

**COMPATIBILITY DETERMINATION**  
**Recreational Boating on Havasu National Wildlife Refuge**

**ABSTRACT:**

The U.S. Fish and Wildlife Service (Service) is required by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) and agency policy to develop a Compatibility Determination (CD) on refuge uses prior to initiating or permitting a new use of a national wildlife refuge or expanding, renewing, or extending an existing use of a national wildlife refuge (603 FW 2). The Refuge Manager has reviewed the existing use of motorized and non-motorized watercraft (hereby also referred to as “recreational boating”) on Havasu National Wildlife Refuge (refuge or NWR) and determined that this use should continue because it supports wildlife-dependent recreational uses such as fishing, hunting, wildlife observation and wildlife photography. The refuge will maintain existing regulations for watercraft as outlined in the Code of Federal Regulations (50 CFR 32.22) for the Colorado River on Havasu NWR with few exceptions. Current regulations will remain in effect for all areas south of Interstate 40 on the Colorado River within Havasu NWR to the south buoy line. Open water areas inside the refuge’s jurisdiction on the Colorado River south of the buoy line to River Mile 215 (refuge boundary), will continue current regulations allowing the following recreational boating activities: waterskiing, wakeboarding, tubing, and other recreational-towed devices. The three Mesquite Bays within this area are the exception, currently closed to motorized watercraft. The shallow water area due west of the “Refuge Golf and Country Club” at the north end of Lake Havasu will continue to be classified as open water. The Service is proposing changes to the existing watercraft regulations north of Interstate 40 in Topock Marsh. Changes include classifying portions of Topock Marsh as backwaters and enacting appropriate no-wake stipulations. These areas include Pintail Slough, Beal Lake, Lost Lake and Topock Bay. No changes are proposed for other areas, including Goose Lake and Willow Lake. These two areas will remain with existing unrestricted speed stipulations, personal watercraft (PWC) prohibitions and seasonal closed areas to minimize disturbance to bird nest rookeries.

## COMPATIBILITY DETERMINATION

**USE:** Motorized and Non-motorized Recreational Boating

**REFUGE NAME:** Havasu National Wildlife Refuge

### **ESTABLISHING AND ACQUISITION AUTHORITIES:**

Havasu National Wildlife Refuge (refuge or NWR), originally known as Havasu Lake National Wildlife Refuge, was established by Executive Order 8647 on January 22, 1941, by President Franklin Roosevelt.

### **REFUGE PURPOSE:**

Executive Order 8647 states that 37,870 acres would be set apart for use by the Department of the Interior as a refuge and breeding grounds for migratory birds and other wildlife. Additional lands totaling 2,757 acres were subsequently added on February 11, 1949, per Public Land Order 559. The purpose of these additional acres was the same as the purpose set out in Executive Order 8647.

The Lower Colorado River Land Use Plan (USDOI 1964) describes the high wildlife values of Topock Marsh, Topock Gorge and the Bill Williams River. The document describes their “prime wildlife values” and expresses a need to “improve their management and production and preserve their scenic qualities.” In 1994, the Service developed a Comprehensive Management Plan (CMP) for the lower Colorado River refuges (USFWS 1994). The CMP describes the desired future conditions of the refuge and provides long-range guidance and management direction to achieve refuge purposes; help fulfill the National Wildlife Refuge System (Refuge System) mission; maintain, and where appropriate, restore the ecological integrity of each refuge and the Refuge System; help achieve the goals of the National Wilderness Preservation System; and meet other mandates. The CMP discusses issues such as river recreation impacts both within and outside the boundaries of the four National Wildlife Refuges located along the lower Colorado River. The CMP specifically addressed boating in the following goal and objective:

- Goal #12, Objective #2 is to protect wildlife resources by implementing the appropriate zoning policy for sensitive areas of the refuges, especially those pertaining to endangered species. Each refuge manager will review existing refuge zoning regulations and implement zones that take into account refuge purposes and the proximity to other jurisdictions that are more conducive to the non-wildlife oriented uses (i.e., water skiing, jet skiing areas).

