

**Florida Keys National Marine Sanctuary
Marine Zoning & Regulatory Review
Shallow Water Wildlife and Habitat Protection Working Group**

Recommendations for Sanctuary Advisory Council Consideration

Shallow Water Wildlife and Habitat Protection Objectives:

1. Evaluate existing Wildlife Management Areas for effectiveness in protecting wildlife and their habitats under current as well as emerging public uses and environmental conditions; recommend status quo, modification, and/or new areas.
2. Develop recommendations considering existing regulations and zoning – mainly use of vessel restrictions on access, anchoring, speed, and channel marking – to further protect seagrass and critical shallow water habitats in FKNMS.
3. Address concentrated uses that diminish and destroy seagrass and shallow water habitats.
4. Identify where high impact activities known to occur should be allowed and encouraged for public and private uses.
5. Identify seagrass and shallow water habitat areas for exclusion to allow for research control areas.
6. Evaluate mangrove habitat protection for bird nesting.
7. Reduce damage to natural resources from improper vessel salvage methods.

Recommendations for long-term management of zones designed to protect shallow water wildlife and associated habitat include:

1. Establish a standing Sanctuary Advisory Council Wildlife and Habitat Protection working group.
 - a. Determine qualitative and where appropriate quantitative metrics to evaluate effectiveness of zones
 - b. Provide strategic guidance for adaptive management of zones
2. Incorporate adaptive management mechanisms for shallow water wildlife and habitat protection zones to allow for effective and adequate resource protection (bird nesting and roosting, turtle foraging and nesting, ephemeral habitat used by species of concern, etc.)
3. Recommendations for zoning and management measures to protect shallow water wildlife and associated habitats should be proactive and not limited by bureaucracy, funding, or enforcement limitations.

Recommendations for Objectives 1-6

In considering zones for shallow water wildlife and habitat protection, the working group

1. identified resources of concern,
2. determined current or potential impacts to those resources,
3. identified uses compatible with protecting those resources, and
4. Identified access restrictions intended to minimize impacts to those resources.

The working group used the following specific criteria to evaluate existing Wildlife Management Areas and make recommendations for potential modifications to the current zones and identify potential new areas:

Category	Marine Zoning Goals & Objectives	Shallow Water WG Objectives	Criteria
Biodiversity & Habitat	<p>To improve the diversity of natural biological communities in the Florida Keys to protect, and, where appropriate restore and enhance natural habitats, populations and ecological processes overall and in each of these sub regions Tortugas, Marquesas, Lower, Middle, and Upper Keys.</p> <p>Improve/maintain the condition of the biologically structured habitats.</p> <p>Increase abundance and condition of selected key species.</p>	<p>Evaluate existing Wildlife Management Areas for effectiveness in protecting wildlife and their habitats under current as well as emerging public uses and environmental conditions.</p> <p>Evaluate mangrove habitat protection for bird nesting.</p>	<p>Try to choose areas that would contain a range of shallow water natural biological diversity, ecological processes, and habitats necessary to sustain that biodiversity.</p> <p>Select areas in each of the sub-regions relevant to shallow water habitats Tortugas, Marquesas, Lower, Middle, and Upper Keys.</p>
Sustainability / Connectivity	<p>Protect large, contiguous, diverse and interconnected habitats that provide natural spawning, nursery, and permanent residence areas for the replenishment and genetic protection of marine life and protect and preserve all habitats and species.</p> <p>Increase abundance and condition of selected key species.</p>	<p>Evaluate existing Wildlife Management Areas for effectiveness in protecting wildlife and their habitats under current as well as emerging public uses and environmental conditions.</p> <p>Evaluate mangrove habitat protection for bird nesting.</p>	<p>Try to choose areas that protect large contiguous, diverse and interconnected habitats that provide natural spawning, nursery, and permanent residence areas for the replenishment and genetic protection of marine life.</p>
Allowable uses/ compatible uses	<p>To facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities.</p> <p>Minimize conflicts among uses compatible with the National Marine Sanctuary.</p> <p>Prevent heavy concentrations of uses that degrade Sanctuaryresources.</p>	<p>Address concentrated uses that diminish and destroy seagrass and shallow water habitats.</p> <p>Identify where high impact activities known to occur should be allowed and encouraged for public and private uses.</p> <p>Evaluate existing Wildlife Management Areas for effectiveness in protecting wildlife and their habitats under current as well as emerging public uses and environmental conditions.</p> <p>Reduce damage to natural resources from improper vessel salvage methods.</p>	<p>Try to choose areas and craft regulations with the primary objective of resource protection that minimize adverse impacts from human uses and promote achieving the above criteria.</p> <p>Try to choose areas and craft regulations that minimize user conflict and prevent heavy concentrations of uses that degrade Sanctuary resources.</p>
Socio-Economic Impacts	<p>To facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities.</p> <p>Achieve a vibrant ecologically sustainable ecosystem and economy.</p>	<p>Address concentrated uses that diminish and destroy seagrass and shallow water habitats.</p> <p>Identify where high impact activities known to occur should be allowed and encouraged for public and private uses.</p> <p>Reduce damage to natural resources from improper vessel salvage methods.</p>	<p>Try to choose areas and craft recommendations that would serve to minimize adverse socio-economic impacts on established users of resources in the areas and achieve a vibrant ecologically sustainable ecosystem and economy.</p>
Reference Area/Monitoring *Not specifically identified by working group	<p>Provide undisturbed monitoring sites for research and control sites to help determine the effects of human activities.</p>	<p>Identify seagrass and shallow water habitat areas for exclusion to allow for research control areas.</p>	<p>Try to choose areas that would serve as undisturbed monitoring sites for research and control sites to help determine the effects of human activities.</p> <p>Research control or monitoring sites should be designed with a specific research question to be addressed and have specific criteria to determine success and length of closure.</p>
Enforcement/compliance	<p>Reduce stresses from human activities by establishing areas that restrict access to sensitive wildlife populations and habitats.</p>	<p>Develop recommendations considering existing regulations and zoning – mainly use of vessel restrictions on access, anchoring, speed, and channel marking – to further protect seagrass and critical shallow water habitats</p>	<p>Try to choose areas and craft regulations that would facilitate enforcement and encourage compliance.</p>

