Compatibility Determination

Refuge Access for Visiting Sailboats and Motorized Boats, Palmyra Atoll National Wildlife Refuge

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Refuge Use Category

Boating

Refuge Use Type(s)

Boating (wind-driven), Boating (motorized), Moorage (general), Navigation

Refuge

Palmyra Atoll National Wildlife Refuge within the Pacific Remote Islands Marine National Monument

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

The Palmyra Atoll National Wildlife Refuge (Refuge) was established to protect and preserve the natural character of fish, wildlife, plants, coral reef communities, and other resources associated with the tidal lands, submerged lands, and waters of Palmyra. (Secretarial Order 3224)

The Pacific Remote Islands Marine National Monument (Monument) was established to protect objects of historic and scientific interest on land and within the waters surrounding Wake, Palmyra, and Johnston Atolls, Kingman Reef, and Howland, Baker and Jarvis Islands (Presidential Proclamation 8336, Presidential Proclamation 9173).

The Secretary of the Interior (through the U.S. Fish and Wildlife Service), in consultation with the Secretary of Commerce (through the National Oceanic and Atmospheric Administration), has primary responsibility for management of the Monument pursuant to applicable legal authorities. The Secretary of Commerce (through the National Oceanic and Atmospheric Administration) and in consultation with the Secretary of the Interior (through the U.S. Fish and Wildlife Service) has primary responsibility seaward of the area 12 nautical miles of the mean low water lines of the Monument units with respect to fishery-related activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) and any other applicable legal authorities.

Establishing and Acquisition Authorities:

1) Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a-742m);
2) Refuge Recreation Act of 1962, as amended (16 U.S.C. 460k–460k-4); and
3) National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd-668ee).
4) Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544,87 Stat. 884).
5) Presidential Proclamation 8336 and Presidential Proclamation 9173 under the authority of the Antiquities Act (34 Stat. 225, 16 U.S.C. 431).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as 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 (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

Yes. This Compatibility Determination reviews and replaces the 2001 Interim Compatibility Determination for Refuge Access by Visiting Recreational Sailing and Motorized Boating.

What is the use?

The use (boating) is the access to the Refuge by visitors arriving in privately-owned sailboats and motorboats (collectively referred to as vessels), and commercial vessels (e.g., chartered motor or sail vessels, commercial live-aboard dive boats, cruise ships, etc.). It includes the primary vessel, as well as shore-access vessel(s). Recreational boating (e.g., small boat sailing, personal watercraft, surfing, windsurfing, kitesurfing, foil boarding, paddle boarding) is not covered within this determination.

Is the use a priority public use?

No

Where would the use be conducted?

Access to the Refuge by privately-owned and commercial vessels is allowed using the most direct route transecting the marine waters of the Refuge, through the entrance channel, and into the western lagoon. The nominal distance required to transverse

the marine waters of the Refuge is approximately 12 nautical miles. The moorage area within the western lagoon is approximately 70 acres (Attachment 1). A Special Use Permit (SUP) will define specific areas which are accessible to the visitors. Overall, the marine acreage involved with this use is less than 1% of the total marine acreage of the Refuge.

Boating will be allowed as a means to facilitate Refuge public use programs, namely the priority public use programs of wildlife observation, photography, environmental education, and interpretation. The use will be conducted in a manner consistent with Refuge regulations, with additional stipulations to protect fish, wildlife, and habitat.

Private individuals and commercial operators interested in visiting Palmyra are required to apply for and obtain permission via a SUP prior to arrival. Information regarding visitation requirements and prior approval will be kept current and publicly available at https://www.fws.gov/refuge/palmyra-atoll/visit-us. Vessels arriving at, and desiring to visit Palmyra, but without advanced reservation, will be turned away.

Permission to visit the Refuge will only be allowed when Refuge staff are present on Palmyra. Refuge staff are present on the Refuge approximately 6-12 months per year. The months when Refuge staff are present varies from year to year.

Vessels will traverse the marine waters of the Refuge using the most expedient and safe course to the entrance channel of the western lagoon. Access is restricted to vessels that can safely navigate within the width and depth of the channel. Vessels will be allowed to anchor in an area of their choice within a generally defined area of the western lagoon (Attachment 1). Up to two vessels at a time will be permitted to visit the Refuge for up to one-week duration each. The maximum number of vessels that will be permitted to visit is six (6) vessels per month. In past years, the Refuge has received approximately 12 inquiries and 3-4 arrivals per year.