**NATIONAL WILDLIFE REFUGE MISSION:**

The mission of the National Wildlife Refuge System (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 Improvement Act of 1997, Public Law 105-57).

**DESCRIPTION OF USE:**

*What is the use?*

Recreational boating, both motorized and non-motorized, occurs on Havasu NWR. Although boating is not one of the priority public uses defined by the Improvement Act, some boating activities such as fishing, hunting, wildlife observation, and wildlife photography can support wildlife-dependent recreational uses. Boats currently used on the refuge range from high-powered jet boats to non-motorized canoes and kayaks.

*When is the use conducted?*

Boating occurs 24 hours a day, year-round on the refuge. However, the majority of recreational boating occurs between Memorial Day and Labor Day. Lake Havasu is the most utilized boating lake in Arizona with the lake attracting approximately 50,000 boaters on holiday weekends (Bureau of Land Management 2006, National Recreation Lakes Study Commission 1999).

*Where is the use conducted?*

Recreational boating occurs throughout the refuge, in the main channel of the lower Colorado River, in the backwaters of the lower Colorado River, and within the 4,000-acre Topock Marsh, a manmade impoundment developed to provide habitat for endangered fish, birds and other native wildlife. The three buoy-lined areas within Mesquite Bay are open only to non-motorized watercraft to provide a quality fishing experience without noise and wakes adjacent to the floating fishing piers. Mesquite Bays North and Central are designated for non-motorized vessel launching. There are three boat ramps for motorized and non-motorized vessels to access Topock Marsh and three access points for non-motorized boats at Mesquite Bay North, Central and Castle Rock. See attached two maps: Recreational Boating Compatibility- Draft Stipulations: Northern Zone; Southern Zone.

*How is the use conducted?*

Currently, boaters participate in a variety of recreational activities on Havasu NWR, including wildlife observation, fishing, hunting, bird watching, waterskiing, wakeboarding, and towable tubing. The latter three activities usually necessitate a vessel be operated at sufficient speed to create a wake (size dependent upon type of boat and speed). Though boating is an activity the refuge is continuing to support for wildlife-dependent recreation, protection and recovery of wildlife necessitate establishment of no wake zones in all backwaters.

Specifically, the endangered Yuma Ridgway’s rail and other water birds, which build nests in emergent aquatic vegetation near the water surface, are susceptible to damage by vessel wakes (Reichholf 1976).

***Why is this use being proposed?***

Per national policy, a Refuge Manager will not expand, renew, or extend an existing use of a National Wildlife Refuge, unless they have determined that the use is a compatible use (16 U.S.C. 668dd-668ee). The refuge offers the unique opportunity to utilize boating to support wildlife-dependent recreational uses in safe and undeveloped surroundings. Boating can provide opportunities to engage in priority wildlife-dependent recreational uses of the Refuge System, as stipulated in the Improvement Act; such as wildlife observation and wildlife photography and can provide access for hunting and fishing opportunities. While the primary role of Topock Marsh and the backwater areas of the lower Colorado River are to provide habitat for migratory birds and other wildlife, they also provide a quality visitor experience in a serene surrounding.

Recreational boating is being evaluated consistent with 603 FW 2, which requires documentation and periodic review of existing national wildlife refuge uses. Additionally, the Service will “re-evaluate compatibility determinations for all existing uses other than wildlife-dependent recreational uses when conditions under which the use is permitted change significantly, or if there is significant new information regarding the effects of the use, or at least every 10 years, whichever is earlier. Again, a Refuge Manager always may reevaluate the compatibility of a use at any time.” (603 FW 2)

**AVAILABILITY OF RESOURCES:**

Recreational boating on the refuge is managed by refuge staff and is primarily enforced by Federal Wildlife Officers (FWO). During a five-year period (2012 to 2016), there were 660 documented boating violations on Havasu NWR related to operating a boat outside of refuge and State regulations (USFWS 2017). Additional law enforcement staff may be needed as the number of boats on the lower Colorado River continues to increase. The following approximate annual costs are required to administer and manage boating activities:

<b>Activity</b>	<b>Approx. Annual Costs</b>
Purchase of regulation buoys, signs, anchors, and hardware	\$25,000
Law enforcement vessel annual operating costs	\$15,000
Buoy Maintenance vessel annual operating costs	\$5,000
Maintenance of parking lots and boat ramps	\$23,000
Labor for law enforcement staff (40% of Salaries)	\$126,000
Labor for maintenance staff (30% of Salaries)	\$46,000
Labor for administration staff (10% of Salaries)	\$35,000
<b>TOTAL:</b>	<b>\$275,000</b>

The Service will continue enforcement of refuge regulations through use of signs, buoys and patrol activities and FWOs will continue to work with other law enforcement agencies. Additionally, the refuge will maintain existing boat ramps for both motorized and non-motorized watercraft. Any new improvements to the existing boating program will require additional funding and labor resources. These improvements will be prioritized and considered as resources become available. We will actively seek partnerships and volunteers to secure resources, including funding and labor, to maintain buoys, signage, and other facilities associated with safe boating opportunities on the refuge.

#### **ANTICIPATED IMPACTS OF THE USE:**

##### **Short and Long-Term Impacts:**

When compared to motorized boating, use of non-motorized boats, have fewer negative effects to wildlife. Generally, the greatest threat to wildlife from non-motorized vessels is getting too close to an animal, particularly a bird nest or nesting colony. As areas become increasingly urbanized, supporting outdoor recreation such as bird watching, wildlife photography, fishing and hunting is challenging to land managers who must balance the needs of wildlife and recreational opportunities. Recreational activities must be managed to minimize impacts on wildlife and their habitats and ensure that these activities can be enjoyed by people long into the future. Popular public use boating seasons in Arizona coincide with spring-summer nesting and brood-rearing periods for many species of aquatic-dependent birds. Nesting colonial waterbirds (e.g. herons, cormorants, egrets) are particularly vulnerable to human intrusion (Carney and Sydeman 1999). Boaters may disturb nesting birds by approaching too closely to nests, causing birds to flush. Flushing may expose eggs or nestlings to predation or cooling (nestling hypothermia), or overheating in the sun, resulting in mortality. While motorized boats generally have a greater effect on wildlife, non-motorized vessels may also alter wildlife use patterns, reduce wildlife use of particular habitats, alter feeding behavior and nutritional status, and cause premature departure by migratory birds from areas (Knight and Cole 1995). However, one study found that when boats travel at or below 5 mph, disturbance to birds was reduced (Huffman 1999).

Boats approaching nesting colonies may interrupt critical bird behaviors by eliciting attention, nervousness, movement or departure. Different species respond in different ways. Response distance is the distance a bird will allow a human (or boat) to approach without demonstrating behavioral effects (Hockin et al. 1992, Rogers and Smith 1997, Gutzwiller et al. 1998, Fernandez-Juricic et al. 2007; Gonzalez et al. 2006) in breeding colonies (Burger and Gochfeld 1993, 1999; Rogers and Smith 1995, 1997; Fowler 1999; McClung et al. 2004; Holmes et al. 2005) or foraging groups (Burger and Gochfeld 1991*a, b*; 1998; 2001; Ronconi and St. Clair 2002). Flush distance can be used to establish a buffer zone to reduce adverse effects on birds (Rodgers and Schwidert 2002). Recreationists are not likely to be aware of the negative impacts that their presence may have on wildlife (Carney and Sydeman 1999).