The following zones, associated access restrictions, and management options are recommended:

1. When considering zoning areas for shallow water wildlife and habitat consider impacts of uses including trap fishing, debris, sponge harvesting, among other uses, including ecotourism operations.
 - Conduct analysis for economic impact to existing users, balance of use and small-scale user impacts
 - Based on analysis identify zones for non-extraction (clearly define for purposes of a range of uses, including catch and release)
2. Zone Types and Access Restrictions
 - Identify zones, manage and enforce by the types of access and access restrictions compatible with the goals of natural resource protection.
[the below terms represent "purpose and intent" of access restrictions; final access restriction and definition will be consistent with State regulations]
 - Motor (distinct from navigation/access channel)
 - Motor with idle (clarify speed)
 - Pole/troll/paddle
 - Pole/troll/paddle/no motor on boat
 - Closed
 - Where possible and appropriate:
 - Use buffer zones and idle speed zones to enhance shallow water wildlife protection,
 - Ensure adequate access/transit channels between (and, if needed within) zones
 - Make larger contiguous zones (for example: Rodriguez and Dove Keys)
 - Identify and designate zones that include and protect a range of resources (for example: shallow seagrass, beach, nesting habitat, etc.)
 - Utilize non-extraction zones for shallow water wildlife protection
 - Create consistent and fair access restrictions; when one type of use is restricted, restrict all uses
 - Strive to differentiate kinds of use and any potential impact to resources from that use
 - When proposing access restrictions consider allowing uses that are compatible with shallow water resource protection goals
 - Identify and designate zones closed for research and purposes and associated reference sites:
 - Consider other comparable open sites
 - Identify and designate specific zones as reference areas
 - Monitor and assess on a regular basis (5-years) to inform adaptive management of zones
 - Identify areas of severe seagrass scarring and use this data to determine if there should be additional zoning, better channel marking, etc. in these areas to reduce these impacts; Updated scarring maps should be created to address this issue
 - Restoration or Restoration/Research Only areas should be considered to allow for manipulative experiments
 - When establishing research only zones, consult with user groups
 - Consider a balance of areas restricted or closed for certain high use/high impact activities (for example: if sand bar sites are closed, prioritize sites for closure and provide comparable open sites).
 - Encourage that National Wildlife Refuge take a proactive approach in managing human activity that could negatively impact near-shore and shallow water resources of concern (for example: bird nesting and roosting, turtle foraging and nesting, ephemeral habitat used by species of concern, aquatic resources including fish and coral, etc.).
3. Marking, Mooring, and Use of Zones
 - Ensure adequate marking of zones
 - Allow only one vessel per mooring buoy as a management tool for access restriction

