned project, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When visitors and researchers are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Observation periods for any particular bird or group of birds would be kept to 15 minutes or less for this reason. Observations occurring at a FWS blind could continue for up to 1 hour. It is important to note that even wildlife photography by professionals or amateurs can often cause disturbance depending on the manner in which it is pursued.

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal

populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Recreational beach activities caused monk seals to alter their pupping and hauling patterns, and survival of pups in suboptimal habitats was low, leading to gradual population declines (Kenyon 1972). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While 80 to 100 Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years. Monks seals are very sensitive to disturbance and proposed activities will be carefully reviewed and, as appropriate, restricted so no further impacts to seals would occur.

Increased use of Monument waters also increases the potential for introductions of nonnative species and interactions (some negative) by boats or snorkelers/divers with monk seals, sea turtles, spinner dolphins, cetaceans, and live corals. One accidental introduction of a nonnative species on a boat or dive equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Any action of pursuit or annoyance from boats potentially disturbs marine mammals in the wild by causing disruption of their behavioral patterns or displacement from essential habitat areas, especially if the cetaceans or seals are in a resting phase (Bejder et al. 1999). Snorkel or dive operations also include the added risk of damaging living coral on the Refuge (Hawkins et al. 1999). Improper boat operation could result in localized impacts to the coral reef from anchoring, touching, standing, or other avoidable physical disturbance to the coral.

Due to the very limited nature of this activity, we do not expect any additional short-term, long-term, and/or cumulative and indirect/secondary impacts other than those normally associated with required existing FWS work. However, it is critical that all visitors follow all quarantine procedures to prevent the accidental introduction of nonnative species to the Monument. One invasive species has the potential to devastate the fragile ecosystem (Chesher 1969). It may be appropriate to set a limit on the number of participants allowed under this use even if staff are available to coordinate the activities. Proposed uses when transportation costs are not covered, quarantine procedures not followed, or there is an unnecessary risk to the natural and cultural resources of the Refuge and Monument would not be permitted.

Public Review and Comment:

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through Monument Web sites at http://www.papahanaumokuakea.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended, and as determined by the Co-Trustees of the Monument. The Monument is of national interest; therefore, the availability of the Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR, Part 27. Not all of these conditions and restrictions would apply to every use. Depending upon the type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover the quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

All permit holders would be required to submit a report to the Monument that summarizes their activities at the Refuge. The report would include at a minimum the following: title, fiscal year, progress, products and distribution, problems encountered, proposed resolution to problems, preparer, and date prepared.

All projects would be monitored by Refuge staff to ensure the use remains compatible and resources (which include but are not limited to nesting and resting seabirds and other migratory birds, Hawaiian

monk seals, green turtles, spinner dolphins, fish, cetaceans, marine invertebrates, corals, Laysan ducks, native plants and insects, and cultural and historical resources) are not adversely impacted. Staff will also monitor for the accidental release of pollution and contaminants, and the accidental introduction and establishment of nonnative species to the Refuge.

Permittees are responsible for acquiring and/or renewing any necessary State and Federal permits prior to beginning or continuing their project. In addition, the agencies commit to consultation under the Endangered Species Act, Marine Mammal Protection Act, as appropriate, prior to initiation of any action that may affect any marine mammal or Federally-listed species or designated critical habitat.

The Refuge Manager or designee can suspend/modify conditions/terminate wildlife observation and photography that is already permitted and in progress should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

The beaches on Spit and Eastern Island are closed to permittees (unless special permission is granted) as well as the southern and western beaches on Sand Island. Power boats are not allowed to travel closer than 500 feet from these closed beaches, except for guided tours to tie up to the pier on Eastern Island.

Visitors, permittees, and residents are provided orientation materials and related information to minimize disturbance to wildlife ("wildlife viewing etiquette"). Specific restrictions (e.g., 150-foot minimum distance from seals, prohibition of access to heavily burrowed areas, etc.) are strictly enforced. The orientation materials include specific indicators of wildlife behavioral responses to disturbance, especially for the Hawaiian monk seal and green sea turtle, as well as appropriate visitor response to being approached by wildlife. The orientation also includes a visual demonstration of a 150-foot distance. The 150-foot distance is the minimum, however greater distances may be required depending upon the response of the wildlife. Information on the nesting locations of particularly rare species (e.g., white-tailed tropicbirds) may be withheld to protect these birds from disturbance. All visitors, permittees, and new residents are required to go through orientation immediately upon arrival or early the next day in the case of an unusually late arrival.

Permittees who desire access to areas not generally open to the public would be accompanied by FWS-approved guides into particularly sensitive areas. Additional fees (approximately equal to the actual cost to the Refuge) would be charged for such special services.

All trips to Eastern Island would be closely supervised by FWS-approved guides. Boats would tether to either end of the 150-foot pier, and disembarking passengers would be briefed on proper behavior to minimize disturbance to Hawaiian monk seals or green sea turtles that may be present. During periods of intensive tern nesting, routes would be carefully selected to minimize disturbance. Permittees would be advised to travel in single file in an expeditious manner through the colony. Photography would be allowed at the beginning and end of such a transit, not in the middle, to reduce the length of disturbance to the core nesting population. Restrictions on access to sensitive areas would be enforced. Spit Island is off limits for permittees unless they accompany FWS-approved guides or have FWS authorization.

Permittees would not be allowed to approach closer than 150 feet to Laysan duck seeps unless authorized to do so by FWS staff. The blind at the water catchment basin would allow people to photograph the species without disturbing them.

Vessels involved in activities would be required to return to dock at least 1 hour before sunset, which would also enhance boat operators' ability to avoid collisions with marine life. Within the inner harbor, boats must remain within speed limits of 10 knots.

Permittees planning to engage in water-related activities during the albatross fledging season (June-July) would be thoroughly briefed on watching for shark activity, and water related activities are not permitted during peak shark foraging times (½-hour before dusk to ½-hour after sunrise).