**Buffer Zone (or Set-Back Zone):** One management tool for reducing adverse effects to wildlife is to implement buffer zones where people or vehicles, including boats, are excluded, or where speeds are reduced. Heron and cormorant nesting colonies within Topock Marsh are protected by buoys marking closed areas to avert people from getting too close and to prevent nest abandonment as a result of disturbance. Burger et al. (1995) found that heronries with buffer zones of 50m suffered no short-term reproductive losses, however, when a group of people violated the buffer zones, nest mortality rates of 15-28% resulted. Rodgers and Smith (1995) recommend a set-back distance of 100m for wading bird colonies and 180m for tern/skimmer colonies. Hentze (2006) recommends a buffer zone of 150-200m to reduce disturbance effects on some species. Several researchers documented lowered productivity of cormorant colonies due to human disturbance (Kury and Gochfeld 1975; Ellison and Cleary 1978; DesGranges and Reed 1981). Colonies of herons and cormorants may choose a different area within Topock Marsh to nest each year. As a result, refuge staff will annually assess where they nest and place buoys to create an approximate 150m buffer zone at the onset of nesting until nestlings have fledged.

- **Bird strikes:**

Boats operating at high speeds pose a threat by directly striking birds on the surface of the water or birds that immediately dive underwater upon approach. In early April 2015, approximately 30 dead eared grebes floating on the water were collected by Arizona Game and Fish Department and analyzed for cause of death. Disease was ruled out and severe blunt trauma was determined to be the cause of death, possibly by a boat(s) operating at a high speed.

[http://www.havasunews.com/news/birds-found-dead-on-lake-havasu-had-severe-blunt-trauma/article\\_5bfefbe4-f93a-11e4-9f49-87c6c0e17990.html](http://www.havasunews.com/news/birds-found-dead-on-lake-havasu-had-severe-blunt-trauma/article_5bfefbe4-f93a-11e4-9f49-87c6c0e17990.html)

- **Secondary effects:**

Speckman et al. (2004) documented the effect that boats had on murrelets with fish in their bills; food that is being held for later delivery to chicks. As a boat approached the birds, they swallowed the fish, thereby preventing availability to feed a chick. The cost to the chicks waiting for parents to bring food may be great if parents cannot provide them with adequate food. Clark's and western grebes, which are relatively common in lakes and backwaters of the lower Colorado River, capture fish in their bills and feed their young in the same way as murrelets, by transferring the small fish directly from bill to bill. The effects of boats on feeding behavior of grebes on the lower Colorado River, Lake Havasu and backwaters is not known, though boat disturbance could result in a similar decrease in food delivery to chicks by adults that forage or nest near boating areas.

- **Boat wakes:**

Bow wakes of power boats have been reported to tip over free-floating grebe nests as well as other nests near the fringe of reeds (Reichholf 1976). Some birds build floating nests or nests

near water level in emergent vegetation putting the nest at risk of swamping or egg ejection by boat wakes (Allen et al. 2008, Weems and Robison 2008). Allen et al. (2008) concluded that boat wakes can swamp over-water nests, rip out critical vegetation (Liddle and Scorgie 1980, Weems and Robison 2008), and cause general distress and disturbance to water birds. Their research also suggests that denser stands of emergent aquatic vegetation better protects nests from boat wakes. Dense emergent vegetation acts as a wave break and can attenuate waves that not only protect interior floating nests, but also may act as an important structuring agent to minimize sediment resuspension, thereby helping to maintain water clarity in shallow, soft-bottomed systems.

- **Accidental introduction of invasive species:**

Exotic, nuisance plants or animals on boats, trailers, diving equipment, or in bait buckets can disrupt aquatic ecosystems and negatively affect native fish and plant species. The spread of aquatic invasive species has far-reaching impacts, both financial and ecological, that can affect many people, businesses, and infrastructures. One such species, quagga mussels, has been documented in Topock Marsh and other areas of the lower Colorado River. In order to address the spread of aquatic invasive species such as quagga mussels, as per the Arizona Game and Fish Department Director's Orders authorized by the Aquatic Invasive Species Interdiction Act, watercraft owners/ transporters are responsible for having their boats and equipment decontaminated after removal from a waterbody and prior to transport (AGFD 2016). Before launching to another waterbody, boats should be out of the water and dried to prevent the spread of aquatic invasive species. Boaters should remove any clinging materials such as plants, animals and mud from anchor, boat, motor and trailer. Cleaning of boats should take place on dry ground well away from the water (AGFD 2016).