- No anchoring where mooring buoys are provided within zones for shallow water wildlife and habitat; allow for anchoring where there are safe areas to anchor and will not impact shallow water resources (recognized need to balance use and the potential unintended movement to and anchoring in other areas if anchoring is not allowed in these zones, consider potential impact to these additional areas)
 - Identify what constitutes an anchor (i.e. use of push poles/power poles)
 - Address managed mooring fields
 - No overnight platforms, unattended vessels and equipment within zones for shallow water wildlife and habitat.
 - Consider channel marking for established travel lanes where sea grass damage is prevalent and boat travel is unavoidable (gate style)
 - Consider creation of "intelligent" markers. Use a color coded system to indicate depth, and perhaps even alter restrictions (ex. If a certain color is visible then idle only, another color it is closed, another open access)
4. Adaptive Management
- Incorporate adaptive management mechanisms to allow for effective and adequate resource protection (for example: bird nesting and roosting, turtle foraging and nesting, ephemeral habitat used by species of concern, aquatic resources including fish and coral, etc.)
 - Use temporal zoning as appropriate; however consider permanent zoning based on resource protection goals
 - Include buffer zones of appropriate size around key resources
 - Consider associating zone and zone restrictions with a specific type of buoy rather than lines on a map (allows buoys and zones to be moved as needed for specific resource protection goals)
 - Incorporate adaptive management mechanisms that are proactive in addressing shifting and new high use and high impact activities that have a negative impact on shallow water wildlife and habitats.
 - Social gathering places or “Party Zones” should be identified and limited to their existing footprints. New emerging islands/sandbars (e.g. Wilma Key) should be immediately closed to human use. Please see tables in Appendix A for detailed recommendations for each zone.

The following existing Wildlife Management Area should no longer be zoned:

Little Crane Key
Pelican Shoal

The following existing Wildlife Management Areas should remain with no changes to size, location, or access restrictions:

Eastern Lake Surprise
Snipe Keys
Horseshoe Key (Lower Keys)
Tidal Flat South of Marvin Key

The following existing Wildlife Management Areas should be modified:

Rodriguez Key
Dove Key
Tavernier Key
Crocodile Lake
Snake Creek
Cotton Key
Cayo Agua Keys
East Content Keys
East Harbor Keys
Lower Harbor Keys
Mud Keys
Bay Keys
Upper Harbor Key
West Content Keys
Sawyer Keys
Western Sambo (Ecological Reserve)
Big Mullet Key
Boca Grande Key
Woman Key
Cottrell Key
Marquesas Keys

The following are recommended as new zones:

Whitmore Bight/El Radabob Key/Rattle Snake Key
Pigeon Key-Florida Bay
Barnes Sound-Shallow bays in northwest corner of Barnes Sound
Ashbey/Horseshoe Key (Middle Keys)
Marathon Oceanside Shoreline from Vaca Cut to Sombrero Beach and ocean facing shoreline of Boot Key
Moser Channel Banks
Gulfside Banks
Key Lois (Loggerhead Basin)
Content Keys and Upper Harbor Key
Pearl Basin
Marvin Key and the Barracuda Keys
Tarpon Wildlife Migration Lane
Island near Torch Key
Crane Key
Little Pine Mangrove Key
Demolition Key
Wilma Key
Marquesas Key
Mule Key
Archer Key
East Barracouta Key Flats
West Barracouta Key Flats
Boca Grande Key to Woman Key Shallow Bank
Lakes Area (LaVina Bank)

Objective 7: Reduce damage to natural resources from improper vessel salvage methods.

The working group recognizes that the overarching consideration when conducting salvage operations is to remove the vessel, ensure safety of operations, and minimize natural resource injury.

Recommendations:

Use the successful and established programs at Biscayne Bay National Park as guidance to implement a towing and salvage permit program in Florida Keys National Marine Sanctuary.

Specific recommendations include:

- Establish a Sanctuary Advisory Council Towing and Salvage working group to focus on this issue and ensure continued dialog and coordination among the towing and salvage community and the Florida Keys National Marine Sanctuary.
- Clearly define terms (use existing/standard definitions)
 - Towing
 - Salvage
 - Derelict vessel and wreck removal
 - Include clarification of what constitutes “illegal” towing and salvage operations
- Define dynamic versus static situations to clarify requirements and response approach for salvage operations and derelict vessel removal
- Include standard operating procedures (use C-Port guidance and Biscayne National Park, USCG, etc.)
 - Qualifications / licensing
 - Notification
 - Recovery plan
 - Standard range of equipment
- Enhance and promote partnerships among towing and salvage community as well as other managing partners (C-Port, Biscayne Bay National Park, U.S. Coast Guard)
 - Change culture
 - Develop best management practices/solutions
 - Create incentives for compliance, self-enforcement and education
 - Promote training
- Promote innovation of techniques
- Allow for adaptive management
 - Create mechanisms for feed-back loops that allow improvements/changes based on lessons learned from towing/salvage operations

