

**Aerial Surveys for Ship Strike Mitigation and Other Field Observations of North Atlantic  
Right Whales (*Eubalaena glacialis*) off the East Coast of Florida  
December 2005-March 2006**

**FINAL REPORT**

File Code: 2339-02-07-F

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Eg# 1243 – Photo FWRI

Submitted August 2, 2006

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## INTRODUCTION

The North Atlantic right whale (*Eubalaena glacialis*) is among the rarest of all large whales with an estimated population of 300 individuals. Hunted to near extinction, the population has shown little or no signs of recovery since receiving international protection from commercial whaling in 1935 and federal protection under the Endangered Species Conservation Act in 1970. This lack of recovery is principally attributed to deaths from human related activities, mainly ship collisions and fishing gear entanglements (NMFS, 2005). Since the completion of the first Recovery Plan in 1991 efforts to protect right whales have increased substantially to include Regional Recovery Plan Implementation Teams and Large Whale Take Reduction Teams (TRT). NMFS, in collaboration with the Southeastern U.S. Right Whale Recovery Plan Implementation Team (SEIT) and TRT, is continually assessing current right whale regulations and developing new recommendations and management techniques (NMFS, 2005). Should human related fatalities continue at the current pace some population models predict the extinction of right whales in the relatively near future (Fujiwara and Caswell, 2001).

The southeast U.S. (SEUS) is one of only five “high use” areas identified for North Atlantic right whales (NMFS, 2005) and the coastal waters of Georgia and northeastern Florida are the only known calving grounds (Kraus et al., 1993). Calving occurs from December through March (Kraus et al., 1986) and the SEUS wintering population consists mostly of mom/calf pairs, juveniles, and a few adult males and non-calving adult females. In 1994 NMFS designated the waters from 31°15N to 30°15N from the shoreline out to 15 nm and the waters from 30°15N to 28°00N from the shoreline out to five nm as the SEUS Right Whale Critical Habitat. In addition, NMFS published the Right Whale Minimum Approach Regulation (1997), prohibiting all approaches (vessel, aircraft, or other means) within 500 yards of any right whale (NMFS, 2005).

Approximately 35% of confirmed North Atlantic right whale deaths between 1970 and 1999 were caused by ship strike (Knowlton and Kraus, 2001). Only a small number of whales in the Catalog of Identified Right Whales have scars from ship propellers; however, a large number of carcasses have ship propeller wounds (Kraus 1990). According to Kraus (1990) this indicates that currently a high proportion of collisions between whales and vessels are fatal. Pace and Silber (2005) reported the probability of serious injury or death increases rapidly with increasing vessel speed and most severe and lethal injuries caused by ship strikes occur when vessels are traveling at speeds greater than or equal to 14 knots (Laist et al., 2001, Jensen and Silber, 2003). Right whale mom/calf pairs in the SEUS are particularly susceptible to ship collisions because they spend a large amount of time near the surface and they are limited by the calf’s ability to dive and maneuver through the water. There are three major entrance channels within the SEUS Critical Habitat; the Brunswick channel, the St. Mary’s River channel, and the St. Johns River channel. The amount of vessel traffic in the SEUS increased between the 2004-2005 and 2005-2006 calving seasons (Jacksonville Port Authority). According to the Jacksonville Port Authority, the cargo tonnage at JAXPORT increased by approximately 10% and the number of passengers boarding cruise ships increased by approximately 60% from 2004 to 2005. A Mandatory Ship Reporting System (MSRS) was federally implemented in the SEUS in 1999. The MSRS requires all commercial vessels 300 gross tons or greater to report into a shore-based station when entering designated right whale habitat. In return, the vessels are provided with the latest right whale sighting locations and information on how to avoid collisions with right whales (NMFS, 2005). In the SEUS the MSRS is active from November 15<sup>th</sup> to April 16<sup>th</sup>. Although NOAA has recommended large vessels decrease speed within the SEUS Critical Habitat and

MSRS, the average reported speed of vessels entering the MSRS was 15.72 knots (Ward-Geiger et al., 2005). The National Marine Fisheries Service (NMFS) has recommended a speed restriction of 10 knots for all vessels 65 ft in length or greater traveling within specific locations along the U.S. East Coast including the SEUS Critical Habitat and MSRS (Federal Register, Vol. 71 No 122 June 26, 2006).

During the 1993-1994 calving season several agencies, including the Florida Fish and Wildlife Conservation Commission (FWC), began an extensive aerial survey network known as the Early Warning System (EWS) developed to reduce or eliminate ship strikes (NMFS, 2005). The EWS quickly provided valuable right whale sighting information to the U.S. Navy, U.S. Coast Guard (USCG), U.S. Army Corp of Engineers (ACOE), harbor pilots, and port authorities. The EWS was improved with the dissemination of information to the general public through USCG Broadcast Notices to Mariners and broadcasts over NOAA Weather Radio. With the incorporation of the U.S. Navy's Fleet Area Control and Surveillance Facility Jacksonville (FACSFACJAX) as the central reporting agency for all aerial survey aircraft, right whale sighting information was processed and transmitted in near real time. Presently, aerial surveys remain the best available method to alert mariners about the presence of right whales in the SEUS Critical Habitat in order to reduce the risk of ship collisions with whales (NMFS, 2005). FWC's Fish and Wildlife Research Institute (FWRI) has been conducting right whale aerial surveys in the SEUS with varied coverage and effort since the late 1980's. The current three plane EWS survey format was implemented during the 2002-2003 calving season. The FWRI aerial survey provides coverage of the southern portion of the EWS, SEUS Critical Habitat, and MSRS. Although this remains the focal objective, the EWS surveys have evolved to collect extensive photo documentation of right whales; monitor vessel activity; and provide assistance during critical right whale events (such as disentanglements and strandings). The photographic data collected in the SEUS allows researchers to assess demographics and survival estimates of right whales. In addition to regulations and aerial surveys, NMFS, FWRI, and other agencies update and develop new brochures, training videos, and publications to educate shipping industries and the general public about right whale conservation efforts.

This aim of this report is to summarize FWRI aerial survey data and other field observations for the 2005-2006 calving season. Funding for the FWRI aerial surveys was provided by NOAA Fisheries.

## METHODS

### *Aerial Surveys*

FWRI conducted right whale aerial surveys between December 1, 2005 and March 31, 2006 within the southern portion of the SEUS Critical Habitat ranging from 30°14.0N south to 26°43.5N (Southern Early Warning System, SEWS). Two main survey configurations, known as the primary and coastal surveys, or combinations of the two were flown during the 2005-2006 season.

#### *Primary Survey*

The FWRI primary survey was designated as FWS555 on the EWS pager network and as FWRI-A for data and photo submission purposes. Surveys were flown seven days a week (weather permitting) during the time period of December 1, 2005 through March 31, 2006. The survey configuration remained the same as the previous (2004-2005) season. The primary survey consisted of ten east/west track lines designated as lines #25-34 within the EWS framework (Table 1). Flown from north to south (weather permitting), the track lines covered the southern portion of the EWS, SEUS Critical Habitat, and MSRS zone from Ponte Vedra Beach (30°14.0N) to Crescent Beach (29°47.0N) from approximately 0.5 nm east of the shoreline out to 080°47.0W (Figure 1).

#### *Coastal Survey*

The FWRI coastal survey was designated as FWS666 on the EWS pager network and as FWRI-C for data and photo submission purposes. The surveys were scheduled to be flown three days a week (weather permitting) during the time period of January 1, 2006 through March 31, 2006. The survey configuration was modified from the previous (2004-2005) season. Two survey options, Option A and Option B, were implemented in order to allow more survey flexibility due to varied weather conditions. Option A was flown in favorable weather conditions and Option B was reserved for days when high winds or fog were present offshore Port Canaveral. Option A consisted of two south/north track lines that covered the coastal portion of the SEUS Critical Habitat from Crescent Beach (29°47.0N) to Stuart (27°28.0N) and included six east/west lines off of Port Canaveral (Figure 2). The 6 east/west Port Canaveral lines began approximately 0.5 nm east of the shoreline and extended out to 080°20.0W (Table 2). Option B consisted of two south/north track lines that extended from Crescent Beach (29°47.0N) to West Palm (26°43.5N) (Figure 3). In both survey options the south/north track lines were flown parallel to the coast approximately one nautical mile offshore and three nautical miles offshore respectively.

The survey aircraft were twin engine Cessna 337 (N337CH and N1353L) operated and maintained by Orion Aviation under provisions of FAA 14 CFR Part 135. In accordance with FAA 14 CFR Part 135 and additional NOAA requirements the aircraft were equipped with IFR certification, yoke mounted GPS unit, Emergency Locator Transmitter (ELT), 2-B:C rating fire extinguisher, primary and secondary VHF radios, marine band radio with linkage to intercom system, DC power for observer tablet PC, additional GPS with direct linkage to the tablet PC, and extended over water operations emergency equipment as listed in 14 CFR Part 135.167 including a registered 406 MHz emergency position indicator radio beacon (EPIRB) and an inflatable life raft. Aerial observers were required to wear a Nomex flight suit and an aviation style personal flotation device (PFD) equipped with a safety knife, signaling mirror, high-pitch safety whistle, strobe light, streamer, and a McMurdo Fastfind Plus 406 MHz personal EPIRB

with built in GPS receiver. Surveys were flown under visual flight rules (VFR) conditions and a flight plan was filed with the FAA for each day of survey. Aircraft took off at 0900 hrs (weather dependent) and were on the ground before sunset. In addition, flights were required not to extend beyond 45 minutes reserve fuel. Environmental conditions necessary to conduct a survey included visibility greater than three nautical miles (nm), winds less than seventeen knots, sea state of Beaufort five or less, and a minimum ceiling of 1200 ft over the survey area and airport. Although surveys can be conducted in a Beaufort 4-5, Beaufort 3 or less provided more favorable sighting conditions.

Survey protocols are outlined in Scott and Gilbert (1982) for the Cetacean and Turtle Assessment Program (CeTAP 1982). The aircraft flew at a target speed of 100 kts and a height of 1000 ft. In order to take into account aircraft fluctuations a speed threshold of 200 kts and an allowable height range of 800 ft-1200 ft were set. Survey personnel included a pilot, co-pilot, and two observers. One observer sat on each side of the aircraft and visually scanned the survey area out to approximately 2 nm. Typically the observer seated in the left rear seat recorded the data and the observer seated in the right rear seat conducted photo-identification during a sighting.

### ***Data Collection***

Both survey crews used a Fujitsu ST5000 tablet PC to collect electronic data while in the aircraft. The tablet PC was small enough to comfortably sit in an observer's lap without obscuring his/her field of vision or presenting a safety hazard. Survey data were recorded at 30 second time intervals in Logger 2000, a computer-based data logging program, which automatically retrieved locations, headings, and altitudes from the GPS and stored them in an Access database. The use of the tablet PC and several new drop-down options in Logger 2000 allowed for swift data entry and minimized the time spent looking away from the water. However, if the GPS or computer malfunctioned locations, headings, and altitudes were hand recorded at intervals of 5 minutes on hard copy datasheets and later entered into an Excel Spreadsheet.

Environmental data entered into the database consisted of weather, visibility, cloudiness, Beaufort Sea State, and the severity of the glare on either side of the plane. Environmental data were updated throughout the survey when conditions changed. Large whale sighting observations included the initial and final sighting locations, number of whales per sighting, number of calves per sighting, heading, behaviors, observer reliability (measure of certainty of whale identification,) and confidence (measure of certainty of number of whales observed.) Observed vessel information included type of vessel, location, heading, length, and speed. The vessel location was either recorded by flying directly over the vessel to obtain a GPS location or by the use of a digital inclinometer to record the sighting angle from the aircraft to the vessel. The length and speed of the vessels were visually estimated by the observers. Only vessels 300 ft or larger sighted within 2 nm of the track lines or any vessel involved in a whale/vessel interaction were recorded.

Access macros developed by FWC staff were updated and used to scan data for errors and compliance with the guidelines set by the North Atlantic Right Whale Consortium Database (NARWD) Manager. The data were then exported to Excel format for final submission to the NARWD Manager. In addition to the electronic data collected, hard copy data sheets were compiled. Cover sheet information included the survey crew, flight hours, nautical miles flown,

environmental data, and summary of the day's sightings and events. Whale sighting sheets included a drawing of the callosity patterns of whale(s) seen, initial and final sighting times and locations, behaviors, and ancillary photography information (such as images taken.)

Aerial teams in the field relayed the date, final sighting time and position, number of whales, number of calves, and heading to FACSFACJAX for broadcast on the EWS pager network. The EWS pager network facilitated the near real time transmission of right whale sighting information via an alphanumeric pager system to the U.S. Navy, USCG NAVTEX, harbor pilots, aerial survey teams, NOAA, state agencies, and volunteer networks. The FWRI aerial survey teams used the marine band radio or satellite phone to communicate with a ground contact in order to relay sighting information to FACSFACJAX. We found that using a ground contact to relay the information was more effective than calling from the plane directly due to communication hardware limitations. The FWRI ground contact rotated with other teams to ensure that EWS sightings were entered into the MSRS database within an hour of each sighting.

FWC prepared and submitted weekly performance reports to NOAA Fisheries. The weekly reports consisted of two documents, a survey activities report and a right whale sightings report. The survey activities report included: survey date, survey file name, completed track lines, aircraft Hobbs time elapsed, total track line nautical miles flown, total track line nautical miles flown in sea state  $\leq 3$ , number of whales seen, and any other pertinent right whale related information. The right whale sightings report included: survey date, time (local), survey name, latitude (in decimal degrees), longitude (in decimal degrees), RIWH letter (from photography datasheets), NARWC Id number (as this information becomes available from the NARWC manager), agency notified (i.e., FACSFACJAX) and time, NRW number and comments (to include information such as w/ calf or calf).

#### *Photo-identification*

Individual right whales were identified by the location, shape, and topography of the callosities that occur along the rostrum (Crone and Kraus 1990). In addition, Hamilton and Martin (1999) note that callosities on the upper margins of the lower jaw (known as lip callosities), behind the blowholes, on the chin, along the mandible, and above the eye are key marks to help identify individual whales. White scars from past entanglements, vessel strikes, and other causes rarely fade over time and become unique characteristics (Hamilton and Martin 1999). Crenations along the lower lip (also called lip ridges) can be distinctive and were particularly useful in the identification of calves because the callosity patterns of calves are not fully developed until they are 7-12 months old (Hamilton and Martin 1999).

