

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Is the use consistent with public safety?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Is the use manageable within available budget and staff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(h) Will this be manageable in the future within existing resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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:** 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 be 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
- 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 open 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.

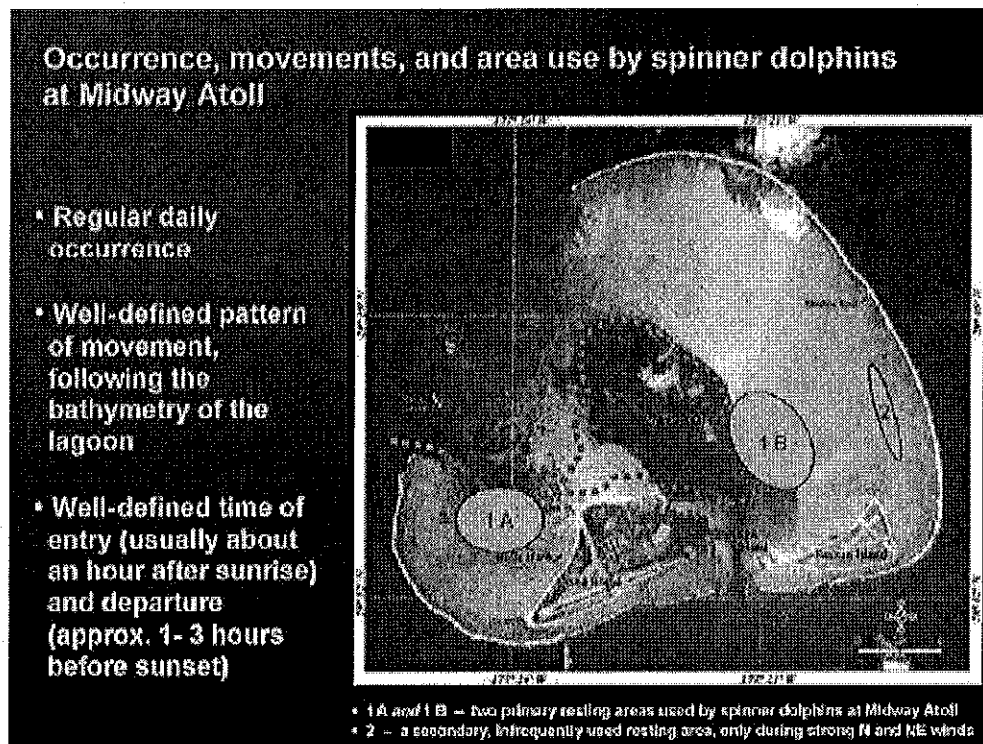


Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarski).

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)

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

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.

DLNR (Department of Lands and Natural Resources, State of Hawai'i). 2003. The State of Hawai'i Aquatic Invasive Species Management Plan. Division of Aquatic Resources, Honolulu.

Executive Order 13022. 31 October 1996. Administration of the Midway Islands. Establishing Midway National Wildlife Refuge. (61 FR 56875).

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.

General Accounting Office. 1997. U.S. Insular Areas. Report to the Chairmen, Committee on Resources, House of Representatives. Washington, D.C.

Gerrodette, T.G., 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.

Kenyon, K.W. 1972. Man verses the Monk Seal. *Journal of Mammalogy* 53:687-696.

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.

National Marine Fisheries Service. 2003. Stock Assessment Report, Hawaiian Monk Seal (*Monachus schauinslandi*).

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 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.

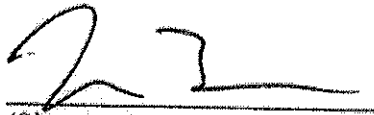
Secretarial Order (Department of the Interior) 3217. 13 September 2000. Designation of the Battle of Midway National Memorial (67 FR 743 (No. 4) 7 January 2002).

U.S. Fish and Wildlife Service. 2000. Update to U.S. Fish and Wildlife Service Manual Chapter 2 on compatibility: Part 603 National Wildlife Refuge System uses. Washington, D.C.

U.S. Navy and U.S. Fish and Wildlife Service. 1988. Cooperative agreement for use of U.S. Navy lands and waters: Naval Air Facility, Midway Atoll for U.S. Fish and Wildlife Service conservation and management purposes. April 22, 1988. Barbers Point, HI and Portland, OR. U.S. Navy and U.S. Fish and Wildlife Service. 3 p.

**Refuge Determination:**

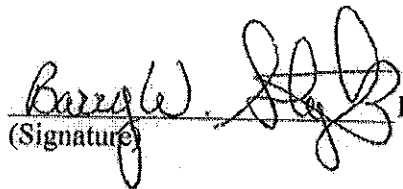
Refuge Manager  
Approval:

  
(Signature) Date: 11/20/08

FWS Superintendent,  
Papahānaumokuākea Marine National Monument

  
(Signature) Date: 11/26/08

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

  
(Signature) Date: 11/20/08

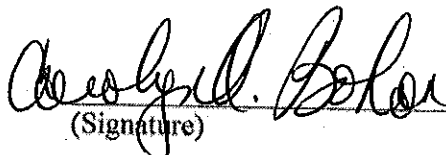
**Concurrence:**

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

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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://hawaiiireef.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
- 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.

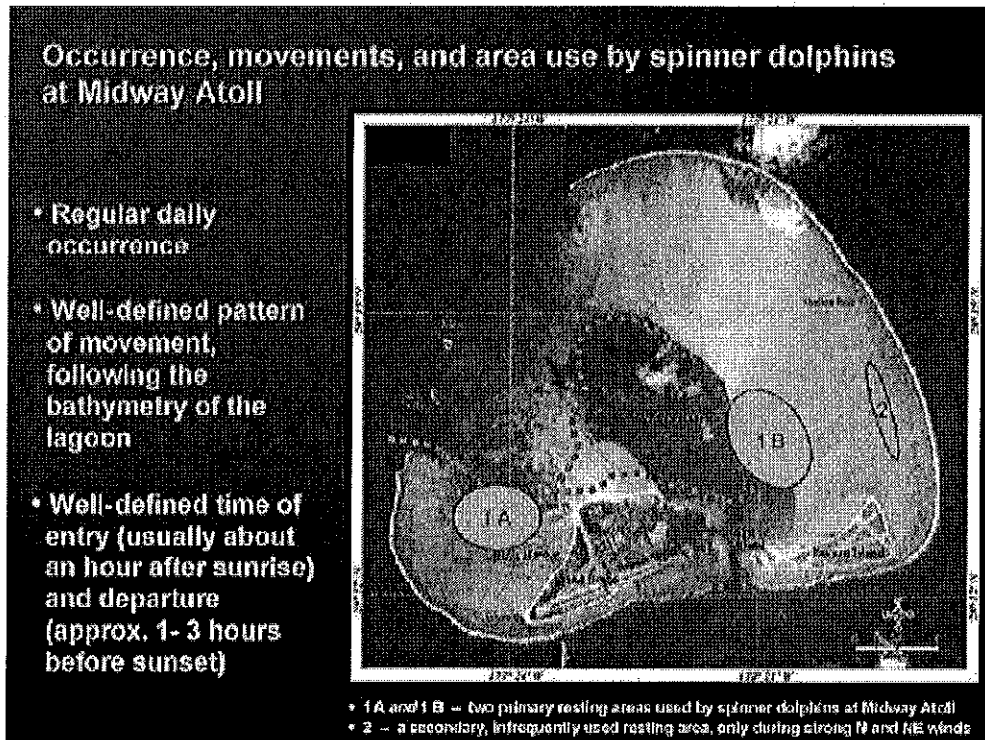


Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarkski)

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

## 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.
- DLNR (Department of Lands and Natural Resources, State of Hawai'i). 2003. The State of Hawai'i Aquatic Invasive Species Management Plan. Division of Aquatic Resources, Honolulu.
- Executive Order 13022. 31 October 1996. Administration of the Midway Islands. Establishing Midway National Wildlife Refuge. (61 FR 56875).
- 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.
- General Accounting Office. 1997. U.S. Insular Areas. Report to the Chairmen, Committee on Resources, House of Representatives. Washington, D.C.
- Gerrodette, T.G., 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.
- Kenyon, K.W. 1972. Man verses the Monk Seal. *Journal of Mammalogy* 53:687-696.
- 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.
- National Marine Fisheries Service. 2003. Stock Assessment Report, Hawaiian Monk Seal (*Monachus schauinslandi*).
- 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 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.

Secretarial Order (Department of the Interior) 3217. 13 September 2000. Designation of the Battle of Midway National Memorial (67 FR 743 7 January 2002).

U.S. Fish and Wildlife Service. 2000. Update to U.S. Fish and Wildlife Service Manual Chapter 2 on compatibility: Part 603 National Wildlife Refuge System uses. Washington, D.C.


U.S. Navy and U.S. Fish and Wildlife Service. 1988. Cooperative agreement for use of U.S. Navy lands and waters: Naval Air Facility, Midway Atoll for U.S. Fish and Wildlife Service conservation and management purposes. April 22, 1988. Barbers Point, HI and Portland, OR. U.S. Navy and U.S. Fish and Wildlife Service. 3 p.

**Refuge Determination:**

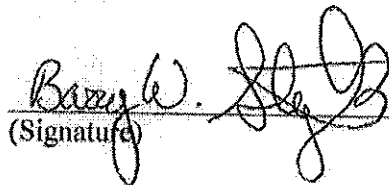
Refuge Manager  
Approval:

  
\_\_\_\_\_  
(Signature) Date 11/20/08

FWS Superintendent,  
Papahānaumokuākea Marine National Monument

  
\_\_\_\_\_  
(Signature) Date: 11/20/08

Project Leader  
Hawaiian and Pacific  
Islands NWRC

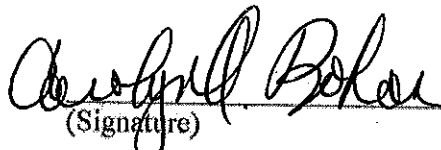
  
\_\_\_\_\_  
(Signature) Date 11/20/08

**Concurrence:**

*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: 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: [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 (NWRSA 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
- 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.