- **Boat launch sites:**

Other environmental effects may be observed at sites where boat launching occurs. Concrete boat ramps are often impacted by littering. Non-motorized boat launches on the refuge are currently graveled and boundaries are sometimes difficult to determine, which leads to vegetation trampling and compacting of soils in areas surrounding the launch sites. The refuge will improve these unpaved boat ramps as funding permits to facilitate priority public uses like wildlife observation, fishing, hunting and wildlife photography. Improving these areas will help reduce the potential for site-specific adverse impacts, thereby only resulting in short-term minor impacts to habitat, soils and vegetation.

The open waters south of the refuge regulatory buoy line on Lake Havasu and north of the I-40 no wake zone along the river channel, provide ample opportunities for multiple non-wildlife dependent recreational boating activities including waterskiing, wakeboarding, tubing, kiteboarding, and hydro flight devices. The latter two activities are not permitted on the refuge. The Lake Havasu reservoir is approximately 25,000 surface acres and is open to all

activities. However, only approximately 1,000 acres of Lake Havasu are within the refuge's jurisdictional boundaries, meaning about 96% of Lake Havasu is open to unrestricted recreational boating activities and only about 4% of the Lake is subject to refuge regulations. Of the 4%, only 60 acres (0.2%) of Lake Havasu is managed with boating stipulations within the buoy marked Mesquite Bays non-motorized vessel zone.

- **Recreational user group conflicts:**

In addition to impacts on wildlife and habitat, there are potential conflicts between the various recreational user groups that share the refuge. The wakes created by motorized boaters traveling alongside non-motorized boaters at a high speed may represent a considerable safety risk to non-motorized boaters (American Canoe Association 2004). Wakes generated by motorized vessels in narrow channels and backwaters cannot readily dissipate and could flood or capsize other vessels.

The open waters south of the refuge regulatory buoy line on Lake Havasu and north of the I-40 no wake zone along the river channel, provide ample opportunities for multiple recreational boating activities including waterskiing, wakeboarding, and tubing. The Lake Havasu reservoir is approximately 25,000 surface acres and is open to all activities, while only approximately 1000 acres of the Lake are within the refuge's jurisdictional boundaries; meaning about 96% of Lake Havasu is open to unrestricted recreational boating activities and only about 4% of the Lake is subject to refuge regulations. Of the 4%, only 60 acres (0.2%) of Lake Havasu is managed with boating stipulations within the buoy marked Mesquite Bays non-motorized vessel zone.

- **Endangered fish and other listed species:**

Razorback sucker and bonytail chub, both listed as endangered, were once historically found throughout the Colorado River and were nearly extirpated. Due to stocking recovery efforts, one or both species can currently be found in areas of the lower Colorado River including Topock Gorge, Beal Lake, Topock Marsh and Lake Havasu. Critical habitat for bonytail chub includes the northern boundary of the refuge to Parker Dam. Spawning by either bonytail chub or razorback sucker likely would be discouraged or precluded in areas where watercraft use is heavy or continuous during their respective reproductive periods (late spring-early summer for bonytail chub, winter-spring for razorback sucker). Further, incursion of watercraft into areas where spawning is already taking place would temporarily, or perhaps permanently, disrupt such spawning, depending on the intensity of watercraft use and other factors such as water depth (P.C. Marsh, personal communication, 01 May 2017). Of note, spawning by bonytail chub has not been documented in open (navigable) waters of the lower Colorado River in about five decades. Bonytail chub are not known to reproduce in the wild except in protected habitats. Razorback sucker spawning is well known and relatively widespread. Fish species have also been shown to be negatively affected by motorized watercraft emissions (Oris et al. 1998).