During the 2005-2006 survey season, photographs from primary surveys were taken with a Canon EOS 20D Digital SLR camera equipped with a Canon EF 100-400mm f/4.5-5.6L IS USM lens. Photographs from coastal surveys were taken with a Canon EOS D60 Digital SLR camera equipped with a Canon EF 300mm f/4.0L IS USM lens. A Canon EOS Digital Rebel SLR camera was utilized as a back up camera for the primary survey and a Canon EOS3 SLR camera using ASA Kodak Gold print film was reserved, but never utilized, as a back up camera for the coastal survey. Digital format cameras allowed for expeditious image review and possible whale identification in the aircraft.

The observer on the right side of the aircraft photographed the whale(s) through the opened right rear window. Photographs were taken on the TV function with a shutter speed of 1000 (shutter speed decreased in low light). Whenever feasible, priority was given to obtain a

full top view head shot of the whale(s) in order to document a full set of callosities. Once the callosities were fully recorded, photographs of the body and fluke were attempted in order to document any scars and the overall body condition of the whale. A twenty minute time limit was set to photograph small groups of whales in order to ensure adequate time to finish the survey. Larger (less common) groups of whales were allotted more time as long as it did not jeopardize the completion of the survey.

During the 2005-2006 season FWRI created and maintained a website that allowed aerial survey teams to view images and preliminary whale identifications. The website enhanced communication and facilitated information transfer and sharing among aerial survey teams. Digital photographs also allowed FWRI to easily share image files with the New England Aquarium, NOAA, and Center for Coastal Studies (CCS) disentanglement team throughout the calving season. The FWRI aerial survey team reviewed the images and made preliminary matches to the catalog of identified right whales. At the end of the season photographs and sighting data were submitted to the New England Aquarium for final identification and inclusion in the North Atlantic Right Whale Identification Database – the central repository for archiving and maintaining images and sighting data on right whales.

### ***Whale/Vessel Interaction or “Close Call” Documentation***

Prior to the beginning of the 2005-2006 aerial survey season, FWRI staff in collaboration with all aerial survey teams and NOAA law enforcement, created a standardized whale/vessel interaction form. This form was used by all aerial survey teams in the SEUS to record “close calls” and 500 yard rule violations. The new whale/vessel interaction form had two pages; one for whale information and another for vessel information (Appendix 1). In summary, the whale information page required input from aerial observers about the location and behaviors of the whale(s) and the vessel page required information about the location, speed/heading, actions, and communication efforts of the vessel(s). All whale/vessel interaction forms were forwarded to NOAA Fisheries and FWRI where they were combined into one database and mapped. The enhanced forms standardized the data collection of all whale/vessel interactions among various teams and facilitated a detailed account of these incidents.

### ***Biopsy Sample Collection***

Under the guidance of subcontractor, Chris Slay, the FWRI biopsy team planned to conduct biopsy cruises on every good weather day between January 5, 2006 and March 2, 2006. During the 2005-2006 season, biopsy samples were collected under permit number 775-1600-10 issued to NMFS-NEFSC and permit number 665-1652-00 issued to NEA. Calves, juvenile adults, and previously undarted adult right whales were targeted for sampling this season. In general, the FWRI team worked within the area outside the St. Johns River (Jacksonville, FL). The biopsy team collaborated with the aerial survey teams to speed up reaction time to sighted whales and minimize aerial survey assistance.

Once the biopsy team arrived at the sighting location, the first priority was to take photographs in order to document the individual identification of the whale(s). Photographs were taken using a Canon EOS D60 Digital SLR camera equipped with a Canon EF 70-200mm f/2.8L IS USM or a Canon EF 300mm f/4.0L IS USM lens. Each whale photographed was assigned a field ID (A-Z) and the initial/final sighting time, location, and behaviors were recorded. In addition, the time and location of the biopsy sample collections were recorded.

Ideally the biopsy sample contained both skin and blubber. Both samples were labeled using the whale's field ID and date i.e. "A" 09 JAN 2006. The samples and associated data were sent to Dr. Moira Brown at the New England Aquarium and will be forwarded to Trent University (skin) and Woods Hole Oceanographic Institute (blubber) to be processed and archived.

## RESULTS

### *Aerial Survey*

#### *Primary Survey*

FWRI primary aerial survey began on December 1, 2005 and the last survey was conducted on March 31, 2006. The FWRI team completed 60 full surveys (281.61nm each) and 17 partial surveys out of an available 121 days (Table 3). Thus, the primary survey team flew at least a portion of the SEWS survey 64% of the available days. The majority of partial surveys resulted from poor weather conditions; however, a few surveys were delayed because of aircraft mechanical issues. Ninety two percent of the primary surveys were flown during favorable sea state conditions (Beaufort 3 or less.) In addition to the typical primary survey scheme, FWRI conducted one survey under the One Plane Contingency Plan and 13 surveys under the Two Plane Contingency Plan. Contingency Plans were implemented when other survey aircraft were unable to fly their portion of the EWS. Also, four partial coastal surveys were flown before the coastal survey plane was available.

For the primary survey the first whale sighting was on December 3, 2005 and the last was on March 29, 2006. The primary survey team had 57 sightings consisting of 148 whales (Table 4). Of the 57 sightings, 23 were mom/calf pairs, 14 were single adults, 11 were pairs of adults, and nine were groups of three or more whales (Figures 4 & 5). The greatest number of sightings the primary team had in a single day was six (January 8<sup>th</sup> & February 18<sup>th</sup>) and the largest number of whales sighted in a single day was 21 (January 28<sup>th</sup> & February 18<sup>th</sup>.) The primary survey team had the greatest number of sightings in January (n=24) and February (n=20.) Four sightings were observed while conducting partial coastal surveys. These sightings are highlighted yellow in Table 4 and are included on the coastal sighting map.

#### *Coastal Survey*

The first FWRI coastal aerial survey was conducted on January 25, 2006 and the last was conducted on March 29, 2006. The coastal survey aircraft was unavailable to begin surveys on January 1, 2006 as planned because of an unanticipated FAA inspection delay. The coastal survey had 30 days available for flights (10 weeks x 3 days/week) of which 27 full or partial flights were completed (Table 5). The breakdown of flights for the coastal survey were: ten Option A surveys (481.24nm), eleven Option B surveys (402.0nm), two combinations of option A and Option B surveys, and four partial surveys. The coastal team flew four of the SEWS survey lines (EWS lines #31-34) on three occasions when the primary survey was flying the Two Plane Contingency Plan. Ninety one percent of the coastal surveys were flown in favorable weather conditions. Of the four partial surveys, inclement weather conditions caused the survey to be shortened three times and in one instance the survey was altered to assist with a disentanglement effort.

The first whale sighting in the coastal survey area was on January 11, 2006 by the primary survey team. The first whale sighting by the coastal survey team was on January 28, 2006 and the last sighting of the season was on March 26, 2006. The coastal survey team had 18 sightings consisting of 60 whales (Table 6). Of the 18 sightings, nine were mom/calf pairs, one was a single adult, three were pairs of adults, and five were groups of three or more whales (Figures 6 & 7). The greatest number of sightings (n=5) and the largest number of whales (n=32) were sighted on January 28<sup>th</sup>.

### ***Whale/Vessel Interaction or “Close Call” Documentation***

During the 2005-2006 season, twenty whale/vessel interactions were documented throughout the SEUS including the EWS, South Carolina, and FWRI coastal survey areas (Table 7). The types of vessels involved consisted of four large merchant, four commercial fishing (shrimping), eleven recreational, and one USCG inflatable (Figure 8). Communication between the survey aircraft and the vessel was attempted 19 out of 20 incidents and eight of the 19 attempts elicited a response and/or behavior change from the vessel. Those that responded consisted of three large merchant vessels, one commercial fishing vessel, and four recreational vessels. The majority of vessels that responded took swift and appropriate actions based on the individual circumstances; however, one recreational vessel operator observed by FWRI responded to the aircraft with a sarcastic remark after continued harassment of a mom/calf pair. With the exception of this recreational vessel, none of the vessels in violation of the 500 yard rule verbally responded to aircraft communication attempts.

Although twenty whale/vessel interactions were observed, only seventeen groups of whales were involved because one pair of whales interacted with four separate shrimping vessels. The groups of whales involved consisted of five mom/calf pairs (traveling or resting), four surface active groups (SAG), and eight traveling or resting groups. Change in the behavior of the whales, consisting mostly of diving and evasive direction changes, was observed in four of the whale/vessel interactions. Three recreational vessels and one large merchant vessel were involved in the interactions where a definite change in behavior of the whales was observed. Two of the four groups of whales with behavior changes were mom/calf pairs and two of the four interactions occurred at a distance of 500 m or more. In another three instances, the behavior of the whales was so varied before the interaction that a change in behavior was hard to judge and so these reports were not considered to be a behavior reaction to the vessel.

### ***Biopsy Sample Collection***

During the 2005-2006 season FWRI staff conducted 16 biopsy cruises which resulted in 58 whales photographed (not unique individuals) and 14 biopsy samples collected (Table 8). Of the 14 biopsy samples collected, five were of calves and nine were of juvenile whales. Biopsy samples were also collected from entangled juvenile right whale Eg# 3445 on December 12, 2005 and an entangled juvenile humpback whale on March 26, 2006. Biopsy samples of entangled whales were collected under the direction and authority of NMFS and CCS.

## EVENTS

### *Disentanglement Responses*

#### *Eg# 3445*

During the morning of December 3, 2005 the FWRI aerial survey team was alerted to the presence of an entangled right whale, Eg# 3445, offshore Brunswick, GA by the WT-GADNR aerial survey. After contacting the SEUS right whale coordinator, FWRI responded to the location and remained with the whale while GADNR staff responded by vessel and the WT-GADNR aerial survey team downloaded photographs and refueled. That afternoon the GADNR staff successfully removed a large portion of the approximately 400 feet of trailing line and attached a telemetry buoy to the whale. On December 4, 2005 the FWRI aerial survey team relocated the entangled whale off St. Augustine after completing the Two Plane Contingency Plan survey lines. Due to diminishing daylight a vessel response was delayed until the following day. On the morning of December 5, 2005 the FWRI aerial survey team began searching for the entangled whale in the Daytona Beach area. CCS staff and FWRI staff staged a vessel response in the NOAA RHIB out of Ponce Inlet. The FWRI aerial survey team located the whale approximately seven miles off Daytona Beach and stood by the whale and NOAA RHIB until additional staff from CCS, NOAA, FWRI, and GADNR arrived via the USCG cutter Kingfisher. The effort on December 5, 2006 was hindered by high winds and rough seas, but generated information on the entanglement as well as the removal of additional trailing line. FWRI-Tom Pitchford (TDP) participated in a large scale multi agency disentanglement effort on January 12, 2006. The disentanglement team departed out of Beaufort, NC on the USCG cutter Elm. During this effort, the trailing line parted and separated the telemetry buoy from the whale, removing additional trailing line. Approximately 20 feet of trailing line remained on the whale at that point. Eg# 3445 has since been sighted by the New England Aquarium in the Great South Channel and appears to have shed the life-threatening portion of the gear.

#### *Unidentified Whales*

On December 20, 2005 an entangled right whale was reported to the USCG by a commercial shrimping vessel off Ponte Vedra Beach. The FWRI aerial survey team was first to respond and observed two right whales alternating between traveling and SAG behavior in the vicinity. The team was unable to confirm an entanglement. The NEA aerial survey team relieved the FWRI team and the FWRI team headed to the St. Augustine airport to download photographs and refuel. Other FWRI team members met the survey team at the airport with equipment to download the photographs in order to minimize ground time. After quickly downloading photos and assessing them FWRI was unable to confirm the presence of an entanglement. The FWRI aerial survey team returned to relieve the NEA team and stand by for the NOAA RHIB which was en route with FWRI- Katie Jackson (KAJ) and Arthur Wong (AWW), GADNR- Mark Dodd and Clay George (RCG), and NOAA-Barb Zoodsma (BJZ). Upon arrival of the NOAA RHIB the FWRI aerial survey team departed to continue on survey. Based on the photographs from the FWRI aerial survey team and the observations of the team on the NOAA RHIB, the whales were thought to be not entangled.

#### *Eg# 3346 "Kingfisher"*

On January 8, 2006 the FWRI primary aerial survey team observed and photographed juvenile whale Eg# 3346 "Kingfisher." Eg# 3346 was the target of a large scale disentanglement effort during the 2003-2004 calving season and since then has been observed with only a small portion of remaining gear wrapped around his right flipper. The FWRI aerial survey team

sighted Eg# 3346 four times throughout the 2005-2006 calving season. He appeared to be in good health and his entanglement status is classified by CCS as “monitor.”

### *Humpback*

Late in the afternoon on March 25, 2006 FWRI received a report of an entangled whale from the Marine Resources Council (MRC) in the vicinity of Flagler Beach. The FWRI aerial survey team responded to the location and verified the presence of an entangled humpback whale with line and buoys around the tail stock. The humpback was slow moving and remained at or near the surface of the water; however, a vessel response was not underway due to diminishing daylight. Once on the ground, the FWRI team forwarded the photographs to NOAA and CCS and a plan was devised for a disentanglement attempt the following day. On the morning of March 26, 2006 the FWRI coastal aerial survey team began searching for the entangled whale in the area between Flagler and Daytona Beach. During that time, a recreational vessel spotted the whale and contacted the USCG. The aerial survey team went to the location of the whale and stood by during the disentanglement response until redirected. FWRI-TDP and Andy Garrett (AJG), GADNR- RCG, and NOAA- BJZ launched out of Ponce Inlet in the NOAA RHIB and arrived on scene quickly. After deploying a telemetry buoy, photographing the whale, carefully assessing the entanglement, and consulting with CCS staff, the team successfully cut and pulled the gear free from the whale. Although the whale appeared emaciated and had a pronounced spinal curvature near the tail stock, after the successful disentanglement it slightly picked up speed and spynopped once.