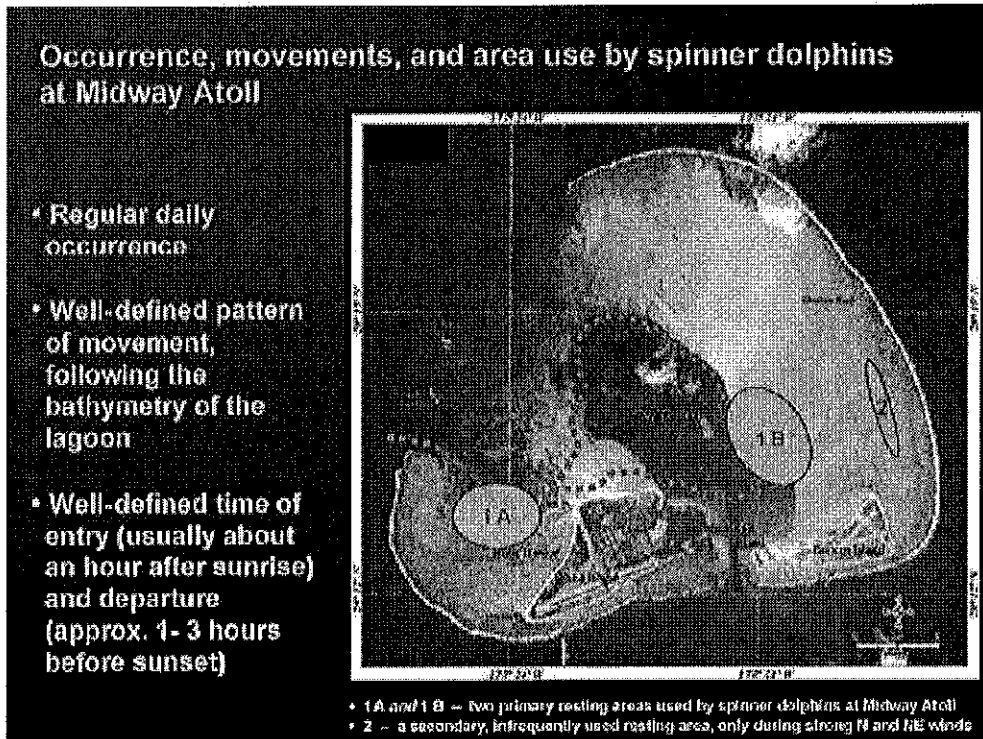


Figure 1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarski)

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)

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

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.

DLNR (Department of Lands and Natural Resources, State of Hawai'i). 2003. The State of Hawai'i Aquatic Invasive Species Management Plan. Division of Aquatic Resources, Honolulu.

Executive Order 13022. 31 October 1996. Administration of the Midway Islands. Establishing Midway National Wildlife Refuge. (61 FR 56875).

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.

General Accounting Office. 1997. U.S. Insular Areas. Report to the Chairmen, Committee on Resources, House of Representatives. Washington, D.C.

Gerrodette, T.G., 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.

Kenyon, K.W. 1972. Man verses the Monk Seal. *Journal of Mammalogy* 53:687-696.

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.

National Marine Fisheries Service. 2003. Stock Assessment Report, Hawaiian Monk Seal (*Monachus schauinslandi*).

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 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.

Secretarial Order (Department of the Interior) 3217. 13 September 2000. Designation of the Battle of Midway National Memorial (67 FR 743 (No. 4) 7 January 2002).


U.S. Fish and Wildlife Service. 2000. Update to U.S. Fish and Wildlife Service Manual Chapter 2 on compatibility: Part 603 National Wildlife Refuge System uses. Washington, D.C.

U.S. Navy and U.S. Fish and Wildlife Service. 1988. Cooperative agreement for use of U.S. Navy lands and waters: Naval Air Facility, Midway Atoll for U.S. Fish and Wildlife Service conservation and management purposes. April 22, 1988. Barbers Point, HI and Portland, OR. U.S. Navy and U.S. Fish and Wildlife Service. 3 p.




**Refuge Determination:**

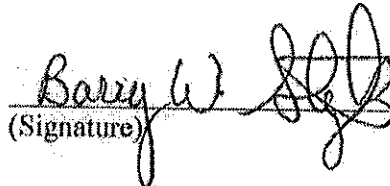
Refuge Manager  
Approval:

  
(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:**

*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: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Is the use consistent with public safety?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Is the use manageable within available budget and staff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(h) Will this be manageable in the future within existing resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 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 8031 allows 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 “muscle” 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 (Mendelsohn 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
<i>Acanthocybium solandri</i>	Wahoo	Ono	55	2007
<i>Thunnus spp. (obesus + albacares)</i>	Tuna	'Ahi	55	2007
<i>Euthynnus affinis</i>	Makeral Tuna	Kavakava	9	2007
<i>Thunnus albacares</i>	Yellowfin Tuna	Yellowfin 'Ahi	5	2007
<i>Aprion virescens</i>	Green jobfish	Uku	3	2007
<i>Pristipomoides sieboldii</i>	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
<i>Acanthocybium solandri</i>	Wahoo	Ono	13	2006 - 2007
<i>Thunnus spp. (obesus + albacares)</i>	Tuna	'Ahi	15	2006 - 2007
<i>Euthynnus affinis</i>	Makeral Tuna	Kavakava	5	2006 - 2007
<i>Thunnus albacares</i>	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

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 bippurus*) 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

**References Cited:**

Antonelis, G. A., J. D. Baker, T. C. Johanos, R.C. Braun, and A. L. Harting. 2006. Hawaiian Monk Seal (*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.

Boggs, C. and R. Ito. 1993. Hawaii's pelagic fisheries: fisheries of Hawaii and U.S.-associated Pacific Islands. Marine Fisheries Review March 22, 1993. 12 p.

Center for Disease Control and Prevention. 2008. Marine toxins. Electronic sources accessed at: [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/marinetoxins\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/marinetoxins_g.htm) on February 8, 2008.

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.

DLNR (Department of Lands and Natural Resources, State of Hawai'i). 2003. The State of Hawai'i Aquatic Invasive Species Management Plan. Division of Aquatic Resources, Honolulu.

Executive Order 13022. 31 October 1996. Administration of the Midway Islands. Establishing Midway National Wildlife Refuge. (61 FR 56875).

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.



Heinemann, D., H. Gillelan, and L. Morgan. 2005. Bottomfishing in the Northwestern Hawaiian Islands: Is it Ecologically Sustainable?

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

Kenyon, K.W. 1972. Man verses the Monk Seal. *Journal of Mammalogy* 53:687-696.

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.

Maki, K. L., and R. S. McBride. unpubl. ms. Reproductive biology of wahoo, *Acanthocybium solandri*, from the Atlantic coast of Florida and the Bahamas. For Fishery Bulletin.

Mendelsohn, R., and C. Roy. 1986. Environmental influences on the French, Ivory Coast, Senegalese and Moroccan tuna catches in the Gulf of Guinea. In P. E. K. Symons, P. M. Miyake, and G. T. Sakagawa (Editors), Proceedings of the Int. Comm. Conserv. Atl. tunas (ICCAT) conference on the international skipjack year program, p. 170-188.

Myers, R. A., B. Worm. 2003. Rapid worldwide depletion of predatory fish communities. *Nature* 423:280-283.

National Marine Fisheries Service. 2003. Stock Assessment Report, Hawaiian Monk Seal (*Monachus schauinslandi*).

National Marine Fisheries Service. 2006. Draft Supplemental Environmental Impact Statement Bottomfish and Seamount Groundfish of the Western Pacific Ocean: Measures to End Bottomfish Overfishing in the Hawaiian Archipelago.

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.

National Marine Fisheries Service. 2008. 2007 Status of U.S. Fisheries. National Marine Fisheries Service Report to Congress. Department of Commerce. Silver Spring, Maryland.

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

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.


Ragen, T. J., D. M. Lavigne. 1999. The Hawaiian monk seal; biology of an endangered species. In: Twiss J., Reeves R., editors. Conservation and management of marine mammals. p 224-241.

Western Pacific Fisheries Management Council (WPFMC). 2005b. Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region. Western Pacific Fisheries Management Council, Honolulu, Hawai'i.


Yoshida, H. O. 1974. Landings of billfishes in the Hawaiian longline fishery. In R. S. Shomura and F. Williams (Editors), Proceedings of the international billfish symposium, Kailua-Kona, Hawaii, 9-12 August 1972. Part 2. Review and contributed papers, p. 297-301.

**Refuge Determination:**

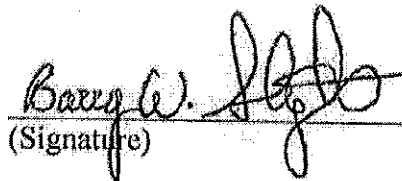
Refuge Manager  
Approval:

  
(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

  
(Signature) Date 12-10-08

Regional Chief,  
National Wildlife  
Refuge System  
Pacific Region

  
(Signature) Date 12/12/08

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## **Appendix F Appropriateness Findings and Compatibility Determinations**

### **Appendix F.1 Wildlife Observation and Photography**

#### **Compatibility Determination**

<b>Use:</b>	Wildlife Observation and Photography
<b>Refuge Name:</b>	Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial
<b>City/County and State:</b>	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

#### **Establishing and Acquisition Authority(ies):**

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay NWR under a cooperative agreement with the U.S. Navy. Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the U.S. Navy (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. Custody and accountability for Midway Atoll were officially transferred from the Navy to the FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

#### **Refuge Purpose(s):**

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).

The following purposes were included in Executive Order 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the 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.

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System is:

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 [16 U.S.C. 668dd-668ee.]

### **Description of Use(s):**

Compatible wildlife observation and photography are priority general public uses as designated in the National Wildlife Refuge System Improvement Act of 1997. As such, most refuges, including Midway Atoll, seek means to allow these uses in an appropriate and compatible manner.

The abundance of wildlife at Midway Atoll will allow the public endless opportunities to observe and photograph many different species in their natural habitat. The seasonal activity of species such as the Laysan albatross may drive increased visitor interest during certain seasons. However, the diversity of fauna and flora, both marine and terrestrial, should encourage year-round public access.