The Nature Conservancy (TNC), a U.S. Fish and Wildlife Service (Service) conservation partner, owns Cooper Island, a small (~230 acre) inholding within the Refuge boundary, which contains all the infrastructure that supports occupancy of the atoll. TNC facilities include sleeping cottages, mess hall, docks, office, maintenance buildings, and an airfield. Access to Cooper Island must be arranged and secured through The Nature Conservancy.

Visitors arriving by vessels will participate in established Refuge visitor use programs including a mandatory Wildlife Safety Orientation given by the Refuge staff. Visitors will only be permitted to operate their ship-to-shore small boats on the Refuge as they travel to and from their vessels to designated areas on shore. Utilizing small boats for other recreational activities (i.e., to access snorkeling sites, diving, etc.) will be covered in additional Compatibility Determinations. Visitation to upland portions

of the Refuge is only allowed at Strawn Island and will be defined and restricted by conditions found in the SUP.

When would the use be conducted?

Boating will occur year-round. Once a vessel arrives at the Refuge, they would be present within the Refuge boundary for 24 hours per day for up to a seven (7) day period.

Why is this use being proposed or reevaluated?

Prior to establishment as a refuge, Palmyra had been a popular central Pacific Ocean destination for visiting sailors as a beautiful, protected anchorage in their travels across the Pacific, although advance permission was also required by the prior landowner. Since ownership, the Service has allowed a small number of vessels to visit the Refuge. The Service is proposing to continue this use as a waystation where mariners may experience Palmyra's unparalleled abundance of wildlife resources including seabirds, giant clams, diverse coral communities, and a wide variety of fish including sharks and manta rays. Mariners may also learn about the importance and rarity of the atoll's native tropical ecosystems and how the Service and our conservation partners work to protect them. Similar opportunities do not exist nearby. The next closest inhabited island is Tabuaeran Island, approximately 233 miles away.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use.

Existing Refuge resources are adequate to properly and safely administer this use in a way that will not materially interfere with or detract from fulfillment of the Refuge purpose(s) and the Refuge System mission. Incremental costs above general operational costs are those associated with the review of a visiting request, the issuance and implementation of a SUP and approximately a half day per vessel committed by the on-site Refuge staff to guide them into the lagoon and provide them with the Wildlife Safety Orientation. The cost associated with the review, issuance, and implementation of a SUP and the atoll arrival activities is minimal and can be covered within existing budget allocations. No visitor fees are required.

Anticipated Impacts of the Use

The effects and impacts of boating to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This Compatibility Determination includes

the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource." Geology and soils, air and water quality, floodplains, wilderness, visitor use and experience, cultural resources, Refuge management and operations, and socioeconomics will not be more than negligibly impacted by the action and have been dismissed from further analyses.

Palmyra Atoll is a low-lying coral atoll located at the northern end of the Line Islands archipelago. The Refuge includes emergent lands, tidal lands, submerged lands, and associated waters to the 12 nautical mile limit of the territorial sea. The Refuge consists of approximately 680 acres of emergent lands, 16,094 acres of coral reef habitat, and 515,232 acres of submerged land. The Refuge is protected within the Pacific Remote Islands Marine National Monument, which extends out to 50 nautical miles.

Palmyra Atoll is largely undeveloped and features native *Pisonia* forest communities, other lowland coastal natural communities, tidal sandflats, coral reefs and other benthic communities, and open waters. A complete description of the Refuge resources and the potential impacts of boating are described in the Environmental Assessment for the Proposed Palmyra Atoll National Wildlife Refuge and are hereby incorporated by reference (USFWS 2001).

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

Boating is consistent with the purposes of the Refuge and the Refuge System mission. The opportunity for visiting boaters to Palmyra Atoll is consistent with the Service's interest in providing visitors with the chance to see and enjoy the natural resources of the Refuge.

Short-term impacts

Human disturbance has differential effects on wildlife and is dependent upon, among other variables, the species involved and its age; the time of year; the breeding cycle stage (if applicable); the surrounding environment; whether the activity involves vehicles; the intensity, speed, noise, nature, and frequency of the disturbing activity; and the directness of approach to an animal (Blanc et al. 2006, Holmes et al. 2005, Hammitt and Cole 1998, Knight and Cole 1995a, Knight and Cole 1995b). Immediate responses by wildlife to recreational activity can range from behavioral changes including nest abandonment, altered nest placement, change in food habits, physiological changes such as elevated heart rates and increased energetic costs due to flight or flushing, or even death (Belanger and Bedard 1990, Knight and Cole 1995a, Knight and Swaddle 2007, Miller et al. 1998, Miller and Hobbs 2000, Morton et al. 1989, Smith-Castro and Rodewald 2010).