### *Stranding Responses*

#### *EgNEFL0602*

FWC dispatch contacted FWRI-AJG on January 10, 2006 to a report a dead right whale calf near the mouth of the St. Johns River. USCG sector Jacksonville, FL and the NEA aerial survey team were asked to verify the sighting. The USCG received a second report from a recreational vessel on scene with the carcass. The USCG vessel verified that the carcass was a whale with large lacerations on the body and completely severed flukes. The NEA aerial survey team identified the carcass as a right whale calf while the carcass was under tow by the USCG. The USCG vessel asked to be relieved of towing because of prior obligations and two FWC law enforcement vessels tried to assist in the towing process. The carcass was too heavy for the FWC vessels and the USCG agreed to return. The carcass was towed to Buck Island where it was landed by crews using an excavator. FWRI staff participated in a large portion of the onsite coordination of the necropsy. Results described in the final necropsy report for EgNEFL0602 confirm the calf was killed by ship strike. On January 28, 2006 FWRI-AWW collected the severed flukes of a right whale calf that had washed ashore approximately four miles south of where the calf carcass was discovered. At this time, genetic testing is underway to confirm the severed flukes belong to EgNEFL0602.

#### *EgNEFL0603*

On January 22, 2006 the USCG received a report of a dead whale off Ponte Vedra Beach from a recreational vessel. The USCG relayed the information to NOAA- BJZ who then contacted FWRI-KAJ and TDP. The FWRI aerial survey team had been on standby because of fog, but when able flew to the location and verified that the dead whale was a right whale calf. The FWRI aerial survey team stood by with the carcass until a plan of action was devised. FWRI- AJG and AWW went to the location approximately 18 miles offshore to photograph the carcass and attach a telemetry buoy. Moran Towing was contracted by NOAA to tow the carcass

to Buck Island. FWRI staff participated in a large portion of the onsite coordination of the necropsy. Results described in the final necropsy report for EgNEFL0603 confirm the calf died from complications of an entanglement around its tailstock.

### *Other*

#### *Eg# 1243*

On January 16, 2006 the FWRI aerial survey team sighted Eg# 1243 without her calf participating in a SAG with four other whales off Ormond Beach. Eg# 1243 had previously been sighted with her calf throughout the EWS on several occasions and was last sighted with her calf on January 5, 2006. The January 16<sup>th</sup> sighting of Eg# 1243 combined with all the sighting data collected by the aerial survey teams provided enough information for NEA to determine that Eg# 1243 was most likely the mom of the calf found dead on January 10, 2006 as a result of a ship strike.

#### *Eg# 1802*

On January 21, 2006 the FWRI aerial survey team sighted Eg# 1802 alone (without her calf) off Ponte Vedra Beach exhibiting erratic swimming with obvious changes in direction, breaching, flipping, and blowing bubbles under the water. On the morning of January 22, 2006 a calf was found floating dead in the same general vicinity off Ponte Vedra Beach. Eg# 1802 was sighted again by FWRI off Ponte Vedra Beach on January 22, 2006 traveling slowly with a juvenile whale. Eg# 1802 had previously been sighted with her calf throughout the EWS on several occasions and was last sighted with her calf on January 11, 2006. The January 21<sup>st</sup> and 22<sup>nd</sup> sightings of Eg# 1802 combined with all the sighting data collected by the aerial survey teams provided enough information for NEA to determine that Eg# 1802 was most likely the mom of the calf found dead on January 22, 2006 as a result of an entanglement.

#### *Eg# 2503 and Calf*

On February 27, 2006 FWRI-TDP received a report from NOAA-BJZ that a USCG helicopter had sighted right whales off Longboat Key in Sarasota. TDP contacted FWRI staff (and previous right whale aerial observer) Kat Frisch (KJF) in St. Petersburg. KJF agreed to secure a plane rental and attempt to locate and photograph the whales by air. After an extensive search KJF and pilot landed without locating the whales. After landing, KJF was advised by TDP that a NOAA vessel (which had departed from St. Petersburg earlier in search of the whales) had located the mom/calf pair approximately ten miles south of the original recorded position. The aircraft responded and located the whales. KJF observed healing dorsal scars on the calf and photographed the mom/calf pair as they continued to travel south. The mom was later identified by NEA as Eg# 2503, the pair that had previously been photo-documented off Texas.

#### *Eg#1301*

On March 19, 2006 Eg# 1301 was sighted without her calf traveling with another adult approximately twenty miles off St. Augustine. The whales were observed breaching and blowing bubbles under the water. Eg# 1301 had been sighted numerous times throughout the EWS with her calf and was last sighted with her calf on February 18, 2006 by FWRI. Eg# 1301 has since been sighted in Cape Cod Bay without her calf. The sighting data from Cape Cod Bay combined with the March 19<sup>th</sup> sighting data from FWRI suggests that Eg# 1301 lost her calf in the SEUS although no carcass has been recovered. The March 19<sup>th</sup> sighting proved to be an important observation for determining the time frame and location when Eg# 1301 lost her calf.

## **DISCUSSION and RECOMMENDATIONS**

Together, the FWRI aerial survey teams documented 75 sightings consisting of 208 whales (not unique individuals.) The FWRI aerial survey teams sighted 14 of the 19 females observed with calves during the 2005-2006 season (either pregnant or with a calf) and the FWRI biopsy team observed an additional two mom/calf pairs. Although final analysis of the photographs is not complete, it is clear that a large number of juvenile whales were present in the SEUS this season as was the case for last season. This increase of juvenile whales is reflective of the relatively high number of calves born in the SEUS in recent years. Often, these juveniles were observed in surface active groups (SAGs) spending large amounts of time at or near the surface of the water. This is important because whales participating in SAGs may be less aware of approaching vessels. Right whale calves and juveniles accounted for 50% of the confirmed ship strike deaths between 1970 and 1999 (Knowlton and Kraus, 2001). More juvenile whales in the SEUS combined with the increased vessel traffic may lead to higher incidences of whale/vessel interactions. Measures should be taken to not only minimize the occurrence of whale/vessel interactions, but also to reduce the severity of the interactions that do occur.

During the 2005-2006 season a right whale calf was struck and killed by a large vessel near the St. Johns River entrance. Regionally, Jacksonville is a high use port (Ward-Geiger et al., 2005). The FWRI primary aerial survey covers the SE portion of a high use shipping corridor (Ward-Geiger et al., 2005) and the central EWS aerial survey team covers the NW portion of this corridor (Table 9). Hain et al. (1999) found that increasing survey effort will increase sighting probability and one way to increase sighting effort is to repeat surveys. The temporal resolution of sightings could be improved near the entrance of the St. Johns River if the FWRI aerial survey team covered the entire NW portion of this approach flying EWS lines #21-24 east to the SEUS Critical Habitat boundary (about half the length of a standard track line.) Since most aerial surveys are flown north to south, FWRI could cover this area in the morning hours while the central EWS aerial survey team covers their northern lines. The central EWS team would then cover lines 21-24 in the afternoon therefore effectively doubling the survey effort in the most heavily trafficked area of the EWS. The FWRI and central EWS aerial survey teams would need to devise a standard plan of action and remain in close radio contact throughout the survey in order to minimize safety risks.

The partnerships created by participants of the EWS network enabled the seamless and near real time transmission of right whale sighting information from aerial survey aircraft directly to the vessels traversing through the SEUS Critical Habitat and MSRS zone. Though aerial surveys are an efficient tool for ship strike mitigation while underway, they are limited by weather conditions and available daylight and therefore cannot provide information 24/7. In order to improve ship strike mitigation in the absence of aerial survey effort, vessels must be willing to adhere to recommended NOAA guidelines by reducing speed, posting lookouts, and avoiding locations where right whales were reported. The FWRI aerial survey team plans to incorporate an Automatic Identification System (AIS) technology during the 2006-2007 calving season to more accurately record large vessel activity in the southern EWS. In addition, FWRI (at the request of NOAA) is working with partners such as GADNR and NOAA Fisheries to develop a prototype network of shore-based AIS receivers in order to collect vessel data during the calving season.

Both FWRI aerial survey teams continue to observe deliberate vessel approaches and instances of harassment by recreational vessels. During the 2005-2006 season three obviously

deliberate approaches by recreational vessels were documented by FWRI. One vessel in particular heard the aircraft's broadcast of right whale information including the 500 yard no approach regulation, chose to ignore it, and continued harassing a mom/calf pair (see whale/vessel interaction report dated January 22, 2005 for additional information). Since the right whale educational signs have been posted at marinas and boat ramps throughout Florida an overall increase in recreational boater interest and awareness has been noted by FWRI staff. Two right whale calf carcasses recovered this season were originally reported by recreational boaters and one boater even communicated that the carcass was a "critically endangered North Atlantic right whale." The development of a right whale specific pamphlet containing general information about whales in the SEUS may provide another way to educate the general public. At a minimum these pamphlets could be handed out to interested bystanders at necropsy/stranding events and when whales are sighted nearshore generating crowds of people at the beach. A brochure entitled "Help Prevent Entanglement," recently printed with assistance from FWRI, contains guidelines for recreational fishermen on how to operate vessels around marine mammals. Although this brochure is not wholly focused on right whales, it discusses marine mammal laws, harassment, and the 500 yard no approach rule for right whales (Appendix 2). During the 2006-2007 calving season, FWRI plans to utilize a compact digital camcorder to document whale/vessel interactions. The continuous video stream will enhance documentation of interactions for educational purposes and law enforcement case support.

The coastal survey provided valuable sighting information for the coastal portion of the SEUS Critical Habitat south of the EWS survey area. For the past two seasons the coastal survey has documented 58 sightings comprising 148 whales while flying an average three days per week from January 1<sup>st</sup> through March 31<sup>st</sup>. The coastal survey provided the only aerial survey coverage of Port Canaveral, the second busiest cruise ship port in the world (Canaveral Port Authority). In addition, the survey provided coverage of two smaller inlets, Matanzas Inlet and Ponce Inlet, which are frequented by recreational vessels. During the past two seasons, three whale/vessel interactions involving recreational vessels have been documented on the coastal survey. One of the interactions involved a juvenile right whale that swam into the channel between the jetties at Ponce Inlet. This whale was in close proximity to several fast moving recreational vessels. In response, the USCG escorted the whale until it traveled a safe distance from the channel. Before the dedicated coastal survey was funded, the FWRI primary survey made an effort to verify sightings south of the EWS survey area and conduct coastal surveys to Cape Canaveral after completing the EWS track lines. During periods when funding is not available for a coastal survey, FWRI could verify sightings reported by MRC in the area south of the EWS and/or fly minimal but prescribed coastal surveys to Cape Canaveral during peak months.

FWRI provided information to NOAA Fisheries about the increased whiting gillnet fishery activity within the SEUS Critical Habitat during the 2005-2006 calving season. These observations proved valuable when NMFS implemented an emergency closure of the SEUS Restricted Area to the gillnet fishery in response to finding a dead right whale calf with signs of a gillnet entanglement on January 22, 2005. Future efforts to eliminate the risk of gillnet entanglements in the SEUS should be supported.

FWRI's participation in the aerial survey EWS network, SEIT, and TRT and ability to respond to stranding and disentanglement events are essential in order to maintain and advance the current level of right whale monitoring and conservation efforts in Florida. Continued

partnership between NMFS and FWRI will improve the protective measures for right whales in the SEUS and assist in the continued survival of the North Atlantic right whale.

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## **ACKNOWLEDGEMENTS**

National Oceanic and Atmospheric Administration - National Marine Fisheries Service and the Florida Fish and Wildlife Conservation Commission for funding this research.

### **EWS Participants:**

U.S. Navy FACSFAC Jacksonville station

USCG District 7 NAVTEX station

USCG Group Mayport

Florida and Georgia Port Authorities and Harbor Pilot Associations

Georgia Department of Natural Resources

Wildlife Trust Aerial Survey Team

New England Aquarium Staff and Aerial Survey Team

Marine Resources Council and Marineland

### **Special Thanks:**

NOAA- Barb Zoodsma

FWRI Aerial Survey Team Members: Corey Accardo, Jonathan Gwalthney, Dianna Schulte, Stacy Solomon, and Melanie White.

Orion Aviation: Ed Coffman, PIC-Scott Ridlon and Ken Pearson, SIC-Moe Vasquez, Todd Stoddard, Matt Mayer

FWRI's René Baumstark for creating all the maps for this report.

FWRI's Leslie Ward for reviewing this document.

Dr. Moe Brown and Chris Slay for providing information on the background and methods of biopsy darting.

FWRI administrative staff.