On Sand Island, land-based observation and photography are enabled by trails, access to open beach areas, and observation towers. A stationary wildlife viewing blind will be erected to facilitate viewing Laysan ducks and migratory birds. Additional native vegetation will be added

near Turtle Beach to serve as an observational screen. The possibility of a portable viewing blind for other species remains open for future visitor use.

On Eastern Island, wildlife observation and photography will occur under the guidance of FWS-approved staff during walking tours of the island. Due to the sensitive nature of species such as sooty and gray-backed terns, red-footed boobies, and short-tailed albatross, tours of Eastern Island will be limited in duration and frequency.

On land, most wildlife observation and photography would be conducted on foot, by bicycle, or by golf cart. Means to observe marine wildlife species will include snorkel, diving, kayak, and power boat. Snorkel and diving observational tours will be led by experienced FWS-approved staff and/or guides under tightly controlled group tours to specific locations. These locations will include known reef locations with safe swimming conditions, interesting coral formations, and abundant reef fish, but not sites of particular importance to endangered Hawaiian monk seals or threatened Hawaiian green sea turtles. Known shallow depth submerged artifacts such as World War II-era aircraft or vessels may be included as dive sites as they typically harbor abundant reef fish. Kayak tours will also be led by qualified personnel with groups limited to six kayakers or fewer traveling to specific locations. Wildlife observation from power boats will only be opportunistic as the boats are used to ferry visitors to and from snorkel/dive locations or Eastern Island. This will be the most frequent means for visitors to observe spinner dolphins. Hawaiian monk seals and Hawaiian green sea turtles may also be observed on refuge beaches where they frequently haul out to rest.

### **Availability of Resources:**

Current refuge staffing is not adequate to properly run a quality visitor program. For Fiscal Year 2007 it is anticipated that the refuge will add at least one refuge ranger on-island to work with visitors. Additional staff support will be provided by the Hawaiian and Pacific Islands NWR Complex for periods of peak visitor use. To properly support the full visitor program envisioned in 2008 and beyond, two additional visitor services specialists and a law enforcement officer will be required in addition to increased staffing needs by the refuge infrastructure support contractor. Certain refuge infrastructure improvements will also be needed to support the visitor program. These will include improved signing, larger and safer boats, on-island transportation (bicycles or golf carts), and kayakers.

Midway Atoll NWR has been charged by Congress and the FWS with developing a visitor program that is self-sustaining financially. To help us meet this goal Congress has also given the refuge receipts authority, which allows the refuge to keep reasonable fees collected for services provided at Midway Atoll. These fees will be used to offset costs of implementing the visitor services program. Estimated costs for implementation of this use and off-setting income are shown below:

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and Management		\$17,740
Maintenance		1,000
Monitoring		
Special equipment, facilities or improvements	\$8,000	1,000
Offsetting revenues		\$165,000

Estimated costs were calculated using 35% of the base cost of a GS-7 refuge ranger assuming that this priority use would use that portion of a year to administer. Off-setting revenues are fees paid by visitors for their stay on Midway Atoll.

### Anticipated Impacts of the Use(s):

Possible impacts from visitors involved in wildlife observation and/or photography include (1) disturbance to nesting seabirds, (2) disturbance to Hawaiian monk seals (*Monachus schauinslandi*) and/or green sea turtles (*Chelonia mydas*) swimming or resting on beaches, (3) disturbance to spinner dolphins (*Stenella longirostris*), and (4) disturbance to fish and marine invertebrates. Visitor programs will be designed and managed to eliminate or minimize these impacts. However, even with proper management and execution of a well run program, certain behavioral responses in wildlife may occur that are not easily observable.

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. Albatrosses in the developed part of Sand Island are clearly acclimated to the presence of people but may still have elevated stress hormone levels. When visitors are observing albatrosses, terns, boobies, Laysan ducks, or other species in the less visited areas, they will have the potential of greatly elevating stress hormone levels if the duration of the disturbance is excessive. Studies have shown (Kitaysky, *et al.*, 2003) that limited duration disturbance, however, has only minor, short term effects. Observation periods for any particular bird or group of birds away from the town area of Sand Island will be kept to 15 minutes or less for this reason. Observance of the rare short-tailed albatross, for example, will be managed under this guideline.

Increased use of refuge waters also increases the potential for interaction/disturbance by boats, kayaks, or snorkelers/divers with monk seals, sea turtles, and spinner dolphins. 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 dolphins or seals are in a rest phase. Snorkel or dive operations also include the added risk of damage to living coral on the refuge. Improper boat operation or visitor behavior could result in localized impacts to the coral reef from repeated anchoring, touching, standing, or other avoidable physical disturbance to the coral.

## **Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006 through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

## **Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

## **Stipulations Necessary to Ensure Compatibility:**

- The beaches on Spit and Eastern Island will be closed to visitors as well as the southern and western beaches on Sand Island (see Figure 3.1.1 in the interim visitor services plan). Power boats will 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 (see Figure 3.1.2). Guided kayak tours may only travel more than 150 feet from closed beaches from Rusty Bucket counterclockwise to Frigate Point as described in the interim visitor services plan.
- Visitors and residents are provided orientation materials and related information to minimize disturbance to wildlife (“wildlife viewing etiquette”). Specific restrictions (e.g., 150-foot approach 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 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. 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 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.
- Professional photographers who desire access to areas not generally open to the public will be required to obtain the appropriate monument permit type (i.e., education or special ocean use). These permits stipulate more detailed access restrictions and regulations to protect wildlife. At the discretion of the refuge manager, FWS-approved staff and/or guides may be assigned to accompany professional photographers into particularly sensitive areas.
- All trips to Eastern Island for wildlife observation and/or photography will be closely supervised by FWS-approved staff and/or guides. Visitor tours of Eastern Island will be offered no more than once a week, unless specifically authorized by the refuge manager,



and generally will be completed within a 3-hour period. Boats will tether to either end of the 150-foot pier, and disembarking passengers will 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 will be carefully selected to minimize disturbance. Visitors will be advised to travel in single file in an expeditious manner through the colony. Photography will 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 will be enforced. Spit Island will be off limits for wildlife observers and photographers unless they accompany FWS-approved staff and/or guides or permitted researchers during authorized project visits.

- Visitors will not be allowed to approach closer than 150 feet to Laysan duck seeps. The blind at the water catchment basin will allow visitors to see the species without disturbing the birds.
- Guided kayaking tours will be closely supervised by FWS-approved staff and/or guides. Buffer zones using the NOAA Watchable Wildlife suggested distance of 150 feet will be enforced as well as closures of selected lagoon areas to minimize disturbance of marine life, for example, a monk seal with pup. Visitors will be advised of proper actions to avoid disturbance and specific indicators of wildlife behavioral responses to disturbance, and all tours will follow planned routes designed to minimize disturbance and avoid sensitive areas. Kayak guides will be trained at estimating the 150-foot distance and will be responsible for keeping the entire group together. Since West Beach is a known pupping area, the buffer zone around known mother/pup pairs will be increased to 500 feet during the entire time the pair is on the beach. The NOAA-Fisheries seal biologist on Midway will keep refuge staff informed of new mother/pup pairs and their known locations. No kayaking will be allowed near Eastern or Spit Islands.
- Vessels involved in visitor activities will be required to return to dock at least 1 hour before sunset, which will 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 planning to engage in water-related activities during the albatross fledging season (June-July) will 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 observation of approaching spinner dolphins, but will neither pursue the dolphins nor specifically seek them out. If dolphins are encountered during transit between two points, we will allow the boat to slow and/or stop for visitor observation, but entering the water will not be allowed. Routes to and from snorkeling/dive sites will be plotted to avoid known resting areas of spinner dolphins in the lagoon (see figure 1.1 below), as well as preferred Hawaiian monk seal haulout, molting, and pupping sites .

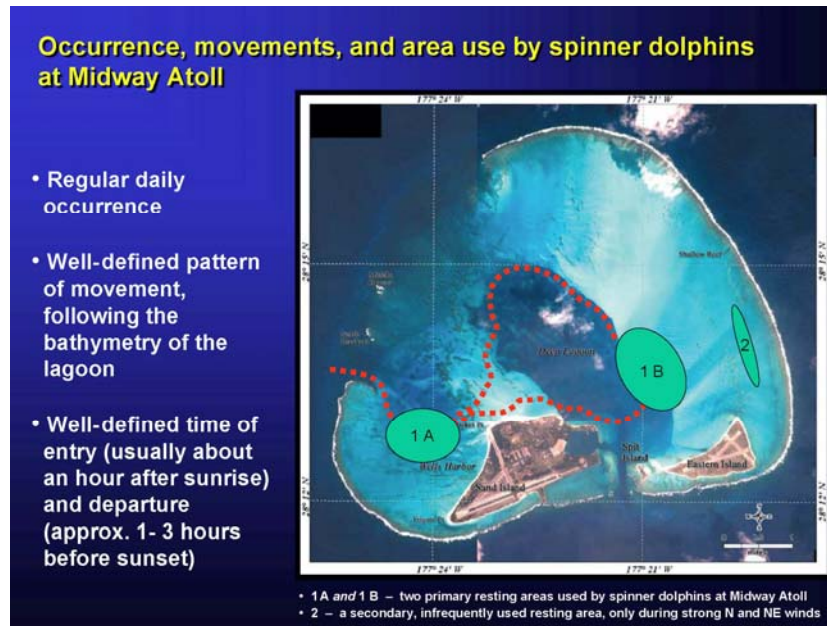


Figure 1.1. Occurrence, movements, and area use by Hawaiian spinner dolphins at Midway Atoll (courtesy of Dr. Leszek Karczmarkski)

- To eliminate anchoring impacts on coral, boat operators will be required to anchor in known sand areas. If a selected visitor use area has no suitable sand for anchoring, then a mooring buoy will be set in a manner to prevent the boat from damaging any living or dead coral.
- Snorkel trips will be limited to eight persons per guide and dive trips to six persons per guide. This will help ensure that the group stays together for safety reasons and to prevent visitors from straying into sensitive areas, approaching swimming monk seals, or damaging coral.
- Visitors and their luggage will 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 will 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 will be required to treat the gear to prevent the inadvertent introduction or transmission of alien species (see Appendix \_ for protocol).
- Only four-stroke outboard motors will be used for visitor program boats. These motors are quieter than two-stroke motors and will not exceed the Level A or Level B acoustic threshold for disturbance to marine mammals. No other loud sounds will be associated with this program.
- Power boats taking visitors 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 will 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 will be plotted to avoid these areas as well as preferred Hawaiian monk seal haulout, molting, and pupping sites .