Power boat operators may slow to allow permittee observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we would allow the boat to slow and/or stop for permittee observation, but entering the water would not be allowed. Routes to and from snorkeling/dive sites would be plotted to avoid known resting areas of spinner dolphins in the lagoon (Fig. 1), as well as preferred Hawaiian monk seal haulout, molting, and pupping sites. The only exception to this rule would be if the commercial photographer obtained the appropriate permits from the National Oceanic and Atmospheric Administration (NOAA) to specifically film cetaceans, seals, and turtles.

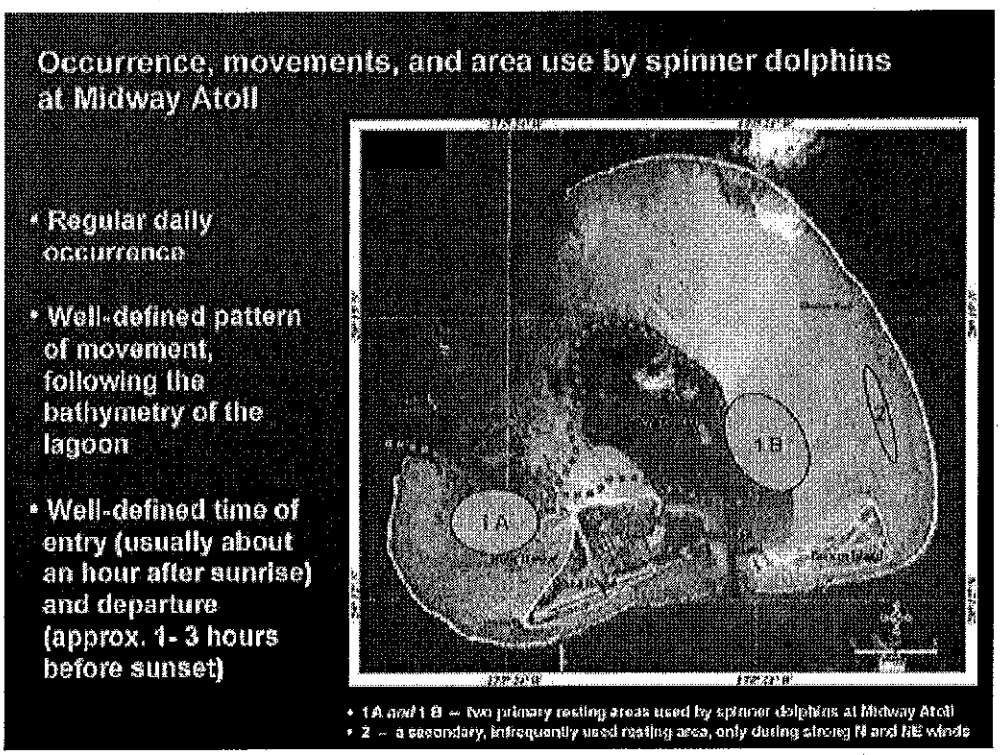

Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarkski)

To eliminate anchoring impacts on coral, boat operators would be required to anchor in known sand areas or tie up to a mooring buoy.

Two-stroke motors for boats are prohibited. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Power boats taking permittees to Eastern Island or snorkeling or diving may encounter spinner dolphins or, less frequently, green turtles while traversing the lagoon. Hawaiian monk seals are only rarely observed swimming in the lagoon. Boat operators would be fully briefed on known resting areas of spinner dolphins in the lagoon (Figure 1.1 above) and routes to and from snorkel and dive sites would be plotted to avoid these areas as well as preferred Hawaiian monk seal haulout, molting, and pupping sites.

Permittees and their luggage would go through an inspection for insects and plants prior to departing Honolulu, and again when leaving Midway to reduce the possibility of alien species introductions. Permittees would be asked to clean their shoes and other clothing before coming to Midway through advance introductory materials. Anyone bringing their own snorkel or dive gear to Midway would be required to treat the gear to prevent the inadvertent introduction or transmission of alien species.

A review of files documenting past visitor/permittee violations of closed beaches and/or monk seal disturbance shows that many of the people had not received orientation to the Refuge and closed areas. Strict compliance with the orientation policy would address many of those types of violations. Some of the documented violations were clearly due to poor or nonexistent signing. A new sign plan would be developed by refuge staff and all signs put in place in 2008. Temporary signs may be used prior to that time. Permits may be temporarily or permanently withdrawn for purposeful violations of closed beaches and endangered species regulations.

All commercial films, books, and other recordings of images and sounds collected on the Refuge would need to reference the fact that they were collected on the Refuge.

Permittee would provide FWS and Co-Trustees with at least one free copy of all commercial products generated on the Refuge for noncommercial use promoting the Monument, Refuge, and the National Wildlife Refuge System.

Justification:

Allowing commercial photography, videography, filming, and audio recording on the Refuge would contribute to the achievement of the Refuge purpose and the mission of the FWS. The products may reach groups of people who would not normally know about the Refuge. The services provided by commercial filmmakers are also beneficial to expand public appreciation and understanding of unique wildlife, diverse native habitats, and the mission of the National Wildlife Refuge System.

By allowing the use to occur under the stipulations described above, it is anticipated that wildlife species which could be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Additionally, it is anticipated that the rigorous quarantine and inspection protocols will prevent the inadvertent introduction or transmission of alien species. Thus, the use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes for which the refuge was established.

Conditions imposed by the Refuge and Monument in their permits for photography, videography, filming, and audio recording would ensure that these activities occur without adverse effects to Refuge resources or other permittees.

