

Page Two
City of St. Petersburg Beach

filing.) Failure to file a petition within this time period shall constitute a waiver of any right that such a person may have to request an administrative determination (hearing) under section 120.57 of the Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department file number, and the county in which the proposed project would be located;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by the petitioner, if any;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within fourteen days of receipt of this notice in the Office of General Counsel at the Department's address set forth above. Failure to petition within the allowed time frame constitutes a waiver of any right that such a person has to request a hearing under section 120.57 of the Florida Statutes and to participate as a party to this

#P0373

MAR-23-'95 WED 13:26 ID:DSL W. CENTRAL DIST. TEL NO:813 744-6171

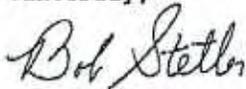
(4512-52)

Page Three
City of St. Petersburg

proceeding. Any later intervention will only be at the approval of the presiding officer on motion filed under rule 28-5.207, F.A.C.

If you have any questions, please contact Ken Huntington (Ext. 330) of this office. When referring to this project, please use the file number listed above.

Sincerely,



Bob Stetler
Environmental Administrator
Submerged Lands and
Environmental Resources Program

RS/er
cc: Corps of Engineers
Ruby Clary, State Lands

#732 P04

MAR-29-'95 WED 13:27 1D:DSL W. CENTRAL DIST. TEL NO:813 744-6171

(4512-52)



Florida Department of Environmental Regulation

Southwest District

3804 Coconut Palm

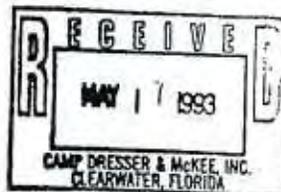
Tampa, Florida 33619

Lawton Chiles, Governor

813-744-6100

Virginia B. Wetherell, Secretary

May 13, 1993



City of St. Petersburg Beach
attn: Dana Tallman, P.E.
Camp, Dresser & McKee, Inc.
19345 US 19 North, Suite 300
Clearwater, FL 34624

Dear City of St. Petersburg Beach:

This is to acknowledge receipt of your application, File No. 522300403, for a permit to perform directional drilling for the installation of a 20" reclaimed water main crossing Boca Ciega Bay west of the Corey Causeway, Sections 31 & 35, Township 31 South, Range 16 East, in Pinellas County.

At this time no permit is required by this department for your project. Any modifications in your plans should be submitted for review, as changes might result in permits being required. This letter does not relieve you from the need to obtain any other permits (local, state or federal) which might be required. The construction project described above, and as shown on all application material, does not require a dredge and fill permit from D.E.R. since none of the proposed activity is within waters of the state as described in chapter 17-312.030 Florida Administrative Code.

A person whose substantial interests are affected by the Department's proposed decision may petition for an administrative proceeding (hearing) under section 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within fourteen days of receipt of this intent. Petitions filed by other persons must be filed within fourteen days of publication of the public notice or within fourteen days of their receipt of this intent, whichever first occurs. (The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of

Recycled Paper
Printed with Soy Based Ink

(4512-52)

filing.) Failure to file a petition within this time period shall constitute a waiver of any right that such a person may have to request an administrative determination (hearing) under section 120.57 of the Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department file number, and the county in which the proposed project would be located;
- (b) A statement of how and when each petitioner received notice of the Department's action of proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action of proposed action;
- (d) A statement of the material facts disputed by the petitioner, if any;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action.

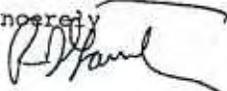
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(4512-52)

proceeding. Any later intervention will only be at the approval of the presiding officer on motion filed under rule 28-5.207, F.A.C.

If you have any questions, please contact Ken Huntington (Ext. 330) of this office. When referring to this project, please use the file number listed above.

Sincerely



Richard Garrity, Ph.D.
Director of District Management
Southwest District

RDG/si
cc: Corps of Engineers

50045459 MBP	07-07-1995	17:30:32
11 2010 - 00000380		
EAS-INTERNAL IMP TR FND		
RECORDING	\$	\$55.50
	TOTAL:	\$55.50
	CHARGE AMOUNT:	\$55.50

29038

X



- Legend**
-  Selected Features
 -  BASE.TIGER_ROADS_20-05
 -  BASE.INTERSTATES
 -  Public Land Survey System
 -  All Parcel Types
 -  Georgia County Shore Area
 -  Alabama County Shore Area

INTERNAL IMPROVEMENT FUND, STATE OF FLORIDA.

DEED NO. 17,412

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, the Trustees of the Internal Improvement Fund of the State of Florida, under and by virtue of the authority of Section 1061 of the Revised General Statutes of Florida, and according to the provisions and procedure provided for in Section 1062 of the Revised General Statutes of Florida, and for and in consideration of the sum of Eighty-five Thousand, Nine Hundred Ninety-six and 00/100 Dollars (\$85,996.00) to them in hand paid by Pasadena Gardens Incorporated, a corporation organized and existing under the Laws of the State of Florida of Pinellas County, Florida, receipt of which is hereby acknowledged, have granted, bargained, sold and conveyed to the said Pasadena Gardens Incorporated and its successors and assigns, forever, those certain submerged lands, described as follows, to-wit:

From the Northeast corner of Section 30, Township 31 South, Range 16 East, run West on Section line 4013.14 feet,

Thence North 28.82 feet to Station A as shown by map,

Thence South 44° 15' 30" West on line between Station A and Station B, as shown on map. Said line being base line to survey and runs along the Southeast side of McAdoo Bridge for distance of 5459.88 feet,

Thence South 34° 19' 57" East, 1015.5 feet to point of beginning,

Thence along a traverse of submerged lands as follows,

South 34° 19' 57" East 783.60 feet,
 South 65° 52' 42" East 996.85 feet,
 South 82° 23' 39" East 1011.96 feet,
 South 71° 13' 48" East 1718.31 feet,
 South 67° 13' 49" East 1145.06 feet,
 South 45° 37' 42" East 1852.20 feet,
 South 34° 28' 18" East 586.29 feet,
 South 89° 51' 21" East 631.16 feet,
 North 89° 35' 32" East 846.59 feet,
 South 80° 04' 06" East 453.61 feet,
 South 81° 18' 36" East 332.34 feet,
 South 68° 36' 24" East 474.17 feet,
 South 68° 04' 07" East 459.54 feet,
 South 62° 59' 34" East 501.36 feet,
 South 62° 47' 19" East 485.99 feet,
 South 86° 07' 27" East 495.25 feet,
 South 80° 41' 52" East, 1335.84 feet, more or less to an intersection with the projection of East line of Section 32, Township 31 South, Range 16 East,

Thence North on the projected East line of said Section 32, 836.88 feet to meander post of Survey A.D. 1848, on Section line between Sections 32 and 33,

Thence in a Northwesterly course along the Meander line of Boca Ceiga Bay in Sections 32, 29 and 30 of aforesaid Township and Range as surveyed in A.D. 1848, to a point 1000 feet Southeast of and at right angle to a line from Station A to Station B as shown on map,

Thence South $44^{\circ} 15' 30''$ West and parallel to said line from Station A to Station B, a distance of 4899.84 feet, more or less to point of beginning,

Containing 859.96 acres, more or less,

Lying Southwest of and adjoining to fractional Sections 30, 29 and 32 of Township 31 South, Range 16 East,

All lying and being in Sections 25 and 36, Township 31 South, Range 15 East and Sections 30, 31, 29 and 32, Township 31 South, Range 16 East, County of Pinellas, State of Florida.

TO HAVE AND TO HOLD the said above mentioned and described land and premises, and all the title and interest of the Trustees therein as granted to them by Section 1061 of the Revised General Statutes of Florida, unto the said Pasadena Gardens Incorporated, and its successors and assigns, forever.

SAVING AND RESERVING unto the Trustees of the Internal Improvement Fund of Florida, and their successors, an undivided three-fourths interest in and title in and to an undivided three-fourths interest in all the phosphate, minerals, and metals that are or may be in, on or under the said above described lands, and an undivided one-half interest in and title in and to an undivided one-half interest in all the petroleum that is or may be in or under the said above described land, with the privilege to mine and develop the same.

IN WITNESS WHEREOF, The Trustees of the Internal Improvement Fund of the State of Florida have hereunto subscribed their names and affixed their seals, and have caused the seal of THE DEPARTMENT OF AGRICULTURE OF THE STATE OF FLORIDA, to be hereunto affixed, at the Capitol, in the City of Tallahassee, on this, the 1st day of December, A.D. 1925.

