

APPENDIX A: Incidental take avoidance and minimization measures for new or expanding multi-slip facilities and for dredging projects, March 2011

Projects determined to be “may affect” as per the 2011 Manatee Key may or may not be reasonably certain to result in take of manatees. The following discussion is intended to provide more specific guidance on when take may occur, and what measures may offset the potential for adverse effects.

1. There are locations or circumstances in which take of manatees is **reasonably certain to occur** from new or expanding multi-slip facilities or from dredging. However, in some cases, it is possible the likelihood of take may be eliminated or reduced through a case-by-case review of the project including the implementation of alternative measures developed among the applicant, FWS, FWC and the county. These locations or circumstances include the following:
 - a. **Counties with State-approved MPPs in place:** The project has not been reviewed by the FWC or FWS **or** has been reviewed by the FWC or FWS **and** determined that the project is not consistent with the county’s State-approved MPP. These counties include Brevard, Broward, Citrus, Clay, Collier, Duval, Indian River, Lee, Martin, Miami-Dade, Palm Beach, St. Lucie, Sarasota, and Volusia. Projects proposed within the St. Johns River portion of Lake, Marion and Seminole counties shall be evaluated using the Volusia County MPP for those shorelines depicted as contiguous with Volusia County in the MPP.
 - b. **Counties not required to have a State-approved MPP, but where manatee protection is necessary for all or a portion of the county:** The project’s total number of slips **exceeds** the residential dock density threshold of 1 slip to 100 feet of shoreline **and** measures or project modifications proposed by the applicant have been determined to be insufficient. These counties include Charlotte, DeSoto (Peace River), Flagler, Glades, Hendry, Hillsborough, Levy, Manatee (excluding Braden River AIP), Monroe (north of Craig Key in the Florida Keys), Pasco (Anclote and Pithlachascotee Rivers), Pinellas, Putnam and St. Johns.
 - c. **Manatee County, Braden River AIP:** The take of manatees is reasonably certain to occur for projects located within an AIP. The only acceptable incidental take avoidance and minimization measure available is to implement sufficient manatee protection measures (i.e., speed zones, signage, law enforcement) that warrant the removal of the AIP designation. Until such designation is removed, permits should not be issued.
 - d. The applicant **does not elect** to follow the standard manatee conditions for in-water activities (Appendix B) as recommended by the 2011 Manatee Key.
 - e. The applicant **does not elect** to follow all dredging protocols described on the maps for the specific IMAs and WWAAs as recommended by the 2011 Manatee Key or **does not elect** to comply with any additional protection measures required for dredging projects not addressed in the 2011 Manatee Key.

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2. There are locations in which take of manatees is **not reasonably certain to occur** from new or expanding multi-slip facilities or from dredging. These locations include the following:
 - a. **Counties with State-approved MPPs in place:** The project has been designed or modified to be consistent with a county's State-approved MPP **and** verified by a FWC review or FWS review, **and** the applicant elects to follow conditions 2.c., 2.d. and 2.e. below. These counties include Brevard, Broward, Citrus, Clay, Collier, Duval, Indian River, Lee, Martin, Miami-Dade, Palm Beach, St. Lucie, Sarasota, and Volusia. Projects proposed within the St. Johns River portion of Lake, Marion and Seminole counties shall be evaluated using the Volusia County MPP for those shorelines depicted as contiguous with Volusia County in the MPP.
 - b. **Counties not required to have a State-approved MPP, but where manatee protection may be necessary for all or some areas of the county:** The project's total number of slips **does not exceed** the residential dock density threshold of 1 slip to 100 feet of shoreline **and** the applicant elects to follow conditions 2.c. and 2.d. (and 2.e. where appropriate) below **or** the project's total number of slips **exceeds** the residential dock density threshold of 1 slip to 100 feet of shoreline, **but** measures or project modifications proposed by the applicant have been determined to be sufficient. These counties include Charlotte, Desoto (Peace River), Flagler, Glades, Hendry, Hillsborough, Levy, Manatee (excluding Braden River AIP), Monroe (north of Craig Key in the Florida Keys), Pasco (Anclote and Pithlachascotee Rivers), Pinellas, Putnam and St. Johns.
 - c. The applicant **elects** to follow the standard manatee conditions for in-water activities (Appendix B).
 - d. The applicant **elects** to follow all dredging protocols described on the maps for the specific IMA in which the project is proposed or comply with any additional protection measures required for dredging projects not addressed in the 2011 Manatee Key.
 - e. The applicant **elects** to install and maintain permanent manatee educational signs for projects that involve watercraft access. If a project involves a boating facility with greater than fifty slips, the applicant also **elects** to develop, and make available for distribution to patrons, additional manatee educational materials acceptable to FWC and FWS.