A priority of the refuge is to restore native habitat for wildlife. Boating may have an impact on listed species that use refuge habitats for roosting, feeding and breeding. Refuge riparian and wetland habitat provides crucial foraging, breeding, loafing, and nesting habitat for a wide variety of birds, including several species listed as threatened or endangered pursuant to the Endangered Species Act. The endangered Ridgway's rail is found year-round in refuge marshes and lower Colorado River backwaters while the endangered southwestern willow flycatcher and threatened yellow-billed cuckoo occurs in riparian areas of the refuge. The Northern Mexican garter snake, a threatened species listed in 2014, was discovered in Beal Lake in 2015. Surveys are underway to determine if they also occur in neighboring Topock Marsh.

Cumulative Impacts:

A cumulative impact is defined as an impact on the environment that results from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future action regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7). Through the use of no-wake zones in sensitive areas or areas with public safety concerns, there are no anticipated adverse cumulative impacts resulting from boating with the stipulations listed (see Stipulations Necessary to Ensure Compatibility on next page). We hope to increase visitor's knowledge and appreciation of fish and wildlife and their habitats, and in general, create public stewardship of their wildlife resources. Increased public stewardship may support and complement the Service's actions in achieving the refuge purposes and the mission of the Refuge System.

**PUBLIC REVIEW AND COMMENT:**

This Draft CD is being made available for public review and comment beginning August 1, 2017. A copy of the Draft CD can be found at <http://www.fws.gov/refuge/havasu/>. Comments will be accepted through August 30, 2017. Please send written comments to:

U.S. Fish and Wildlife Service  
Havasu National Wildlife Refuge  
Attn: Draft Recreational Boating CD  
317 Mesquite Avenue  
Needles, CA 92363

Comments may also be emailed to: [havasu\\_comments@fws.gov](mailto:havasu_comments@fws.gov)

The Service is also holding an open house type listening session in Lake Havasu City on August 17<sup>th</sup> 20<sup>th</sup> to provide the public an opportunity to learn more about the recreational boating CD and provide written comments. The listening session details will be announced through local media.

**DETERMINATION:**

Use is Not Compatible

Use is Compatible with the Following Stipulations

**STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

Background information:

- a) Refuge backwater areas are defined by refuge signs and buoys and are noted on attached two maps: Recreational Boating Compatibility- Draft Stipulations: Northern Zone; Southern Zone.
- b) The terms “no-wake speed” and “personal watercraft” are defined by State law.

The following are pertinent, existing boating prohibitions found in 50 CFR 32.22 for Havasu NWR. Immediately following each numbered section are proposed stipulations (if any) for that section, which are necessary to ensure compatibility for the use:

- 1) Existing Prohibition: Personal watercraft are prohibited in all backwaters on the area of the Colorado River on Havasu NWR from the south regulatory buoy line to the north regulatory buoy line at I-40 (hereafter referred to as the south/north regulatory buoy line) per D (5)(i)., as well as in Topock Marsh per D (4)(iii).

Proposed Stipulation: Add the areas of Pintail Slough, Beal Lake, Lost Lake, and Topock Bay, which are all areas north of I-40, surrounding Topock Marsh.

- 2) Existing Prohibition: Watercraft speed is limited to no-wake in all backwaters on the area of the Colorado River on Havasu NWR from the south regulatory buoy line to the north regulatory line at I-40 per D (5)(ii).

Proposed Stipulation: Add no-wake watercraft speed to the section on the main Colorado River known as “the Devil’s Elbow” as well as to the buoy-marked area immediately south and north of the I-40 bridge.

- 3) Existing Prohibition: The refuge prohibits waterskiing, tubing, wakeboarding, or other recreational-towed devices on the area of the Colorado River on Havasu NWR from the south regulatory buoy line to the north regulatory line at I-40 per D (5)(iii).

Proposed Stipulation: Add kiteboarding to the prohibited uses.

Proposed Stipulation: Add the areas of Pintail Slough, Beal Lake, Lost Lake, and Topock Bay, which are all areas north of I-40, surrounding Topock Marsh.

- 4) Existing Prohibition: The refuge prohibits the use of all air-thrust boats, air-cooled propulsion engines, and floating aircraft by the public for the purposes of hunting and fishing per A (13) and D (1).