17412

(SEAL)

Sent Thru State Treasurer
with draft attached on
Pasadena Gardens Inc.
thru. First National
Bank of St. Petersburg,
Fla. Dec. 2, 1925

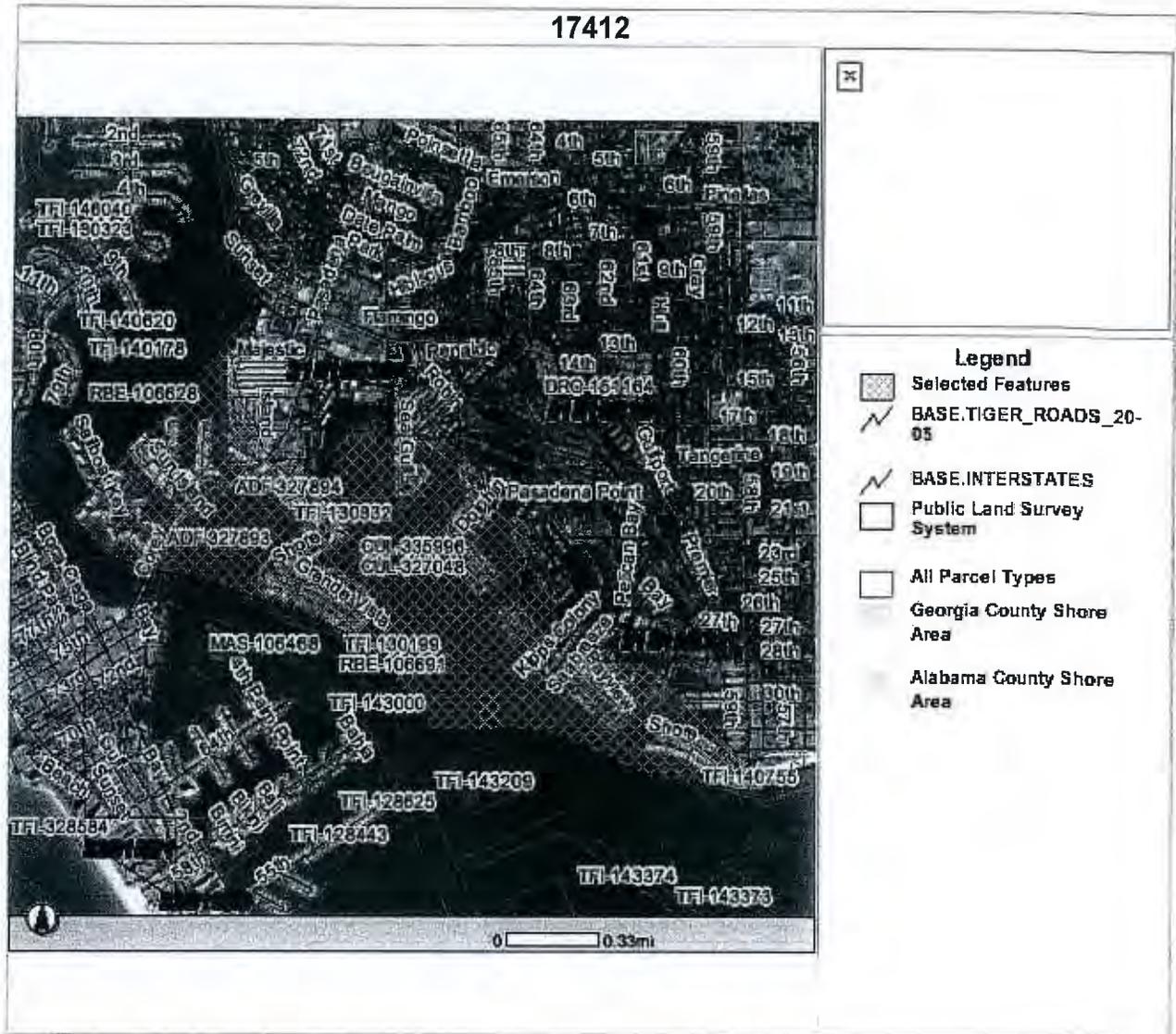
John W. Martin (SEAL)
Governor.

Ernest Amos (SEAL)
Comptroller.

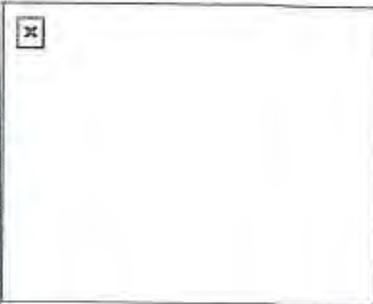
J. G. Luning (SEAL)
Treasurer.

Rivers Buford (SEAL)
Attorney General.

Nathan Mayo. (SEAL)
Commissioner of Agriculture.



17412



- Legend**
-  Selected Features
 -  BASE.TIGER_ROADS_20-05
 -  BASE.INTERSTATES
 -  Public Land Survey System
 -  All Parcel Types
 -  Georgia County Shore Area
 -  Alabama County Shore Area

Internal Improvement Fund, State of Florida

DEED NO 17,950

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, the Trustees of the Internal Improvement Fund of the State of Florida, under and by virtue of the authority of Section 1061 of the Revised General Statutes of Florida, and according to the provisions and procedure provided for in Section 1062 of the Revised General Statutes of Florida, and for and in consideration of the sum of Seven Hundred Fifty and no/100 (750.00) Dollars, to them in hand paid by Alliance Investment Corporation, a corporation existing under the laws of the State of Florida

Pinellas County, Florida, receipt of which is hereby acknowledged, have granted, bargained, sold and conveyed to the said Alliance Investment Corporation and their heirs and assigns, forever, the following described lands, to-wit:

From the Northeast corner of Section 30, Township 31 South, Range 16
East run west of Section line 4,013.14 feet,

Thence North 28,82 feet to Station A as shown by map attached to a certain deed dated December 1, A. D. 1925 and recorded in Deed Record 375, Page 56, Clerk's Office, Pinellas County, Florida, from the Trustees of the Internal Improvement Fund of the State of Florida, to Pasadena Gardens, Incorporated,

Thence South 44 degrees, 15 minutes, 30 seconds West on line between Station A. and Station B, said map, said line being base line to survey and runs along the Southeast side of McAdoo Bridge for a distance of 5,459.88 feet.

Thence retracing in a general northeasterly direction 3,070 feet on said line between Station A and Station B, said map,

Thence deflecting 90 degrees to the right and along said line of deflection in a general southeasterly direction for a distance of 1,000 feet to the point of beginning,

Thence continuing in said southeasterly direction produced for a distance of 3,127.95 feet to a point of deflection,

Thence deflecting to the left 45 degrees and running on said line of deflection in a more or less easterly direction for a distance of 2,211.75 feet to a point of deflection,

Thence deflecting to the right 45 degrees and along said line of deflection in a general southeasterly direction for 3,518.90 feet to a point of deflection,

Thence deflecting to the right 45 degrees in a general southerly direction for a distance of 276.45 feet to a point of deflection,

Thence deflecting to the left 45 degrees and along line of deflection in a general southeasterly direction for a distance of 391.0 feet to a point of deflection,

Thence deflecting to the left 45 degrees in a general easterly direction for a distance of 276.45 feet to a point of deflection,

Thence deflecting to the right 45 degrees in a general southeasterly direction for a distance of 195.5 feet to a point of deflection,

Thence deflecting to the left 45 degrees in a general easterly direction for a distance of 829.40 feet to a point of deflection ,

Thence deflecting to the right 45 degrees in a general southeasterly direction along said southeasterly line of deflection for a distance of 391.0 feet to a point of deflection,

Thence deflecting to the left 45 degrees in a general easterly direction for a distance of 552.95 feet to a point of deflection,

Thence deflecting 45 degrees to the right in a general southeasterly direction for a distance of 391.0 feet to a point of deflection,

Thence deflecting to the left at an angle of 45 degrees in a general easterly direction for a distance of 276.45 feet to a point of deflection,

Thence deflecting to the right an angle of 45 degrees in a general southeasterly direction for a certain distance to a point of intersection with the projected east line of Section 32, Township 31 South, Range 16 East, thence southerly along said east line to the intersection with a traverse of submerged lands as described in deed from Trustees of the Internal Improvement Fund of the State of Florida to Pasadena Gardens, Incorporated, dated December 1, 1925,

Thence following said traverse in reversed manner of said description in a general westerly and northwesterly direction etc., to a point on said traverse location of said point to be found by running as follows-

From the Northeast corner of Section 30, Township 31 South, Range 16 East run west on Section line 4, 013.14 feet,

Thence North 28.82 feet to Station A, as shown by map,

Thence South 44 degrees, 15 minutes, 30 seconds west on line between Station A and Station B., as shown on map. Said line being base line to survey and runs along the southeast side of McAdoo Bridge for a distance of 5,459.88 feet,

Thence south 34 degrees 19 minutes, 57 seconds east 1,015.5 feet, thence from said point to point of beginning.

containing 644.97 acres more or less

TO HAVE AND TO HOLD the said above mentioned and described land and premises, and all the title and interest of the Trustees therein as granted to them by Section 1061 of the Revised General Statutes of Florida,

unto the said Alliance Investment Corporation, a corporation existing
under the laws of the State of Florida
and their
heirs and assigns, forever.

SAVING AND RESERVING unto the Trustees of the Internal Improvement Fund of Florida, and their successors, an undivided three-fourths interest in and title in and to an undivided three-fourths interest in all the phosphate, minerals and metals that are or may be in, on or under the said above described lands, and an undivided one-half interest in and title in and to an undivided one-half interest in all the petroleum that is or may be in or under the said above described land, with the privilege to mine and develop the same.

IN WITNESS WHEREOF, The Trustees of the Internal Improvement Fund of the State of Florida have hereunto subscribed their names and affixed their seals, and have caused the seal of the DEPARTMENT OF AGRICULTURE OF THE STATE OF FLORIDA, to be hereunto affixed, at the Capitol, in the City of Tallahassee, on this the 14th day of November, A. D. Nineteen
Hundred and Twenty-eight

John W. Martin (SEAL)
Governor.

Ernest Amos (SEAL)
Comptroller.

W V Knott (SEAL)
Treasurer.

Fred H Davis (SEAL)
Attorney-General.

Nathan Mayo (SEAL)
Commissioner of Agriculture.

(SEAL)

Handed Mr. Frank F Pulver,
St. Petersburg, Fla
November 14, 1928.