APPENDIX B: Standard Manatee Conditions for In-Water Activities, 2011

Note: These conditions may be subject to revision at any time. It is our intention that the most recent version of these conditions will be utilized during the evaluation of the permit application.

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or in Vero Beach (1-772-562-3909) for south Florida, and emailed to FWC at ImperiledSpecies@myFWC.com.
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8½ " by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at http://www.myfwc.com/WILDLIFEHABITATS/manatee_sign_vendors.htm. Questions concerning these signs can be forwarded to the email address listed above.

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

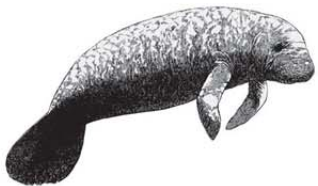
SHUT DOWN

Report any collision with or injury to a manatee:

Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC



APPENDIX C: Additional Conditions for In-water Activities in Manatee Habitat, March 2011

Note: These conditions may be subject to revision at any time. It is our intention that the most recent version of these conditions will be utilized during the evaluation of the permit application.

Depending on the work proposed and the location, further protective measures may be required in addition to the standard manatee conditions (Appendix B). Additional information regarding: (1) dredging techniques/methods; (2) planned start and end times; (3) the amount of material to be removed; (4) the specific project location; (5) spoil disposal location; and (6) a current submerged vegetation survey (documenting the presence/absence of vegetation and the extent of any project-related impacts, if any, to submerged aquatic vegetation occurring on-site) should be provided to expedite the review process.

The additional protective measures that may be required include (but are not limited to):

- Impacts to submerged aquatic vegetation (SAV) must be avoided. If impacts have been avoided to the greatest extent practicable, impacts must be minimized (see Appendix E and Appendix F for minimizing impacts after avoidance has taken place).
- For dredging projects that do not impact SAV and involve less than 50,000 cubic yards, additional measures outlined in the 2011 Manatee Key shall be followed. For dredging projects involving more than 50,000 cubic yards, additional measures may be necessary. Areas not identified in the Key may also require special conditions.
- In-water activities may need to be conducted at times of the year when manatees are not likely to be found in the project area. In particular, activities shall not occur in or near manatee aggregation areas or important manatee areas when manatees are present.
- Dedicated manatee observers, whose sole responsibility is to watch for manatees, may be needed and must be positioned on each vessel to watch for manatees. The observer must be experienced in manatee observation techniques and assist direct dredging activity-related personnel with complying with the standard manatee conditions (Appendix B). The manatee observer must be on site during all in-water activities.
- If observers are required, but conditions (weather, heavy currents, etc.) are such that manatees cannot be seen within 50 to 100 feet, in-water activity shall not be conducted.
- In areas of high manatee use, in-water activities may not be conducted at night, particularly clamshell dredging.
- Movement of work boats and barges should be minimized at night.

APPENDIX C: Additional Conditions for In-water Activities in Manatee Habitat, March 2011

- All watercraft-access facilities that accommodate large vessels, particularly those 100 feet or more in length, shall provide a fendering system to reduce the probability of crushing manatees between wharves and bulkheads or between vessels moored together. Fenders, mooring buoys, or cantilevered docks must provide a minimum standoff distance of 4 feet (for fenders and buoys, under maximum compression).

APPENDIX D: Standard Manatee Conditions for new and existing pipes and culverts, March 2011

Note: These conditions may be subject to revision at any time. It is our intention that the most recent version of these conditions will be utilized during the evaluation of the permit application.

The following guidance was developed to prevent manatee entrapment within culverts. This guidance applies only to culverts that are accessible to manatees. Structures with water control features (e.g., gates, flaps, etc.) and culverts that do not meet the specifications below will require FWC and Service review.