Proposed Stipulation: Change for the purpose of hunting and fishing to “any activity” on all regulated waters under the refuge’s jurisdiction.

Proposed Stipulation: Add the use of hovercraft and hydro-flight devices to the prohibited uses.

Proposed Stipulation: Allow the use of air-cooled propulsion engines.

- 5) Existing Prohibition: Designated portions of Topock Marsh are closed to all entry during the waterfowl hunting season (including during the State junior waterfowl hunt) and from April 1 to August 31 during the spring/summer nesting seasons per D (4).
- 6) Existing Prohibition: The refuge prohibits overnight boat mooring and shore anchoring unless actively fishing (as defined by State regulations) per D (2).
- 7) Existing Prohibition: The refuge prohibits entry of all motorized watercraft in the approximately 60-acre Mesquite Bay areas as indicated by refuge signs and buoys per D (6)(i).
- 8) Proposed Stipulation: Boating activities and its associated effects will be monitored in all areas of Havasu NWR, with regard to waterfowl, shorebirds, birds of prey, threatened and endangered species, other wildlife and their habitats, and the safety of all refuge visitors.

#### **JUSTIFICATION:**

Motorized and non-motorized boating on national wildlife refuges can support priority public uses such as fishing, hunting, wildlife observation and wildlife photography. As described in the Anticipated Impacts of the Use section, motorized recreational boating activities that do not support priority public uses include: waterskiing, wakeboarding, tubing, other tow-behind devices, kiteboarding and hydro-flight devices. These activities can cause conflict with priority public uses and have the potential to adversely impact biological resources. The latter two activities are prohibited anywhere on the refuge, while the other activities are prohibited on refuge backwater areas (under the refuge’s jurisdiction as defined under the Stipulations section) and within Topock Gorge between the north and south regulatory buoy lines, for public safety and protection of wildlife and habitat.

Opportunities for non-wildlife dependent recreation can be found within the open water areas on Lake Havasu or north of the I-40 No Wake Zone.

As provided in this document, boating restrictions for both motorized and non-motorized activities would ensure protection of wildlife and habitat while providing safe, quality public use opportunities. Through this CD process, Havasu NWR has determined that boating, in accordance with the above stipulations, will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge because:

- Activities as proposed and conducted in accordance with applicable stipulations and regulations will enhance wildlife-dependent recreational uses such as hunting, fishing, wildlife observation, and wildlife photography because many areas of the refuge are accessible only by watercraft. Hunting, wildlife observation and wildlife photography are activities that usually require quiet, uncrowded areas in order to obtain the best success.
- Activities as proposed and conducted in accordance with applicable stipulations and regulations will reduce negative impacts to habitat by reducing vegetation destruction and shoreline erosion that may be caused by high-wake activities.
- Activities as proposed and conducted in accordance with applicable stipulations and regulations allow for protection of 318 documented species of resident and migratory birds that utilize the refuge for nesting, feeding and roosting by minimizing direct contact with speeding boats, by minimizing potential nest destruction by boat wakes, and by minimizing disturbance to birds during nesting activities.
- Activities as proposed and conducted in accordance with applicable stipulations and regulations will improve safety for refuge visitors by reducing boat speeds and minimizing possibility of collisions, swamping or capsizing smaller watercraft.

**Signature:** Refuge Manager

\_\_\_\_\_  
(Signature and Date)

**Concurrence:** Regional NWRS Chief

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(Signature and Date)

**Mandatory 10-year Re-Evaluation Date:** 2027

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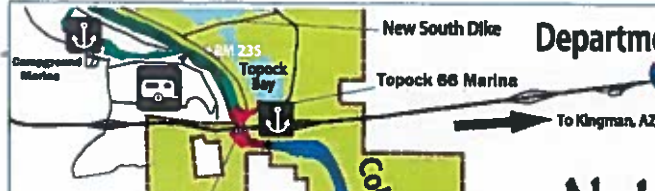
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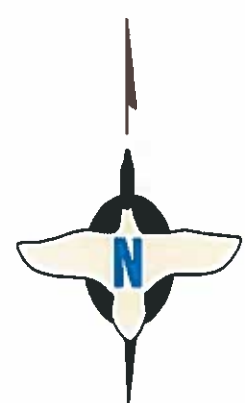
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# Havasu National Wildlife Refuge