17950

x



Legend

-  Selected Features
-  BASE.TIGER_ROADS_20-05
-  BASE.INTERSTATES
-  Public Land Survey System
-  All Parcel Types
-  Georgia County Shore Area
-  Alabama County Shore Area

17950



Legend

-  Selected Features
-  BASE.TIGER_ROADS_20-05
-  BASE.INTERSTATES
-  Public Land Survey System
-  All Parcel Types
-  Georgia County Shore Area
-  Alabama County Shore Area

APPENDIX C
BENTHIC
AND
BATHYMETRY
DATA

SCALE: 1 IN = 80 FT

ST. PETE BEACH COMMUNITY CENTER

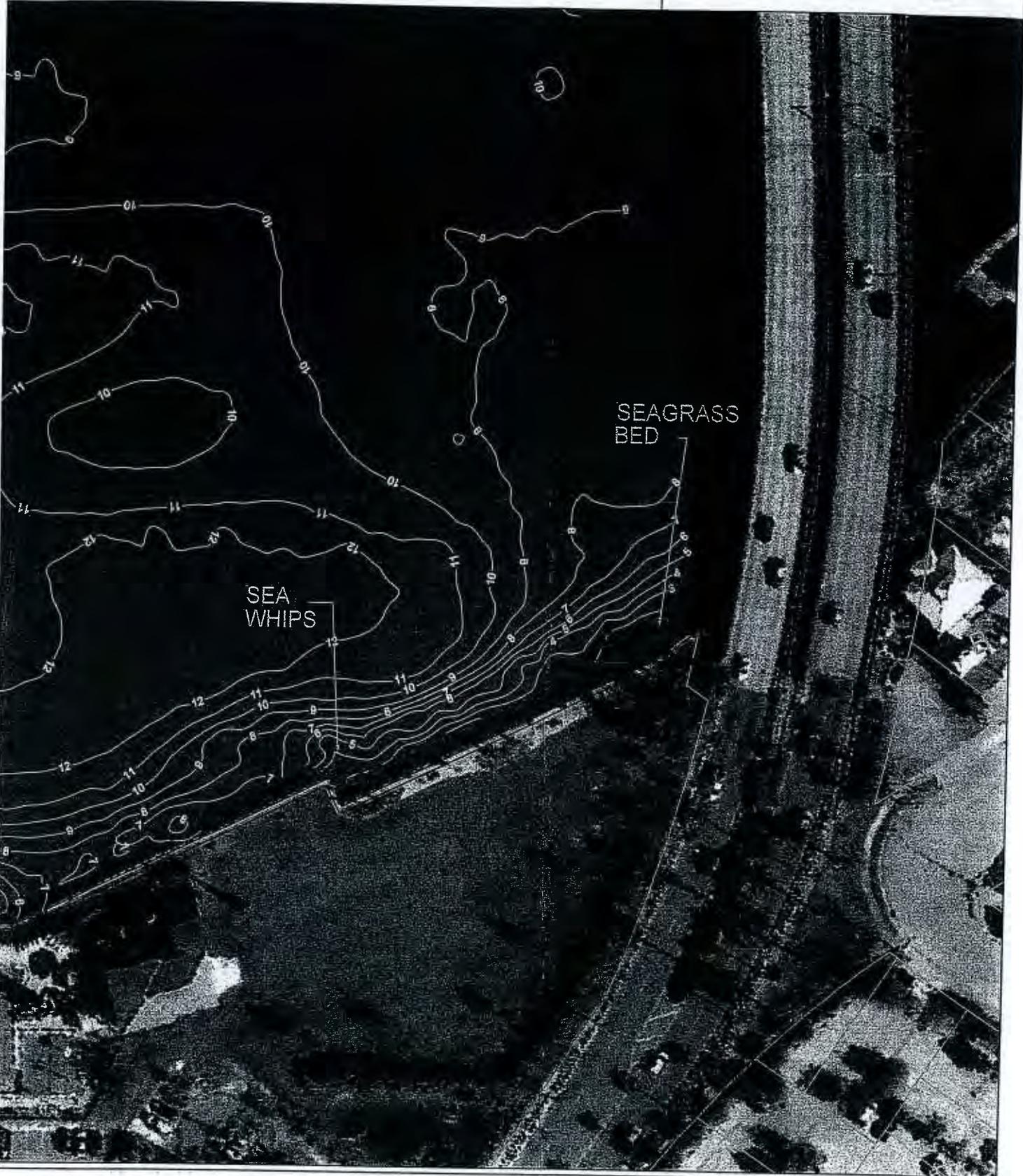


WOODS CONSULTING

1714 COUNTY ROAD 1, SUITE 22
DUNEDIN, FL 34698
PH. (727) 786-5747
FAX (727) 786-7479

**ST. PETE BEACH COMMUNITY
CENTER**

BENTHIC & BATHYMETRY



APPENDIX D

MANATEE INFORMATION
RELATED
TO THE FWS
MORATORIUM

APR 28 2008



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1875 Century Boulevard
Atlanta, Georgia 30345

In Reply Refer To:
FWS/R4/ES/036024

APR 24 2008

The Honorable C.W. Bill Young
Member, United States House
Of Representatives
9210 113th Street
Seminole, Florida 33772-2800

Dear Mr. Young:

Thank you for your letter dated April 8, 2008, on behalf of Ms. Terri Skapik of Woods Consulting, regarding the Fish and Wildlife Service's August 24, 2007, biological opinion (Opinion) on several proposed dock construction projects in Pinellas County, Florida.

As Ms. Skapik points out, we identified several projects in the Opinion that we believe would cumulatively result in the take of a manatee in the future. The Corps of Engineers followed that finding with a decision to deny (without prejudice) the proposed permit applications. Subsequent to that decision, there have been meetings among the various parties and agencies to discuss potential resolution of the issue. At this point, no action has been taken to reduce the potential for incidental take of manatees from these projects. While Ms. Skapik disagrees with our conclusion, the Service continues to believe the correct determination was made based on current information. There is no new information in her letter that would alter our conclusion.

Under Federal law, Florida manatees are protected under both the Endangered Species Act of 1973 (ESA) and the Marine Mammal Protection Act of 1972 (MMPA). The MMPA is the more protective of the two laws and requires individuals to request a special regulation and specific authorization if they intend to "take" a protected marine mammal such as the manatee. The Service explored and unsuccessfully proposed such regulations in 2003. At that time, the proposed regulations were criticized by the scientific community and virtually all segments of the public. Since then no regulations have been issued and none are currently requested or proposed.

As you might imagine, there are numerous challenges in administration of the MMPA and the ESA regarding manatees. The standard of authorizing incidental take for listed species under the ESA is to avoid "jeopardy" to the species. The standard under the MMPA is much more stringent in that the take must have no more than a "negligible impact" on the species. The latter standard makes it almost impossible to authorize unmitigated incidental take of manatees until population levels are large enough to meet the negligible standard.

TAKE PRIDE
IN AMERICA 

Mr. Young

2

Further complicating the issue is the lack of a scientific technique to calculate the increased probability of take associated with an activity such as operation of a boat ramp or marina. Manatee injury and mortality is a cumulative effect of many actions and decisions by both agencies and individuals. In the absence of objective methods, regulatory agencies and personnel are left to their best professional judgment in assessing cumulative impacts. While agencies strive for consistency, there is a measure of unpredictability in permitting decisions which makes planning more difficult for permit applicants.

Finally, as is the case for the projects covered in this Opinion, the solutions for permit applicants often require action by government. Presently, few public agencies at any level have sufficient resources to establish and enforce additional manatee protection areas. Even if they did, it is not clear whether the public will support more boat access with more restrictions, or if they are willing to forego more boat access to avoid more restrictions on the waterways. Many of the solutions that would resolve these permit issues were proposed by the Florida Fish and Wildlife Conservation Commission in 2004 but were rejected by local interests and local government.

Nevertheless, the Service believes that issues like these are best addressed at the local or state level. Without support from these entities, actions by the Federal government are minimally effective. For this reason we have encouraged Pinellas County to reconsider implementing measures to resolve this issue. However, we cannot require the county or state to take these steps and if they do not, the net result may mean that these and similar future proposals cannot receive Federal permits.

At a landscape level, manatees are doing better in many parts of Florida. However in the project area, current science indicates manatee populations may be slightly declining. Our 2007 review of the protected status of the manatee found that "regulatory mechanisms limiting watercraft collisions may not be sufficiently effective" in the southwest portion of the state, which includes the Tampa Bay complex. Therefore, barring a change in Federal standards or an increase in local or state manatee protection, there could be additional instances of permit denials in the future.

As a result of prior litigation, legal counsel from both the Service and the Corps has shaped the administration of the permit program in addressing potential impacts to manatees. Agency staff also continues to develop better planning information and procedures for the regulated public.

With regard to these projects, if new information suggests that our previous analysis was incorrect, either the Corps or the Service can initiate a reevaluation. However, no such information has come to light and there is no pending Federal action.

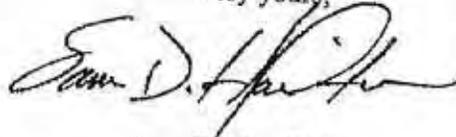
At this time we cannot take the steps requested by Ms. Skapik on behalf of her clients. We are available to participate in continuing discussions with the various parties to explore solutions and would be pleased to provide additional briefings to you or your staff on these complex and controversial issues at your convenience.

Mr. Young

3

We appreciate the opportunity to respond to your inquiry. Should you need additional information, please contact me at (404) 679-4000 or Dave Hankla, Field Supervisor, Jacksonville, Florida, at (904) 232-2580 extension 108.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Sam D. Hamilton". The signature is fluid and cursive, with a large initial "S" and "H".

Sam D. Hamilton
Regional Director



United States Department of the Interior

FISH AND WILDLIFE SERVICE
6620 Southpoint Drive, South
Suite 310
Jacksonville, Florida 32216-0912

IN REPLY REFER TO:

FWS Log No. 41910-F-0251

August 24, 2007

Colonel Paul L. Grosskruger
District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019
Attn: Pat Wolfe, Mike Nowicki, Tracy Hurst

RECEIVED

AUG 28 2007

JACKSONVILLE DISTRICT
ISACE

Dear Colonel Grosskruger:

This document transmits the U. S. Fish and Wildlife Service's (Service) biological opinion on effects of proposed actions located in Pinellas County, Florida on the West Indian (Florida) manatee, (*Trichechus manatus latirostris*). The Corps used the July 2005 version 1.1 Corps of Engineers and State of Florida Effect Determination Key for the Manatee in Florida (manatee key) to determine that proposed dock facilities are likely to adversely affect the manatee and requested our concurrence and initiation of formal consultation. Our office has reviewed the information provided by the Corps for subject applications and the request for formal consultation. Our review also included the revised Florida Manatee Recovery Plan (USFWS 2001), data supplied by the Florida Fish and Wildlife Conservation Commission (FWC), the Florida Wildlife Research Institute (FWRI), data from our April, 2007 Five-year Status Review for the Manatee and other relevant data.