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objectives	Consensus
Existing Areas							
Rodriguez Key	Decrease disturbance of a variety of birds, bonefish, and other desirable fish species.	No-motor zone on tidal flats.	Modify	Recommendation 1: Maintain existing restrictions and establish No Anchor Zone within existing area.	No Motor Zone and establish Restricted Entry/No Anchor Zone on tidal flats.	1, 2, 3, 6	Consider 1, 2, and 3
				Recommendation 2: Keep Dove Key and Rodriguez Key as separate areas.			
				Recommendation 3: Connect Dove Key and Rodriguez Key areas.			
				Recommendation 4: Close area at either Rodriguez or Tavernier Key. Not tenable	No Entry Zone on tidal flats.	1, 2, 4, 6	
Dove Key	Decrease disturbance of a variety of birds, bonefish, and other desirable fish species.	No-motor zone on tidal flats; area around the two small islands closed.	Modify	Recommendation 1: Determine if closed area is appropriate.	No Entry Zone 100 yards around island.	1, 2, 3, 6	As written
				Recommendation 2: Keep Dove Key and Rodriguez Key as separate areas.	No Entry Zone 100 yards around island.		
				Recommendation 3: Connect Dove Key and Rodriguez Key areas.	No Motor Zone and establish Restricted Entry/No Anchor Zone on tidal flats.		
Tavernier Key	Decrease disturbance of a variety of birds, bonefish, and other desirable fish species.	No-motor zone on tidal flats.	Modify	Recommendation 1: Maintain existing restrictions and establish a No Anchor Zone within the existing area.	No Motor Zone and establish Restricted Entry/No Anchor Zone on tidal flats.	1, 2, 3, 6	Recommendation 1
				Recommendation 2: Close area at either Rodriguez Key or Tavernier Key.	No Entry Zone on tidal flats.	1, 2, 4, 6	
Crocodile Lake	Decrease disturbance of a number of threatened or endangered species including American Crocodile and West Indian Manatee.	No-access buffer zone (100 feet) along shoreline between March 1 and October 1.	Modify	Recommendation 1: Maintain existing restrictions.	No Entry Zone (100 feet) along shoreline between March 1 and October 1.	1, 2	Recommendation 1
				Recommendation 2: Eliminate No Access Zone and establish 300' Idle Speed/No Wake Zone Along Shoreline.	Idle Speed/No Wake Zone (100 feet) along shoreline between March 1 and October 1.		
Eastern Lake Surprise	Decrease disturbance of American Crocodile and West Indian Manatee.	Idle speed only/no-wake zone east of highway U.S. 1.	Status Quo	Maintain existing restrictions.	Idle Speed/No Wake Zone east of highway U.S. 1.	1, 2	Consensus
New Areas							
Whitmore Bight/El Radabob Key/Rattle Snake Key	Decrease disturbance to important hardbottom habitat for juvenile lobster, reef fish and sport fish.		New	Recommendation 1: Establish a potential Closed/Research Only Area from South Sound Creek to Point Willie and Pole/Troll Zone from Point Willie to northeast point of Rattlesnake Key. Will need to determine a viable comparison site that could be adjacent to or another area.	No Entry Zone (South Sound Creek to Point Willie) and No Motor Zone (Point Willie to northeast point of Rattlesnake Key).	2, 3	Recommendation 1, 2, and 3
				Recommendation 2: Establish Pole/Troll Zone from South Sound Creek to northeast point of Rattlesnake Key.	No Motor Zone (from South Sound Creek to northeast point of Rattlesnake Key).		
				Recommendation 3: Establish Pole/Troll Zone from Point Willie to northeast point of Rattlesnake Key.	No Motor Zone (from Point Willie to northeast point of Rattlesnake Key).		
Pigeon Key - Florida Bay	Decrease disturbance to nesting wading birds, including roseate spoonbills, mangrove terrapins, mangrove salt march snakes, roosting frigate birds. Extremely important wading bird nesting. Close proximity to Intracoastal Waterway.		New	Establish No Access Zone.	No Entry Zone 100 yards around island.	2, 6	Consensus
Barnes Sound - Shallow Bays in the NW corner of Barnes Sound	Decrease impacts and disturbance to nesting wading birds and shallow water gamefish. Decrease damage to seagrass and macroalgae community.		New	Establish Pole/Troll Zone.	No Motor Zone.	2, 3	Consensus