This proposed activity contributes to the mission of the FWS. In addition to reaching the general public through educational wildlife media, the end products may provide an educational opportunity to a much broader distribution of people who may not have the opportunity to view these remote and very unique

resources. The products produced by these commercial operations would also be beneficial in promoting the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

____X_____ Mandatory 10-year reevaluation date (for nonwildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Refuge Determination:

Refuge Manager
Approval: _____ Date: 11/20/08
(Signature)

FWS Superintendent,
Papahānaumokuākea Marine National Monument

_____ Date: 11/20/08
(Signature)

Project Leader,
Hawaiian and Pacific
Islands NWRC _____ Date 11/20/08
(Signature)

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

_____ Date 12-10-08
(Signature)

Regional Chief,
National Wildlife
Refuge System
Pacific Region _____ Date 12/18/08
(Signature)

FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge

Use: Sustenance Fishing

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	✔	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	✔	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	✔	
(d) Is the use consistent with public safety?	✔	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	✔	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	✔	
(g) Is the use manageable within available budget and staff?	✔	
(h) Will this be manageable in the future within existing resources?	✔	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?		✔
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 603 FW 1, for description), compatible, wildlife-dependent recreation into the future?	✔	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will **generally** not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes ___ No ✔

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate___ **Appropriate** ✔

Refuge Manager: [signature] Date: 11/20/08

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: Barry W. [signature] Date: 11/20/08

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319
02/06

Finding of Appropriateness of a Refuge Use: Attachment 1

Use: Sustenance Fishing

Additional information regarding the U.S. Fish and Wildlife Service evaluation of proposed Sustenance Fishing at Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument.

i. The project does not contribute to the public's understanding and appreciation of the Refuge's natural or cultural resources and is not beneficial to the Refuge's natural or cultural resources. Since the activity has failed to meet this requirement, consistent with relevant policy (603 FW 1.11 B.) the Refuge has completed an "Exceptional or Unique Circumstances Analysis" (see below).

Exceptional or Unique Circumstances Analysis for Sustenance Fishing at Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument (603 FW 1.11 B.).

The "Finding of Appropriateness of a Refuge Use" determination revealed that proposed Sustenance Fishing would not contribute to the public's understanding and appreciation of the Refuge's natural or cultural resources and would not be beneficial to the Refuge's natural or cultural resources. Despite not meeting this requirement and consistent with relevant policy (603 FW 1.11 B.), the Refuge believes that the use at Midway represents a situation where the refuge has exceptional or unique recreational resources that are not available nearby, off the refuge, and the use requires insignificant management resources. In such cases we may further consider the use. Additionally, if we can manage the use so that impacts to natural and cultural resources are minimal or inconsequential, or if we can establish clearly defined limits, then we may further consider the use (601 FW 3, 1.11 A. (3) (h). Due to the unique circumstances associated with this use, it has been further considered through the compatibility process.

Following the Refuge conditions for compatibility will establish that we can manage the use so that impacts to natural and cultural resources are minimal or inconsequential and that sustenance fishing will also not materially detract from these resources or the public's understanding and appreciation of them.

- The use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes of the refuge in providing for the conservation and management of fish and wildlife and their habitats, as well as historic and cultural resources.
- The fish allowed for this use are not considered overfished or subject to overfishing as determined by the National Marine Fisheries Service (NMFS 2008).
- The use would not materially interfere with or detract from the fulfillment of Proclamation 8031, the Refuge System mission, or the purposes of the refuge in providing for the conservation and management of fish and wildlife and their habitats, as well as historic and cultural resources.
- The fish allowed for this use are not considered overfished or subject to overfishing as determined by the National Marine Fisheries Service (NMFS 2008).
- The use would not adversely impact the public's understanding and appreciation of the Refuge's natural or cultural resources. For those members of the public participating in the use incidental to a permit to conduct another activity, understanding and appreciation would increase.
- The use would only be allowed if it were also determined compatible.
- Resuming sustenance fishing at Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument would enhance the quality of life for

Monument employees and other permittees, many of whom are stationed at this remote location or on a vessel for extended periods of time, by providing fresh food.

- Sustenance fishing is recognized as part of the culture and practices of Native Hawaiians and is allowed under Presidential Proclamation 8031.
- Presidential Proclamation 8031 allows the Secretaries of the Interior and Commerce to issue permits for a variety of activities, including sustenance fishing incidental to other permitted activities.

Compatibility Determination

Use:	Sustenance Fishing
Refuge Name:	Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument
City/County and State:	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is considered an unincorporated, insular area of the United States (General Accounting Office 1997), and lies outside the State of Hawai'i

Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay Refuge by a cooperative agreement with the U.S. Navy (Navy) under the authority of the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended (U.S. Navy and U.S. Fish and Wildlife Service 1988). Under this agreement, administrative responsibility for the Refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the Navy. The Naval Air Facility at Midway was operationally closed in 1993. Facility cleanup was completed by June 30, 1997, when the Navy and its contractors departed. Jurisdiction and control for Midway Atoll were officially transferred from the Navy to the FWS under Executive Order (EO) 13022, signed by President Clinton on October 31, 1996, which superseded earlier orders that assigned responsibility for Midway to the Navy. Secretary of the Interior Babbitt signed Secretary's Order (SO) 3217 on September 13, 2000, designating Midway Atoll NWR concurrently as the Battle of Midway National Memorial. On June 15, 2006, President Bush signed Presidential Proclamation (PP) 8031 making Midway Atoll NWR part of a monument that became the Papahānaumokuākea Marine National Monument (Monument) on March 6, 2007 (PP 8112). Under PP 8031, Midway has unique authority and responsibility as a Monument Special Management Area.

Refuge Purpose(s):

The following primary purposes of the Refuge were included in EO 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the U.S. Department of the Interior:

1. Maintaining and restoring biological diversity within the refuge;
2. Providing for the conservation and management of fish and wildlife and their habitats within the refuge;
3. Fulfilling the international treaty obligations of the United States with respect to fish and wildlife;
4. Providing opportunities for scientific research, environmental education, and compatible wildlife-dependent recreational activities; and
5. In a manner compatible with refuge purposes, recognizing and maintaining Midway's historic significance.

Additional Direction to Inform Decisionmaking:

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (National Wildlife Refuge System Administration Act of 1966, as amended (NWRS Administration Act, 16 U.S.C. 668dd-668ee)).

Papahānaumokuākea Marine National Monument:

Additionally, PP 8031, which established the Papahānaumokuākea Marine National Monument; as well as the Monument's vision, mission, guiding principles and goals all provide additional information for consideration of compatible activities. Papahānaumokuākea covers a much larger area than the Refuge, but also includes the Refuge.

Battle of Midway National Memorial Purpose:

"[S]o that the heroic courage and sacrifice of those who fought against overwhelming odds to win an incredible victory will never be forgotten."