We provide the following comments in accordance with section 7 of the Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, (MMPA) as amended (16 U.S.C. 1461 *et seq.*). A complete administrative record of this consultation is on file at the Jacksonville Field Office's sub-office in St. Petersburg.

Description of Proposed Action

The projects listed in the table below are located in Boca Ciega Bay in western Pinellas County, Florida. These proposals combined would increase the number of boat slips in this area by 729. Submerged aquatic vegetation occurs along the shoreline of many of these projects, however docks have been designed to avoid direct impacts to this important resource. Three projects include maintenance dredging and one project proposes to convert an existing manmade lake to saltwater by dredging of uplands for a channel. More detailed individual project descriptions are available in the Corps' application packages (numbers below) or at our St. Petersburg sub-office.

The table below shows the proposed number of boat slips and the proposed density of boat slips per shoreline length of each project.

APPLICANT	CORPS APPLICATION NUMBER	FWS LOG NUMBER	NUMBER OF BOAT SLIPS (slip to shoreline ratio)
Santa Madeira Investments Partners, LLC	SAJ2003-1070 (IP-PW)	07-F-0251	17 (26 existing, 1 slip/21 feet of shoreline)
Treasure Island Development, LLC	SAJ2005-10086 (LOP-PW)	07-F-0178	6 (1 slip/20 feet of shoreline)
Gulfport Marina	SAJ2006-8081 (IP-MN)	07-F-0391	3 (95 existing, 1 slip/26 feet of shoreline)
Peter Oehms	SAJ2007-0796 (LOP-PW)	07-F-0572	6 (1 slip/18 feet of shoreline)
Steve Cureten	SAJ2007-6925 (LOP-PW)	07-F-0573	4 (1 slip/18 feet of shoreline)
Aquaplex Ventures II, LLC	SAJ2007 -0654 (IP-TEH)	07-F-0582	194 slips (no shoreline – manmade lake)
East Madeira Corp & Travis Corp of Pinellas County	SAJ2007-2498 (IP-PW)	07-F-0583	99 wet & 400 dry (75 existing wet, 300 dry) (1 wet slip/9 feet of shoreline)

Determination of action area relates only to the action proposed and is taken into consideration in our analyses for jeopardy and incidental take of the species under consideration. The Service determines the action area for a proposed project by considering not only the direct effects of the action such as construction activity and project footprint, but the indirect effects of the action. The indirect effect of construction of these docks is additional vessel traffic in the waterways near the proposed facility. We assessed the patterns of watercraft traffic and high-use destinations of vessels in this area of the county from a recent boater survey published in A Recreational Boating Characterization for Tampa and Sarasota Bays (Sidman *et al.*, date not provided). Therefore, the Service considers the action area to include western Pinellas County waterways, including the ICW and shoreline area, from north Boca Ciega Bay (near Redington Shores) and Long Bayou, south to Mullet Key/Fort Desota Park and John's Pass, Blind Pass, and Pass-A-Grille Channel to the Gulf of Mexico. Although the action area includes a bay, it also consists of relatively narrow waterways in man-made canal systems, four narrow passages under causeways, six larger causeways, and two narrow passes to the Gulf.

Status of the Species/Critical Habitat

Species/Critical Habitat Description

The West Indian manatee is federally listed as an endangered species under the ESA (32 FR 4001), and the species is further protected as a depleted stock under the MMPA. They are large fusiform-shaped aquatic mammals with skin that is uniformly dark grey, wrinkled, sparsely haired, and rubber-like. They possess paddle-like forelimbs, no hind limbs, and a spatulate, horizontally flattened tail. Adult manatees average about 10 feet in length and 1,200 pounds in weight, but may reach lengths of up to 15 feet (Gunter 1941) and weigh as much as 3,570 pounds (Rathbun *et al.* 1990). Newborns average 4 to 4.5 feet in length and weigh about 66 pounds (Odell 1981).

Critical habitat for the Florida subspecies (*Trichechus manatus latirostris*) was designated in 1976 [50 CFR Part 17.95(a)]. Critical habitat for the manatee is as follows: Crystal River and its headwaters known as King's Bay (Citrus County); the Little Manatee River downstream from the U.S. Highway 301 bridge (Hillsborough County); the Manatee River downstream from the Little Manatee Dam (Manatee County); the Myakka River downstream from Myakka River State Park (Sarasota and Charlotte Counties); the Peace River downstream from the Florida State Highway 760 bridge (De Soto and Charlotte Counties); Charlotte Harbor north of the Charlotte-Lee county line (Charlotte County); Caloosahatchee River downstream from the Florida State Highway 31 bridge (Lee County); all U.S. territorial waters adjoining the coast and islands of Lee County; and all U.S. territorial waters adjoining the coast and islands and all connected bays, estuaries, and rivers from Gordon's pass, near Naples (Collier County); southward to and including Whitewater Bay (Monroe County); all water of Card, Barnes, Blackwater, Little Blackwater, Manatee, and Buttonwood sounds between Key Largo (Monroe County and the mainland of Dade County); Biscayne Bay, and all adjoining and connecting lakes, rivers, canals, and waterways from the southern tip of Key Biscayne northward to and including Maule Lake (Dade County); all of Lake Worth, from its northernmost point immediately south of the intersection of U.S. Highway 1 and Florida State Highway A1A southward to its southernmost point immediately north of the town of Boynton Beach (Palm Beach County); the Loxahatchee River and its headwaters (Martin and West Palm Beach Counties); that section of the Intracoastal Waterway from the town of Seawalls Point (Martin County), to Jupiter Inlet (Palm Beach County); the entire inland section of water known as the Indian River, from its northernmost point immediately south to the intersection of U.S. Highway 1 and Florida State Highway 3 (Volusia County); southward to its southernmost point near the town of Seawalls Point (Martin County); and the entire inland section of water known as the Banana River and all waterways between Indian and Banana Rivers (Brevard County); the St. Johns River including Lake George, and including Blue Springs and Silver Glen Springs from their points of origin to their confluences with the St. Johns River; that section of the Intracoastal Waterway from its confluence with the St. Mary's River of the Georgia-Florida border to the Florida State Highway A1A bridge south of Coastal City (Nassau and Duval Counties).

Constituent elements were not designated. Manatee distribution in Florida is heavily influenced by water temperature. In Florida, manatees are not known to be limited by food during warm seasons nor are they thought to be limited by the availability of breeding or nursery habitat.

Life History

Manatees are herbivores that feed opportunistically on a wide variety of aquatic vegetation. Feeding rates and food preferences depend, in part, on the season and available plant species. Seagrasses are a dietary staple for manatees in coastal areas (Ledder 1986; Provancha and Hall 1991; Kadel and Patton 1992; Koelsch 1997; Lefebvre *et al.* 2000). Shallow grass beds, with ready access to deep channels, are generally preferred feeding areas in coastal and riverine habitats (Smith 1993). Manatees frequently feed in waters three to nine feet in depth where aquatic vegetation is abundant. Manatees use springs and freshwater runoff sites for drinking water; secluded canals, creeks, embayments, and lagoons for resting, cavorting, mating, calving and nurturing their young; and open waterways and channels as travel corridors. (Gannon, *et al.* 2007, Marine Mammal Commission 1986, 1988).

Breeding takes place when one or more males are attracted to an estrous female and form an ephemeral mating herd (Rathbun *et al.* 1995). Mating herds can last up to four weeks, with different males joining and leaving the herd throughout the cycle (Hartman 1979; Bengtson 1981; Rathbun *et al.* 1995. Cited in Rathbun 1999). Permanent bonds between males and females do not form. Females appear to reach sexual maturity by about age five (but have given birth as early as four years of age), and males may reach sexual maturity at two to three years of age (Marmontel 1995; Odell *et al.* 1995; O'Shea and Hartley 1995; Rathbun *et al.* 1995). Manatees may live in excess of 50 years (Marmontel 1995), and evidence for reproductive senescence is unclear (Marmontel 1995; Rathbun *et al.* 1995).

Calf dependency usually lasts one to two years after birth (Hartman 1979; O'Shea and Hartley 1995; Rathbun *et al.* 1995; Reid *et al.* 1995). Calving intervals vary greatly among females, with an average birth cycle of 2 to 2.5 years. Intervals may be considerably longer depending on age and perhaps other factors (Marmontel 1995; Odell *et al.* 1995; Rathbun *et al.* 1995; Reid *et al.* 1995). Females that abort or lose a calf may become pregnant again within a few months (Odell *et al.* 1995), or even weeks (Hartman 1979).

Manatees frequent coastal, estuarine, and riverine habitats and are capable of extensive north-south migrations. Manatees depend on areas with access to natural springs or man-made, warm water refugia and access to areas with vascular plants and fresh water sources. Manatees normally migrate along shorelines and use deeper corridors to access shallow water feeding and resting areas. When ambient water temperatures drop below 68°F (20°C) in autumn and winter, manatees aggregate within the confines of natural or artificial warm water refuges (Lefebvre *et al.* 1989) or move to the southern tip of Florida (Snow 1991). Most artificial refuges are created by warm water outfalls from power plants or paper mills. As water temperatures rise, manatees disperse from these winter aggregation areas. While some remain near their winter refuges, others undertake extensive migrations along both Florida coasts and far up rivers and canals. Many manatees return to the same warm water refuges each year. However, it has been recorded that some manatees use different refuges in different years, while others use two or more refuges in the same winter (Reid and Rathbun 1984; Rathbun *et al.* 1990; Reid *et al.* 1991; Deutsch *et al.* 2003). There are many lesser known, minor aggregation areas used as temporary thermal refuges. These include canals, boat basins, seeps, and lesser springs where warmer water temperatures persist as temperatures in adjacent bays and rivers decline.