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
Existing Areas							
Snake Creek	Decrease the disturbance of a variety of bird using the area for nesting/roosting/feeding and protect shallow water habitat used by bonefish, permit, tarpon, and other desirable fish species.	No-motor zone on tidal flat.	Modify	Recommendation 1: Maintain existing restrictions, expand zone to Whale Harbor Channel.	No Motor Zone.	1, 2, 4	Recommendation 1, 2
				Recommendation 2: Maintain existing restrictions, expand zone to Whale Harbor Channel and create Idle Speed/No Wake Zone within 300' of shoreline; allow use of transit channels.	No Motor Zone and Idle Speed/No Wake Zone within 100 yards of shoreline, with channels open to normal operation.		
Cotton Key	Decrease disturbance of nesting/roosting pelicans, cormorants, 4 species of herons, frigate birds, bonefish, and other desirable fish species.	No-motor zone on tidal flat.	Modify	Maintain existing No Motor Zone, extend to include bayside Whale Harbor Flats, islands, and deep channels, and establish Idle Speed/No Wake Zone in channels.	No Motor Zone with Idle Speed/No Wake Zone within existing channels.	1, 2, 6	Consensus
New Areas							
Ashbey/Horseshoe Key (ensure the name for this area is clear, use name currently on NOAA charts)	Frigate roosting area in Lignumvitae Preserve		New	Establish No Access Zone.	No Entry Zone 100 yards around island.	2, 6	Consensus
Marathon Oceanside Shoreline. From Vaca Cut to Sombrero Beach and ocean facing shoreline of Boot Key			New	Recommendation 1: Establish Idle Speed/No Wake Zone and leave access channels for homeowners.	Idle Speed/No Wake Zone on flats and access channels open to normal operation.	2, 3	Recommendation 1, 2
				Recommendation 2: Establish Idle Speed/No Wake Zone from Vaca Cut west to first channel.	Idle Speed/No Wake on flats.		
Moser Channel Banks	Due to their location, the lack of navigational features in, and the poorly draw charts of the area, the banks are hard to locate and are susceptible to boat groundings. Banks also support diverse assemblages of corals, sponges, macro-algae, and seagrasses.		New	Recommendation 1: Establish Idle Speed/No Wake Zones for each bank; include buffer zones around each bank.	Idle Speed/No Wake Zone on flats.	2, 3	Recommendation 1
				Recommendation 2: Install Gated Channel Markers for entry/exit to Moser Channel, extend gated markers to ensure buffer zone and navigation routes near are clearly marked.		2, 4	
Gulfside Banks	Fisheries scientists, John Burke and other scientists have studied them in recent years and recommended more protection for a number of reasons: they have been likened to coral reefs in that they support many of the same fish in different life stages (as they grow large and move from the bay to the reef); channels associated with them are important too; they are well defined for experienced boaters, but in high water can be harder to see and have suffered boating impacts; They can be impacted by fishing gear during storms, etc.		New	Recommendation 1: Establish zones for each bank.	Idle Speed/No Wake Zone on flats.	2, 4	Recommendation 1, 2
				Recommendation 2: Establish No Access/Research Area for monitoring bank habitats; consider small targeted areas and consult with user groups when determining these areas.	No Entry Zone.	2, 5	
				Recommendation 3: Install Gated Channel Markers.		2, 4	