Cooperative Agreement with U.S. Navy

The following purposes were included in the cooperative agreement between the Navy and FWS (U.S. Navy and U.S. Fish and Wildlife Service 1988) under the Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act of 1934, and National Wildlife Refuge System Administration Act of 1966, as amended. Pertinent language in those statutes includes:

1. ". . . for the development, advancement, management, conservation and protection of fish and wildlife resources . . . for the benefit of the U.S. Fish and Wildlife Service, in performing its activities and services" (Fish and Wildlife Act of 1956).

2. ". . . shall be administered by the Secretary of the Interior directly in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon . . ." (Fish and Wildlife Coordination Act of 1934)

3. "...consolidate the authorities... for... the conservation of fish and wildlife...." (National Wildlife Refuge System Administration Act of 1966, as amended)

Description of Use(s):

Presidential Proclamation 8031allows the Secretaries of the Interior and Commerce to issue permits for a variety of activities, for which sustenance fishing may be incidental. This compatibility determination (CD) was prepared to address and evaluate this type of fishing in the Monument at Midway Atoll NWR. Parts of the Proclamation applicable to this evaluation include the following:

> "The Secretaries, in their discretion, may issue a permit under this proclamation if the Secretaries find that the activity: (i) is research designed to further understanding of monument resources and qualities; (ii) will further the educational value of the monument; (iii) will assist in the

conservation and management of the monument; (iv) will allow Native Hawaiian practices; (v) will allow a special ocean use; or (vi) will allow recreation activities."

"Sustenance fishing means fishing for bottomfish or pelagic species that are consumed within the monument, and is incidental to an activity permitted under this proclamation. The Secretaries may permit sustenance fishing outside of any Special Preservation Area as a term or condition of any permit issued under this proclamation. The Secretaries may not permit sustenance fishing in the Midway Atoll Special Management Area unless the activity has been determined by the Director of the United States Fish and Wildlife Service or his or her designee to be compatible with the purposes for which the Midway Atoll National Wildlife Refuge was established. Sustenance fishing must be conducted in a manner compatible with this proclamation, including considering the extent to which the conduct of the activity may diminish monument resources, qualities, and ecological integrity, as well as any indirect, secondary, or cumulative effects of the activity and the duration of such effects. The Secretaries would develop procedures for systematic reporting of sustenance fishing."

The FWS proposes to allow limited sustenance fishing to occur in pelagic (greater than 200 foot depth) waters of the Midway Atoll NWR. Fishing would only be allowed for 'ahi (yellowfin tuna) (*Thunnus albacares*), wahoo (*Acanthocybium solandri*), and mahimahi (*Coryphaena bippurus*). The Refuge Manager would allow limited numbers of these fish to be caught for consumption within the Midway Atoll NWR. All other species of fish caught would be released unharmed.

Reef fish occur within or near the coral reef system within the Monument and many contain ciguatoxin, which can be dangerous or lethal if consumed by humans. Ciguatoxins are caused by the presence of certain microplankton or dinoflagellates naturally present in the marine ecosystem which bioaccumulate in some reef fish (Center for Disease Control and Prevention 2008). Ciguatera is defined as seafood poisoning due to ciguatoxin, a toxin acquired by eating fish that have consumed these microplankton or dinoflagellates, or fish that have consumed other fish that have become toxic. When humans eat these fish, they suffer seafood poisoning. Therefore, the only type fish suitable for consumption purposes are open-ocean or pelagic fish.

Fishing for bottomfish is allowable under PP 8031. However, due to the depressed populations of bottomfish species (NMFS 2006; Heinemann et al 2005), indicators that food limitation may be a factor in survival of endangered Hawaiian monk seals (Antonelis et al 2004, p. 82), and the potential for direct (harmful) interactions between seals and bottomfish fishing gear; fishing for bottomfish is not deemed biologically compatible at this time. As with many reef fish, bottomfish including some grouper and snapper may also contain ciguatoxin and be poisonous to humans if consumed (Center for Disease Control and Prevention 2008). Therefore the remainder of this CD discusses sustenance fishing for pelagic species only.

This CD discerns two basic groups conducting sustenance fishing for pelagics incidental to their permitted activity. The first is Co-Trustee agency personnel, volunteers, and contractors conducting sustenance fishing incidental to their Conservation and Management Permit. This includes land-based as well as ship-based personnel aboard vessels. The second group is permittees operating under one of the five remaining permit types, specifically authorized to conduct sustenance fishing incidental to their primary permit activity. These non-Co-Trustee permittees could include, but are not limited to, both land- and vessel-based researchers, Native Hawaiian practitioners, and environmental educators. Except as noted, conditions and stipulations contained herein apply to both general groups.

Fish would be caught by stiff rod and reel or hand lines and surface trolling with a lure and hook. Fishing with bait is not allowed. The lures would be trolled at a boat speed of greater than 7 knots to eliminate

the possibility that seabirds would chase after the lure and become hooked. Retrieval will be rapid to avoid losing a fish to a shark and also hooking it in the process. For this reason, a simple hand line made of at least 150-lb test line or greater with a shock chord (e.g., surgical tubing to absorb the energy of the initial fish strike and to indicate that a fish is hooked) is effective and would not allow the fish to take additional line out. Fish would be "muscled" immediately to the boat to lessen shark bycatch. Fish would be bled into a container and iced immediately (but not frozen) to keep the meat fresh.

For Co-Trustee agency personnel, authorization for sustenance fishing within the Monument is given to the Co-Trustee agencies through an annual Conservation and Management Permit. Therefore, sustenance fishing will be limited to those persons whose work and presence at Midway are authorized by that permit. On land, this generally includes FWS, NOAA and State personnel; long-term volunteers, and contractors. All fishing will be conducted from a federally owned, shore-based, power boat operated by an agency-certified boat operator (e.g., for the Department of the Interior, this is the Motorboat Operator Certification Course in accordance with 485 DM 22). For the FWS, the boat operator and anglers will be required to be off-duty in order to participate in this activity. Anglers will troll for pelagic fish with lures as described previously. All fishing will be conducted for sustenance of the island community at the common table (i.e., the Midway galley called the "Clipper House"). Government vessel-based agency employees, volunteers, and contractors may fish for sustenance in accordance with their permit from their vessel in compliance with the conditions of this CD for the vessel's common table.