Population Status and Distribution

The total population size of manatees in Florida is unknown. Annual synoptic surveys are done in the winter months statewide. The current best minimum population estimate is 3,300 animals from a January 2001 survey (FWC FWRI unpub. synoptic aerial survey data, 2006). Although surveys have been conducted more recently than 2001, the weather conditions for that particular survey were ideal and considered the most accurate minimum population estimate. Adult manatee survival rates are considered to be the most important indicator of maintaining a stable and secure manatee population. Given the low reproductive rate described above, manatee populations would be slow to recover from extensive depletions of their numbers.

Based on telemetry studies, aerial surveys, photo identification studies, and other research over the past 30 years, manatee distribution in the southeastern United States is now well known (Beeler and O'Shea 1988; Fertl *et al.* 2005, Lefebvre *et al.* 1995, Rathbun *et al.* 1982; and Schwartz 1995). Florida manatees can be found in Florida waters throughout the year, and nearly all manatees use the waters of peninsular Florida during the winter months. In winter months, most manatees rely on warm water from industrial discharges and natural springs for warmth.

There are four regional management units of manatees in Florida: (a) the Northwest Region, along the Gulf of Mexico from Escambia County east and south to Hernando County; (b) the Upper St. Johns River Region, consisting of Putnam County from Palatka south to Lake and Seminole counties; (c) the Atlantic Coast Region, consisting of counties along the Atlantic coast from Nassau County south to Miami-Dade County and that portion of Monroe County adjacent to the Florida Bay and the Florida Keys; and counties along the lower portion of the St. Johns River north of Palatka, including Putnam, St. Johns, Clay and Duval counties; and (d) the Southwest Region, consisting of counties along the Gulf of Mexico from Pasco County south to Whitewater Bay in Monroe County. The largest numbers of manatees, comprising perhaps 80 percent of the manatee population in Florida, are found in the Atlantic Coast and Southwest regions. The Northwest and Upper St. Johns River units comprise about 20 percent of the population. Population growth rates as reported by Runge *et al.* (2004, 2007) are as follows: Northwest Region 4.0%, Upper St. Johns River Region 6.2%, Atlantic Coast Region 3.7%, and Southwest Region -1.1%. The Southwest Region appears to be in decline, probably due to the combined effects of watercraft mortality and episodic red-tide events (Craig and Reynolds 2004; Runge *et al.* 2004; Langtimm *et al.* 2004; K. Langtimm pers. comm. 2006).

Threats

The two most significant human-related threats to the Florida manatee population statewide are collisions with watercraft and future loss of natural and artificial warm water habitats. All other threats are relatively minor in comparison. These threats to manatees include crushing or entrapment in gates and locks, entanglement in ropes, lines, and nets, ingestion of fishing gear or debris, vandalism, poaching, and exposure to red tide brevetoxin. The Southwest management unit experiences more deaths from red tide than other management units, however watercraft-

related mortality is still the leading single cause of death in adults in that unit. Mortality from watercraft collisions accounts for 25-33 percent of all manatee mortalities statewide (FWC-FWRI 2006).

Warm water habitat is essential for manatee survival during cold weather. Prolonged exposure to cold water temperatures can result in debilitation and/or death due to "cold stress syndrome" (Bossart *et al.* 2004, Rommel *et al.* 2001). Currently, nearly two-thirds of the manatee population winters at industrial warm-water sites, which are now made up almost entirely of power plants (FWC FWRI, unpub. synoptic aerial survey data, 2007). However, when compared to all other threats, including the future loss of warm water habitat, watercraft-related mortality poses the most serious long-term risk to the growth and resilience of the manatee population.

Analysis of the Species/Critical Habitat Likely to be Affected

The primary consideration in permitting construction of a watercraft access facility is the potential indirect and cumulative effects leading to injury and death of manatees resulting from collisions with watercraft. There is also potential for loss of feeding habitat related to these facilities from direct impacts such as dredging for access and shading of seagrass by the structures. Indirect effects could occur from vessel prop scarring of seagrass; harm and harassment from additional vessel activity that could disrupt manatee movement and feeding; and disturbance of manatees in areas where they bear and nurture their young.

Environmental Baseline

Status of the Species within the Action Area

Manatee presence has been documented in the action area through aerial surveys, telemetry studies and a carcass salvage program. Synoptic surveys are conducted during the winter months at known warm water refuge sites however, synoptic surveys are not conducted in the action area because there are no warm water refuges there. Manatees occur in the waters of the action area year around, but regularly occur in the eight-month summer season, April through mid-November. Aerial distribution surveys were conducted in Boca Ciega Bay, from 1987 to 1997. These surveys were conducted once or twice per month and indicate that manatee use of the action area is relatively evenly distributed and maybe increasing slightly. In addition to having resident manatees, the action area is likely used by some manatee to migrate north and south between winter and summer habitat.

The carcass salvage program data shows that both adult and perinatal manatees use the action area during all seasons. The total number of manatees carcasses recovered for the action area in the last 10 years is approximately 26, which is approximately 34 per cent of all manatees recovered during that time period in all of Pinellas County.

The action area is within the Southwest Region manatee management unit. The estimated population growth rate for this management unit is negative (-1.1 percent per year) over the eight year period prior to 2002 (Runge *et al.* 2004, 2007). The margin of error in making this estimate is larger (95% CI -5.4 to +2.4%) for the Southwest management unit than the other three Florida management units. However, 70% of model simulations show decline in this unit (C. Deutsch,

Fish and Wildlife Research Institute, pers. comm. 2007). This statistic reflects greater uncertainty about survival and reproductive rates in this region. This is, in part, due to a shorter time series of sight-resight data. Estimates of adult survival are lower than those of all other management units, probably due to the combined effects of chronic human-related (watercraft) mortality and episodic mortality events caused by red tide, but possibly also due to the geographic extent of current sampling. Manatees in the Southwest management unit are found in a broad diversity of habitats from the more developed Tampa Bay to the less developed reaches of Everglades National Park. On the Gulf Coast, there is a fairly high probability (0.33) that the effective population could fall below 500 animals within 100 years under status quo (Runge *et al.* 2007). Based on the available data, it appears that if the Southwest manatee management unit is to stabilize or indeed increase in size, it cannot sustain any further increases in mortality.

From 2002 to 2006 in Pinellas County, 41 percent of all manatee deaths of a known cause were watercraft-related. This exceeds the state average of 25 to 33 percent. From 1997 to 2001, 27 percent of all manatee deaths of a known cause in Pinellas County were watercraft-related. There represents almost a three-fold increase in watercraft death in the last five years over the previous five years for Pinellas County. The high percentage of watercraft-related mortality is particularly meaningful considering several deaths related to episodic red tide events occurred in Pinellas County during the 2002 to 2006 period and were counted among the natural cause of death category. None of these watercraft deaths, i.e. "incidental take", is authorized under the ESA or MMPA.

The average annual watercraft-related manatee death in Pinellas County is 3.2 per year for the last five years. In the action area, nine manatees have died from watercraft with a recent five-year average of 1.8 per year. In the previous five year period (from 1997 to 2001), two manatees were killed by watercraft in the action area.

Factors Affecting the Species' Environment within the Action Area

Management measures to reduce or remove human-related threats are considered essential to ensure the long-term recovery of the manatee. Within the action area and through-out the range of the manatee, watercraft-related mortality poses the most serious long-term risk to the growth and resilience of the manatee population. Management measures could include establishment of speed zones, refuges, sanctuaries, and safe havens by State, Federal and/or local governments. Public education, adequate signage, and enforcement are essential to the success of these measures.

The primary conservation action to reduce the risk of manatee injury and death from watercraft collisions is a limitation on watercraft speed. The rationale behind this is that a slower speed affords both manatees and boaters additional response time to avoid a collision. Furthermore, if an impact occurs, the degree of trauma will generally be lessened if the colliding boat is operating at slower speeds. One assessment of new boat speed zones and watercraft-related manatee mortality provides preliminary evidence that speed zones are effective in reducing manatee mortality (Laist and Shaw 2006). Implementation of this protective measure will at least stabilize if not reduce the mortality rate from watercraft collisions. Addressing manatee mortality and injury due to watercraft collisions are one of the Service's highest priorities, and we encourage implementation of protective measures at a county-level to ensure this threat is under control.

County Manatee Protection Plans (MPP) have been developed with speed zones and other protection measures in 13 counties in Florida (with two additional pending approval). No State or Federally-approved Manatee Protection Plan exists in Pinellas County and there are no State or Federally-approved manatee speed zones in the action area. Pinellas County has one State manatee speed zone in northeastern Pinellas County near Safety Harbor and there is a Federal manatee sanctuary (seasonal "no entry"), also in eastern Pinellas County at the Bartow Electric Generating Plant. There are county slow speed zones for boater safety in the action area within some zones in residential canals and under bridges and in Blind Pass and John's Pass leading to the Gulf of Mexico. There are no speed zones in Pass-A-Grille channel that also leads to the Gulf. The majority of the Boca Ciega Bay area and the Clearwater Harbor area north of the action area are unregulated and there is a 30 mph limit in the ICW; anything over 15 mph is considered planing speed. Boats traveling at this speed provide manatees little chance to escape injury. A commonly held belief among the boating public is that manatees do not use channels. However, studies have shown that manatees will use dredged channels and the ICW to travel and dredged basins were selected and used for most behaviors (Koelsch 1997). Manatees in shallow water will escape upon hearing approaching vessels by diving into the nearest deep water and into boat channels (Nowacek *et al.* 2004). Manatees appear to prefer water depths of 10 to 11 feet (J. Valade, FWS, pers. comm. 2007). Manatees also prefer to forage along the edges of seagrass beds where water is deeper. Seagrass occurs throughout the action area, along the shoreline, and adjacent to large reaches of channels and the ICW. Resting manatees seek out sheltered stretches of shoreline in the lee of a dock or other such structures or in quiet waters absent of vessel traffic (J. Valade, FWS, pers. comm. 2007). Manatees select grassbeds with lower ambient noise and usage was negatively correlated with concentrated boat presence in the morning hours (Miksis-Olds *et al.* 2007)

There are local speed zones in the very southern reach of the action area on the leeward side of Mullet Key/Fort DeSoto Park and Shell Key for seagrass protection. These zones consist of a combination of combustion motor exclusion zones, slow speed zones or caution shallow water zones and are within highly congested boating areas reported by boaters in a recent survey (Sidman *et al.*, date not provided). If properly signed and enforced, these zones could aid in manatee protection, but three watercraft-related carcasses have been recovered from this area since regulation began. The travel route to these favorite destinations is primarily via the 30-mph zone in the ICW (Sidman *et al.* no date).