- Refuge biological staff will consult with NOAA-Fisheries seal biologists to develop a monitoring plan to assess impacts to Hawaiian monk seals from the visitor program. This plan will be based on the existing data set of seal sightings on Sand Island over the past 10 years and available for public review. This monitoring plan will be drafted after approval of the Midway Atoll Interim Visitor Services Plan but prior to implementation of the full scale visitor services program. Long term trend analysis of use of the Sand Island beaches by monk seals should allow the biologists to determine if there is a noticeable change (geographic shift or decrease) in seal beach use over time.
- A review of files documenting past visitor 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 will address many of those types of violations in the planned visitor program. 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 in 2008. Temporary signs may be used prior to that time. However, records also clearly show the need for a law enforcement officer who works in the field ensuring that refuge regulations are enforced. An officer will be stationed at Midway prior to implementation of the full scale visitor program. Prior to that time, law enforcement needs will be met through periodic use of officers on short-term details. Documented violations that occur during periods without an officer in place will be handled through an affidavit process by which the officer is provided specific details of the incident that are legally adequate for issuance of a Notice of Violation.

**Justification:**

Wildlife observation and photography are priority public uses of the National Wildlife Refuge System, and Midway Atoll NWR provides unique wildlife observation opportunities, not possible elsewhere in the United States.

**Mandatory 10- or 15-year Reevaluation Date:**

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

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**References Cited:**

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.

Jungius, H. and U. Mirsch. 1979. Changes in heartbeats in nesting birds at Galapagos by human disturbance. J. Orn. 120:299-310.

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.

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

**Refuge Determination:**

Refuge Manager  
Approval:

Barry Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Barry W. Stegall  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Laurent W. Comar  
(Signature)

Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Carolyn A. Bohan  
(Signature)

Date 5/23/07

## Appendix F.2 Environmental Education and Interpretation

### Compatibility Determination

<b>Use:</b>	Environmental Education and Interpretation
<b>Station Name:</b>	Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial
<b>City/County and State:</b>	Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

#### Establishing and Acquisition Authority(ies):

Midway Atoll NWR (NWR) was established in 1988 as an overlay NWR under a cooperative agreement with the U.S. Navy. 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. Custody and accountability for Midway Atoll were officially transferred from the Navy to the FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

#### Refuge Purpose(s):

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).

The following additional purposes were included in Executive Order 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the U.S. 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.

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System is:

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. (16 U.S.C. 668dd et seq.)

### **Description of Use(s):**

Both environmental education and interpretation strive to convey an understanding and appreciation of refuge resources and the issues that affect them. For this reason these two uses have been combined in one compatibility determination.

Due to Midway's remote location and limited accessibility, onsite environmental education programs will be limited. However, with new technology, we will be able to offer offsite programs through satellite transmissions to schools around the world. Recognizing the role of teachers and educators in conveying environmental education to their students, refuge staff and partners will develop biennial teachers' workshops to be held on Midway. These workshops will be linked to existing curriculums such as Navigating Change. Refuge staff will also facilitate opportunities for cooperative organizations to conduct college level courses or informal education camps on Midway.

Interpretation of the natural and historic resources on Midway Atoll NWR and cultural resources of the Northwestern Hawaiian Islands will take many forms, including (1) guided walks and

bicycle tours with FWS interpreters, (2) self-guided interpretive walks to selected historical sites, (3) regularly scheduled “field talks” with FWS interpreters or cooperators who will demonstrate research techniques or natural history phenomena (e.g., evening petrel flights), and (4) indoor evening programs on various topics relative to Midway’s cultural, historic, and natural history. Visitors will also be able to participate on scheduled 3-hour field trips to Eastern Island, where they will be led on guided walks by FWS-approved staff and/or guides.

Visitors will be encouraged to come to the visitor center for further interpretation of refuge resources, environmental issues, and the Battle of Midway National Memorial. New exhibits will be developed that highlight the new Papahānaumokuākea Marine National Monument.

This use also includes visitors who arrive via cruise ship and are led on 2-hour interpretive tours by FWS-approved staff and/or guides.

**Availability of Resources:**

Current refuge staffing is not adequate to properly run a quality visitor program. For Fiscal Year 2007 it is anticipated that the refuge will add at least one refuge ranger on-island to work with visitors. Additional staff support will be provided by the Hawaiian and Pacific Islands NWR Complex for periods of peak visitor use. To properly support the full visitor program envisioned in 2008 and beyond, two additional visitor services specialists and a law enforcement officer will be required in addition to increased staffing needs by the refuge infrastructure support contractor. Certain refuge infrastructure improvements will also be needed to support the visitor program. These will include improved signing, larger and safer boats, on-island transportation (bicycles or golf carts), and kayaks.

Midway Atoll NWR has been charged by Congress and FWS with developing a visitor program that is self-sustaining financially. To help us meet this goal Congress has also given the refuge receipts authority, which allows the refuge to keep reasonable fees collected for services provided at Midway Atoll. These fees will be used to offset costs of implementing the visitor services program.

<b>Category and Itemization</b>	<b>One time (\$)</b>	<b>Annual (\$/yr)</b>
Administration and Management		\$ 17,140
Maintenance		1,000
Monitoring		
Special equipment, facilities or improvements	30,000	2,000
Offsetting revenues	\$165,000	\$165,000

Estimated costs were calculated using 35% of the base cost of a General Schedule 7 refuge ranger assuming that this priority use would use that portion of a year to administer. Off-setting revenues are fees paid by visitors for their stay on Midway. Monitoring of impacts would be completed by the refuge ranger as part of their time committed to this use.



## **Anticipated Impacts of the Use(s):**

### *Environmental Education*

Impacts from visitors attending scheduled workshops and participating in walking or biking interpretive tours or self-guided tours on Sand Island will be minimal. All of these activities will occur on hard surfaced roads with very limited wildlife disturbance.

Minimal to no impact on refuge resources is anticipated from offsite programs, since educational demonstrations will be conducted or supervised by trained FWS-approved staff and/or guides.

### *Interpretation*

Minimal impact to refuge resources is anticipated as described in the above “guided walks and bicycle tours” section. Additional potential impact to nesting seabirds, monk seals, and green sea turtles may occur if visitors and residents wander off self-guided interpretive walks. Impacts include destroying nesting burrows of Bonin petrels or wedge-tailed shearwaters; injuring or killing an egg, chick, or adult by stepping on a bird or nest; decreasing nesting success of breeding birds; or disturbing or deterring a resting monk seal or green sea turtle from a preferred haulout, molting, or pupping location. Studies conducted in seabird colonies with ecotourism operations have 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 (Fowler 1995). Therefore, birds located far from trails are most 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).

Cruise ships that visit Midway Atoll are required to stay outside the harbor entrance channel and to ferry their passengers to shore via ship’s tenders. Possible damage to coral could occur if the ship anchored in shallow water or drifted into coral areas. Additional damage could occur from discharge of gray or black water from the ship during the anchorage period at Midway.

### *Regularly scheduled “field talks” at selected locations by FWS-approved staff and/or guides*

Minimal to no anticipated impacts on refuge resources are associated with regularly scheduled “field talks.” Talks will be located near seabird colonies, but leaders and participants will not enter into the main area of the colony for these talks. Keeping the group at the edge of the colony will limit stress to the few birds actually closest to the group. Studies have shown that birds can adapt to repeated disturbance, so selection of an area where the birds are regularly passed by residents and visitors on town roads will minimize the impact of this activity.

Potential impacts include brief disturbance to nesting seabirds. Only trained FWS-approved staff and/or guides conducting the talk will be entering nesting colonies for brief periods.

*Evening programs at various indoor locations*

No anticipated impacts are anticipated due to indoor locations.

*Eastern Island tours*

Minimal impacts include disturbance to nesting birds (primarily Laysan and black-footed albatrosses (*Diomedea immutabilis* and *Diomedea nigripes*, respectively), and sooty and gray-backed terns (*Sterna fuscata* and *Sterna lunata*, respectively)) along tour routes. Tours will be restricted to the historic runways, limiting the disturbance to shrub and burrow nesters such as the red-footed booby (*Sula sula*), great frigatebird (*Fregata minor*), and Christmas shearwater (*Puffinus nativitatis*). During the sooty tern nesting season, tours will be adjusted as needed to minimize disturbance to nesting sooty terns on runways. Visitors will be advised to travel in single file in an expeditious manner through the colony. Photography will 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.

Impacts will also be associated with the increased number of boat landings on the island. Boat landings (boat and people noise) may occasionally disturb resting endangered Hawaiian monk seals and threatened green sea turtles on Eastern Island beaches as well as those that are prospecting safe haulout locations (Kenyon 1972). All trips to Eastern Island will be closely supervised by FWS-approved staff and/or guides. Visitor tours of Eastern Island will be offered no more than once a week, unless specifically authorized by the refuge manager, and generally will be completed within a 3-hour period. Boats will tether to either end of the 150-foot pier, and disembarking passengers will be briefed on proper behavior to minimize disturbance to Hawaiian monk seals or green sea turtles that may be present.

**Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006, through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

**Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

### **Stipulations Necessary to Ensure Compatibility:**

- All onsite environmental education will be closely supervised by FWS-approved staff and/or guides, as well as by accompanying teachers.
- All students will be subject to the same restrictions (e.g., beach closures, distances from monk seals, etc.) as other visitors.
- All guided Sand Island tours will be led by FWS-approved staff and/or guides and will be adjusted on the spot to avoid disturbance of Hawaiian monk seals and green sea turtles and to minimize conflicts with nesting seabirds.
- No more than 25 people will be led at one time on guided walks and bicycle tours. Tour groups from cruise ships, which walk along paved roads with clear markings and tour guides to ensure the group remains together, may exceed this number, up to a total of 50 people per group.
- All visitors will attend an orientation upon (or before) arrival and be given appropriate narrative and graphic material to clearly indicate which areas are open for public use and to clarify regulations in force to protect wildlife and habitat. Cruise ship visitors receive an orientation from a FWS-approved staff and/or guides onboard ship or by handouts specific to their visit to Midway Atoll.
- Signing along self-guided trails will identify approved areas for beach access, wildlife observation, etc. Monument staff will monitor public use to assess and respond to incidents of noncompliance with refuge regulations. Vegetative screening will be used to ensure that visitors do not walk off trails.
- “Field talks” will be located outside, on roads or trails along the edge of nesting seabird colonies or at a safe distance from other wildlife species. Only trained FWS-approved staff and/or guides conducting the talk will be entering nesting colonies for brief periods.
- Interpreters will clearly explain the rationale for access restrictions and the actions that will be taken to enforce regulations.
- The frequency, duration, and route of guided Eastern Island tours will be modified, as needed, to avoid disturbance to Hawaiian monk seals and green sea turtles and to minimize disturbance to seabirds.
- Cruise ships will be encouraged to remain in position without anchoring, if feasible. If not, they will be given a specific location for safe anchorage outside the channel entrance. FWS personnel will work with NOAA to identify the best location for this anchorage prior to the first cruise ship arrival under the new monument regulations.
- Cruise ships will be prohibited from discharging of any gray or black water during their anchorage period and for the entire period they are within monument waters, in

accordance with their monument permit conditions. They will be advised of this requirement during event planning and reminded again just prior to arrival. Any detected violation of this requirement will be cause for barring of this cruise line from any future stops at Midway Atoll NWR and will be pursued as a violation of monument regulations. Refuge staff will seek assistance from NOAA to use currently available sonar or other technology to assess the suitability for anchoring cruise ships just out from the harbor channel entrance. Sites determined to be suitable will be marked by GPS and that site transmitted to visiting ships. Cruise ships will also be advised that due to possible impacts to monk seals and sea turtles, the speed limit for their tenders within the harbor is 10 knots.

- Due to concern over the introduction of invasive marine species into Midway Atoll and the monument, all cruise ships and sailboats must meet the hull inspection requirements required under Presidential Proclamation 8031..

**Justification:**

Midway Atoll NWR provides unique educational opportunities, not found elsewhere in the United States. Compatible environmental education and interpretation are priority general public uses of the National Wildlife Refuge System as designated in the National Wildlife Refuge System Improvement Act of 1997.

**References Cited:**

Kenyon, K.W. 1976. Man versus the monk seal. *J. of Mammal.* 53(4):687-696.

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.

**Mandatory 10- or 15-year Reevaluation Date:**

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

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

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

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**Refuge Determination:**

Refuge Manager  
Approval:

Barry Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Barry W. Steigly  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Laurent W. Cramer  
(Signature)

Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Carolyn D. Bohon  
(Signature)

Date 5/23/07

## Appendix F.3 Participatory Research

### FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge/Battle of Midway National Mem.

Use: Participatory Research

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Is the use consistent with public safety?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Is the use manageable within available budget and staff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(h) Will this be manageable in the future within existing resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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: Barry Christensen Date: May 14, 2007

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: Laurel W. Hanes Date: May 14, 2007

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: Participatory Research

Supplemental information for Decision Criteria (e) and (i):

(e) Is the use consistent with goals and objectives in an approved management plan or other document?

Involving visitors in hands-on habitat and historic restoration projects and limited wildlife monitoring activities is consistent with the draft goals and objectives identified in the Midway Atoll Interim Visitor Services Plan, as well as the purposes of the refuge and the mission of the National Wildlife Refuge System. Refuges are encouraged to use volunteers in accordance with FWS policy (150 FW 1.4):

- To provide people with opportunities to assist us in the accomplishment of our mission by contributing to the preservation and conservation of our natural and cultural resources.
- To enhance our performance through the creativity and innovations, labor, and expertise contributed by volunteers.
- To provide opportunities for students and others to gain experience in areas of interest for future careers.
- To complete projects and other work that we would not otherwise accomplish without the use of volunteers.
- To encourage stewardship of wildlands, wildlife, and other natural and cultural resources through public participation in and contribution to FWS programs and operations.

(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural and cultural resources, or is the use beneficial to the refuge's natural or cultural resources?

By volunteering for these hands-on activities, visitors will gain a far better understanding of the importance of protecting habitat for migratory seabirds, shorebirds, marine mammals, and sea turtles. They will learn firsthand the threats from invasive plant species and the difficulty of eradicating them to restore native habitats. They will also gain a new knowledge and caring for America's historic resources and learn more about methods to protect them. In turn, the refuge's remarkable natural and historic resources will gain significantly from the additional work visitors will be able to accomplish that limited staff cannot address.

## Compatibility Determination

- Proposed Use:** Participatory Management/Research Program
- Refuge Name:** Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial
- City/County and State:** Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

### Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge was established in 1988 as an overlay National Wildlife Refuge (NWR) under a cooperative agreement with the U.S. Navy. Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the U.S. Navy (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. Custody and accountability for Midway Atoll were officially transferred from the Navy to FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

### Refuge Purpose(s):

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).

The following purposes were included in Executive Order 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the 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.

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System is:

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 [16 U.S.C. 668dd-668ee.]

### **Description of Use(s):**

Specific visitor programs at Midway Atoll NWR will be designed to have visitors participate in a variety of wildlife monitoring and/or research activities, habitat management projects, and historic resource protection projects. Projects include (1) seabird population monitoring (e.g., nest abundance, nesting chronology, nesting success/chick survival, banding, etc.), (2) habitat restoration (e.g., clearing of exotic vegetation, planting native vegetation, etc.), and (3) historic site preservation/restoration (e.g., rehabilitation of historic buildings or gun emplacements). All projects are under the close supervision of FWS-approved staff and/or guides.

### Availability of Resources:

Current refuge staffing is not adequate to properly run a quality visitor program. For Fiscal Year 2007 it is anticipated that the refuge will add at least one refuge ranger on-island to work with visitors. Additional staff support will be provided by the Hawaiian and Pacific Islands NWR Complex for periods of peak visitor use. To properly support the full visitor program envisioned in 2008 and beyond, two additional visitor services specialists and a law enforcement officer will be required in addition to increased staffing needs by the refuge infrastructure support contractor. Certain refuge infrastructure improvements will also be needed to support the visitor program. These will include improved signing, larger and safer boats, on-island transportation (bicycles or golf carts), and kayaks. The participatory research program will be closely integrated with our existing volunteer program which is adequately supported by available funds. Existing refuge staff and experienced and qualified refuge volunteers will be used to orient and train visitors who will participate in this program.

Midway Atoll NWR has been charged by Congress and FWS with developing a visitor program that is self-sustaining financially. To help us meet this goal Congress has also given the refuge receipts authority, which allows the refuge to keep reasonable fees collected for services provided at Midway Atoll. These fees will be used to offset costs of implementing the visitor services program.

Costs shown below were determined by allowing 5 days of extra work by the refuge biologist to complete the needed administrative work to enroll visitors as volunteers, provide the needed orientation and instruction, monitor their work, and complete the needed reporting requirements. Offsetting revenues shown are generated by multiplying the daily visitor fee (\$55) times the anticipated number of participants (125) under a fully operating program.

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and Management		\$1,000
Maintenance		
Monitoring		\$650
Special equipment, facilities or improvements		
Offsetting revenues		\$6,875

### Anticipated Impacts of the Use(s):

1. *Seabird population monitoring.* Minimal impact is anticipated from activity of participatory research volunteers within nesting seabird colonies. Potential impacts include destroying nesting burrows of Bonin petrels or wedge-tailed shearwaters, temporary disturbance to nesting birds, or disturbing a resting monk seal or green sea turtle from a nearby haulout location. 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, and Nimon *et al.* 1995). Studies, however, have not been conducted to document the long-term cumulative effects of this human disturbance. Another study on Xanthus' murrelets (*Synthliboramphus hypoleucus*) documented an increased stress response when birds were handled for a longer period during research activities (Newman *et al.* 1997). Short-term participatory research volunteers will be working at a slower pace than a trained FWS biologist or volunteer, potentially increasing the amount of disturbance to nesting seabirds involved in the study or in the area.

2. *Habitat restoration.* Minimal to no impact to nesting seabirds found within the targeted habitat restoration area is anticipated. Impacts include temporary disturbance to surface-nesting adults or chicks or injury or death of Bonin petrel or wedge-tailed shearwater adult/egg/chick after crushing a burrow. See above (1) for seabird/human disturbance concerns.
3. *Historic site preservation.* Minimal to no impact on nesting seabirds or other wildlife from actions to stabilize historical structures or to remove invasive trees and shrubs is expected.

#### **Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006, through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

#### **Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

#### **Stipulations Necessary to Ensure Compatibility:**

- All participating visitors will attend the initial orientation and will be thoroughly briefed by the FWS-approved staff and/or guides on the approved and prohibited activities.
- Participants involved in seabird projects will be shown how to collect data to avoid or minimize nesting bird disturbance, including burrowing species. Orientation will include a demonstration of how to clear a petrel burrow after cave-in. Field activity will be timed to avoid exposure of chicks and eggs to intense sun.

- Participants in habitat restoration projects will be supervised by FWS-approved staff and/or guides. They will avoid areas where nesting (including burrowing) birds will be disturbed.

**Justification:**

Participation of visitors in research, monitoring, habitat restoration, and historic preservation projects will contribute to the achievement of refuge objectives. Projects will be completed that would not be possible given limitations on staff. Participants will also benefit by the educational experience and by the opportunity to contribute directly to refuge projects.

**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:**

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.

Jungius, H. and U. Mirsch. 1979. Changes in heartbeats in nesting birds at Galapagos by human disturbance. J. Orn. 120:299-310.

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

**Refuge Determination:**

Refuge Manager  
Approval:

Barry Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Barry W. Stogd  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Lawrence Wilcox  
(Signature) Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Carolyn L. Bohan  
(Signature) Date 5/23/07

## Appendix F.4 Airport Operations (Nonadministrative)

### FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge/Battle of Midway National Mem.

Use: Airport Operations (Nonadministrative)

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: Barry Christensen

Date: May 14, 2007

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: Ernest W. Cameron

Date: May 14, 2007

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: Airport Use for nonadministrative purposes

Supplemental information for Decision Criteria (e) and (i):

(e) Is the use consistent with goals and objectives in an approved management plan or other document?