Other island-based permittees who have sustenance fishing listed in their Monument permit as an incidental activity and have access to a private vessel may also be allowed to sustenance fish to provide food for the island's population. Refuge visitors or other agency personnel who arrive via their own vessel and who have a valid Monument permit that authorizes sustenance fishing will also be allowed to fish subject to notification of their intent to the Refuge Manager and their willingness to comply with Refuge regulations and stipulations under the Specific Terms and Conditions as described herein. Unless specifically authorized through their permit, other visitors to Midway (including recreational visitors) are not authorized to conduct sustenance fishing as an incidental activity.

All permittees engaged in sustenance fishing may only catch fish in quantities needed for immediate consumption within the Monument; such that fish will be consumed the same day as caught or refrigerated and eaten within 2 days of take. The intent of sustenance fishing under this CD is to provide fresh food for the common table (e.g., the Clipper House). Therefore, no fish taken under this permit will be frozen for later consumption, and the quantity of fish taken will not exceed what can be consumed by island residents or vessel occupants within that 2-day period. Although a limit on the *number* of fish allowed is stipulated here, if sufficient *poundage* of fish is caught to provide for the common table before the number limit of fish is reached; fishing will cease. An estimate of 50 lbs per fish was used in Figures 1 and 2, below, although the average fish caught by FWS personnel at Midway Atoll NWR in the past was usually only 25 lbs. This conservative estimate is used to favor the continued sustainability and therefore continued compatibility of sustenance fishing.

For Co-Trustee agency personnel, the use would include 26 boat trips each year based out of Midway Atoll, and the NOAA ships *Oscar Elton Sette* and *Hi'ialakai* deploying 2-4 lines as they transit between research sites within the Monument (approximately 10 transit days at Midway each year). Shore-based boats are limited to 6 people or fewer aboard by the maximum number of trolling lines that can simultaneously be deployed from the stern of a small boat plus a boat operator and lookout, as well as reduce the possibility of multiple fish being simultaneously hooked and inadvertently exceeding the daily limit of fish. No data exists for past sustenance fishing effort or catch by other permittees, therefore, an estimate of up to 15 private vessels (e.g., sailboats) and 5 contract vessels (e.g., barges) may troll for fish enroute to or from Midway, but within Midway's waters, each year. This estimate of private vessel requests may have to be adjusted based on actual experience over the next few years as the actual demand

for sustenance fishing is established. We have no past experience of sustenance fishing from cruise ships, and as such, this use is not considered here.

Collectively we will control the take of no more than 300 fish per year from Midway's pelagic waters (208 to island residents and up to 92 more for vessel-based sustenance fishing). Based on an estimate of 50 pounds per fish, this may conservatively equate to 15,000 pounds of fish, or 6.8 t. Based on actual experience, poundage would likely be less than half this estimate. Based on the amount of fish appropriate to provide food for the common table, poundage would also likely be less than half this estimate. This conservative represents approximately 0.06% of the total catch of the three types of fish considered in this CD landed in 2003 by commercial fishers in both the main Hawaiian Islands and NWHI (WPFMC 2005b).

Availability of Resources:

For the FWS, this activity occurs during nonworking hours and constitutes a very small portion of FWS staff time. The major cost of this activity is maintenance of FWS vessels, supplying fuel, monitoring the activity, and reporting catches.

Category and Itemization	One time ($)	Annual ($/yr)
Administration and Management		$1,700
Maintenance		$3,000
Monitoring		$2,600
Boat Fuel		$1,950
Offsetting revenues (estimated)		$30,000

The numbers above reflect the current estimated costs. Estimated costs were calculated using 2% of the base cost of a GS-13 refuge manager and 4% of the base cost of a GS-11 wildlife biologist assuming that activity would use that estimated "portion of a year" to administer. Maintenance would consist of routine maintenance on the powerboats. Fuel would consist of approximately 15 gallons (at $5 per gallon) of gasoline per fishing trip with approximately one trip occurring every 2 weeks. Monitoring will consist primarily of staff time needed to collect, total, and transmit catch data in the required Monument permit reports and consult with NOAA Fisheries experts. Additional monitoring time will also be required for Refuge staff to conduct literature searches and/or correspond with researchers to stay current with available scientific data and opinion regarding populations of pelagic fish species in the North Pacific. The cost of shipping fresh fish to Midway (i.e., by air, not vessel) is approximately $9 per pound. The value of fresh fish caught between June 2006 and February 2007 (9 months) (50 fish at approximately 50 lbs each, see Fig. 1) was approximately $22,500, or $30,000 per year. Using a more precise estimate of only 25 lbs per fish, this still yields an offsetting savings to the Government of $15,000.

Anticipated Impacts of the Use(s):

Possible impacts from persons involved in sustenance fishing include: (1) disturbance to flying, foraging, and resting seabirds and other migratory birds on the open ocean; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming, feeding, and resting in the open-ocean marine environment; (3) disturbance to spinner dolphins (*Stenella longirostris*) swimming, feeding, and resting in the open-ocean marine environment; (4) disturbance to fish, sharks, cetaceans, and marine invertebrates; (5) accidental release of pollution and contaminants; (6) the accidental introduction and establishment of nonnative species to the Monument; and (7) impacts to historic resources. All sustenance fishing would be designed and managed in a manner to eliminate or minimize these impacts.

However, even with proper management and execution of a well planned activity, certain behavioral responses in wildlife may occur that are not easily recognized by the casual observer. Some proposed activities will require further analysis and compliance by the agencies as more detailed information becomes available and specific plans are developed. These requirements may include additional analysis in accordance with NEPA, and consultation under ESA, Marine Mammal Protection Act, NHPA, and other relevant laws.