Visitors arriving on private or commercial vessels have the potential to affect endangered and threatened sea turtles and manta rays at sea while in the waters of the Refuge. There is also the potential for vessel groundings on the shallow reefs, accidental introductions of nonnative species, and the potential for oil spills and discharge of sewage and refuse or litter by the vessels. These potential impacts will be prevented or minimized by controlling the level of access, managing the use carefully, and placing restrictions on the visitors and their vessels. The Service will educate visitors before arriving about such regulations as open and closed areas, maximum vessel sizes, anchoring sites, rules for ballast-water exchange, pollution prevention, biosecurity measures, and speed limits. The Refuge Manager will have the ability to modify, suspend, or close the Refuge to boating if adverse effects cannot be prevented.

Visitors arriving on private or commercial vessels could adversely affect migratory birds that reside and nest in large numbers on the Refuge through accidental oil spills in the case of a shipwreck, and the accidental introduction of noxious alien species (such as rats, invasive plants, and insects). Management of this activity to ensure compatibility with endangered and threatened species protection and restoration, as described in the special conditions of the SUP, will help to prevent adverse effects on migratory birds.

Potential impacts to other biological resources include anchor damage to corals and other reef life; collection of shells, shellfish, and finfish; and harassment of fish and wildlife, including sea turtles, seals, dolphins, whales, manta rays, other reef fish, and feeding seabirds. Unless notified about prohibitions, visiting vessels could discharge sewage at the atoll. The ability of vessels to visit Palmyra could increase illegal fishing around the waters of the atoll. Information contained within the United States Coast Pilot 10 (NOAA 2021) is available to all mariners, updated regularly, and provides information regarding access and contact information.

Long-term impacts

Long-term effects in wildlife are difficult to assess but may include altered behavior, vigor, productivity or death of individuals; altered population abundance, distribution, or demographics; and altered community species composition and interactions. Kitaysky et al. (2003) found levels of corticosterone (a major stress hormone) in ʻuaʻu kani (wedge-tailed shearwaters, *Puffinus pacificus*) to be higher in chicks occupying burrows closer to (within 13 feet of) visitor-use areas. Holmes et al. (2005) found that, even at the recommended minimum approach distance (~16 feet), a single wildlife observer in a royal penguin (*Eudyptes schlegeli*) colony on Macquarie Island, Australia, triggered vigilance behavior and an increased heart rate in the birds. In another study, Holmes et al. (2007) found that vigilance behavior of Gentoo penguins (*Pygoscelis papua*) increased as the numbers of observers increased. A variety of

factors affect flushing distances among waterbirds, including the species involved; the activity the birds are engaged in (e.g., foraging versus nesting); and the type, speed, and noise of disturbance (e.g., approaching birds by walking versus in a motorized boat) (Rodgers and Smith 1997, Rodgers 1991). Flushing of birds or even raising their alert levels (which usually occurs at a greater distance than that for flushing) creates stress and requires animals to expend energy that otherwise would be invested in essential life history activities such as foraging, mating, nesting, brood-rearing, and predator avoidance. Breeding birds are especially sensitive to human disturbance (Trulio 2005, Hammitt and Cole 1998).

The use of private or commercial vessels to visit Palmyra will be limited to a low-level that is carefully managed to minimize altered behavior, distribution, and wildlife population abundance while ensuring compatibility with Refuge purposes.

The potential exists for the introduction of invasive species from visiting boaters. The Refuge historically has had invasive populations of rats, plants, and insect species introduced by visiting vessels prior to Refuge ownership, potentially dating up to 1,500 years ago during Polynesian voyaging (Hathaway et al. 2011). Quarantine protocols, SUP conditions, and limiting access are effective methods to reduce or eliminate the opportunity for invasive species to establish themselves on the Refuge.

There are no anticipated adverse cumulative environmental effects from boating as described in this Compatibility Determination.