Figure 1: FWRI Primary Survey Track Lines

81°W

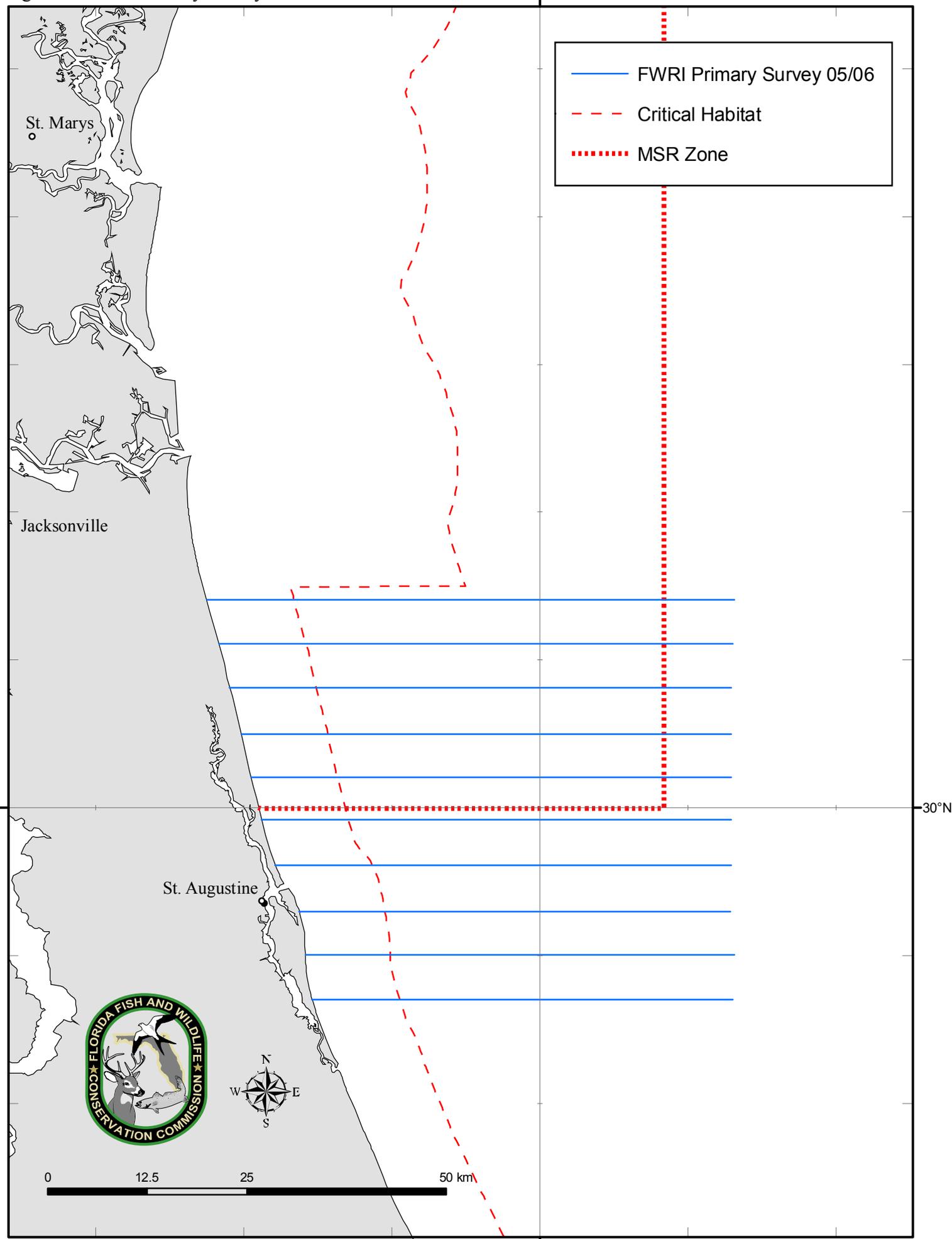


Figure 2: FWRI Coastal Survey Option A Track Lines

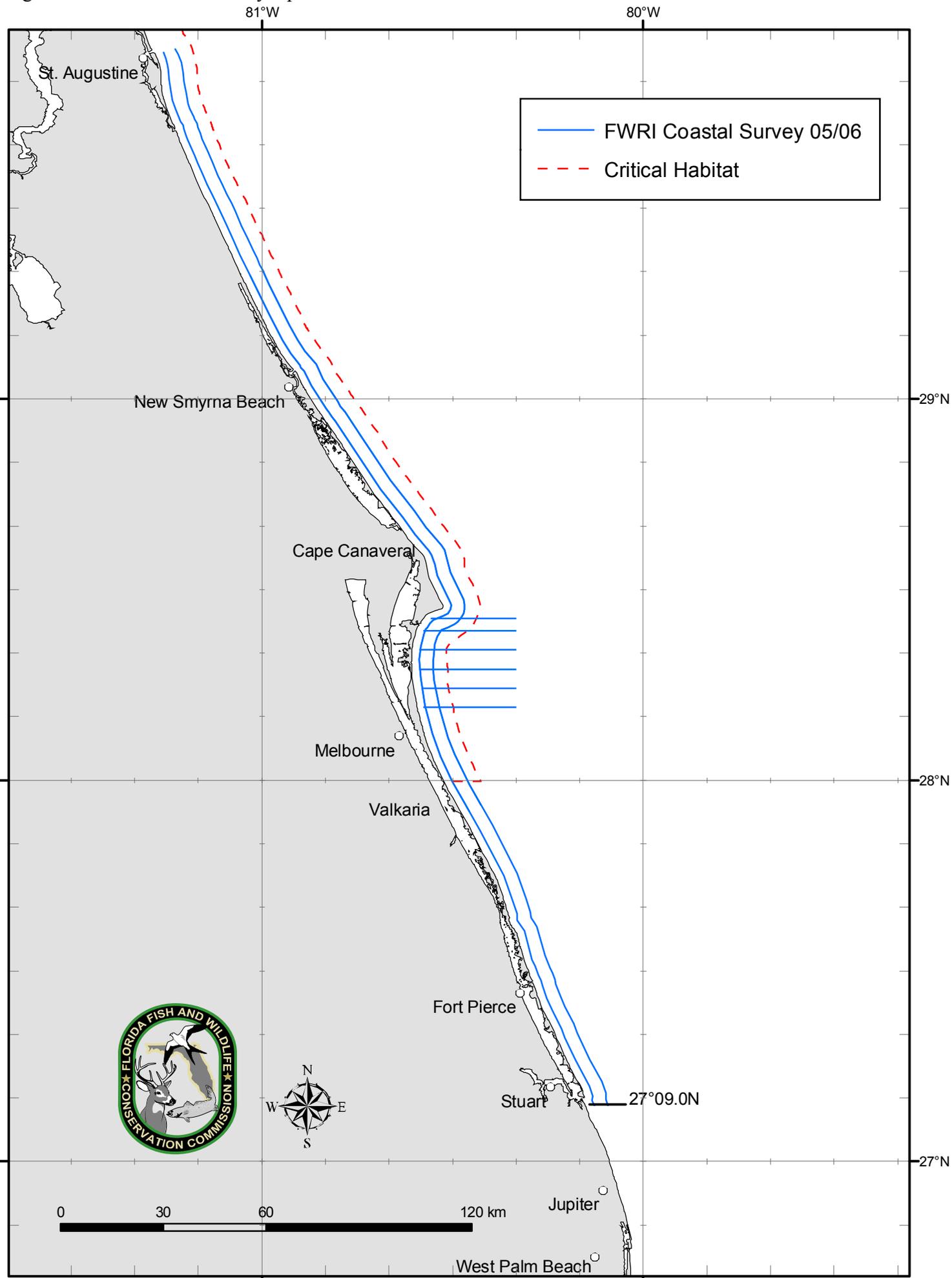


Figure 3: FWRI Coastal Survey Option B Track Lines

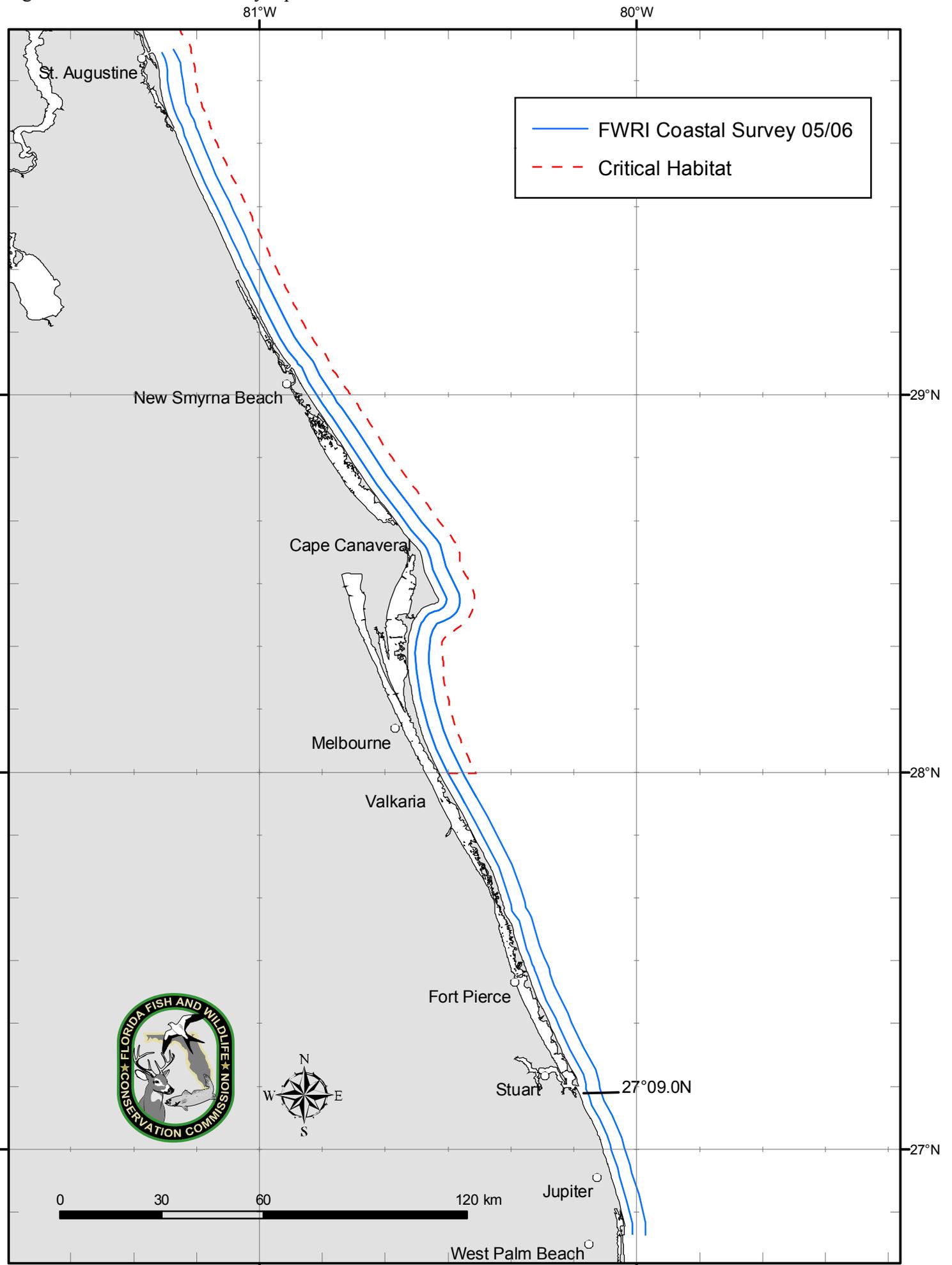


Figure 4: FWRI Primary Survey Right Whale Sightings

81°W