Seabirds

Stress reactions (elevated heart rate, elevated levels of corticosterone, and behavioral responses) have been documented in several species of nesting seabirds at several ecotourism locations as a result of human activities in nesting colonies (Jungius and Mirsch 1979, Fowler 1995, Nimon et al., 1995 and Kataysky et al., 2003). Studies, however, have not been conducted to document long-term cumulative effects of human disturbance. When permittees are fishing near albatrosses, terns, boobies, or other species, they would have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Kitaysky et al. (2003) showed that limited duration disturbance, however, has only minor, short-term effects. Trolling speeds would be maintained at a speed of greater than 7 knots to eliminate the risk of hooking seabirds and boats would steer around groups of fishing seabirds rather than navigating through them.

Hawaiian monk seals and Pacific Green Turtles

Human activities have played a major role in determining the status and trend of Hawaiian monk seals over the past two centuries (Ragen 1997). From the 1960s to the 1990s, decreases in monk seal populations at several locations (French Frigate Shoals, Midway Atoll, and Kure Atoll) have been associated with human disturbance (Gerrodette 1990). Human activity and disturbance caused incredible declines at Midway Atoll (Kenyon 1972). Beach counts of monk seals at Midway Atoll averaged 56 animals in the late 1950s, but declined severely by the late 1960s with a single seal observed during an aerial survey in 1968. While a few Hawaiian monk seals coexist with humans in the main Hawaiian Islands, the vast majority frequent remote areas where human presence or access is limited and births occur almost exclusively in relatively remote areas. Reproductive success is declining , with the 2001 total mean nonpup beach counts at the main reproductive NWHI subpopulations approximately 60 percent lower than in 1958 (NMFS 2003). Based on recent counts, the current Hawaiian monk seal population is approximately 1,200 individuals (Antonelis et al. 2006; NMFS 2007), and models predict the population will fall below 1,000 individuals within the next five years.. However, interactions between small boats operating in the open ocean and monk seals are very rare. In that rare instance where a passing boat operates near a swimming monk seal or turtle, the operator will be instructed to change course away from the seal and leave the area in which the seal is swimming. Any such instances are expected to produce only very short, minimal impacts to these species with no cumulative impacts.

Invasive species

Increased use of waters also increases the potential for introductions of nonnative species and interactions (some negative) by ships, boats, or fishermen. One accidental introduction of a nonnative species on a boat or fishing equipment could devastate the Monument. In the main Hawaiian Islands, native algae have altered native habitat, and in some areas have overgrown and completely smothered extensive areas of coral reef (DLNR 2003). Other species have caused serious economic effects. Each year, Maui County spends thousands of dollars to remove over a million pounds of the alien algae *Hypnea* from its beaches (Coloma-Agaran 2003). Snowflake coral (*Carijoa riisei*) has covered significant portions of black coral beds in the main Hawaiian Islands in depths greater than 250 feet (75 meters) and is now considered one of the most invasive invertebrates on deep-water coral reefs (DLNR 2003).

Although the remoteness and relative inaccessibility of the NWHI has helped to prevent the introduction of some alien species to the area, the islands are also vulnerable to introductions through a variety of human activities. The NWHI now have terrestrial invaders in most taxa, some of which have caused great disruption to the native ecosystems. The number of alien land plants in the NWHI varies from only 3 introduced at Nihoa to 249 introduced at Midway Atoll. The level of threat from introduced plants also varies between species. For example, the invasive plant golden crownbeard (*Verbesina encelioides*) displaces all native vegetation in nesting areas, causing entanglement and heat prostration and killing hundreds of albatrosses each year. The invasive gray bird locust (*Schistocerca nitens*) was first detected at Nihoa Island in 1984 and by 2000 was periodically reaching population levels large enough to cause damage to the native plant community, including three endemic species listed as endangered. This grasshopper species has now also spread to Mokumanamana, French Frigate Shoals, and Lisianski Island. To prevent further importation of invasive plants, animals, or insects, mandatory quarantine protocols are enforced for any visitors to all the islands in the NWHI (with the exception of Midway Atoll and Tern Island at French Frigate Shoals). These protocols require the use of brand new or island-specific gear at each site and treatments such as cleaning, using insecticide, and freezing to minimize the transport of potentially invasive species to the island.

Refuge small boats involved in sustenance fishing do not leave Midway waters and therefore have no chance to accumulate and subsequently disperse nonnative species, although care is taken not to further distribute nonnative species from one site to another within the atoll. Visiting ships and boats must meet Monument requirements for hull inspection and cleaning so the chances of introductions coming from those vessels are small.

Fish

The consumption of fish as described in this activity would reduce Pacific populations by not more than 300 individual fish annually. The pelagic fish considered in this CD for sustenance fishing have moderate to high fecundity, with females spawning several million eggs per year. Age and size at first maturity are variable. The tuna species considered here has high levels of absolute recruitment (WPFMC 2005a). The population dynamics of many pelagic species differ and, as such, affect the impacts of catch. Yellowfin tuna are fast growing, have moderate natural mortality and standing stock (WPRFC 2005a). Ono are highly migratory, short lived (median = 1.5 years, mean = 1.9, maximum = 9.2, n = 469), have a high mortality rate (Z = 0.86), and grow rapidly and to a large size (Maki and McBride, unpub. data). These characteristics suggest moderate levels of fishing can be sustained without materially detracting from the population.

A 2003 report on commercial fisheries in the main and NWHI documents that long-line, handline, and pole and line fishing landed more than 10,250 t of tuna species (primarily bigeye and yellowfin), 600 t of *Coryphaena* (mahimahi), and 450 t of *Acanthocybium* (ono) (WPFMC 2005b). The annual catch of these pelagic fish probably depends on overall abundance, but the availability of fish to Hawai'i's pelagic fisheries is also highly seasonal (Yoshida 1974), suggesting that highly mobile pelagic fish change their distribution in response to environmental conditions (Mendelssohn and Roy 1986) or to enter different areas for reproduction.

Of sustenance catches, staff fishing aboard NOAA vessels in the Monument caught a total of 130 fish in 2007, 95% of which were pelagic (Fig. 1). No weights were taken on the fish, but catch weight was estimated at 6,500 lbs or 2.95 t (Fig. 1).