The County sheriff's department is responsible for enforcement of Pinellas County ordinances. FWC has nine officers assigned to Pinellas County that will enforce zones at bridge approaches in the action area, but no other county zones. Although human population density and watercraft have increased significantly within the last 30 years in this area, the number of FWC marine officers covering the Tampa Bay area has not increased in that same time period (Captain R. Young, FWC Division of Law Enforcement, pers. comm. 2007). In one recent study, new persuasive signage of existing slow speed zones with status quo enforcement presence was not related to improved compliance levels (Sorice *et al.* 2007). However, compliance with boat speed zones has been shown to relate to the recent presence of enforcement personnel (Gorzelany, 2001). We consider regular enforcement activity along with adequate signage to be critical in reducing the probability of manatee/watercraft collisions. The number of municipal and county personnel and person hours

enforcing the boater-safety speed zones and resource protection zones in Pinellas County are unknown. Adequacy of existing zones or need for additional zones have not been evaluated by State or Federal agencies.

While it is seldom known precisely where boat/manatee collisions will occur, we believe they are most likely to occur where there is a concentration of fast-moving motorized vessels traversing portions of waterways frequently utilized by manatees. Recreational and commercial watercraft usage is high in Pinellas County where a year round boating season occurs. Pinellas County had 56,695 registered recreational and commercial vessels in 2005, second to Miami-Dade County which has the most registered vessels in Florida. This number does not reflect the thousands of vessels trailered into, or navigated to, this region each year by visitors. Number of vessels using the waterways is increasing and can be reflected by the almost doubling of registered vessels in Pinellas County from 1980 to 2004 (Sidman *et al.* no date).

Pinellas County has numerous existing watercraft access facilities. Thirty boat ramps exist along the western shoreline excluding the Anclote River. Ramps allow vessel access not only for local, but regional vessels. According to a Pinellas County public marina inventory completed in June, 2006, there are 4,889 wet slips and 5,192 dry slips in Pinellas County. Of these, we calculated there are 3,199 wet and 3,445 dry slips in western Pinellas County, not including the Anclote River. This inventory does not include private single-family docks or most private multi-family docks. Although Pinellas County has little or no vacant waterfront land available for development, numerous condominiums have recently been built on former single-family home sites resulting in a high concentration of docks per linear foot of shoreline in the action area. In recent years in the action area, dock construction permits for private multi-family projects, have resulted in a ratio of one boat slip per 20 feet of shoreline, more or less. There is very high dock density in the proposed projects with a slip to shoreline ratio ranging from one slip per nine feet of shoreline to one slip per 26 feet of shoreline.

Additional factors to consider in assessing the species environment include habitat quality and quantity as well as the configuration of habitat within the county. Habitat components influence the distribution and occurrence of the species on an annual or seasonal basis. At the present time, overall foraging habitat quality and quantity is not considered a limiting factor for the manatee. The action area, and all of Pinellas County shoreline, is within the State-designated Pinellas County Aquatic Preserve. This designation was due to the presence of exceptional biological, aesthetic, and scientific values including submerged aquatic vegetation, foraging habitat for the manatee. Tampa Bay experienced an 80% reduction in seagrass during the past half century, but with water clarity improvements, seagrass extent is improving. Throughout the action area, outside the dredged channels and ICW, are large areas of seagrass.

Other habitat in the action area includes breeding/nursery, movement/migratory corridors and resting areas. Perinatal carcass recovery shows the action area is used as nursery habitat. There is one primary warm water wintering habitat in Tampa Bay area and five secondary sites. Many animals using these sites are expected to disperse to the action area during the warm weather months and radio telemetry studies have even noted that manatees will use the action area and the Clearwater Harbor area, in the winter months during foraging bouts. The action area is the likely route for some manatees traveling north and south between winter and summer habitat.

The action area is primarily confined to a north/south oriented relatively narrow waterway between barrier islands (some with residential canals) and the mainland. The action area includes the ICW with a 30 mph speed limit, two narrow passes to the Gulf where concentrations of boats occur, and Pass-A-Grille channel and a bay near Gulfport with no speed restrictions.

As for the quality and quantity of other manatee habitat features, localized warm water habitat may be affected in the future by changes in power plant operations and other factors. Also, the Southwest management unit is periodically exposed to red tide events and red tide death has occurred within the action area in the past, and as recently as 2005.

Effects of the Action

Factors of the Proposed Action to Be Considered

The increase in boating activity from the addition of 729 slips is expected to contribute to the already high baseline boating activity (identified in the previous section) of the action area and will permanently alter the environment for the manatee in this area.

Injury and mortality of manatees resulting from collisions with watercraft is a significant factor affecting the survival and recovery of the manatee. From 2002-2006 in Pinellas County, 52 percent of adult manatee deaths of a known cause were watercraft-related and the majority of those deaths occurred within the action area and during the summer months. The docking facilities are proposed for an area where manatees are known to occur in greater numbers in the summer months when boating activity originating from these docks is expected to be the highest.

The probability for manatee/boat interactions increases with each new boating facility that is permitted in the action area. The likelihood of manatees being able to avoid an approaching vessel is reduced when the vessel is traveling at higher speeds, when several vessels are present, and where there is little room for escape. With the exception of two narrow passes to the Gulf between barrier islands and the leeward side of four undeveloped islands, there are no slow speed zones in the known watercraft concentration areas. These high boater-use areas overlap with manatee foraging sites which we know to be edges of shallow grass beds with ready access to deep channels. The highly-used ICW in the action area is in close proximity to seagrass beds and we know manatees will use the ICW to travel, crossing open waterways and deeper channels to access shallow water feeding and resting areas. Expected frequency for disturbance to the manatee is greater during daylight hours, on week-ends and holidays, and where the greatest number of boats are traveling and in boater destinations within the action area.

Analyses for Effects of the Actions

Beneficial Effects - There are no known beneficial effects to manatees from the proposed projects.

Direct Effects - Direct effects are those effects that are caused by implementation of the proposed actions at the time of construction and effects from the footprint of the project within manatee habitat. Docks and piers, and boats using these structures will shade seagrass, reducing its growth and density. No study thus far has confirmed that spacing of deck boards on these

structures will measurably reduce these impacts. Although the extent of seagrass within the action area is not a limiting factor, minimization of impacts to seagrass through avoidance, or modification in the project layout and size, is frequently recommended by the Service to minimize impacts to this important resource. Individual project modifications to address seagrass impacts was considered in this analysis.

Noise generated at and below the water surface from dock construction may disrupt manatee behavior. Although the effects of such underwater noise on manatee behavior is not well understood, Miksis-Olds *et al.* (2007) determined that manatee prefer foraging in quieter areas. This effect is not considered significant for any of the proposed actions.

Several of the proposed projects involve maintenance dredging. There are multiple reports of manatees being drawn to water dripping from a clamshell bucket during dredging operations. This behavior is believed to represent the animals interpreting the dripping as a source of fresh water similar to that coming from ship bilges, stormwater pipes, and similar commercial, industrial, and residential outfalls. Whether from a clamshell or another dredge method, manatees may be directly impacted by the dredging equipment if they enter the work area and the operator fails to shut down the equipment. The direct effects to manatees from dock and bulkhead construction can be addressed in this case through the *Standard Manatee Conditions for In-Water Work*, approved and developed by the Corps, the Service, and the FWC. Areas where manatees are concentrated for long periods of times, such as in wintering areas, usually require more restrictions to address possible impacts from this activity. Those additional restrictions are not applicable in this case.

Interrelated and Interdependent Actions - There are no interdependent or interrelated actions associated with the proposed activity.

Indirect Effects - Almost all watercraft accessing Florida waters do so through some kind of facility permitted by the Corps. At the landscape level, permitting of these facilities contributes to the numbers of watercraft in use as well as the patterns of watercraft traffic. Therefore, while the Corps does not have authority or responsibility to license or permit the operation of watercraft nor does it have control over how such watercraft are operated, we believe permits issued by the Corps as a whole have the potential to contribute indirectly to take of manatees by continuously adding to the baseline of watercraft numbers and utilization. At the individual project/permit level, however, there is insufficient scientific or commercial information available to assess whether a vessel from a particular facility is likely to strike and injure or kill a manatee.

Despite the lack of tools and information with which to assess an individual project for incidental take, the Service is still required by statute to assess whether a project is or is not reasonably certain to cause the incidental take of a manatee. Our best professional judgment in making this determination is shaped in consideration of the following:

- Have manatee deaths related to watercraft collision occurred within the vicinity of the proposed facility and in areas where vessels from the proposed facility are likely to travel.

- Are speed zones in place where manatees would be expected to be encountered by boats using a proposed facility? This requires a review of manatee occurrence data and a logical assessment of where vessels are most likely to travel.
- If present, are the zones marked such that boaters know where and when they must travel at slow speed? Are they enforced by law enforcement personnel?
- If there is a state-approved MPP, is the project in compliance with the MPP? This requires a written determination by the FWC or county personnel (not applicable in this case).