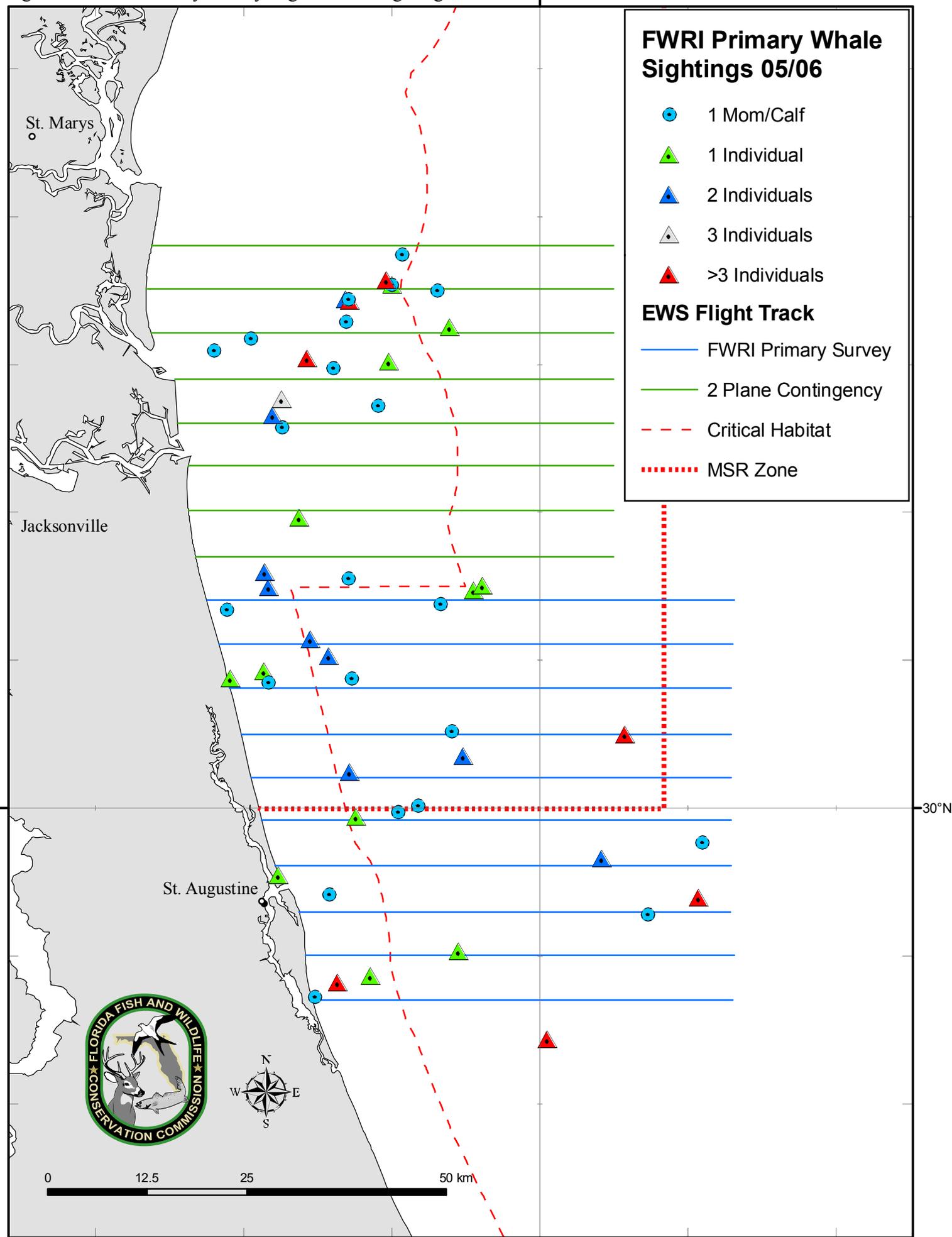


Figure 5: FWRI Primary Survey Monthly Right Whale Sightings

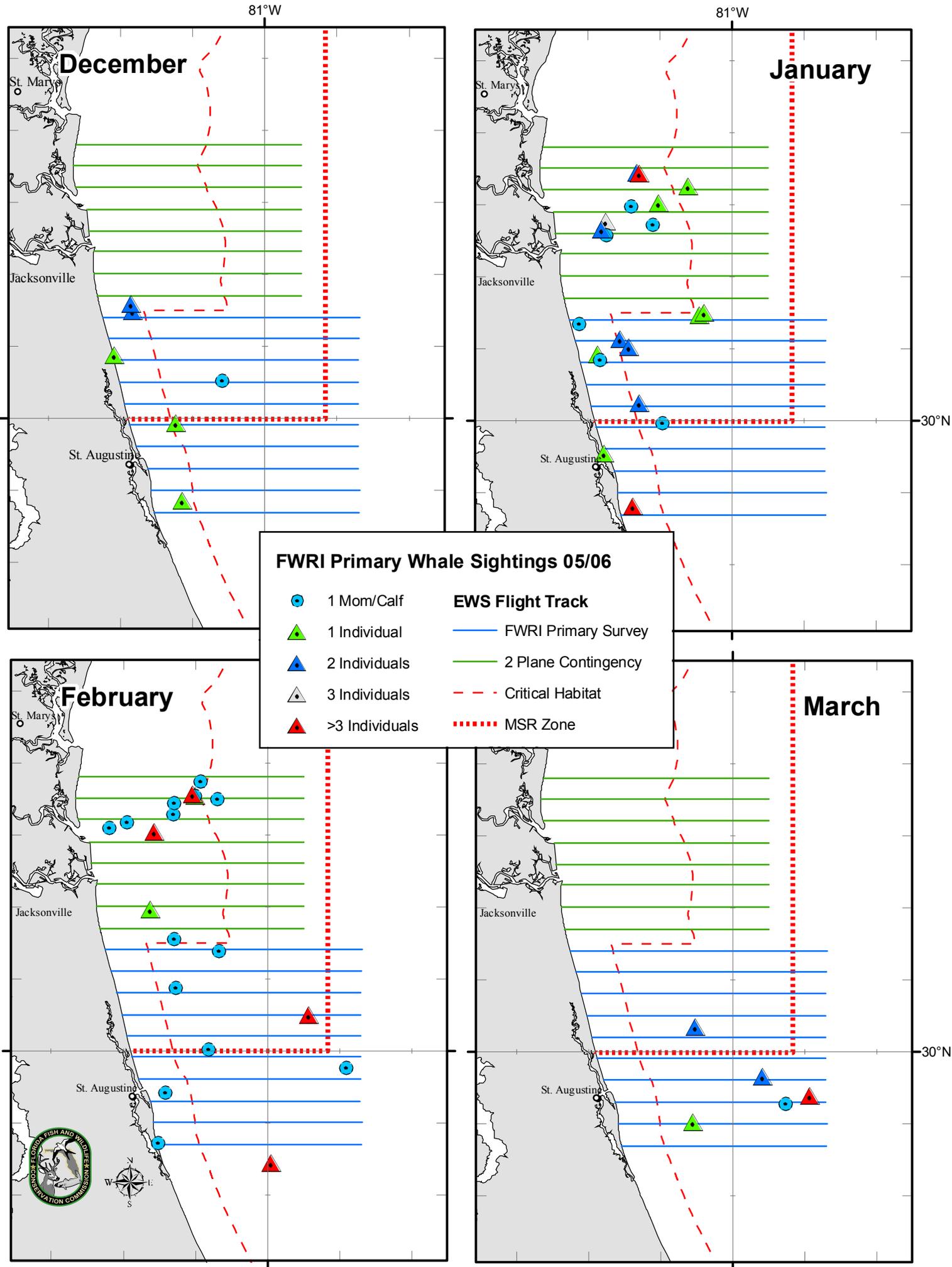




Figure 7: FWRI Coastal Survey Monthly Right Whale Sightings

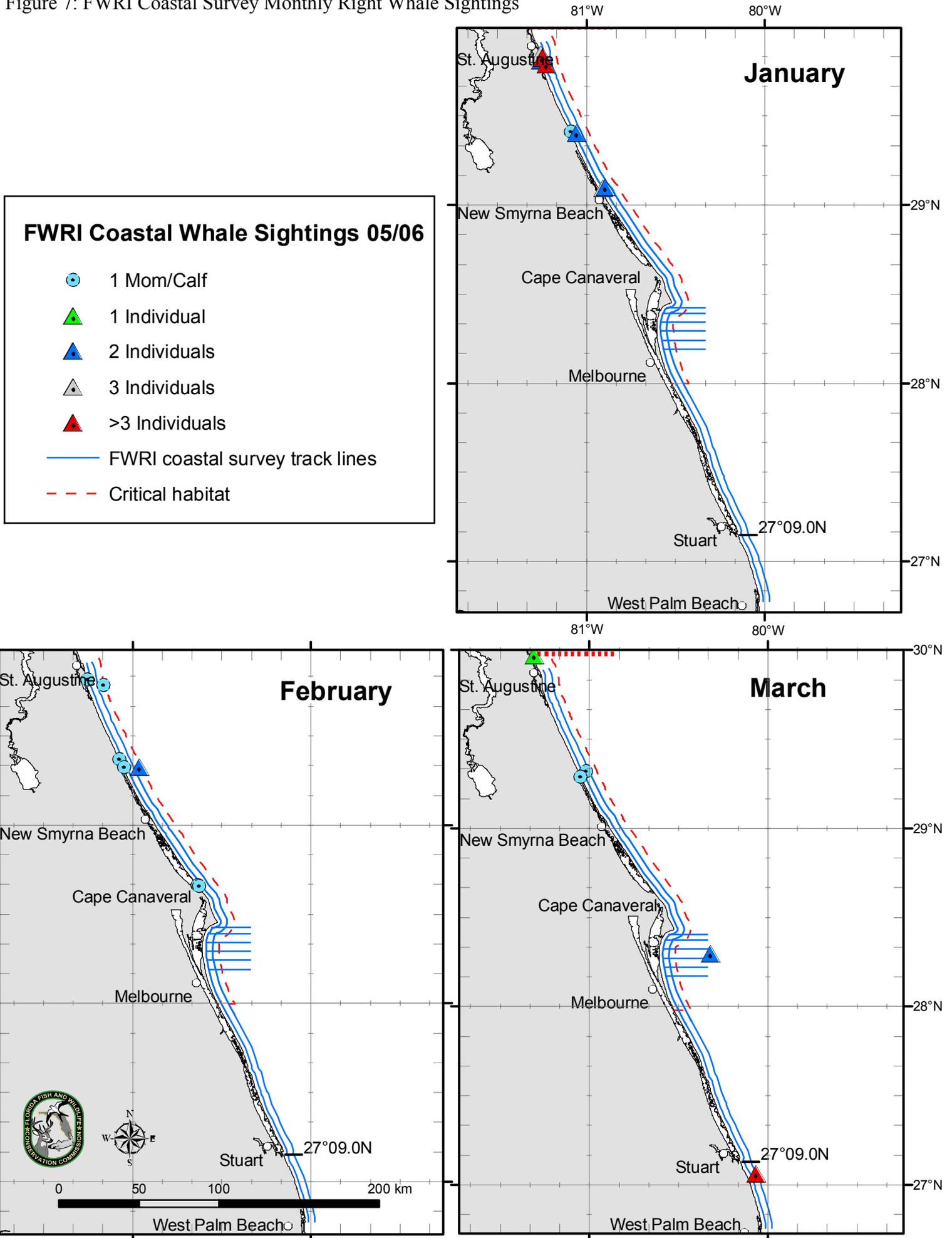


Figure 8: SEUS Whale/Vessel Interactions

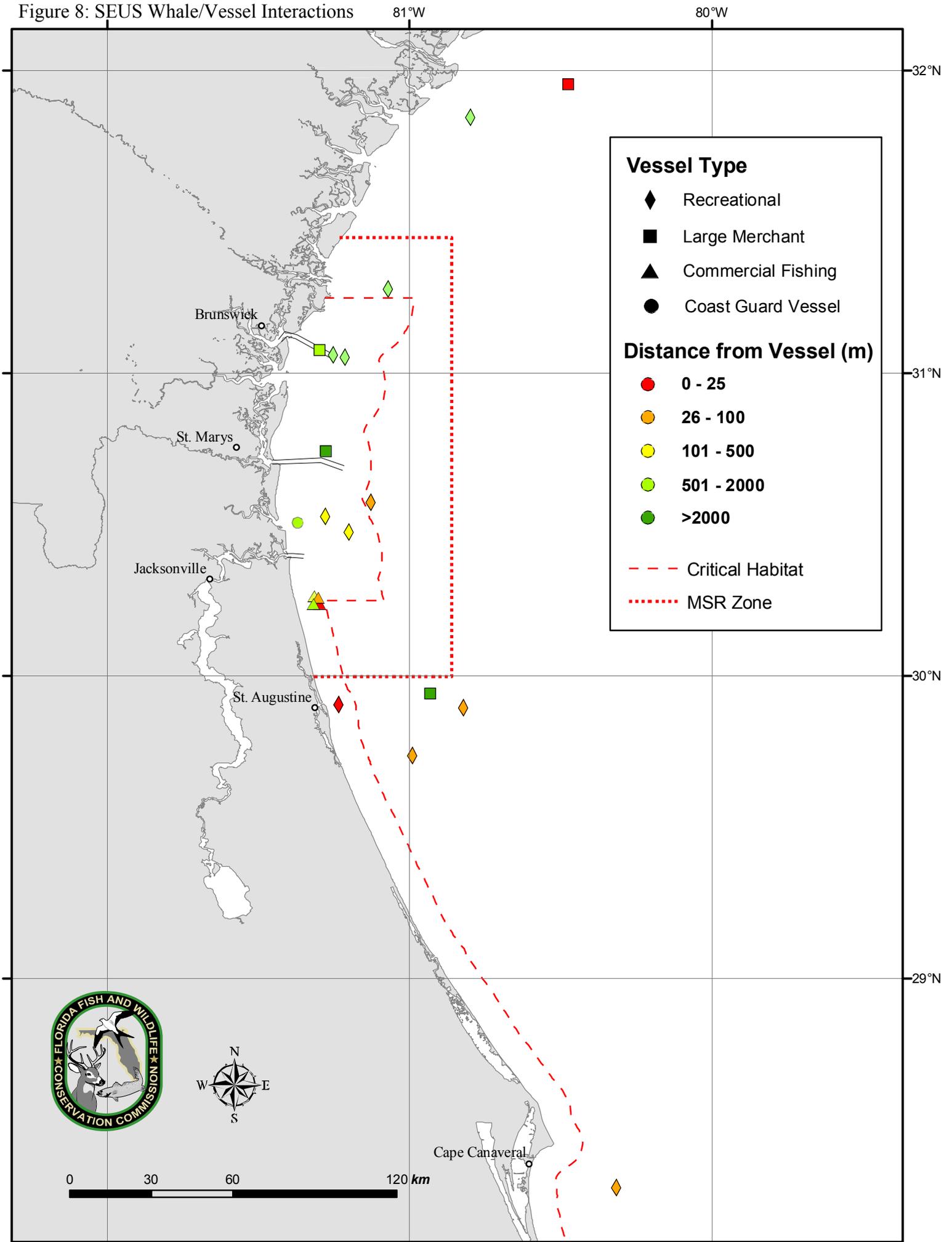
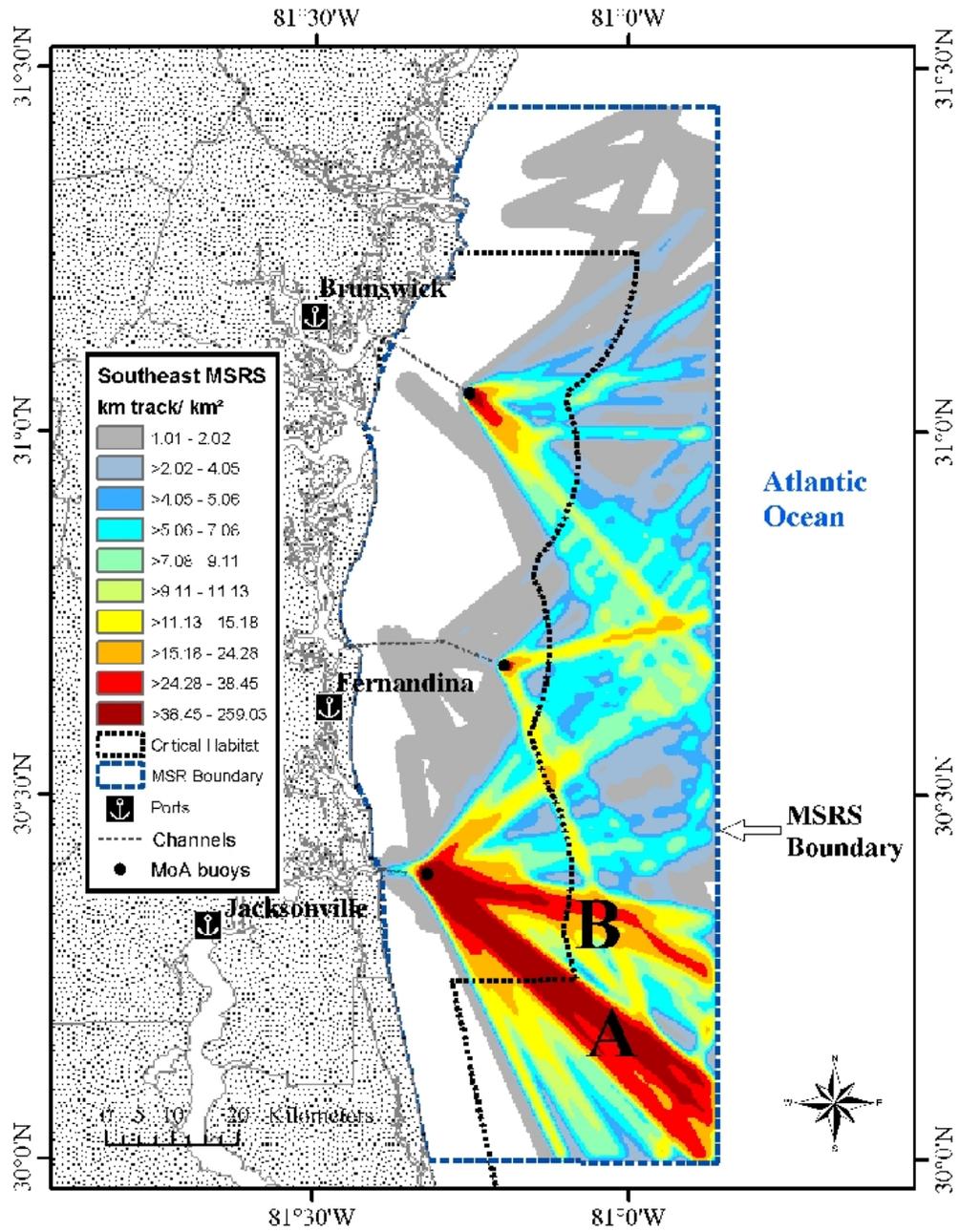