(Existing)  
North Regulatory Buoy Line



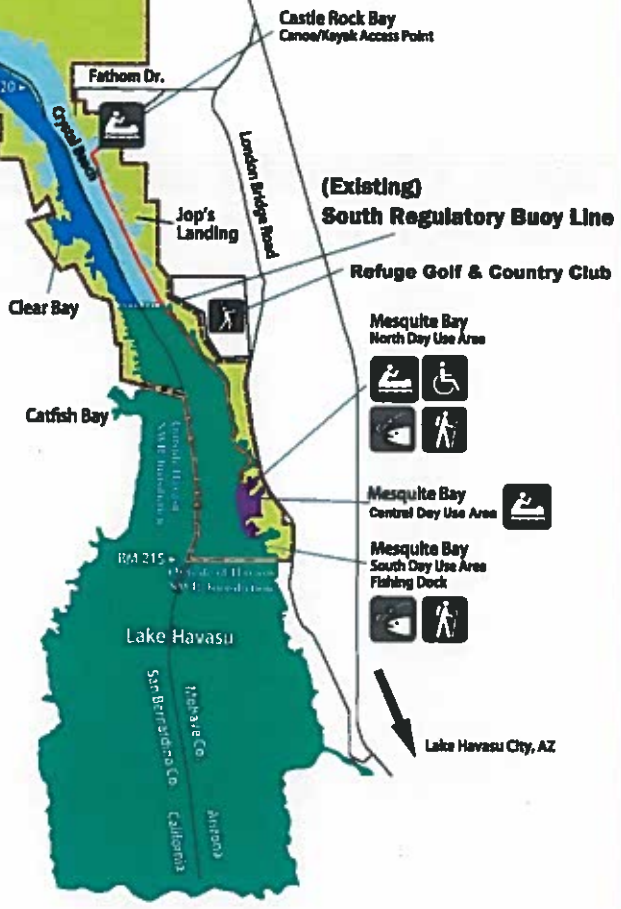
TO INTERSTATE 40

**RECREATIONAL BOATING COMPATIBILITY**  
Draft Stipulations: Southern Zone

**LEGEND**

- Refuge Lands
- Open Waters
- Refuge River Waters  
(NO RECREATIONAL WATERSPORTS ALLOWED)
- No Wake Zone  
(ON MAIN RIVER CHANNEL)
- Refuge Backwaters  
(NO WAKE, NO PWC, NO SKIING)
- Non-motorized Zone  
(BUOY MARKED ZONE)
- Closed Area  
(BUOY MARKED ZONE)
- Holiday Closed Area  
(CLOSED SUMMER HOLIDAY WEEKENDS)
- Canoe/Kayak Trail
- Refuge Boundary
- Paved Roads
- Gravel Roads
- State Boundary  
(CALIFORNIA / ARIZONA)

0 1 2 3 4 Miles



Lake Havasu City, AZ

Department of the Interior, U.S. Fish and Wildlife Service

# Havasu National Wildlife Refuge

## RECREATIONAL BOATING COMPATIBILITY Draft Stipulations: Northern Zone

**LEGEND**

- Refuge Lands
- Open Waters
- Refuge River Waters (NO RECREATIONAL WATERSPORTS ALLOWED)
- Refuge Marsh Waters (NO PERSONAL WATERCRAFT ALLOWED)
- No Wake Zone (FOR MAIN RIVER CHANNEL)
- Refuge Backwaters (NO WAKE, NO PWC, NO SKIING)
- Seasonal Closed Refuge Areas (WATERFOWL SANCTUARY & BIRD ROOKERIES)
- Refuge Boundary
- Paved Roads
- Gravel Roads
- State Boundary (CALIFORNIA / ARIZONA)

0 1 2 3 4 Miles