Although not a specific refuge purpose, Midway Atoll has been charged by Congress with the continued operation of Henderson Airfield for use as an emergency diversion airport for twin-engine jets flying over the Pacific (Public Law 108-176 section 186). In cooperation with the Federal Aviation Administration (FAA), FWS, through its contractor, operates Henderson Airfield to meet appropriate Part 139 Standards (14 CFR Part 139). This appropriateness finding addresses nonemergency landings by aircraft for nonadministrative purposes such as the visitor program. No additional refuge acreage has been taken or altered for this use. Over time the abandoned runway will be restored to natural habitat appropriate for that part of the island. Henderson Airfield operation is managed to the maximum degree possible to minimize harm to refuge resources – primarily seabirds such as albatrosses, white terns, and brown noddies.

(ii) Does the use contribute to the public's understanding and appreciation of the refuge's natural and cultural resources, or is the use beneficial to the refuge's natural or cultural resources?

Operation of Henderson Airfield allows the refuge staff, other agencies, and the public the opportunity to come to Midway by airplane instead of relying solely on ships. This one logistical factor makes Midway unique among the Northwestern Hawaiian Islands and is the pivotal reason FWS is able to plan a visitor program at Midway. With the airport, far more visitors will be able to come to Midway than by ship alone, allowing them the opportunity to observe and learn about the diverse wildlife species and varied historic resources that make Midway a unique location to visit and a culturally important site for all Americans.

## Compatibility Determination

- Use(s):** Airport Operation (for Nonadministrative Purposes)
- Refuge Name:** Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial
- City/County and State:** Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

### Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge was established in 1988 as an overlay National Wildlife Refuge (NWR) under a cooperative agreement with the U.S. Navy. Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the U.S. Navy (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. Custody and accountability for Midway Atoll were officially transferred from the Navy to the FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

### Refuge Purpose(s):

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).



The following additional purposes were included in Executive Order 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the U.S. 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.

**National Wildlife Refuge System Mission:**

The mission of the National Wildlife Refuge System is:

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 [16 U.S.C. 668dd-668ee.]

**Description of Use(s):**

Although not a specific refuge purpose, Midway Atoll has been charged by Congress with the continued operation of Henderson Airfield for use as a Part 139 airport for twin-engine jets flying over the Pacific. In cooperation with the FAA, FWS, through its contractor, operates Henderson Airfield to meet appropriate Part 139 Standards.

Modern large passenger airplanes are extremely safe and reliable so use of Henderson Airfield for this purpose is very rare. In fact, in the past 3 years only one large passenger airliner has landed at Midway due to an in-flight emergency. However, many other aircraft use Henderson Airfield on a regular basis. Nonrefuge administrative/management flights that would be covered by this use include FAA required navigational aid flight checks, flights by other agencies that have business or equipment on Midway, and visitor program flights. For the period of this plan (less than 5 years), nonadministrative flights are estimated at 50 per year. This is a maximum figure based on 4 visitor flights per month for 9 months and 14 other agency flights.

Use also includes operation of a fuel truck to fuel a limited number of non-FWS related aircraft. At the present time this includes the Coast Guard but not general transient aircraft as the FWS has issued a Notice to Airmen that fuel sales at Midway have been discontinued.

**Availability of Resources:**

Adequate personnel and funding are available for operation of Henderson Airfield. Current funding for airport operations comes from the FAA at the direction of Congress. Refuge personnel assist with airport operations from time to time, but this is an infrequent demand on refuge resources and within our available staffing and funding. Nonrefuge/FAA flights are charged a landing fee, which can be used to offset personnel and equipment costs of staffing the airport and is adequate to cover costs incurred by the charged flight. The costs detailed below are calculated using an estimated 36 visitor flights per year (9 months at 4/month) and 14 other agency flights per year for a total of 50. Revenues from landing and ramp fees vary by the amount of services provided and range from a low of \$464 to a maximum of \$1,547. For the purposes of this analysis an average rate of \$1,130 is used based on the most common services provided.

<b>Category and Itemization</b>	<b>One time (\$)</b>	<b>Annual (\$/yr)</b>
Administration and Management	\$300	\$15,000
Maintenance	100	5,000
Monitoring	64	3,200
Special equipment, facilities or improvements	666	33,300
Offsetting revenues	\$1,130	\$56,500

**Anticipated Impacts of the Use(s):**

The 2 million seabirds that use Midway during the peak breeding season make aircraft flights to the island potentially hazardous to both the birds and the aircraft. Albatrosses, both Laysan and black-footed, use the airport runway as a soaring area as they travel on feeding forays during the day (363 seabird runway crosses per minute, Dolbeer and Arrington, 1996). Bird use of the runway declines dramatically at night (6 seabird runway crosses per minute, Dolbeer and Arrington, 1996) however, so flights then have a much reduced chance of hitting birds. During the primary albatross season, November through July, flights are scheduled to arrive and depart during dark, thus minimizing impacts to albatross and other seabirds. During the months of August, September, and October flights arrive during the day and may occasionally hit a white tern or brown noddly. It is not possible to reduce the bird strike risk at Henderson Airfield to zero at any time of day or year short of suspending all administrative and nonadministrative flight operations. However, the small number of annual flights to the island and the requirement of night flights for most of the year make the overall impact to refuge resources minimal.

Extensive use of lights at the airport hangar causes problems for seabirds, especially Bonin petrels. These birds are disoriented by the bright flood lights at the hangar and as a result

frequently fly into the side of the building and roof. During peak petrel season, this activity can result in death or injury of up to 6 birds per night. Currently this type of use and impact occurs during night arrivals in the months from November through May. The frequency of aircraft arrival at Henderson Airfield will go up upon implementation of this plan to from the current 3 per month to as many as 8 per month at full operation.

Proper operation of the fuel truck presents no hazards to refuge resources. In the event of a spill, fuel containment supplies and equipment are stored at the airport hangar for immediate response.

### **Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006, through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

### **Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

### **Stipulations Necessary to Ensure Compatibility:**

- Except for emergency landings, flights will be required to land and depart in the dark during the months from November through July.
- To reduce the time during which aircraft fly at heights used most frequently by birds (1,000 feet or less), aircraft will be advised to use steeper than normal landing and take-off flight paths. For landings, pilots will be advised to use a 1,500-foot displaced threshold and then descend at a 5 degree glide slope. For take-offs, pilots will be advised to be airborne by midfield and then to climb out at a path of 10-11 degrees pitch up for first 1,000 feet of elevation.
- Lights used to illuminate airport passenger and baggage handling areas must be designed and installed to reduce impacts to Bonin petrels, which are negatively affected by artificial light.
- Prior to each landing and take off, airport staff will ensure the runway is clear of all birds. Frequently this involves physically removing them by hand.

**Justification:**

Operation of Henderson Airfield at Midway Atoll NWR increases safety of all flights crossing the northern Pacific and is congressionally mandated. Use of the airport by other agencies with official business at Midway can be allowed by using proper procedures that reduce the impacts to Midway's wildlife resources to a very minimal level. Flights to accommodate the visitor program will greatly increase the number of people who can experience, learn about, and enjoy the wildlife and historic resources found at Midway Atoll.

**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:**

Dolbeer, R., and D. P. Arrington. 1996. Can albatrosses and aircraft coexist on Midway Atoll? In Bird Strike Committee Europe, London.

**Refuge Determination:**

Refuge Manager  
Approval:

Benny Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Borey W. Hight  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Lance W. Cameron  
(Signature)

Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Carolyn L. Bohan  
(Signature)

Date 5/23/07

## Appendix F.5 Nonwildlife-Dependent Beach Use

### FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge/Battle of Midway National Mem.

Use: Nonwildlife-Dependent Beach Use

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Is the use consistent with public safety?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Is the use manageable within available budget and staff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(h) Will this be manageable in the future within existing resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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: Barry Christensen Date: May 14, 2007

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: Forest Williams Date: May 14, 2007

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: Nonwildlife-dependent Beach Use

Supplemental information for Decision Criteria (e) and (i):

(e) Is the use consistent with goals and objectives in an approved management plan or other document?

This use is consistent with the approved 1996 Public Use Plan.

Both island residents and visitors are aware through an orientation given to all persons when they first arrive on the island that this privilege is allowed only as long as it has no negative impacts to fish or wildlife resources using the area. No negative impacts to Hawaiian monk seals, seabirds, or other wildlife have been detected by refuge staff during casual, periodic monitoring during the past 4 years. A more rigid and quantifiable impact analysis will be developed prior to full scale implementation of this visitor program. Detected negative impacts to sensitive wildlife species, notably monk seals, will require that the use parameters be changed or the use discontinued.

(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?

Swimming or sunbathing does not directly contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, nor is the use beneficial to the refuge's natural or cultural resources. However, if the refuge rules for use of the beach are followed, neither do they detract from them.

Although not a priority public use as determined by the National Wildlife Refuge System Improvement Act of 1997, nonwildlife-dependent beach use at Midway Atoll NWR is popular and compatible. The opportunity to relax on the beach and swim in the lagoon waters will enhance the quality of life for Midway residents, many of whom are stationed at the refuge for extended periods, without access to amenities normally available in a typical urban setting. Although their primary interest may be swimming or sunbathing, the abundance of birdlife that continually flies overhead makes these activities a wildlife observation opportunity as well.

These opportunities will also be available for refuge visitors, to improve their experience without jeopardizing Midway's wildlife resources or conflicting with the high priority wildlife-dependent activities.

## Compatibility Determination

- Use(s):** Nonwildlife-dependent Beach Use
- Refuge Name:** Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial
- City/County and State:** Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

### Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge was established in 1988 as an overlay National Wildlife Refuge (NWR) under a cooperative agreement with the U.S. Navy. Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the U.S. Navy (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. Custody and accountability for Midway Atoll were officially transferred from the Navy to the FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

### Refuge Purpose(s):

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).

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

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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.

### **National Wildlife Refuge System Mission:**

The mission of the National Wildlife Refuge System is:

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. (16 U.S.C. 668dd et seq.)