There is a recent history of significant manatee injury/mortality in the action area resulting from collisions with watercraft. In the last five years, Pinellas County had an average of 3.2 such manatee deaths per year. Fifty-six percent of these deaths occurred within the action area. A total of nine manatees were killed by watercraft in the action area from 2002 to 2006, an average of 1.8 per year. This is an 80 percent increase in watercraft-related mortality over the previous five-year period in that area. Since estimates of adult survival of the Southwest management unit are considered low and the growth rate estimates indicate that management unit is declining (FWS 2007), it is our assessment that the increase in manatee deaths from watercraft in this area is not likely related to an increase in manatees or an increase of manatee usage of this area, but to the continued increase in human population density in this area with associated higher boat slip to shoreline ratios and more boats traveling the waterways with few or no speed restrictions.

All proposed projects have a concentration of boats per owned shoreline (ranging from one slip/nine feet to one slip/26 feet). One project has no owned natural shoreline. This is significantly greater than one boat/100 feet of shoreline which is a ratio that is permitted in many counties with manatee protection plans and where the average manatee watercraft-related mortality is greater than one/year, a threshold that has been exceeded in the action area and on the county level. All of the projects being analyzed in this biological opinion are within what is considered average watercraft traveling distance (five miles) of numerous manatee watercraft deaths. All projects are within five miles of at least three watercraft-related manatee deaths recorded in the last 10 years. All of these projects are within two miles, or less, of at least one watercraft-related manatee death in that time period. Four projects are within the immediate vicinity of a recorded death. One project is within five miles of eight deaths, two projects are within five miles of six deaths, and two projects are within five miles of five deaths.

As stated previously, we have based our determination of the action area based on vessel traffic patterns and high-use destinations from a recent boater survey in the Tampa Bay area, including the action area. The proposed projects are adjacent to highly traveled watercraft corridors and within only a few miles of several watercraft high-use destination areas. We believe it is reasonable to assume that vessels using these proposed facilities will be using these routes and destinations as well. Also, based on the configuration of this area, there is a very limited travel corridor that primarily allows vessels to go either north or south. A westward direction can be obtained, in most circumstances, by going north or south to one of two narrow passes that lead west into the Gulf of Mexico. This travel corridor exhibits numerous watercraft-related manatee mortalities in the past 10 years with 80% more occurring in the last five years.

There are no state or federally-posted manatee speed zones within the action area. Pinellas County has "boating restricted areas" for boater safety under bridges, slow speed zones in two passes to the Gulf and idle speed in some residential canals. There are "boating regulatory zones" on the leeward side of undeveloped islands in the southern portion of the action area. Results of studies of boater compliance to speed zones have shown that there is better compliance among boaters in the presence of law enforcement; signage alone does not change behavior. The county sheriff's office is responsible for enforcing these zones. An FWC marine officer is assigned to this area and will only enforce the "boating restricted areas" which are under the two Pinellas Bayway bridges, the Corey Causeway to Treasure Island Causeway and the Tom Stuart Causeway to Madeira Beach. Studies to assess adequacy of existing zones and signage, boater compliance, and local enforcement actions are needed. It is our opinion that the number of watercraft-related manatee deaths in this area warrants additional speed restrictions.

The Service believes that State-approved MPPs are an important mechanism available for minimizing the potential for take of manatees associated with proposed watercraft access. There is no state-approved MPP for Pinellas County primarily because in 1989, Pinellas County was not one of the 13 key counties originally required by the State to prepare one. We have shown herein that the data on manatee for this area has changed considerably since 1989. According to FWC's second Draft Manatee Management Plan, Pinellas County will be considered for a MPP in three years. Although some attempts have been made in the past by the county to address manatee protection (Pinellas County 2002), manatee protection measures do not address the recent high levels of watercraft-related impacts to manatees in Pinellas County.

While some MPPs are often negotiated to accommodate some balance of human use and environmental protection, MPPs nonetheless are the only landscape level planning tool that provides recommendations for restrictions on construction of new watercraft access facilities and implementation of manatee protection measures that are in some way commensurate with the level of development that exists and is anticipated to occur. They provide a means of drawing a non-arbitrary line between what is or is not reasonably certain to lead to incidental take of a manatee, especially in terms of indirect effects or cumulative effects. They also provide dock and marina developers the knowledge they need for their planning efforts and allows them to know what permitting restrictions they may encounter.

We believe MPPs represent reasonable management measures to reduce the likelihood of incidental take occurring from existing and future projects. Some of those management measures are a boat facility siting plan which dictates where and to what extent such facilities are allowed, and also includes an assessment of law enforcement and speed zone needs. We understand that these documents can take years to prepare and believe that interim measures need to be taken to provide manatee current protection. These could include restricting dock density of proposed facilities, promulgating additional speed zone regulations, and enhancing enforcement actions.

Species Response to the Proposed Actions

Should the Corps authorize the construction of the proposed projects, we are reasonably certain that the result will be an increase in manatee/boat interactions within the action area. Such interactions may take the form of harm, harassment and/or lethal take of manatees.

Cumulative Effects

Under the ESA, cumulative effects is defined as the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions are not considered in this section because they require separate consultation under section 7 of the ESA and past and present impacts of Federal and non-Federal actions are part of the Environmental Baseline.

The Service has considered cumulative effects within the action area and we have determined that a future non-Federal action that is reasonably certain to occur in the action area is the issuance of permits for dock facilities by the Florida Department of Environmental Protection or the Southwest Florida Water Management District and the Pinellas County Water and Navigation Control Authority. However, if the Corps decides not to issue a permit for these actions because we have determined that take is reasonably certain to occur, we don't anticipate that the applicant will construct the facilities. Based on the 2007 FWC Draft Manatee Management Plan, we are also reasonably certain that within the next few years FWC will work with Pinellas County to develop a MPP. Another local action that is likely to occur is construction of additional parking facilities for boat ramps and construction of dry stack storage facilities that did not require a Federal permit and which could result in additional watercraft in the action area.

Conclusion

It is the Service's biological opinion that these projects are reasonably certain to result in the incidental take of one or more manatees over the life of the projects. The proposals will not jeopardize the continued existence of the manatee, or destroy or adversely modify its designated critical habitat. The analysis presented in this document which resulted in this conclusion can be summarized by the following:

*Manatees are present within the action area and there are a high number of threats to manatees in the action area. Based on the available data, it appears that if the Southwest manatee management unit is to stabilize or indeed increase in size, it cannot sustain any further increases in mortality.

*The biggest threat to manatees, the potential for manatee/boat collisions, has not been adequately addressed in the action area by extensive on-the-water regulatory measures to minimize this threat. Implementation of protective measures will at least stabilize if not reduce the mortality rate from watercraft collisions to the declining Southwest manatee management unit.

Incidental Take Statement

In the ESA section 7 consultation process, the Service typically addresses the incidental take of most listed species in its biological opinions with reasonable and prudent measures to minimize impacts of incidental take, and terms and conditions to describe how these measures are to be accomplished.

We cannot address the incidental take of manatees because section 17 of the ESA states, in part, that "...no provision of this Act shall take precedence over any more restrictive provision of the Marine Mammal Protection Act of 1972". At this time, no take of manatees, even sub-lethal take, has been authorized under section 101(a)(5) of the MMPA and/or its 1994 Amendments. Therefore, an opinion with an incidental take statement for manatees cannot be issued by the Service nor can we require the conditioning of a Federal action to include reasonable and prudent measures and terms and conditions to minimize this take. Unless take regulations are requested and promulgated under the MMPA for this type of activity and a letter of authorization is obtained by the applicant, the requirements of section 7 (b)(4) cannot be met.

Reinitiation – Closing Statement

This concludes section 7 consultation on subject applications. Should incidental take authorization under the MMPA be requested and granted in the future, a request for reinitiation of consultation by the Corps may be appropriate at that time. Alternatively, reinitiation of consultation by the Corps may be appropriate if the applicants wish to continue to pursue a permit and they work with the county authorities to insure that the project complies with a Florida Fish and Wildlife Conservation Commission-approved Pinellas County MPP. Since a MPP may take several years for preparation and approval, manatee protection measures that are instituted by the county while working on a MPP, such as those identified in the Analyses for the Effects of the Action, may be considered by the Corps as sufficient new information to request reinitiation of consultation on these projects.

Sincerely,



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Cc:
FWC - Carol Knox

LITERATURE CITED

- Beeler I.E. and T.J. O'Shea. 1988. Distribution and mortality of the West Indian manatee (*Trichechus manatus*) in the southeastern United States: A compilation and review of recent information. Prepared by the Fish and Wildlife Service for the U.S. Army Corps of Engineers. Document No. PB 88-207 980/AS. National Technical Information Service. Springfield, Virginia.
- Bengston, J.L. 1981. Ecology of manatees (*Trichechus manatus*) in the St. Johns River, Florida. Ph.D. Thesis. Univ. of Minnesota, Minneapolis, Minnesota.
- Bossart, G.D., R.A. Meisner, S.A. Rommel, J.D. Lightsey, R.A. Varela, and R.H. Defran. 2004. Pathologic findings in Florida manatees (*Trichechus manatus latirostris*). *Aquatic Mammals* 30(3), 434-440.
- Craig, B.A., and J.E. Reynolds III. 2004. Determination of manatee population trends along the Atlantic coast of Florida using a Bayesian approach with temperature-adjusted aerial survey data. *Marine Mammal Science* 20:386-400.
- Deutsch, C. 2007. FWRI. Personal communication
- Deutsch, C.J., J.P. Reid, R.K. Bonde, D.E. Easton, H.I. Kochman, and T.J. O'Shea. 2003. Seasonal movements, migratory behavior, and site fidelity of West Indian manatees along the Atlantic Coast of the United States. *Wildlife Monographs*. No. 151. 77 pages.
- Fertl, D., A.J. Schiro, G.T. Regan, C.A. Beck, N.M. Adimey, L. Price-May, A. Amos, G.A.J. Worthy and R. Crossland. 2005. Manatee occurrence in the Northern Gulf of Mexico, west of Florida. *Gulf and Caribbean Research* 17:69-74.
- FWC FWRI Manatee Carcass Salvage Program. 2006. Unpublished data.
- FWC FWRI Synoptic Aerial Survey Data. 2006. Unpublished data.
- Gorzelany, J. 2006. Mote Marine Laboratory. Personal communication.
- Gorzelany, J.F. 2001. Effects of increased police enforcement on boater compliance in speed restricted areas. Report 782. Sarasota, FL: Mote Marine Laboratory.
- Gunter, G. 1941. Occurrence of the manatee in the United States, with records from Texas. *Journal of Mammalogy* 22(1):60-64.
- Hartman, D.S. 1979. Ecology and behavior of the manatee (*Trichechus manatus*) in Florida. *American Society of Mammalogists Special Publication* No. 5.
- Kadel, J.J., and G.W. Patton. 1992. Aerial studies of the West Indian manatee (*Trichechus manatus*) on the west coast of Florida from 1995-1990: A comprehensive six-year study. Mote Marine Laboratory Technical Report No. 246.