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
Existing Areas							
Tidal flat south of Marvin Key	Decrease disturbance of resting shorebirds.	No-access buffer zone on tidal flat.	Status Quo	Maintain existing restrictions.	No Entry Zone.	1, 2, 3, 4	Consensus
Cayo Agua Keys	Decrease disturbance of nesting/roosting Great White Herons and Ospreys.	Idle speed only/no-wake zones in all navigable tidal creeks.	Modify	Maintain existing Idle Speed/No Wake Zone and establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Idle Speed/No Wake Zone and establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
East Content Keys	Decrease disturbance of Herons and White Ibis.	Idle speed only/no-wake zones in tidal creeks between southwesternmost keys.	Modify	Maintain existing Idle Speed/No Wake Zone and expand to include creek and inland water complex on northern part of East Content Key.	Idle Speed/No Wake Zone.	1, 2, 6	Consensus
East Harbor Key	One of the only Bald Eagle nesting islands.	No-access buffer zone (300 feet) around northernmost island.	Modify	Maintain existing No Access Zone.	No Entry Zone 100 yards around island.	1, 2, 6	Consensus
Horseshoe Key	Decrease disturbance of nesting White Crown Pigeon, Heron, Willet, and Osprey.	No-access buffer zone (300 feet) around main island (main island closed by Department of the Interior).	Status Quo	Maintain existing No Access Zone.	No Entry Zone 100 yards around island.	1, 2, 6	Consensus
Little Crane Key	Decrease disturbance of roosting Frigate Birds and nesting Great Egrets and Double-Crested Cormorants.	No-access buffer zone (300 feet) around entire key.	Modify	Confirm that island is gone and eliminate zone.	Eliminate zone	1, 2, 6	Consensus
Lower Harbor Keys	Decrease disturbance of nesting and roosting Great White Herons, Double-Crested Cormorants, Osprey, and other wading birds.	Idle speed only/no-wake zones in selected tidal creeks.	Modify	Maintain existing Idle Speed/No Wake Zone in creeks and establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Idle Speed/No Wake Zone in selected tidal creeks and establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
Mud Keys	Decrease disturbance of nesting and roosting Ospreys, roosting Frigate Birds, and Great White Heron rookery.	(i) Idle speed only/no-wake zones in the two main tidal creeks; (ii) two smaller creeks on west side closed.	Modify	Maintain existing Idle Speed/No Wake Zone and closed areas in creeks and establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Idle Speed/No Wake Zone in two main tidal creeks; No Entry Zones in western tidal creeks; and establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
Pelican Shoal	Decrease disturbance of bird nesting site.	No-access buffer zone out to 50 meters from shore between April 1 and August 31 (shoal closed by the Florida Game and Freshwater Fish Commission).	Modify	Island is gone, eliminate zone.	Eliminate zone	1	Consensus
Bay Keys	Decrease disturbance of nesting/roosting Great White, Tri-Color, and Little Blue Herons.	No-motor zone (300 feet) around one key; idle speed only/no-wake zones in tidal creeks.	Modify	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
Snipe Keys	Decrease disturbance of Little Blue Herons, Terns, and various shorebirds.	(i) Idle speed only/no-wake zone in main tidal creek; (ii) no-motor zone in all other tidal creeks.	Status Quo	Maintain existing Idle Speed/No Wake Zone and No Motor Zone.	Idle Speed/No Wake in main tidal creek and No Motor Zone in all other creeks.	1, 2, 6	Consensus
Upper Harbor Key	Decrease disturbance of Ospreys, Frigate Birds, Double-Crested Cormorants, and wading birds.	No-access buffer zone (300 feet) around entire key.	Modify	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
West Content Keys	Decrease disturbance of nesting Ospreys and wading birds.	Idle speed only/no-wake zones in selected tidal creeks; no-access buffer zone in one cove.	Modify	Maintain existing Idle Speed/No Wake Zone and establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Idle Speed/No Wake Zone in selected tidal creeks and establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
Sawyer Keys	Decrease disturbance of nesting Ospreys, 11 species of wading birds, and staging area for migrant shorebirds.	Tidal creeks on south side closed.	Modify	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
Western Sambo	The Western Sambo Ecological Reserve contains the greatest habitat diversity in the Lower Keys. Significant coral features include spur-and-groove formations, bank reefs, and nearshore patch reefs. Western Sambo has one of the last remaining stands of living elkhorn coral in the Lower Keys, a species once abundant throughout the Keys.	Prohibited activities include: discharging any matter except cooling water or engine exhaust; fishing by any means; removing, harvesting, or possessing marine life; touching/standing on coral; anchoring on coral or attached organisms; anchoring on living or dead coral or any attached organism, anchoring when a mooring buoy is available.	Modify	Recommendation 1: Maintain existing restrictions and zoning.	Ecological Reserve	1, 2, 4	Recommendation 1, 2
				Recommendation 2: Northern quadrant (<10') should be Idle Speed/No Wake Zone.	Idle Speed/No Wake Zone in northern quadrant where waters are <10'.		
New Areas							
Key Lois (Loggerhead Basin)	This basin area is highly used by migratory tarpon and flats fishermen from Feb thru the end of June. It is also located near highly populated areas and a heavily trafficked channel (Bow Channel). This zone would limit conflict between boaters "cutting corners" thru the basin and flats fishermen targeting tarpon there. Northern boundary should be set to allow transit east/west from Kemp Channel.		New	Establish Pole/Troll/Idle Zone.	Idle Speed/No Wake Zone.	2, 4	Consensus
Content Keys and Upper Harbor Key	This should be a year round, catch and release, pole/troll zone; except for Content Pass which should be marked and remain open use to allow transit between the basin and the Gulf. Many non fishing boaters ignore the channel and "run" the grass flats in order to reach shallow sandy areas or the Gulf. This zone would end this practice, limiting conflict between flats fishermen and boaters while protecting shallow grass meadows.		New	Establish Pole/Troll/Idle Zone with Content Pass to remain open to normal operation.	Idle Speed/No Wake Zone with Content Pass to open to normal operation.	2, 4	Consensus
Pearl Basin	This zone (from Calda to Pearl Banks between NW Channel and Man O' War Harbor) would relieve conflict between fishermen and boats transiting the basin headed to the NW Channel.		New	Establish Pole/Troll/Idle Zone (Idle Speed/No Wake Zone).	Idle Speed/No Wake Zone.	2, 4	Consensus
Seaplane Basin	Like Loggerhead Basin, this area will seasonally hold large numbers of tarpon and flats fishermen, but is located near a high traffic area. The zone would prevent conflict between flats fishermen and other boaters, but boundaries should take into account transit/access channels.		New	Establish Pole/Troll/Idle Zone (Idle Speed/No Wake Zone).	Idle Speed/No Wake Zone from February to June.	2, 4	Eliminate zone
Marvin Key and the Barracuda Keys	Like the Content/Upper Harbor zone, this zone will protect shallow fishing areas and relieve conflict between fishermen and other boaters who transit the area to reach "party areas".		New	Establish No Motor Zone (pole/troll). Navigable channels to be Idle Speed Only/No Wake.	No Motor Zone with Idle Speed/No Wake Zone in channels.	2, 4	Consensus