By policy FWS staff stationed in the Hawaiian Islands NWR conducted no fishing in 2007 and have not done so for at least the past 6 years. The FWS staff based at Midway Atoll NWR engaged in sustenance fishing aboard FWS vessels in the Monument caught a total of 50 fish from June 2006 to February 2007 (9 months, including the most fishing productive summer months), all of which were pelagic. No weights

were taken on the fish, but catch weight was estimated at 2,500 lbs or 1.13 t (Fig. 2). By policy FWS sustenance fishing at Midway Atoll has not occurred since February 2007. Obtaining actual weights will be required as part of any future sustenance fishing and subsequent reporting requirements.

Based on fishing reports from FWS and NOAA, a relatively low number of fish have been extracted from the Monument in recent times. If these trends continue at these levels, it appears as though sustenance pelagic fishing would not materially detract from or interfere with the FWS ability to fulfill the Refuge's purpose. At this time, data are not available for the last 5-10 years to see how recent catches compare to the past. No data are available on fishing effort, number of sharks caught, and bycatch.

Species	Common Name	Local Name	No. Caught	Year
Acanthocybium solandri	Wahoo	Ono	55	2007
Thunnus spp. (obesus + albacares)	Tuna	'Ahi	55	2007
Euthynnus affinis	Makeral Tuna	Kavakava	9	2007
Thunnus albacares	Yellowfin Tuna	Yellowfin 'Ahi	5	2007
Aprion virescens	Green jobfish	Uku	3	2007
Pristipomoides sieboldii	Lavender jobfish	Kalikali	1	2007
undetermined		Red Taka	1	2007
undetermined		Pupu	1	2007

Figure 1. Fish caught (scientific name, common name, local name) by the NOAA vessels in the entire Monument during 2007 under sustenance fishing (NOAA unpub. data). Weights were not taken on these fish, so a liberal average weight of 50 lbs was applied to estimate total weight of the fish at (130 x 50 lbs): 6,500 lbs or 2.95 t.

Species	Common Name	Local Name	No. Caught	Year
Acanthocybium solandri	Wahoo	Ono	13	2006 - 2007
Thunnus spp. (obesus + albacares)	Tuna	'Ahi	15	2006 - 2007
Euthynnus affinis	Makeral Tuna	Kavakava	5	2006 - 2007
Thunnus albacares	Yellowfin Tuna	Yellowfin 'Ahi	17	2006 - 2007

Figure 2. Fish caught (scientific name, common name, local name) by shore-based FWS vessels from sustenance fishing in the Midway Atoll NWR from June 2006 to February 2007 (FWS unpub. data). Weights were not available for these fish, so a liberal average weight of 50 lbs was applied to estimate total weight of the fish at (50 x 50 lbs): 2,500 lbs or 1.13 t.

The number of persons presently engaged in this activity is limited, and the catch is insignificant when compared to the quantity of fish landed prior to Monument establishment, and the relative fishing area compared to the size of the Monument. Catch data will be collected by trained personnel and will be summarized quarterly to determine if catch levels are acceptable and the activity remains compatible. No short-term impacts from this activity are anticipated. Summarized yearly catch data (including accidental catch of or interactions with seabirds, seals, turtles, sharks, and nontarget fish) will be used by Monument managers to evaluate continuation of this activity.

Public Review and Comment

This determination was issued for public review and comment as part of the Papahānaumokuākea Draft Monument Management Plan. The plan and associated compatibility determinations were also made available through printed copies upon request and through Monument Web sites at http://www.papahanaumokuakea.gov/. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended, and as determined by the Co-Trustees of the Monument. The Monument is of national interest, therefore, the availability of the draft Monument Management Plan (including the CDs) was advertised at the national level. The public comment period was held from April 23, 2008 through July 8, 2008 and was subsequently extended to July 23, 2008. Responses to all of the substantive comments that were received for the plan, including those that pertain to the compatibility determinations can be found in Volume V of the Final Monument Management Plan.

Determination:

___ Use is Not Compatible

_X_ Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

GENERAL TERMS AND CONDITIONS:

Each permittee would be required to adhere to all general conditions specified by the Monument Co-Trustees in their joint permit (Attachment 1).

A more comprehensive list of Refuge and Monument conditions and restrictions is included in this CD and 50 CFR Part 27. Not all of these conditions and restrictions would apply to every use. Depending upon the type of use and where the activity occurs would drive which are relevant (Attachment 2).

All persons participating in the travel to and from any of the islands must adhere to the "Special Conditions for Movement to and from Islands" which cover quarantine requirements (Attachment 3).

SPECIFIC TERMS AND CONDITIONS:

The Refuge Manager or designee can suspend/modify conditions/terminate an activity that is already permitted and in progress on the Refuge, should unacceptable, unforeseen, or unexpected impacts or issues arise or be noted. Termination of any permitted activity would be communicated expeditiously to the Monument Management Board. Whenever feasible, the Refuge Manager will consult with the Monument Co-Trustees prior to termination.

Reporting requirements: For island residents, fish catch (including species, weights, lengths, and GPS location of catch), fishing effort, bycatch (including accidental catch of or interactions with seabirds, seals, turtles, sharks, and nontarget fish), and date of activity will be recorded by trained personnel after each trip and filed in the Refuge office. Vessel based permittees engaged in sustenance fishing will have trained personnel report fish catch (including species, weights, lengths, and GPS location of catch), fishing effort, bycatch (including accidental catch of or interactions with seabirds, seals, turtles, sharks, and nontarget fish), and date of the activity to the Refuge Manager on a trip by trip basis. All catch data will be summarized quarterly and reported annually to Monument managers to determine if catch levels are acceptable and the activity remains compatible. All sustenance fishing would be monitored,

evaluated, and adjusted as necessary by Refuge staff to ensure the use remains compatible and resources are not impacted. Such monitoring would include but is not limited to: (1) disturbance to flying, foraging, and resting seabirds and other migratory birds on the open ocean; (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green turtles (*Chelonia mydas*) swimming, feeding, and resting in the open-ocean marine environment; (3) disturbance to spinner dolphins (*Stenella longirostris*); (4) disturbance to fish, sharks, cetaceans, and marine invertebrates; (5) accidental release of pollution and contaminants; and (6) the accidental introduction and establishment of nonnative species to the Monument.