Public Review and Comment

This compatibility determination was made available for public review and comment. Notice of this review was made through the Refuge's website: https://www.fws.gov/refuge/palmyra_atoll/ and directly with known interested individuals. It was posted online for 14 days from July 17 through July 31, 2023. Comments received did not result in edits to the document.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

Stipulations Necessary to Ensure Compatibility

1. Private or commercial vessels will be limited to no more than two (2) vessels in port at a time.

2. Each vessel will be authorized to remain in the Refuge for a maximum of seven (7) days.
3. No more than six (6) vessels may visit in a single month, and no more than 30 vessels total may visit in one year.
4. Permission must be obtained in advance and participants must agree to terms and provisions of the access permit (i.e., Special Use Permit (SUP)).
5. Private or commercial vessels will only be allowed into the lagoon for anchoring purposes.
6. Vessel arrivals and departures from the atolls lagoon may only occur between the hours of 0830 and 1730 Hawaii Standard Time to ensure adequate lighting is available to avoid shallow reef along the edges of the channel.
7. Recreational uses of visiting vessels tenders, dingy, inflatables, kayaks, skiffs, etc. are not being considered as part of this Compatibility Determination but will be considered in a companion compatibility determination for recreational boating.
8. Visitors will only be allowed to use their recreational watercraft or small boat tenders as described in the recreational boating compatibility determination.
9. The Refuge will turn away any vessel that arrives without prior authorization unless they are declaring an emergency with the U.S. Coast Guard and requesting safe harbor.
10. Hulls must be certified to be clean and free of invasive species within 14 days of departing for the Refuge. The certification must be completed by an independent agent that must be approved by the Refuge Manager and stops at any additional ports prior to arriving at Palmyra will void the certification.
11. Vessels must be certified to be free of rodents within 48 hours of departure for Palmyra. The certification must be completed by an independent agent that must be approved by the Refuge Manager.
12. Biosecurity measures identified by the Refuge Manager must be implemented.
13. These prohibitions will be enforced by the Refuge Manager and his or her duly authorized representative.
14. At any time if the presence of a pest species is noticed the vessel will be prevented entry or instructed to depart. For example but not limited to; rodents, ants, roaches, fruit flies mosquitoes, scale insects, etc.
15. The Refuge Manager has the authority to modify, suspend, impose seasonal restrictions, or close the Refuge to vessel visitation for any reason including but not limited to human health and safety, or ability to maintain the biological integrity of the Refuge.
16. To minimize the risk of nighttime seabird collisions all vessels in Palmyra refuge waters must use the minimal amount of light required to ensure the safety of the crew at night.
17. The following are examples of prohibited activities, substances, and other requirements. Additional restrictions may also apply:
    a. Arrival without advanced permission.

b. Fishing of any kind.
c. Anchoring except in designated areas.
d. Discharge or dumping of waste, litter or any products (including food scraps) into waters of the Refuge aside from raw water engine coolant discharge and rainwater runoff is prohibited.
e. Use or possession of illegal drugs.
f. Use of firearms, poisons, or spearguns.
g. Live organisms or fresh vegetables shall not be carried onto Refuge land.
h. Pets are not allowed in the Refuge or on vessels visiting the Refuge.
i. Collection, removal, or movement of any object or living organism.
j. Operation of unmanned aerial systems (UAS) (aka. drones) of any kind from the vessel within the Refuge.

Justification

The stipulations outlined above will help ensure that boating is compatible on Palmyra Atoll National Wildlife Refuge. Boating, as outlined in this Compatibility Determination, would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. Based on available science and best professional judgment, the Service has determined that boating at Palmyra Atoll National Wildlife Refuge, in accordance with the stipulations provided here, will not materially interfere with, or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of Palmyra Atoll National Wildlife Refuge. Rather, appropriate and compatible boating would be the use of Palmyra Atoll National Wildlife Refuge through which the public can develop an appreciation for wildlife and wild lands.

Signature of Determination

JOHN KLAVITTER

Digitally signed by JOHN KLAVITTER
Date: 2023.11.06 08:13:26 -10'00'

Refuge Manager Signature and Date

Signature of Concurrence

SARENA SELBO

Digitally signed by SARENA SELBO
Date: 2023.12.18 14:50:59 -06'00'

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2033

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Attachment 1

Attachment 1. Palmyra Atoll National Wildlife Refuge Visiting Vessel Wildlife Viewing Access Map including the moorage area within the western lagoon.