Figure 9: SEUS Ship Traffic Density (Ward-Geiger et al., 2005)



**Table 1. Primary Survey Waypoints and Nautical Mileage**

|  |        |
|--|--------|
| Total Nautical Mileage for FWRI Primary Survey:      | 281.61 |
| Total Nautical Mileage for 2 Plane Contingency Plan: | 337.96 |

**All EWS Waypoints**

| EWS Line | Latitude | Longitude (Eastern Point) |
|----------|----------|---------------------------|
| 1        | 31°26.0  | -080°38.0                 |
| 2        | 31°23.0  | -080°38.0                 |
| 3        | 31°20.0  | -080°40.0                 |
| 4        | 31°17.0  | -080°40.0                 |
| 5        | 31°14.0  | -080°44.0                 |
| 6        | 31°11.0  | -080°44.0                 |
| 7        | 31°08.0  | -080°47.0                 |
| 8        | 31°05.0  | -080°47.0                 |
| 9        | 31°02.0  | -080°47.0                 |
| 10       | 30°59.0  | -080°47.0                 |
| 11       | 30°56.0  | -080°47.0                 |
| 12       | 30°53.0  | -080°47.0                 |
| 13       | 30°50.0  | -080°47.0                 |
| 14       | 30°47.0  | -080°47.0                 |
| 15       | 30°44.0  | -080°47.0                 |
| 16       | 30°41.0  | -080°47.0                 |
| 17       | 30°38.0  | -080°47.0                 |
| 18       | 30°35.0  | -080°47.0                 |
| 19       | 30°32.0  | -080°47.0                 |
| 20       | 30°29.0  | -080°47.0                 |
| 21       | 30°26.0  | -080°47.0                 |
| 22       | 30°23.0  | -080°47.0                 |
| 23       | 30°20.0  | -080°47.0                 |
| 24       | 30°17.0  | -080°47.0                 |
| 25       | 30°14.0  | -080°47.0                 |
| 26       | 30°11.0  | -080°47.0                 |
| 27       | 30°08.0  | -080°47.0                 |
| 28       | 30°05.0  | -080°47.0                 |
| 29       | 30°02.0  | -080°47.0                 |
| 30       | 29°59.0  | -080°47.0                 |
| 31       | 29°56.0  | -080°47.0                 |
| 32       | 29°53.0  | -080°47.0                 |
| 33       | 29°50.0  | -080°47.0                 |
| 34       | 29°47.0  | -080°47.0                 |

**FWRI Primary Survey Waypoints**

| EWS Line | Latitude | Longitude (Eastern Point) | Nautical Mileage |
|----------|----------|---------------------------|------------------|
| 25       | 30°14.0  | -080°47.0                 | 30.87            |
| 26       | 30°11.0  | -080°47.0                 | 30.60            |
| 27       | 30°08.0  | -080°47.0                 | 29.97            |
| 28       | 30°05.0  | -080°47.0                 | 29.07            |
| 29       | 30°02.0  | -080°47.0                 | 28.80            |
| 30       | 29°59.0  | -080°47.0                 | 28.35            |
| 31       | 29°56.0  | -080°47.0                 | 27.00            |
| 32       | 29°53.0  | -080°47.0                 | 26.10            |
| 33       | 29°50.0  | -080°47.0                 | 25.65            |
| 34       | 29°47.0  | -080°47.0                 | 25.20            |

**2 Plane Contingency Plan  
FWRI waypoints**

| EWS Line | Latitude | Longitude (Eastern Point) |
|----------|----------|---------------------------|
| 17       | 30°38.0  | -080°55.0                 |
| 18       | 30°35.0  | -080°55.0                 |
| 19       | 30°32.0  | -080°55.0                 |
| 20       | 30°29.0  | -080°55.0                 |
| 21       | 30°26.0  | -080°55.0                 |
| 22       | 30°23.0  | -080°55.0                 |
| 23       | 30°20.0  | -080°55.0                 |
| 24       | 30°17.0  | -080°55.0                 |
| 25       | 30°14.0  | -080°55.0                 |
| 26       | 30°11.0  | -080°55.0                 |
| 27       | 30°08.0  | -080°55.0                 |
| 28       | 30°05.0  | -080°55.0                 |
| 29       | 30°02.0  | -080°55.0                 |
| 30       | 29°59.0  | -080°55.0                 |

**1 Plane Contingency Plan  
Waypoints**

| EWS Line | Latitude | Longitude (Eastern Point) |
|----------|----------|---------------------------|
| 5        | 31°14.0  | -081°00.0                 |
| 6        | 31°11.0  | -081°00.0                 |
| 7        | 31°08.0  | -081°00.0                 |
| 8        | 31°05.0  | -081°00.0                 |
| 9        | 31°02.0  | -081°00.0                 |
| 10       | 30°59.0  | -081°00.0                 |
| 11       | 30°56.0  | -081°00.0                 |
| 12       | 30°53.0  | -081°00.0                 |
| 13       | 30°50.0  | -081°00.0                 |
| 14       | 30°47.0  | -081°00.0                 |
| 15       | 30°44.0  | -081°00.0                 |
| 16       | 30°41.0  | -081°00.0                 |
| 17       | 30°38.0  | -081°00.0                 |
| 18       | 30°35.0  | -081°00.0                 |
| 19       | 30°32.0  | -081°00.0                 |
| 20       | 30°29.0  | -081°00.0                 |
| 21       | 30°26.0  | -081°00.0                 |
| 22       | 30°23.0  | -081°00.0                 |
| 23       | 30°20.0  | -081°00.0                 |
| 24       | 30°17.0  | -081°00.0                 |
| 25       | 30°14.0  | -081°00.0                 |

**Table 2. Coastal Survey Waypoints and Nautical Mileage**

|                                  |        |
|----------------------------------|--------|
| Total Nautical Mileage Option A: | 428.04 |
| Total Nautical Mileage Option B: | 402.00 |

**Option A**

**Coastline South/North from 29°47.0N to 27°28.0N**

|  |        |
|--|--------|
| Total Nautical Mileage south/north round trip: | 308.00 |
| Total Nautical Mileage 6 Canaveral Lines:      | 79.24  |

| Canaveral Line | Latitude | Longitude (Eastern Point) |
|----------------|----------|---------------------------|
| 1              | 28°25.5  | -080°20.0                 |
| 2              | 28°23.5  | -080°20.0                 |
| 3              | 28°20.5  | -080°20.0                 |
| 4              | 28°17.5  | -080°20.0                 |
| 5              | 28°14.5  | -080°20.0                 |
| 6              | 28°11.5  | -080°20.0                 |

**Option B**

**Coastline South/North from 29°47.0N to 26°43.5N**

|  |        |
|--|--------|
| Total Nautical Mileage south/north round trip: | 402.00 |
|--|--------|

**Table 3. Primary Survey Activities**

Days with sightings are highlighted in green

| Date      | Flight Status |           |           | EWS Lines (25-34)                       | Survey File Name | Number of Whales    |                  |          |       | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments   |
|-----------|---------------|-----------|-----------|---|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|--|
|           | Full          | No Survey | Partial   |   |                  | Number of Sightings | Number of Whales | M/C Pair | Hobbs |                      |                                    |  |
| 1-Dec-05  |               |           | X         | EWS lines 8-20, plus 5 additional lines | fwri20051201     | 0                   | 0                | 0        | 5.8   | 368.7                | 220.4                              | One plane contingency plan, stand by due to permit question. Pilot confusion led to different lines (30'25, 30'19, 30'16, 30'13, 30'10) to be flown. Last 4 lines not flown due to diminishing daylight.   |
| 2-Dec-05  |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 3-Dec-05  |               |           | X         | 17-22 and 8-9                           | fwri20051203     | 2                   | 2                | 0        | 7.1   | 206.8                | 206.8                              | Partial 2 plane contingency survey, relieved Twin Otter during entangled whale response.   |
| 4-Dec-05  | X             |           |           | 30-17                                   | fwri20051204     | 1                   | 1                | 0        | 6.4   | 275.04               | 112.1                              | 2 plane contingency plan. Standby due to computer issues. After survey, switched out observer and went to track/relocated entangled whale.   |
| 5-Dec-05  |               | X         | see notes |   | fwri20051205     | 1                   | 1                | 0        | 4.6   | 0                    | 0                                  | 8am take off to relocate entangled whale. No EWS survey lines flown after standing by entangled whale due to high winds/approaching storms. No NM on Track.  |
| 6-Dec-05  |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 7-Dec-05  |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 8-Dec-05  |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- wind and rain  |
| 9-Dec-05  |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- wind, rain, low ceiling  |
| 10-Dec-05 | X             |           |           | 25-34                                   | fwri20051210     | 0                   | 0                | 0        | 4.1   | 281.61               | 281.61                             |  |
| 11-Dec-05 | X             |           |           | 25-34                                   | fwri20011211     | 0                   | 0                | 0        | 3.5   | 281.61               | 154                                | Standby- high wind.  |
| 12-Dec-05 | X             |           |           | 17-32                                   | fwri20051212     | 0                   | 0                | 0        | 6.3   | 492.28               | 379.84                             | Two plane contingency plan. Finish 17-30 with some time to spare so continued on to complete two more lines, 31 and 32.  |
| 13-Dec-05 |               |           | X         | 17-26                                   | fwri20051213     | 0                   | 0                | 0        | 3.8   | 230.76               | 230.76                             | Two plane contingency. Standby b/c of wind. Had to land b/c of diminishing daylight.   |
| 14-Dec-05 |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 15-Dec-05 |               |           | X         | 25-30                                   | fwri20051215     | 0                   | 0                | 0        | 2.4   | 138.57               | 138.57                             | Rest of flight cancelled due to increased winds.   |
| 16-Dec-05 |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 17-Dec-05 |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- wind, rain, low ceiling  |
| 18-Dec-05 |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- wind, rain, low ceiling  |
| 19-Dec-05 |               | X         |           |   |                  |                     |                  |          |       |                      |                                    | no fly- wind, rain, low ceiling  |
| 20-Dec-05 |               |           | X         | 25-28, 31-32                            | fwri20051220     | 2                   | 4                | 0        | 6.6   | 173.61               | 173.61                             | Flew first four lines (N-S), radioed part way through 4th line and broke track at end of line to confirm sighting to our north of an entangled whale. Circled whales for ID and possible entanglement photos. NEA relieved us so that we could download and examine photos to look for entanglement. Once finished looking at photos (which did not show any entanglement) returned to relieve NEA and wait for NOAA rib to arrive on scene. Once NOAA rib had the whales insight we flew south and surveyed the lines in front of the St. Augustine Inlet, and went in at dusk. |

**Table 3. Primary Survey Activities**

Days with sightings are highlighted in green

| Date      | Flight Status |           |         | EWS Lines (25-34)    | Survey File Name | Number of Whales    |                  |          |       | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments  |
|-----------|---------------|-----------|---------|----------------------|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|---|
|           | Full          | No Survey | Partial |                      |                  | Number of Sightings | Number of Whales | M/C Pair | Hobbs |                      |                                    |   |
| 21-Dec-05 |               |           | X       | 33-34                | fwri20051221     | 0                   | 0                | 0        | 2     | 50.85                | 50.85                              | Flew S-N waiting for fog to burn off. Fog and low cloud cover made visibility very limited. Survey cancelled b/c of fog.  |
| 22-Dec-05 | X             |           |         | 25-34                | fwri20051222     | 0                   | 0                | 0        | 4.3   | 281.61               | 46.67                              | Standby- high wind.   |
| 23-Dec-05 | X             |           |         | 25-34                | fwri20051223     | 1                   | 2                | 1        | 4.7   | 281.61               | 281.61                             |   |
| 24-Dec-05 | X             |           |         | 25-34                | fwri20051224     | 0                   | 0                | 0        | 3.5   | 281.61               | 281.61                             |   |
| 25-Dec-05 |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- wind and rain   |
| 26-Dec-05 |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 27-Dec-05 | X             |           |         | 25-34                | fwri20051227     | 0                   | 0                | 0        | 4.2   | 281.61               | 281.61                             |   |
| 28-Dec-05 | X             |           |         | 25-34                | fwri20051228     | 0                   | 0                | 0        | 4.1   | 281.61               | 281.61                             | Standby- fog  |
| 29-Dec-05 |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 30-Dec-05 | X             |           |         | 25-34                | fwri20051230     | 1                   | 1                | 0        | 4.1   | 281.61               | 281.61                             | Standby due to possible oil leak.   |
| 31-Dec-05 | X             |           |         | 25-34                | fwri20051231     | 0                   | 0                | 0        | 4.1   | 281.61               | 281.61                             |   |
| 1-Jan-06  |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- fog   |
| 2-Jan-06  |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- wind and rain   |
| 3-Jan-06  | X             |           |         | 25-34                | fwri20060103     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             |   |
| 4-Jan-06  | X             |           |         | 25-34                | fwri20060104     | 0                   | 0                | 0        | 3.9   | 281.61               | 281.61                             | Standby- fog  |
| 5-Jan-06  | X             |           |         | 25-34                | fwri20060105     | 0                   | 0                | 0        | 4     | 281.61               | 281.61                             |   |
| 6-Jan-06  |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 7-Jan-06  |               |           | X       | 25-30                | fwri20060107     | 0                   | 0                | 0        | 2.5   | 177.66               | 58.67                              | Last 4 lines not flown due to increased winds and poor sea state  |
| 8-Jan-06  |               |           | X       | 17-26                | fwri20060108     | 6                   | 11               | 2        | 7.3   | 259.19               | 259.19                             | Partial 2 plane contingency plan. Received page before getting to first line of unconfirmed sighting of 3 adult Egs near the St. John's inlet and went to confirm. Last 4 lines (27-30) not flown due to diminishing daylight.  |
| 9-Jan-06  |               |           | X       | 26-19, portion of 18 | fwri20060109     | 5                   | 10               | 1        | 7.2   | 215.75               | 215.75                             | Partial 2 plane contingency survey flown. Started on EWS line 26 and worked north to EWS line 19. Flew half of EWS line 19 and had to cut survey short because of diminishing daylight, flew in on EWS line 18 and then south to airport along the coast. Circled St. Aug inlet before landing. |
| 10-Jan-06 | X             |           |         | 25-34                | fwri20060110     | 1                   | 2                | 0        | 4.4   | 281.61               | 281.61                             | Standby- fog  |
| 11-Jan-06 | X             |           |         | 25-34                | fwri20060111     | 2                   | 4                | 2        | 5.6   | 281.61               | 281.61                             |   |
| 12-Jan-06 | X             |           |         | 25-34                | fwri20060112     | 1                   | 2                | 1        | 4.5   | 281.61               | 281.61                             | Standby- fog  |
| 13-Jan-06 | X             |           |         | 25-34                | fwri20060113     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             | Standby- fog  |
| 14-Jan-06 |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 15-Jan-06 |               | X         |         |                      |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |

**Table 3. Primary Survey Activities**

Days with sightings are highlighted in green

| Date      | Flight Status |           |         | EWS Lines (25-34)           | Survey File Name | Number of Whales    |                  |          |       | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments  |
|-----------|---------------|-----------|---------|-----------------------------|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|---|
|           | Full          | No Survey | Partial |                             |                  | Number of Sightings | Number of Whales | M/C Pair | Hobbs |                      |                                    |   |
| 16-Jan-06 | X             |           |         | 25-34, plus partial coastal | fwri20060116     | 2                   | 5                | 0        | 6.7   | 281.61               | 281.61                             | Partial coastal survey flown to Port Canaveral and back after primary survey complete. Coastal sightings included in coastal sighting map.                              |
| 17-Jan-06 |               |           | X       | none                        | fwri20060117     | 0                   | 0                | 0        | 1.9   | 0                    | 0                                  | No track lines flown b/c of increased wind. Flew coastal portion of survey from 30'14 south to New Smyrna and back. Could not go into Canaveral airspace b/c of launch. |
| 18-Jan-06 |               | X         |         |                             | fwri20060118     |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 19-Jan-06 | X             |           |         | 25-34, plus partial coastal | fwri20060119     | 1                   | 2                | 0        | 6.4   | 281.61               | 190.35                             | Partial coastal survey flown to Port Canaveral and back after primary survey complete. Coastal sightings included in coastal sighting map.                              |
| 20-Jan-06 | X             |           |         | 25-34, plus partial coastal | fwri20060120     | 1                   | 2                | 0        | 5.9   | 281.61               | 281.61                             | Partial coastal survey flown to Port Canaveral and back after primary survey complete. Coastal sightings included in coastal sighting map.                              |
| 21-Jan-06 | X             |           |         | 25-34                       | fwri20060121     | 1                   | 1                | 0        | 4.6   | 281.61               | 281.61                             | Standby- fog, GPS issues  |
| 22-Jan-06 | X             |           |         | 25-34                       | fwri20060122     | 3                   | 5                | 1        | 5.4   | 281.61               | 281.61                             | Standby- fog. Verified dead calf.   |
| 23-Jan-06 | X             |           |         | 25-34                       | fwri20060123     | 0                   | 0                | 0        | 4     | 281.61               | 281.61                             |   |
| 24-Jan-06 | X             |           |         | 25-34                       | fwri20060124     | 0                   | 0                | 0        | 3.5   | 281.61               | 281.61                             | Standby- Fog, low ceiling   |
| 25-Jan-06 |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 26-Jan-06 |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly-high winds   |
| 27-Jan-06 |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly-high winds   |
| 28-Jan-06 | X             |           |         | 25-34                       | fwri20060128     | 1                   | 21               | 0        | 4.5   | 281.61               | 281.61                             |   |
| 29-Jan-06 | X             |           |         | 34-25                       | fwri20060129     | 0                   | 0                | 0        | 3.8   | 281.61               | 217.69                             | Flew survey S to N due to anticipated decline in weather conditions.  |
| 30-Jan-06 |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly-rain/t-storms  |
| 31-Jan-06 | X             |           |         | 25-34                       | fwri20060131     | 0                   | 0                | 0        | 3.4   | 281.61               | 281.61                             | Standby- high wind  |
| 1-Feb-06  | X             |           |         | 25-34                       | fwri20060201     | 1                   | 2                | 1        | 4.1   | 281.61               | 281.61                             | standby- plane mechanical issues  |
| 2-Feb-06  | X             |           |         | 25-34                       | fwri20060202     | 0                   | 0                | 0        | 3.7   | 281.61               | 281.61                             |   |
| 3-Feb-06  |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds, rain  |
| 4-Feb-06  |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds, rain  |
| 5-Feb-06  |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 6-Feb-06  | X             |           |         | 25-34                       | fwri20060206     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             | standby- plane mechanical issues  |
| 7-Feb-06  |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 8-Feb-06  | X             |           |         | 25-34                       | fwri20060208     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             |   |
| 9-Feb-06  |               |           | X       | 25-34                       | fwri20060209     | 0                   | 0                | 0        | 3.2   | 211.41               | 54.3                               | Last 6 lines shortened to the 81'00 due to increased wind and bad sea state offshore  |
| 10-Feb-06 | X             |           |         | 25-34                       | fwri20060210     | 0                   | 0                | 0        | 4.2   | 281.61               | 281.61                             | Humpback sighting   |
| 11-Feb-06 |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 12-Feb-06 |               | X         |         |                             |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |

**Table 3. Primary Survey Activities**

Days with sightings are highlighted in green

| Date      | Flight Status |           |         | EWS Lines (25-34) | Survey File Name | Number of Whales    |                  |          |       | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments  |
|-----------|---------------|-----------|---------|-------------------|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|---|
|           | Full          | No Survey | Partial |                   |                  | Number of Sightings | Number of Whales | M/C Pair | Hobbs |                      |                                    |   |
| 13-Feb-06 | X             |           |         | 17-30             | fwri20060213     | 0                   | 0                | 0        | 4.6   | 337.96               | 315.05                             | Standby due to high winds. 2 plane contingency plan: 17-24 N to S, 30-25 flown S to N   |
| 14-Feb-06 |               |           | X       | 17-21, 24-30      | fwri20060214     | 2                   | 4                | 2        | 6.4   | 288                  | 288                                | 2 plane contingency plan. Unable to fly 22-23 lines due to Mayport Station naval/air activities. Humpback sighting.   |
| 15-Feb-06 | X             |           |         | 17-30             | fwri20060215     | 1                   | 1                | 0        | 5.2   | 337.96               | 337.96                             | 2 plane contingency plan. Humpback sighting.  |
| 16-Feb-06 | X             |           |         | 17-30             | fwri20060216     | 2                   | 4                | 2        | 5.6   | 337.96               | 337.96                             | 2 plane contingency plan, Humpback sighting.  |
| 17-Feb-06 | X             |           |         | 17-30             | fwri20060217     | 4                   | 11               | 3        | 6.6   | 337.96               | 337.96                             | Standby due to fog. 2 plane contingency plan. Flew to northern line, but there was patchy fog. Surveyed Lines 24-17 S to N, then lines 25-30 N to S. Humpback sighting.   |
| 18-Feb-06 | X             |           |         | 17-32             | wri200602018     | 6                   | 21               | 3        | 8     | 376.66               | 376.66                             | 2 plane contingency plan. Added lines 31 and 32 at end of survey out to the 80 55.  |
| 19-Feb-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 20-Feb-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- fog   |
| 21-Feb-06 |               |           | X       | 25-34             | fwri20060221     | 2                   | 4                | 2        | 3.8   | 230.08               | 230.08                             | Standby due to fog. Encountered fog offshore on the EWS line 25. Flew south along edge of fog to EWS line 34 and began survey. EWS lines 34-30 were cut short b/c of fog. |
| 22-Feb-06 |               |           | X       | 25-34             | fwri20060222     | 1                   | 2                | 1        | 4.8   | 302.58               | 302.58                             | Encountered fog offshore on the EWS line 25. Flew south along edge of fog to EWS line 34 and began survey. EWS lines 34-30 were cut short b/c of fog.                     |
| 23-Feb-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly-rain, low ceilings   |
| 24-Feb-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 25-Feb-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds and rain   |
| 26-Feb-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 27-Feb-06 | X             |           |         | 25-34             | fwri20060227     | 1                   | 11               | 0        | 5.9   | 281.61               | 281.61                             | Standby- Frost, wind. Humpback sighting.  |
| 28-Feb-06 | X             |           |         | 25-34             | fwri20060228     | 0                   | 0                | 0        | 4.7   | 281.61               | 281.61                             | Photographed blue crab buoys off north GTMNERR  |
| 1-Mar-06  | X             |           |         | 25-34             | fwri20060301     | 0                   | 0                | 0        | 4.1   | 281.61               | 270.92                             | Standby- fog  |
| 2-Mar-06  | X             |           |         | 25-34             | fwri20060302     | 1                   | 5                | 0        | 4.4   | 281.61               | 281.61                             |   |
| 3-Mar-06  | X             |           |         | 25-34             | fwri20060303     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             | Humpback sighting.  |
| 4-Mar-06  |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 5-Mar-06  | X             |           |         | 25-34             | fwri20060305     | 0                   | 0                | 0        | 4     | 281.61               | 281.61                             |   |
| 6-Mar-06  | X             |           |         | 25-34             | fwri20060306     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             |   |
| 7-Mar-06  |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 8-Mar-06  | X             |           |         | 25-34             | fwri20060308     | 0                   | 0                | 0        | 3.8   | 281.61               | 281.61                             |   |
| 9-Mar-06  | X             |           |         | 25-34             | fwri20060309     | 0                   | 0                | 0        | 4.1   | 281.61               | 281.61                             | 2 Humpback sightings.   |
| 10-Mar-06 | X             |           |         | 25-34             | fwri20060310     | 0                   | 0                | 0        | 3.9   | 281.61               | 281.61                             |   |
| 11-Mar-06 | X             |           |         | 25-34             | fwri20060311     | 0                   | 0                | 0        | 3.9   | 281.61               | 281.61                             | Humpback sighting.  |
| 12-Mar-06 | X             |           |         | 25-34             | fwri20060312     | 1                   | 2                | 0        | 4.6   | 281.61               | 281.61                             | 2 Humpback sightings.   |
| 13-Mar-06 | X             |           |         | 25-34             | fwri20060313     | 0                   | 0                | 0        | 3.9   | 281.61               | 281.61                             |   |

**Table 3. Primary Survey Activities**

Days with sightings are highlighted in green

| Date      | Flight Status |           |         | EWS Lines (25-34) | Survey File Name | Number of Whales    |                  |          |       | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments   |
|-----------|---------------|-----------|---------|-------------------|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|--|
|           | Full          | No Survey | Partial |                   |                  | Number of Sightings | Number of Whales | M/C Pair | Hobbs |                      |                                    |  |
| 14-Mar-06 | X             |           |         | 25-34             | fwri20060314     | 0                   | 0                | 0        | 3.3   | 281.61               | 256.41                             |  |
| 15-Mar-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 16-Mar-06 | X             |           |         | 25-34             | fwri20060316     | 0                   | 0                | 0        | 4.5   | 281.61               | 281.61                             |  |
| 17-Mar-06 | X             |           |         | 25-34             | fwri20060317     | 0                   | 0                | 0        | 3.7   | 281.61               | 265.36                             |  |
| 18-Mar-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 19-Mar-06 | X             |           |         | 25-34             | fwri20060319     | 1                   | 2                | 0        | 4.3   | 281.61               | 281.61                             |  |
| 20-Mar-06 | X             |           |         | 25-34             | fwri20060320     | 0                   | 0                | 0        | 3.7   | 281.61               | 281.61                             |  |
| 21-Mar-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 22-Mar-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 23-Mar-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds and rain  |
| 24-Mar-06 |               | X         |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds   |
| 25-Mar-06 |               |           | X       |                   | No date taken    |                     |                  |          | 1.4   | 0                    | 0                                  | No survey due to high winds. Went up at 1700L to verify entangled whale (turned out to be a humpback) off Flagler.   |
| 26-Mar-06 | X             |           |         | 25-34             | fwri20060326     | 0                   | 0                | 0        | 3.3   | 281.61               | 64.13                              | Standby due to winds and bad sea state. Primary survey flown with coastal pilots/plane, primary plane went south first thing in morning to assist with entangled humpback off Daytona Beach. |
| 27-Mar-06 | X             |           |         | 25-34             | fwri20060327     | 0                   | 0                | 0        | 3.6   | 281.61               | 190.94                             |  |
| 28-Mar-06 | X             |           |         | 25-34             | fwri20060328     | 0                   | 0                | 0        | 3.4   | 281.61               | 281.61                             |  |
| 29-Mar-06 |               |           | X       | 25-34             | fwri20060329     | 2                   | 3                | 1        | 4.4   | 278.43               | 278.43                             | EWS line 30 cut 3 miles short due to airport restrictions.   |
| 30-Mar-06 | X             |           |         | 25-34             | fwri20060330     | 0                   | 0                | 0        | 3.7   | 281.61               | 281.61                             |  |
| 31-Mar-06 |               |           | X       | 25-30             | fwri20060331     | 0                   | 0                | 0        | 2.4   | 177.66               | 177.66                             | Unable to complete last 4 lines due to pilot issues.   |