Sustenance fishing limits for Midway Atoll residents will be set at no more than 6 fish per day and 208 fish per year. There will be no more than 26 boat trips (with 6 people or fewer aboard). Although a limit on the number of fish allowed is stipulated here, if sufficient poundage of fish is caught to provide for the common table before the number limit of fish is reached; fishing will cease. The annual take limit will ensure that the total take does not exceed an annual average of four fish taken per week. The daily catch limit for Midway residents under this determination is based on the estimated amount that can be reasonably consumed by the maximum carrying capacity of island residents within 2 days. The Co-Trustee vessels fishing in Midway's waters will also be limited to the number of fish or poundage needed to provide fresh fish for all personnel onboard the ship on that day. Up to 15 private vessels (e.g., sailboats) and 5 contract vessels (e.g., barges) may troll for fish, if authorized, en route to or from Midway, but within Midway waters, each year. Vessel-based sustenance will not take more than 4 fish per day total, up to 92 per year. Sustenance fishing will be conducted from ships by deploying 2- 4 lines as they transit Midway's pelagic waters. Collectively there will be no more than 300 fish taken for sustenance per year from Midway's waters (208 to island residents and up to 92 more for vessel-based sustenance fishing). Conservatively this may equate to 15,000 pounds of fish, or 6.8 t.

Lures will be trolled at a speed of at least 7 knots to prevent hooking albatrosses, boobies, and other seabirds that follow fishing boats. Seabirds are able to ingest lures trolled at slower speeds. Squid, fish, and other animal products would not be allowed for fishing – only artificial bait.

The use of wire line, down-riggers, planers, and heavy weights will be prohibited.

To avoid hooking sharks, predatory reef fish (i.e., giant trevally or white ulua (*Caranx ignobilis*), monk seals, and other nontarget species, only artificial lures will be used and trolling will occur in a water depth of at least 200 feet. Caught fish will be bled so the blood does not enter the ocean and attract sharks during the fishing activity.

In an effort to prevent sharks from eating a hooked fish and also becoming hooked, fish will be brought into the boat as quickly as possible using hand lines or stiff rods with heavy test line (> 150 lbs) set with a heavy drag.

Fishing for bottomfish is not allowed.

All fishing gear will be cleaned using a mild bleach solution before use in the Monument and must also be cleaned according to quarantine procedures (Attachment 3). The bleach solution would be disposed of properly.

Fishing boats are required to navigate around aggregations of foraging (fishing) or resting seabirds, rather than navigate through them.

All fish other than 'ahi (*Thunnus albacares*), mahimahi (*Coryphaena bippurus*), and wahoo (ono) (*Acanthocybium solandri*) will be released unharmed.

Permittees engaged in sustenance fishing may only catch fish in a quantity needed for consumption within the Monument. Fish caught by island residents are for consumption by island residents at the common table (i.e., Clipper House). Fish caught by vessel-borne permittees are for consumption by the vessel occupants at the common table.

All fish will be consumed within 2 days of being caught.

Island-based vessels involved in fishing are required to return to dock at least 1 hour before sunset, which enhances boat operators' ability to avoid collisions with marine life. Fishing would only be allowed during daylight hours.

Power boat operators may slow to allow permittee observation of approaching spinner dolphins, but would neither pursue the dolphins nor specifically seek them out.

Only four-stroke outboard motors would be used for permittee boats. There are two primary reasons for limits to 4-stroke outboard motors: 1) they are quieter – producing less sound underwater and above water that could disturb fish, marine mammals, sea turtles, and birds and 2) they have a more efficient and complete combustion and as a result emit less water and air pollution. No other loud sounds would be associated with this program.

Justification:

Proclamation 8031 bans most resource extraction but allows the Secretaries to permit sustenance fishing incidental to other permitted activities.

Sustenance fishing will enhance the quality of life for Refuge employees, contractors, volunteers, and other permittees, many of whom are stationed in remote locations and/or on a vessel for extended periods of time. It will also provide a source for fresh fish that is difficult and expensive to transport from commercial sources in Honolulu due to logistical limitations. Sustenance fishing is recognized as part of the culture and practices of Native Hawaiians and is allowed under Proclamation 8031.

'Ahi (*Thunnus albacares*), wahoo (*Acanthocybium solandri*), and mahimahi (*Coryphaena hippurus*) are not considered overfished or subject to overfishing as determined by the National Marine Fisheries Service (NMFS 2008).

Sustenance fishing for pelagic fish has limited impact on the Monument's natural resources with the following guidelines: fishing during daylight hours; using artificial lures; trolling at higher speeds in deep water; landing fish quickly; limiting the catch; not removing fish from the Monument; not allowing fishing for bottomfish; keeping only common pelagic fish: yellowfin tuna, mahimahi, and wahoo; and monitoring the impacts and recording catch, fishing effort, and bycatch by trained personnel.

Considering the above stipulations and limited number of fish expect to be removed from local populations from this use, it is anticipated that fishing pressure will not cause fish stocks to decline, the physiological condition and production of local fish will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted. It is also anticipated that wildlife species which will be disturbed during the use will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened. Thus the impacts fish and wildlife from the use are anticipated to be minimal or inconsequential.

Mandatory 10- or 15-year Reevaluation Date:

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

_____X_____ Mandatory 10-year reevaluation date (for non-wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision (check one below)

___Categorical Exclusion without Environmental Action Statement

___Categorical Exclusion and Environmental Action Statement

_X_ Environmental Assessment and Finding of No Significant Impact

___Environmental Impact Statement and Record of Decision

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Refuge Determination:

Refuge Manager Approval: _____ (Signature) Date 11/20/08

FWS Superintendent,
Papahānaumokuākea Marine National Monument

_____ (Signature) Date: 11/20/08

Project Leader,
Hawaiian and Pacific Islands NWRC

_____ (Signature) Date 11/20/08

Concurrence:

Refuge Supervisor,
National Wildlife
Refuge System
Pacific Region

Acting

_____ (Signature) Date 12-10-08

Regional Chief,
National Wildlife
Refuge System
Pacific Region

_____ (Signature) Date 12/12/08