### **Description of Use(s):**

Midway Atoll NWR residents and visitors use North Beach for nonwildlife-dependent beach activities such as sunbathing and swimming. Although all of North Beach is open for visitor use, most activities occur in the small area between Captain Brooks and the Clipper House. The entire North Beach is open as a "trail" for wildlife observation and receives use from refuge residents and visitors. Impacts to refuge resources under that use are covered in the Wildlife Observation Compatibility Determination.

A small number (6) of heavy, plastic lounge chairs will be set out for visitor use. This type of solid chair with no openings has been in use on North Beach for nearly 10 years and has caused no negative impacts on nearby seabirds or monk seals. Visitors and residents typically spend only a small part of a day on the beach (less than 1 hour), usually to relax and swim during the afternoon. Swimming is typically of short duration and is restricted to areas close to shore. In the interest of public safety, a pole with a throw line and life saving ring are mounted in the center of this use area. Beach users will be advised that swimming will be allowed from ½ hour after sunrise until ½ hour before sunset. Sunrise/sunset tables will be posted in the Captain Brooks beach facility.

### Availability of Resources:

Current refuge staffing is not adequate to properly run a quality visitor program. For Fiscal Year 2007 it is anticipated that the refuge will add at least one refuge ranger on-island to work with visitors. Additional staff support will be provided by the Hawaiian and Pacific Islands NWR Complex for periods of peak visitor use. To properly support the full visitor program envisioned in 2008 and beyond, two additional visitor services specialists and a law enforcement officer will be required in addition to increased staffing needs by the refuge infrastructure support contractor.

Midway Atoll NWR has been charged by Congress and the FWS with developing a visitor program that is self-sustaining financially. To help us meet this goal Congress has also given the refuge receipts authority, which allows the refuge to keep reasonable fees collected for services provided at Midway Atoll. These fees will be used to offset costs of implementing the visitor services program. Costs for administration of this use are estimated below:

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and Management	\$	\$
Maintenance		
Monitoring		1350
Special equipment, facilities or improvements	400	
Offsetting revenues	\$0	\$27,500

Monitoring costs were calculated based on 1.5 hours per week for 9 months for a GS-7 refuge ranger. Special equipment includes the one time purchase of new beach chairs. Offsetting revenues were calculated for 500 visitors paying a daily refuge access fee of \$55, part of which would be used to support this use.

### Anticipated Impacts of the Use(s):

Minimal to no negative impacts to refuge resources are expected from this activity. Visitors could displace resting monk seals from preferred beach areas if refuge visitor guidelines regarding beach use are not followed. Sea turtles have not been seen on North Beach, but should one choose to haul out there, the standard 150-foot viewing distance would be required. Since no seabird or Laysan duck nesting occurs in the areas used for this activity, no impacts to albatrosses, petrels, shearwaters, Laysan ducks, or other birds are expected. If a monk seal has hauled out in an area frequently used by visitors, the area will be signed as temporarily closed until the seal changes locations, thereby preventing disturbance to the seal.

**Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006, through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

**Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

**Stipulations Necessary to Ensure Compatibility:**

- As part of their orientation, visitors will receive information on how to avoid disturbance to wildlife, especially Hawaiian monk seals and green sea turtles, and how to recognize behavioral indicators of disturbance.
- Beach areas occupied by resting monk seals will be signed with small portable seal shaped placards placed 50 yards from the seals to advise visitors of the seals' presence so they do not inadvertently cause disturbance.
- Swimmers will be advised to leave the water if a monk seal or sea turtle approaches them in the water.
- Beach users will be advised how to respond if approached on the beach by a monk seal or sea turtle.

**Justification:**

Although not a priority general public use as determined by the National Wildlife Refuge System Improvement Act of 1997, compatible nonwildlife-dependent beach use at Midway Atoll NWR is a popular activity. Visitors and residents alike benefit from the chance to sit and relax on North Beach. Although their primary interest may be sunbathing, reading, or relaxing, the abundance of birdlife continually flying overhead makes this activity a wildlife observation opportunity as well.

Alternative recreational opportunities will enhance the quality of life for Midway residents, many of whom are stationed at the refuge for extended periods, without access to amenities normally available in a typical urban setting.

**Mandatory 10- or 15-year Reevaluation Date:**

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

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

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Refuge Determination:**

Refuge Manager  
Approval:

Benny Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Benny W. Stegitz  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Lawrence W. Cameron  
(Signature)

Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Arloynal Bohor  
(Signature)

Date 5/23/07

## Appendix F.6 Nonwildlife-Related Outdoor Sports

### FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge/Battle of Midway National Mem.

Use: Nonwildlife-Related Outdoor Sports

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: Barry Christensen Date: May 14, 2007

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: Laurel Williams Date: May 14, 2007

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: Nonwildlife-dependent outdoor sports

Supplemental information for Decision Criteria (e) and (i):

(e) Is the use consistent with goals and objectives in an approved management plan or other document?

This use is consistent with the 1996 Public Use Plan for Midway Atoll. Nonwildlife-dependent sports on Midway are also consistent with the right-sizing plan completed by contractors for FWS in 2003. That planning document is used by FWS to make long-term commitments for infrastructure improvements. It acknowledges the need for island residents and visitors to participate in sporting activities by leaving structures such as the gym and All Hands Club.

This use is considered appropriate only due to the unique circumstances that make Midway Atoll both a NWR and a remote, functioning community of 60-85 persons. Normally, refuge staff and visitors have many alternative locations to participate in sports activities and do not need to conduct them on a refuge. However, Midway's location, a remote island over 1,200 miles from the nearest other community with sports facilities, means that island residents and visitors have no alternative to use of the refuge for this purpose. Allowance of this use, especially for refuge residents, helps the participants stay in good physical shape and contributes toward overall morale and improved mental health.

(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?

Although not a priority general public use as determined by the National Wildlife Refuge System Improvement Act of 1997, nonwildlife-dependent sports at Midway Atoll NWR are popular. Alternative recreational opportunities will enhance the quality of life for Midway residents, many of whom are stationed at the refuge for extended periods without access to amenities normally available in a typical urban setting. Although their primary interest may be biking or jogging, the abundance of birdlife that continually flies overhead or literally covers the field along the road makes these activities a wildlife observation opportunity as well.

These opportunities will also be available for refuge visitors, to improve their experience without jeopardizing Midway's wildlife resources or conflicting with the high priority wildlife-dependent activities.

## Compatibility Determination

- Use(s):** Nonwildlife-related Outdoor Sports
- Refuge Name:** Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial
- City/County and State:** Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

### Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay NWR under a cooperative agreement with the U.S. Navy (Navy). Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the U.S. 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. Custody and accountability for Midway Atoll were officially transferred from the Navy to FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

### Refuges Purpose(s):

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).



The following additional purposes were included in Executive Order 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the U.S. 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.

**National Wildlife Refuge System Mission:**

The mission of the National Wildlife Refuge System is:

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. (16 U.S.C. 668dd et seq.)

**Description of Use(s):**

Several forms of nonwildlife-dependent recreation will be permitted at Midway Atoll for visitors and residents. Permitted outdoor recreation will include bicycling, jogging, volleyball, and tennis. Most sports will continue to be concentrated within the most developed areas of Sand Island. Volleyball will be allowed only in the designated sand court area adjacent to the Captain Brooks facility. Jogging and exercise bicycling will be restricted to hard surface roads in the town and industrial/historical area of Sand Island during daylight hours only (sunrise to sunset) to avoid wildlife collisions and promote safety. The tennis court is located on concrete under the roofline of the airport hangar.

**Availability of Resources:**

The proposed use is conducted by refuge residents and visitors during their free time, thus no refuge staff time is needed for direct supervision or involvement. However, periodic oversight

will be required to ensure that this use is not having unexpected impacts on wildlife. Adequate biological staff is available for that review, but a refuge officer is needed on island to handle any law enforcement situation that may arise from residents or visitors who do not follow refuge rules regarding closed areas. Annual cost estimates below were calculated using the cost for a GS-11 biologist for one day and a GS-7 refuge officer for one day. Monitoring will be occasional in nature and is not expected to exceed 8 hours per year for each person. All biking and jogging will occur on existing roads and trails that are also used for refuge administrative purposes, therefore no new maintenance costs will occur. All other costs associated with this use are born by the island Morale, Welfare, and Recreation fund.

<b>Category and Itemization</b>	<b>One-time (\$)</b>	<b>Annual (\$/yr)</b>
Administration and Management		
Maintenance		
Monitoring		\$520
Special equipment, facilities or improvements		
Offsetting revenues	\$0	\$0

**Anticipated Impacts of the Use(s):**

Occasional disturbance to nesting albatrosses or albatross chicks may occur around the outdoor volleyball court, but the court has a nest-free margin of 20-30 feet, giving the birds an adequate buffer from court activity and stray balls. The court area is free of petrel or shearwater burrows, so no impacts will occur to those ground nesting birds. The court area is at the extreme edge of the typical beach use area by monk seals (300 feet from the water’s edge) so direct or even indirect impacts to seals from volleyball in this location is unlikely. No sea turtles have been observed on North Beach. Bicycling and jogging will also result in little or no impact on wildlife because bikers and joggers will remain on paved roads or marked trails. Joggers will be directed to stay on the paved/gravel roads due to the high risk of stepping into or collapsing a petrel burrow.

**Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006, through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

**Compatibility Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

**Stipulations Necessary to Ensure Compatibility:**

- Closed areas will be posted and regulations strictly enforced. Residents and visitors will be informed about closed area restrictions through orientation sessions and posted notices.
- Bicycling and jogging will be limited to paved and gravel roads and trails during daylight hours only (sunrise to sunset).
- A 150-foot approach restriction for seals and turtles will be strictly enforced. If a seal moved to within this distance of the volleyball court, the area would not be used (or the game stopped) until the seal voluntarily left the area.
- The volleyball net will be taken down and stored when not in use to eliminate the threat of injuring a bird in flight.

**Justification:**

Although not a priority general public use as determined by the National Wildlife Refuge System Improvement Act of 1997, compatible nonwildlife-dependent sports at Midway Atoll NWR are popular. Alternative recreational opportunities will enhance the quality of life for Midway residents, many of whom are stationed at the refuge for extended periods, without access to amenities normally available in a typical urban setting. Although their primary interest may be biking or jogging, the abundance of birdlife that continually flies overhead or literally covers the field along the road makes these activities a wildlife observation opportunity as well.