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
Tarpon Wildlife Migration Lane	Protect the oceanside migratory travel lanes used by Tarpon (<i>Megalops atlanticus</i>). The water they frequent (<10ft) is heavily used by boaters. This traffic greatly effects this species and generates daily conflict between fisherman and other users		New	Zone (April-June) along oceanside shorelines from east end of Key West to west end of Ohio Key. Consider impacts to and from users.	Idle Speed/No Wake Zone (April-June)	2, 4	
				Recommendation 2: Establish an Idle Speed/No Wake Zone (April-June) from east Bahia Honda to 7-mile bridge and Boca Chica. Consider impacts to and from users.	Idle Speed/No Wake Zone (April-June)	2, 4	Recommendation 1, 2; Consensus for protection, consider size
Island near Torch Key	Huge frigatebird roost, and there is also great white heron activity there.		New	Establish No Access Zone.	No Entry Zone 100 yards around island.	2, 6	Consensus
Crane Key	Public Scoping comment		New	Establish No Access Zone.	No Entry Zone 100 yards around island. Establish temporal no access zone; when it is determined that a species of concern uses this area		Consensus
Little Pine Mangrove Key	Frigatebird roost, nesting reddish egrets, tri-colored and great white herons. Follow up with USFWS regarding exact island.		New	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around islands.	2, 6	Consensus
Demolition Key	Island that includes great white heron nests and frigatebirds.		New	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around islands.	2, 6	Consensus

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
Existing Areas							
Big Mullet Key	Decrease disturbance of nesting Great White Herons, variety of other wading birds, and mangrove terrapins.	No-motor zone (300 feet) around entire key.	Modify	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
Boca Grande Key	Decrease disturbance of nesting/roosting birds.	South one-half of beach closed (beach above mean high water closed by Department of the Interior).	Modify	Recommendation 1: Maintain established closed zones and	No Entry Zone (beach) and establish temporal No Entry Zone 100 yards out from beaches.	1, 2, 3, 4	Recommendation 1, 2, 3, 4
				Recommendation 2: Establish temporal No Access Zone during turtle nesting seasons or when species of concern are present.	No Access Zone during turtle nesting seasons or when species of concern are present.		
				Recommendation 3: Consider 100 yard buffer zone around island	Establish temporal No Entry Zone 100 yards out from beaches.		
				Recommendation 4: Establishing No Anchor Zone, No Motor Zone, or designate island No Access Zone.	No Entry Zone (beach), and establish Restricted Entry/No Anchor Zone or No Motor Zone 100 yards out from beach.		
Woman Key	Decrease disturbance of nesting/roosting birds and nesting turtles.	One-half of beach and sand spit on southeast side closed (beach and sand spit above mean high water closed by Department of the Interior).	Modify	Recommendation 1: Maintain established closed zones and	No Entry Zone and establish temporal No Entry Zone 100 yards out from beaches.	1, 2, 3, 4	Recommendation 1, 2, 3, 4
				Recommendation 2: Establish temporal No Access Zone during turtle nesting seasons or when species of concern are present. and designate all surrounding flats as Idle Speed/No Wake Zone (pole/troll/idle).	No Access Zone during turtle nesting seasons or when species of concern are present. and designate all surrounding flats as Idle Speed/No Wake Zone (pole/troll/idle).		
				Recommendation 3: Consider 100 yard buffer zone around island	Establish temporal No Entry Zone 100 yards out from beaches.		
				Recommendation 4: Establish Pole/Troll/Idle Zone (Idle Speed/No Wake Zone) on surrounding flats.	No Entry Zone (beach), and establish Restricted Entry/No Anchor Zone or No Motor Zone 100 yards out from beach.		
Cottrell Key	Decrease disturbance of wading birds and mangrove terrapins. This is the only island in the lower keys where brown pelicans nest.	No-motor zone (300 feet) around entire key.	Modify	Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present; consider specific area that is needed for bird nesting - potentially only portion of the island	Establish temporal No Entry Zone 100 yards around islands.	1, 2, 6	Consensus
Little Mullet Key	Decrease disturbance of nesting/roosting birds.	No-access buffer zone (300 feet) around entire key.	Status Quo	Maintain existing zoning and restrictions.	Maintain existing zoning and restrictions.	1, 2, 6	Status Quo
Marquesas Keys	Decrease disturbance of nesting, feeding, and roosting sea turtles and birds.	(i) No-motor zones (300 feet) around three smallest keys on western side of chain; (ii) no-access buffer zone (300 feet) around one island at western side of chain; (iii) idle speed only/no-wake zone in southwest tidal creek.	Modify	Designate all flats and tidal creeks as Pole/Troll/Idle Zone (Idle Speed/No Wake Zone) and establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.; Designate flats as poll/troll and identify certain access channels to be open to normal operation, and establish temporal no entry zones 100 yards around islands	Idle Speed/No Wake Zone for all flats and tidal creeks and establish temporal No Entry Zone 100 yards around islands.	1, 2, 3	Consensus
New Areas							
Wilma Key	Decrease disturbance of nesting/roosting birds	No Access Zone	New	No Access Zone; Verify with USFWS that this zone is needed because same habitats could be protected by the Boca Grande/Woman Key Bank proposed area.	No Entry Zone.	2, 6	Consensus