- Koelsch, J.K. 1997. The seasonal occurrence and ecology of Florida manatees (*Trichechus manatus latirostris*) in coastal waters near Sarasota, Florida. M.S. Thesis. University of South Florida.
- Langtimm, C.A., C.A. Beck, H.H. Edwards, B.B. Ackerman, K.J. Fick-Child, S.L. Barton, and W.C. Hartley. 2004. Survival estimates for Florida manatees from the photo-identification of individuals. *Marine Mammal Science* 20:438-463.
- Laist, D.W. and C. Shaw. 2006. Preliminary evidence that boat speed restrictions reduce deaths of Florida manatees. *Marine Mammal Science* 22(2): 472-479 (April 2006).
- Ledder, D.A. 1986. Food habits of the West Indian manatee (*Trichechus manatus latirostris*) in south Florida. M.S. Thesis, University of Miami, Coral Gables, Florida.
- Lefebvre, L.W., J.P. Reid, W.J. Kenworthy, and J.A. Powell. 2000. Characterizing manatee habitat use and seagrass grazing in Florida and Puerto Rico: Implications for conservation and management. *Pacific Conservation Biology* 5(4):289-298.
- Lefebvre, L.W., B.B. Ackerman, K.M. Portier, and K.H. Pollock. 1995. Aerial survey as a technique for estimating trends in manatee population size - problems and prospects. Pages 63-74 in T.J. O'Shea, B.B. Ackerman, and H.F. Percival (eds.). *Population Biology of the Florida Manatee*. National Biological Service, Information and Technology Report No. 1. Washington D.C.
- Lefebvre, L.W., T.J. O'Shea, G.B. Rathbun, and R.C. Best. 1989. Distribution, status, and biogeography of the West Indian manatee. Pages 567-609 in C.A. Woods (ed.). *Biogeography of the West Indies: Past, Present, and Future*. Sandhill Crane Press. Gainesville, Florida.
- Marine Mammal Commission (MMC). 1988. Preliminary assessment of habitat protection needs for West Indian manatees on the east coast of Florida and Georgia. Document No. PB89-162002, National Technical Information Service. Silver Spring, Maryland.
- Marine Mammal Commission (MMC). 1986. Habitat protection needs for the subpopulation of West Indian manatees in the Crystal River area of northwest Florida. Document No. PB86-200250, National Technical Information Service. Silver Spring, Maryland.
- Marmontel, M. 1995. Age and reproduction in female Florida manatees. Pages 98-119 in T.J. O'Shea, B.B. Ackerman, and H.F. Percival (eds.). *Population Biology of the Florida Manatee*. National Biological Service, Information and Technology Report No. 1. Washington, D.C.

- Miksis-Olds, J. J., P. L. Donaghay, J. H. Miller, P. L. Tyack, J. A. Nystuen. 2007. Noise level correlates with manatee use of foraging habitats. *J. Acoust. Soc. Am.* 121 (5), May 2007, 3011-3020.
- Nowacek, S.M., R.S. Wells, E.C.G. Owen, T.R. Speakman, R.O. Glamm, D.P. Nowacek. 2004. Florida manatees, *Trichechus manatus latirostris*, respond to approaching vessels. *Biological Conservation* 119(2004) 517-523.
- Odell, D.K. 1981. Growth of a West Indian manatee, *Trichechus manatus*, born in captivity. Pages 131-140 in R. L. Brownell, Jr. and K. Ralls (eds). *The West Indian manatee in Florida. Proceedings of a workshop held in Orlando, Fl., 27-29 March 1978.* Florida Department of Natural Resources, Tallahassee, Florida.
- Odell, D.K., G.D. Bossart, M.T. Lowe and T.D. Hopkins. 1995. Reproduction of the West Indian manatee in captivity. Pages 192-193 in T.J. O'Shea, B.B. Ackerman, and H.F. Percival (eds.). *Population Biology of the Florida Manatee.* National Biological Service, Information and Technology Report No. 1. Washington, D.C.
- O'Shea, T.J. and W.C. Hartley. 1995. Reproduction and early-age survival of manatees at Blue Spring, Upper St. Johns River, Florida. Pages 157-170 in T.J. O'Shea, B.B. Ackerman, and H.F. Percival (eds.). *Population Biology of the Florida Manatee.* National Biological Service, Information and Technology Report No. 1. Washington, D.C.
- Pinellas County Planning Department and Pinellas County Department of Environmental Management. 2002. *Manatee Protection in Pinellas County.* 22 pp.
- Provancha, J.A. and C.R. Hall. 1991. Observations of associations between seagrass beds and manatees in East Central Florida. *Florida Scientist* 54(2):87-98.
- Rathbun, G.B. 1999. Sirenians. Pages 390-399 in Chapter 8: Behavior. J.E. Reynolds, III, and S.A. Rommel (eds.). *Biology of Marine Mammals.* Smithsonian Institution Press. Washington, D.C.
- Rathbun, G.B., J.P. Reid, R.K. Bonde, and J.A. Powell. 1995. Reproduction in free-ranging Florida manatees. Pages 135-156 in T.J. O'Shea, B.B. Ackerman, and H.F. Percival (eds.). *Population Biology of the Florida Manatee.* National Biological Service, Information and Technology Report No. 1. Washington, D.C.
- Rathbun, G.B., J.P. Reid, and G. Carowan. 1990. Distribution and movement patterns of manatees (*Trichechus manatus*) in Northwestern peninsular Florida. *Florida Marine Research Publication* No. 48.

- Rathbun, G.B. R.K. Bonde, and D. Clay. 1982. The status of the West Indian manatee on the Atlantic Coast north of Florida. Pages 152-164 in R.R. Odum and J.W. Guthrie, editors. Proceedings: Symposium on Non-game and Endangered Wildlife. Technical Bulletin WL5. Georgia Department of Natural Resources, Game and Fish Division, Social Circle, Georgia.
- Reid, J.P., and G.B. Rathbun. 1984. Manatee identification catalogue, October 1984 update. Unpublished progress report prepared by the U.S. Fish and Wildlife Service, Sirenia Project, Gainesville, Florida for the Florida Power & Light Company.
- Reid, J.P., R.K. Bonde, and T.J. O'Shea. 1995. Reproduction and mortality of radio-tagged and recognizable manatees on the Atlantic Coast of Florida. Pages 171-191 in T.J. O'Shea, B.B. Ackerman, and H.F. Percival (eds.). Population Biology of the Florida Manatee. National Biological Service, Information and Technology Report No. 1. Washington, D.C.
- Reid, J.P., G.B. Rathbun, and J.R. Wilcox. 1991. Distribution patterns of individually identifiable West Indian manatees (*Trichechus manatus*) in Florida. *Marine Mammal Science* 7(2):180-190.
- Rommel, S.A., M. Pitchford, and T. Pitchford. 2001. Cold-related deaths of Florida manatees: final report to the USFWS. FMRI Grant No. 2280, FMRI Project Identification No. 9322-160-2280, FWC/FMRI File Code: 2280-00-F. 21 pp.
- Runge MC, Sanders-Reed CA, Langtimm CA, Fonnesebeck CJ. 2007. A quantitative threats analysis for the Florida manatee (*Trichechus manatus*). U.S. Geological Survey Open-File Report 2007-1086. 34 pp.
- Runge, M.C., C.A. Langtimm, and W.L. Kendall. 2004. A stage based model of manatee population dynamics. *Marine Mammal Science*. 20:361-385.
- Schwartz, F.J. 1995. Florida manatees, *Trichechus manatus*, (Sirenia: Trichechidae), in North Carolina 1919 - 1994. *Brimleyana* 22:53 - 60.
- Sidman, C., T. Fik, and B. Sargent. no date. A Recreational Boating Characterization for Tampa and Sarasota Bays. 80 pp.
- Snow, R.W. 1991. The distribution and relative abundance of the Florida manatee in Everglades National Park, an annual report, October 1, 1991. South Florida Research Center. Everglades National Park. Homestead, Florida.
- Sorice, M.G., R.O. Flamm, and S. McDonald. 2007. Factors Influencing Behavior in a Boating Speed Zone. Florida Fish and Wildlife Conservation Commission, Florida Fish and Wildlife Research Institute, St. Petersburg, FL. In *Coastal Management* 35:357-374.

Valade, J. 2007. FWS Manatee Recovery Lead Biologist. Jacksonville Field Office, Jacksonville, Florida. Personal communication.

Young, R. 2007. FWC Division of Law Enforcement. Tampa, Florida. Personal communication.