These opportunities will also be available for refuge visitors, to improve their experience without jeopardizing Midway’s wildlife resources or conflicting with the high priority wildlife-dependent activities.

**Mandatory 10- or 15-year Reevaluation Date:**

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

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Refuge Determination:**

Refuge Manager  
Approval:

Barry Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Barry W. Steitz  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Lance W. Cameron  
(Signature)

Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Michael D. Bohan  
(Signature)

Date 5/23/07

## Appendix F.7 Amateur Radio Use

### FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Midway Atoll National Wildlife Refuge/Battle of Midway National Mem.

Use: Amateur Radio Use

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Is the use consistent with public safety?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Is the use manageable within available budget and staff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Will this be manageable in the future within existing resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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: Barry Christensen Date: May 14, 2007

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: Garrett W. Carver Date: May 14, 2007

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: Amateur radio operation

Supplemental information for Decision Criteria (e), (g), (h), and (i):

(e) Is the use consistent with goals and objectives in an approved management plan or other document?

Yes. Although amateur radio operation at Midway Atoll NWR is not specifically addressed in goals and objectives in an approved management plan or other document, this use does not conflict with refuge purposes.

(g) Is the use manageable within existing budget and staff?

No. Existing staffing and funding levels are not adequate to run a quality visitor program. With additional staff and funds to operate a visitor program, this use could easily be included.

(h) Will this be manageable in the future within existing resources?

No. Only through additional staffing and funds to support a visitor services program will the refuge be able to support this use. For Fiscal Year 2007 it is anticipated that the refuge will add at least one park ranger on-island to work with visitors. Additional staff support will be provided by the Hawaiian and Pacific Islands NWR Complex for periods of peak visitor use. To properly support the full visitor program envisioned in 2008 and beyond, two additional visitor services specialists and a law enforcement officer will be required in addition to increased staffing needs by the refuge infrastructure support contractor. This use will not be allowed until there is adequate staffing and funding to properly manage it on the refuge. Visitor fees and monument permit fees paid by amateur radio operators will be used to offset the added management cost of this use.

(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?

Amateur radio operation at Midway Atoll NWR will not directly contribute to the public's understanding and appreciation of the refuge's natural, historic, or cultural resources, nor is it beneficial to those resources. However, any visitor to Midway, even one whose primary reason for visiting does not relate to the refuge mission or purpose, cannot spend a week on the refuge without gaining some understanding of its historical significance and its diverse wildlife. Both the history and the wildlife are so direct, obvious, and unavoidable that all visitors garner some appreciation of both through observation or discussions with island residents or refuge staff. In addition, amateur radio operators have the opportunity to educate people around the world about the refuge and Papahānaumokuākea Marine National Monument. One stipulation associated with this use is that amateur radio users will be required to provide educational messages about the monument and Midway Atoll as a condition of their permit.

## Compatibility Determination

**Use(s):** Amateur Radio Operation

**Refuge Name:** Midway Atoll National Wildlife Refuge and the Battle of Midway National Memorial

**City/County and State:** Midway Atoll is the penultimate western atoll in the Northwestern Hawaiian Islands, is an unincorporated territory of the United States, and lies outside the State of Hawaii.

### Establishing and Acquisition Authority(ies):

Midway Atoll National Wildlife Refuge (NWR) was established in 1988 as an overlay NWR under a cooperative agreement with the U.S. Navy. Under this agreement, administrative responsibility for the refuge was shared by the U.S. Fish and Wildlife Service (FWS) and the U.S. Navy (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. Custody and accountability for Midway Atoll were officially transferred from the Navy to FWS in May 1996. Executive Order 13022, signed by President Clinton on October 31, 1996, 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 8031 making Midway Atoll NWR part of the newly established Papahānaumokuākea Marine National Monument. Under that Proclamation, Midway has unique authority and responsibility as a Special Management Area.

### Refuge Purpose(s):

Midway Atoll NWR was established pursuant to the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act of 1934. 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).



The following purposes were included in Executive Order 13022, dated October 31, 1996, which transferred jurisdiction and control over the Midway Islands from the Navy to the 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.

### **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System is:

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. (16 U.S.C. 668dd-668ee)

### **Description of Use(s):**

Midway Atoll NWR receives occasional requests from amateur radio enthusiasts for permission to travel to the refuge for the purpose of broadcasting as an amateur radio operator. Amateur radio operators are those who use radio transmitters and receivers to communicate with other amateur radio operators as a hobby. The demand for this use at Midway Atoll NWR stems from a list of geographic locations which are designated as "countries." It is an objective of these amateur radio enthusiasts to receive and/or transmit from these "countries" and certain remote, uninhabited, or otherwise difficult to reach sites become desirable sites from which to broadcast and receive due to the rarity of transmissions from those sites.

At Midway, amateur radio operators are able to set up and transmit from inside existing buildings. In the past, the airport hangar has been used for this purpose. In most cases, the operators would set up temporary antennas for transmission, usually on the roof of the building. Newer technology allows transmissions with smaller antennae (typically less than 30 feet) than previously possible. Since the goal of the individual or group is to maximize transmissions, the station is normally operated 24 hours a day during the visit period. These visitors are primarily

interested in operating their radios but their proximity to Midway’s wildlife will ensure that they also spend time observing and learning about our nesting seabirds and marine life.

**Availability of Resources:**

Current refuge staffing is not adequate to properly run a quality visitor program. For Fiscal Year 2007 it is anticipated that the refuge will add at least one refuge ranger on-island to work with visitors. Additional staff support will be provided by the Hawaiian and Pacific Islands NWR Complex for periods of peak visitor use. To properly support the full visitor program envisioned in 2008 and beyond, two additional visitor services specialists and a law enforcement officer will be required in addition to increased staffing needs by the refuge infrastructure support contractor. Certain refuge infrastructure improvements will also be needed to support the visitor program. These will include improved signing, larger and safer boats, on-island transportation (bicycles or golf carts), and kayaks.

The estimated costs below were calculated for 20 hours of management oversight and 8 hours of biological monitoring. They will also use an indeterminate amount of refuge electricity and special improvements to accommodate their equipment. The off-setting revenue shown is the cost of a Special Use Permit at Midway Atoll NWR for an activity by a third party that has no link to refuge purposes or mission. These fees are being re-evaluated as part of the new monument designation.

<b>Category and Itemization</b>	<b>One-time (\$)</b>	<b>Annual (\$/yr)</b>
Administration and Management	\$1,150	\$
Maintenance		
Monitoring	320	
Special equipment, facilities or improvements	400	
Offsetting revenues	\$5,000	\$

Midway Atoll NWR has been charged by Congress and FWS with developing a visitor program that is self-sustaining financially. To help us meet this goal Congress has also given the refuge receipts authority, which allows the refuge to keep reasonable fees collected for services provided at Midway Atoll. These fees will be used to offset costs of implementing the visitor services program.

**Anticipated Impacts of the Use(s):**

The antenna for transmitting the radio signal is the only aspect of this use that has potential for impacting refuge resources. The high density of nesting seabirds on Sand Island makes installation of additional tall antennae, even for a short period, a concern as they are a strike hazard for flying birds. Shorter antennae, locations away from primary flight lanes, attachment or close proximity to large objects avoided by the birds (e.g., the water tower) and time of year

are all means to reduce this impact. With proper use of the above techniques, minimal or no impacts are expected to refuge resources.

The administrative oversight necessary to allow this use takes time from refuge staff that could be used for other, higher priority refuge business. It is expected that each applicant (or group) will require up to 1 day for permit review, communication, etc. Additionally, once on Midway the group will require special handling and more time due to the complexity of their use and possible impacts. It is estimated that a week visit from a radio group will use 8-12 hours of staff time for oversight while they are on-island – an indirect impact to refuge resources.

### **Public Review and Comment:**

This determination was issued for public review and comment as part of the Draft Interim Visitor Services Plan from the period of December 8, 2006, through February 6, 2007. The plan and associated compatibility determinations were made available through printed copies upon request and through the FWS Website at <http://www.fws.gov/midway>. This level of review and comment was selected to meet FWS requirements under the National Wildlife Refuge System Administration Act of 1966, as amended.

### **Determination:**

- Use is Not Compatible
- Use is Compatible with Following Stipulations

### **Stipulations Necessary to Ensure Compatibility:**

- Use of freestanding antennae will be allowed only during the months of August, September, and October when albatross are off-island, unless installed in close proximity to other large objects, such as the water tower, so as not to incur an additional flight hazard to seabirds. The location must be approved by the refuge manager to ensure that other species (Bonin petrel, wedge-tailed shearwaters, white terns) are not affected.
- Amateur radio users must apply for a separate monument recreation permit in order to visit Midway Atoll. They will not be covered under the refuge manager's recreation permit.
- Amateur radio users will be required to provide educational messages about the monument and Midway Atoll as a condition of their permit.
- Allowance of this use will only be scheduled if it does not displace a visitor whose purpose is one of the Refuge System's wildlife-dependent public uses.

**Justification:**

Although not a priority public use, amateur radio operation can be allowed at Midway Atoll NWR due to the refuge's extensive existing infrastructure. Amateur radio operators can use existing facilities and/or mount their antennae in a manner that will not materially interfere with or detract from achievement of the refuge's primary purposes or the Refuge System mission.

**Mandatory 10- or 15-year Reevaluation Date:**

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

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

Environmental Assessment and Finding of No Significant Impact

Environmental Impact Statement and Record of Decision

**Refuge Determination:**

Refuge Manager  
Approval:

Benny Christensen  
(Signature)

Date: 5/21/07

Project Leader,  
Hawaiian and Pacific  
Islands NWRC

Barry W. Steg  
(Signature)

Date 5/21/07

**Concurrence:**

Refuge Supervisor  
National Wildlife  
Refuge System  
Pacific Region

Lawrence W. Clamer  
(Signature)

Date 5/23/07

Regional Chief,  
National Wildlife  
Refuge System

Carolyn L. Bohan  
(Signature)

Date 5/23/07