Area	Purpose	Existing Access Restrictions/Regulation	Recommendation	Description of Modification	Zone Type	Objective	Consensus
Marquesas Keys	Reduce disturbance to endangered green sea turtles on a rare foraging ground while allowing critical research on this species. Protects green turtles on an internationally important foraging ground from boat strikes and fishery interactions. Also, allows for important research on green turtles and their importance to the seagrass ecosystem.	Research Only Zone, 12 square mile area 1 mile due west of the Marquesas Keys evaluated at 10 years.	New	Closed	No Entry Zone.	2, 5	Consensus
Mule Key	Reduce seagrass damage from prop scarring	Controlling Depth Marker	New	Install markers at all entrances to the Lakes displaying controlling depth for area.	Caution Zone.	2, 4	Consensus
Archer Key	Reduce disturbance to nesting and roosting birds and protect sea grass habitat, soft corals, and sponges.		New	Recommendation 1: Establish temporal No Access Zone during bird nesting/roosting seasons or when species of concern are present.	Establish temporal No Entry Zone 100 yards around island.	2, 6	Recommendation 1, 2, 3
				Recommendation 2: Install additional mooring buoys and require use of mooring buoys (No Anchoring) and only one vessel per buoy.	Establish temporal No Entry Zone 100 yards around island and No Anchor Zone.	2, 3	
				Recommendation 3: No overnight anchoring of platforms; no attended vessels in shallow water wildlife zones.	Establish temporal No Entry Zone 100 yards around island and No Overnight Anchor Zone.		
East Barracouta Key Flats	Reduce disturbance to sea turtles and protect important hard bottom habitat		New	0.4 square mile Non-extraction Zone southeast of Baracouta Key	Establish Non-extractive, No Anchor Zone.	2, 3	Consensus
West Barracouta Key Flats	Reduce disturbance to sea turtles and protect important hard bottom habitat		New	2 square mile (reduce by about a mile and a half) Non-extraction Zone southwest of Baracouta Key	Establish Non-extractive, No Anchor Zone.	2.3	Consensus
Boca Grande Key to Woman Key Shallow Bank	Such zoning would help to protect grass flat from grounding and limit user conflict in a high traffic area.		New	Pole/Troll/Idle Zone (Idle Speed/No Wake Zone) during bird nesting/roosting season or when species of concern are present.	Establish temporal Idle Speed/No Wake Zone.	2, 4	Consensus
Lakes area (LaVina Bank)	This zone will protect grass flats/fishing areas from damage by unknowledgeable boaters in what is a poorly marked and poorly mapped area.		New	Pole/Troll/Idle Zone (Idle Speed/No Wake Zone) with the Little Mullet channel open to normal operation.	Idle Speed/No Wake Zone with Little Mullet channel open to normal operation.	2, 4	Consensus