1. General Guidance:

- a. All culverts 8 inches to 8 feet in diameter must be grated with bars or rods strong enough to prevent manatee entrapment, unless the culvert or pipe is less than 200 feet long and connects two navigable waterways. Manatee entrapment can occur in culverts and pipes where the water level changes, either leaving the manatee stranded inside the culvert or flooding the culvert and drowning the manatee. Since they cannot swim backwards or turn around in culverts less than 8 feet wide, manatees become entrapped in culverts and pipes that have only one access point and the other end is a dead end or leads to a non-navigable stormwater pond or ditching. Culverts subject to variable and extreme water levels (little water to almost completely full) shall be grated as well as all dead end culverts.
 - b. Box culverts are preferred by the Service and FWC over round culverts. Bridges are the most preferred by the Service and FWC.
 - c. Manatees may become stranded in culverts greater than 8 feet in diameter during periods of low tide. Therefore, when planning for new culverts in tidal waters, a minimum 3-foot depth of water in the culvert at low tide stage is recommended, if necessary.
2. Size requirements: Grate bars or rods must be spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) to effectively prevent manatee access. Diagonal, horizontal or vertical grates may be installed. Grates must be a permanent fixture, maintained for the life of the structure, and not part of a water control structure. Grates may be hinged to swing outwards or may be removable for the purpose of cleaning debris. Culverts or pipes less than 8 inches in diameter are typically exempt from this requirement.
3. Length requirements: Based on documented manatee movement by FWC, the maximum recommended culvert length is no longer than 200 feet. Proposed culverts greater than 200 feet in length require a case-by-case review with the Service and FWC.

APPENDIX D: Standard Manatee Conditions for new and existing pipes and culverts, March 2011

4. Case-by-Case Review: Culverts that do not meet the specifications above or grates that preclude manatee access to essential habitat may be reviewed by the Service and FWC. The decision to block manatee access will be based on an assessment of several risk factors including, but not limited to culvert length and size, location, water level, and available habitat. The benefit of access to important habitat (forage resources, calving sites, freshwater, travel corridors, warmwater refugia, refuge from watercraft) will be weighed against the potential risk of injury or death to manatees, if the culvert were to remain accessible.

APPENDIX E: Dock Construction Guidelines in Florida for docks or other minor structures constructed in or over submerged aquatic vegetation (SAV), marsh, or mangrove habitat (U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001)

Note: These conditions may be subject to revision at any time. It is our intention that the most recent version of these conditions will be utilized during the evaluation of the permit application.

Submerged Aquatic Vegetation

1. Avoidance. The pier shall be aligned so as to minimize the size of the footprint over SAV.
2. The height of pier shall be a minimum of 5 feet above Mean High Water / Ordinary High Water (MHW/OHW) as measured from the top surface of the decking.
3. The width of the pier is limited to a maximum of 4 feet. A turnaround area is allowed for piers greater than 200 feet in length. The turnaround is limited to a section of the pier no more than 10 feet in length and no more than 6 feet in width. The turnaround shall be located at the midpoint of the pier.
4. Portions of the pier over SAV shall be oriented in a north-south orientation to the maximum extent that is practicable.
5. If possible, terminal platforms shall be placed in deep water, waterward of SAV or in an area devoid of SAV.
 - a. If a terminal platform is placed over SAV areas and constructed of grated decking, the total size of the platform shall be limited to 160 square feet. The grated deck material shall conform to the specifications stipulated below. The configuration of the platform shall be a maximum of 8 feet by 20 feet. A minimum of 5 feet by 20 feet shall conform to the 5-foot height requirement; a 3-foot by 20-foot section may be placed 3 feet above MHW to facilitate boat access. The long axis of the platform should be aligned in a north-south direction to the maximum extent that is practicable.
 - b. If the terminal platform is placed over SAV areas and constructed of planks, the total size of the platform shall be limited to 120 square feet. The configuration of the platform shall be a maximum of 6 feet by 20 feet of which a minimum 4-foot wide by 20-foot long section shall conform to the 5-foot height requirement. A section may be placed 3 feet above MHW to facilitate boat access. The 3 feet above MHW section shall be cantilevered. The long axis of the platform should be aligned in a north-south direction to the maximum extent that is practicable. If the 3 feet above MHW section is constructed with grating material, it may be 3 feet wide.
6. One uncovered boat lift area is allowed. A narrow catwalk (2 feet wide if planks are used, 3 feet wide if grating is used) may be added to facilitate boat maintenance along the outboard side of the boat lift and a 4-foot wide walkway may be added along the stern

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end of the boat lift, provided all such walkways are elevated 5 feet above MHW. The catwalk shall be cantilevered from the outboard mooring pilings (spaced no closer than 10 feet apart).

7. Pilings shall be installed in a manner which will not result in the formation of sedimentary deposits (“donuts” or “halos”) around the newly installed pilings. Pile driving is the preferred method of installation, but jetting with a low pressure pump may be used.
8. The spacing of pilings through SAV beds shall be a minimum of 10 feet on center.
9. The gaps between deck boards shall be a minimum of ½ inch.

Marsh

1. The structure shall be aligned so as to have the smallest over-marsh footprint as practicable.
2. The over-marsh portion of the dock shall be elevated to at least 4 feet above the marsh floor.
3. The width of the dock is limited to a maximum of 4 feet. Any exceptions to the width must be accompanied by an equal increase in height requirement.

Mangroves

1. The width of the dock is limited to a maximum of 4 feet.
2. Mangrove clearing is restricted to the width of the pier.
3. The location and alignment of the pier should be through the narrowest area of the mangrove fringe.

APPENDIX F: Key for construction conditions for docks or other minor structures constructed in or over Johnson's seagrass (*Halophila johnsonii*), October 2002

Note: These conditions may be subject to revision at any time. It is our intention that the most recent version of these conditions will be utilized during the evaluation of the permit application.

- 1a. The construction site is within the known range of Johnson's seagrass (from Sebastian Inlet to central Biscayne Bay in the lagoon systems of Florida's east coast). Go to 2.
- 1b. The construction site is not within the known range of Johnson's seagrass, but submerged aquatic vegetation (SAV) is present at the site. Dock construction will conform to "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat."
- 1c. The construction site is not within the range of Johnson's seagrass and SAV is not present at the site: No construction conditions for SAV are necessary.

- 2a. Perform a survey for Johnson's seagrass on-site during the April 1 - August 31 growing season. Go to 3.
- 2b. If no survey is conducted or if a survey for Johnson's seagrass is conducted outside of the season, go to 4.

- 3a. Johnson's seagrass is present at the proposed construction site. Go to 5.
- 3b. Johnson's seagrass is not present at the proposed construction site. Go to 6.

- 4a. The project is in an area designated by the National Marine Fisheries Service - Protected Resources Division (NMFS-PRD) as critical habitat² for Johnson's seagrass. Dock construction will conform to "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat" **except that light-transmitting materials (LTMs) shall comprise 100% of all pedestrian surfaces waterward of the mean low water (MLW) line.**
- 4b. The construction is not in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Dock construction will conform to "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat" **except that LTMs shall comprise at least 75% of all pedestrian surfaces waterward of the MLW line and a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**

- 5a. The construction is in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Dock construction will conform to "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat" **except that LTMs shall comprise at least 75% of all pedestrian surfaces waterward of the MLW line and a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**
- 5b. The construction is not in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Dock construction will conform to "Dock Construction Guidelines

APPENDIX F: Key for construction conditions for docks or other minor structures constructed in or over Johnson's seagrass (*Halophila johnsonii*), October 2002

in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat **except that all pedestrian surfaces directly over Johnson's seagrass areas shall be constructed of LTMs and a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**

- 6a.** The construction is in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Dock construction will conform to "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat", **except that a minimum 1-inch spacing shall be maintained between all wooden deckboards used waterward of the MLW line.**
- 6b.** The construction is not in an area designated by NMFS-PRD as critical habitat for Johnson's seagrass. Go to 7.
- 7a.** SAV other than Johnson's seagrass is present at the site. Dock construction will conform to "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat."
- 7b.** No SAV present. No construction conditions for SAV are necessary.

Notes:

¹ This key is meant to compliment, but not supersede the "Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat - U.S. Army Corps of Engineers/National Marine Fisheries Service, August 2001. **Docks incorporating light-transmitting materials shall not exceed the dimensions recommended in the Guidelines.**

² Federal Register 65 FR 17786, April 5, 2000, Designation of critical habitat for Johnson's seagrass.

³ Light-transmitting materials are made of various materials shaped in the form of grids, grates, lattices, etc., to allow the passage of light through the open spaces. All light-transmitting materials used for dock construction in the known range of Johnson's seagrass must have a minimum forty-three (43) percent open space.