**Table 4. FWRI Primary Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors  | Agency Notified | Time (L) Notified | NRW Number | Comments  |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|---|
| 03-Dec-05 | 1242      | FWS555      | 37.17075               | -80.99235               | A           | 3445            |         |      |                                | Surface Travel,Subsurface Travel   | FACSFACJAX      | unk               | NRW06002   | Entangled Juvenile whale. Relieved Wildlife trust. Wildlife Trust called into FACSFACJAX, FWRI did not.   |
| 03-Dec-05 | 1638      | FWS555      | 30.14600               | -81.34910               | B           | 1151            | F/Unk   |      |                                | Flipper Slap,Assoc w/dolphin   | FACSFACJAX      | 1652              | NRW06004   |   |
| 04-Dec-05 | 1613      | FWS555      | 29.81063               | -81.19137               | A           | 3445            |         |      |                                | Surface Travel,Subsurface Travel,Assoc w/dolphin                         | FACSFACJAX      | 1642              | NRW06005   | Relocated entangled juvenile whale. Telemetry buoy and orange poly ball visible.  |
| 05-Dec-05 | 0921      | FWS555      | 29.18204               | -80.70070               | A           | 3445            |         |      |                                |  | FACSFACJAX      | 1219              | NRW06010   | Relocate entangled juvenile whale for disentanglement attempt. Partial disentanglement successful.  |
| 20-Dec-05 | 1051      | FWS555      | 30.24928               | -81.30579               | A           |                 |         |      | SE06CT01                       | Flipper Slap,Spyhop,SAG,Posturing, Belly to Belly Contact,Surface Travel | FACSFACJAX      | 1250              | NRW06020   | Reported as entangled by shrimp boat Miss Ailene. Associated w/4 whale/ship interactions.   |
| 20-Dec-05 | 1051      | FWS555      | 30.24928               | -81.30579               | B           |                 |         |      | SE06CT02                       | Flipper Slap,Spyhop,SAG,Posturing, Belly to Belly Contact,Surface Travel | FACSFACJAX      | 1250              | NRW06020   | Reported as entangled by shrimp boat Miss Ailene. Associated w/4 whale/ship interactions.   |
| 20-Dec-05 | 1511      | FWS555      | 30.26605               | -81.30986               | C           |                 |         |      | SE06CT01                       | Surface Travel, Body Contact   | FACSFACJAX      | unk               | unk        | Same as A. NEA relieved FWRI to download photos. Second sighting of same whales when FWRI returned to take over for NEA. NEA called update into FACSFACJAX. |

**Table 4. FWRI Primary Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors   | Agency Notified | Time (L) Notified | NRW Number | Comments  |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|---|-----------------|-------------------|------------|---|
| 20-Dec-05 | 1511      | FWS555      | 30.26605               | -81.30986               | D           |                 |         |      | SE06CT02                       | Surface Travel, Body Contact                                | FACSFACJAX      | unk               | unk        | Same as B. NEA relieved FWRI to download photos. Second sighting of same whales when FWRI returned to take over for NEA. NEA called update into FACSFACJAX. |
| 23-Dec-05 | 1052      | FWS555      | 30.08678               | -81.09903               | A           | 1301            | F/23    |      |                                | Mom w/calf, Nursing   | FACSFACJAX      | 1129              | NRW06024   |   |
| 23-Dec-05 | 1052      | FWS555      | 30.08678               | -81.09903               | B           |                 |         | Calf |                                | Calf w/mom, Nursing   | FACSFACJAX      | 1129              | NRW06024   |   |
| 30-Dec-05 | 1129      | FWS555      | 29.98995               | -81.20718               | A           | 2320            | F/Unk   |      |                                | Assoc w/dolphin   | FACSFACJAX      | 1141              | NRW06041   | "Piper" Previously Entangled  |
| 08-Jan-06 | 0937      | FWS555      | 30.46047               | -81.29128               | A           | 3260            | F/Unk   |      |                                | Flipper Slap, Spyhop, SAG, Body Contact                     | FACSFACJAX      | 0953              | NRW06060   |   |
| 08-Jan-06 | 0937      | FWS555      | 30.46047               | -81.29128               | B           |                 |         |      |                                | Flipper Slap, Spyhop, SAG, Body Contact                     | FACSFACJAX      | 0953              | NRW06060   |   |
| 08-Jan-06 | 0937      | FWS555      | 30.46047               | -81.29128               | C           |                 |         |      |                                |   | FACSFACJAX      | 0953              | NRW06060   | No photos   |
| 08-Jan-06 | 1454      | FWS555      | 30.42941               | -81.29018               | D           | 1503            | F/21    |      |                                | Mom w/calf, Body Contact, Surface Travel, Subsurface Travel | FACSFACJAX      | 1000              | NRW06069   |   |
| 08-Jan-06 | 1454      | FWS555      | 30.42941               | -81.29018               | E           |                 |         | Calf |                                | Calf w/mom, Body Contact, Surface Travel, Subsurface Travel | FACSFACJAX      | 1000              | NRW06069   |   |
| 08-Jan-06 | 1008      | FWS555      | 30.44262               | -81.30118               | F           | 3346            | M/3     |      |                                | Surface Travel, Subsurface Travel, Assoc w/dolphin          | FACSFACJAX      | 1036              | NRW06070   | "Kingfisher" Entangled-Monitor  |
| 08-Jan-06 | 1008      | FWS555      | 30.44262               | -81.30118               | G           |                 |         |      | SE06BK05                       | Surface Travel, Subsurface Travel, Assoc w/dolphin          | FACSFACJAX      | 1036              | NRW06070   |   |
| 08-Jan-06 | 1141      | FWS555      | 30.54200               | -81.10167               | H           |                 |         |      | SE06BK14                       | Flipper Slap, Logging                                       | FACSFACJAX      | 1232              | NRW06071   |   |
| 08-Jan-06 | 1254      | FWS555      | 30.49568               | -81.23299               | I           | 1802            | F/18    |      |                                | Mom w/calf, Nursing, Logging                                | FACSFACJAX      | 1318              | NRW06073   |   |
| 08-Jan-06 | 1254      | FWS555      | 30.49568               | -81.23299               | J           |                 |         | Calf |                                | Calf w/mom, Nursing, Logging                                | FACSFACJAX      | 1318              | NRW06073   |   |
| 08-Jan-06 | 1609      | FWS555      | 30.15457               | -81.31090               | K           |                 |         |      | SE06BK11                       | Surface Travel, Subsurface Travel, Mouth Open               | FACSFACJAX      | 1641              | NRW06075   |   |
| 09-Jan-06 | 1127      | FWS555      | 30.45363               | -81.18176               | A           | 2791            | F/Unk   |      |                                | Mom w/calf, Body Contact                                    | FACSFACJAX      | 1149              | NRW06080   |   |
| 09-Jan-06 | 1127      | FWS555      | 30.45363               | -81.18176               | B           |                 |         | Calf |                                | Calf w/mom, Body Contact                                    | FACSFACJAX      | 1149              | NRW06080   |   |
| 09-Jan-06 | 1232      | FWS555      | 30.50322               | -81.16997               | C           | 1281            | F/Unk   |      |                                | Subsurface Travel   | FACSFACJAX      | 1244              | NRW06081   |   |
| 09-Jan-06 | 1435      | FWS555      | 30.57337               | -81.21953               | D           |                 |         |      |                                | Subsurface Travel   | FACSFACJAX      | 1451              | NRW06084   |   |
| 09-Jan-06 | 1435      | FWS555      | 30.57337               | -81.21953               | E           |                 |         |      |                                | Subsurface Travel   | FACSFACJAX      | 1451              | NRW06084   |   |

**Table 4. FWRI Primary Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors                                  | Agency Notified | Time (L) Notified | NRW Number | Comments   |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|--|
| 09-Jan-06 | 1498      | FWS555      | 30.57187               | -81.21426               | F           | 1281            | F/Unk   |      |                                | Subsurface Travel                          | FACSFACJAX      | 1557              | NRW06084   | same as C  |
| 09-Jan-06 | 1498      | FWS555      | 30.57187               | -81.21426               | G           |                 |         |      |                                | Subsurface Travel                          | FACSFACJAX      | 1557              | NRW06084   | same as D  |
| 09-Jan-06 | 1498      | FWS555      | 30.57187               | -81.21426               | H           |                 |         |      |                                | Subsurface Travel                          | FACSFACJAX      | 1557              | NRW06084   | same as E  |
| 09-Jan-06 | 1498      | FWS555      | 30.57187               | -81.21426               | I           |                 |         |      |                                | Subsurface Travel                          | FACSFACJAX      | 1557              | NRW06084   | No photos; Unable to relocate  |
| 09-Jan-06 | 1633      | FWS555      | 29.92432               | -81.29459               | J           |                 |         |      |                                | Assoc w/dolphin, Random Subsurface Travel  | FACSFACJAX      | 1649              | NRW06085   |  |
| 10-Jan-06 | 1037      | FWS555      | 30.19028               | -81.25865               | A           | 1248            | F/Unk   |      |                                | Surface Travel,Subsurface Travel           | FACSFACJAX      | 1054              | NRW06089   |  |
| 10-Jan-06 | 1037      | FWS555      | 30.19028               | -81.25865               | B           | 1968            | F/17    |      |                                | Surface Travel,Subsurface Travel           | FACSFACJAX      | 1054              | NRW06089   |  |
| 11-Jan-06 | 1339      | FWS555      | 29.41395               | -81.09038               | A           | 2660            | F/10    |      |                                | Mom w/calf,Subsurface Travel               | FACSFACJAX      | 1355              | NRW06098   |  |
| 11-Jan-06 | 1339      | FWS555      | 29.41395               | -81.09038               | B           |                 |         | Calf |                                | Calf w/mom,Subsurface Travel               | FACSFACJAX      | 1355              | NRW06098   |  |
| 11-Jan-06 | 1425      | FWS555      | 30.22382               | -81.35246               | C           | 1503            | F/21    |      |                                | Mom w/calf,Body Contact,Assoc w/dolphin    | FACSFACJAX      | 1435              | NRW06100   |  |
| 11-Jan-06 | 1425      | FWS555      | 30.22382               | -81.35246               | D           |                 |         | Calf |                                | Calf w/mom,Body Contact,Assoc w/dolphin    | FACSFACJAX      | 1435              | NRW06100   |  |
| 12-Jan-06 | 1336      | FWS555      | 30.14150               | -81.30556               | A           | 1301            | F/23    |      |                                | Mom w/calf,Body Contact,Assoc w/dolphin    | FACSFACJAX      | 1358              | NRW06105   |  |
| 12-Jan-06 | 1336      | FWS555      | 30.14150               | -81.30556               | B           |                 |         | Calf |                                | Calf w/mom,Body Contact,Assoc w/dolphin    | FACSFACJAX      | 1358              | NRW06105   |  |
| 16-Jan-06 | 1418      | FWS555      | 29.09603               | -80.90849               | A           | 1243            | F/24    |      |                                | SAG,Belly to Belly Contact,Assoc w/dolphin | FACSFACJAX      | 1458              | NRW06129   | First time 1243 sighted without calf, suspected mom of ship-strike calf. |
| 16-Jan-06 | 1418      | FWS555      | 29.09603               | -80.90849               | B           |                 |         |      | SE06CT07                       | SAG,Belly to Belly Contact,Assoc w/dolphin | FACSFACJAX      | 1458              | NRW06129   |  |
| 16-Jan-06 | 1418      | FWS555      | 29.09603               | -80.90849               | C           |                 |         |      |                                | SAG,Belly to Belly Contact,Assoc w/dolphin | FACSFACJAX      | 1458              | NRW06129   |  |
| 16-Jan-06 | 1451      | FWS555      | 29.09733               | -80.89505               | D           |                 |         |      | SE06CT08                       | Surface Travel,Assoc w/dolphin,SAG         | FACSFACJAX      | 1458              | NRW06129   | Sightings called in together b/c last pass was all 5 whales together     |
| 16-Jan-06 | 1451      | FWS555      | 29.09733               | -80.89505               | E           |                 |         |      | SE06BK13                       | Surface Travel,Assoc w/dolphin,SAG         | FACSFACJAX      | 1458              | NRW06129   |  |
| 19-Jan-06 | 1043      | FWS555      | 30.04082               | -81.21482               | A           | 1248            | F/Unk   |      |                                | Surface Travel,Assoc w/dolphin             | FACSFACJAX      | 1100              | NRW06139   |  |
| 19-Jan-06 | 1043      | FWS555      | 30.04082               | -81.21482               | B           | 1151            | F/Unk   |      |                                | Surface Travel,Assoc w/dolphin             | FACSFACJAX      | 1100              | NRW06139   |  |
| 20-Jan-06 | 1524      | FWS555      | 29.40127               | -81.05997               | A           |                 |         |      | SE06BK15                       | Assoc w/dolphin                            | FACSFACJAX      | 1534              | NRW06157   |  |
| 20-Jan-06 | 1524      | FWS555      | 29.40127               | -81.05997               | B           |                 |         |      | SE06BK16/3301                  | Assoc w/dolphin                            | FACSFACJAX      | 1534              | NRW06157   |  |

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| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors  | Agency Notified | Time (L) Notified | NRW Number | Comments   |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|--|
| 21-Jan-06 | 0952      | FWS555      | 30.24500               | -81.07500               | A           | 1802            | F/18    |      |                                | Random Subsurface Travel, Flipper Slap, Breach, Blowing Bubbles    | FACSFACJAX      | 1012              | NRW06158   | First time 1802 sighted without calf   |
| 22-Jan-06 | 1101      | FWS555      | 30.25043               | -81.06461               | A           |                 |         | Calf |                                | Floating Dead  |                 |                   |            | Dead Calf of 1802, FWRI did not call this sighting into FACSFACJAX. It was previously reported before we arrived on scene. |
| 22-Jan-06 | 1241      | FWS555      | 30.17103               | -81.23804               | B           | 3442            | Unk/2   |      |                                | Flipper Slap, Assoc w/dolphin, Surface Travel, White Belly Visible | FACSFACJAX      | 1304              | NRW06170   |  |
| 22-Jan-06 | 1241      | FWS555      | 30.17103               | -81.23804               | C           | 1802            | F/18    |      |                                | Flipper Slap, Assoc w/dolphin, Surface Travel                      | FACSFACJAX      | 1304              | NRW06170   | 1802 without calf  |
| 22-Jan-06 | 1421      | FWS555      | 29.99543               | -81.15981               | D           | 2320            | F/Unk   |      |                                | Mom w/calf, Body Contact   | FACSFACJAX      | 1430              | NRW06171   | "Piper" Previously Entangled   |
| 22-Jan-06 | 1421      | FWS555      | 29.99543               | -81.15981               | E           |                 |         | Calf |                                | Calf w/mom, Body Contact   | FACSFACJAX      | 1430              | NRW06171   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | A           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | B           |                 |         |      | SE06BK10                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | C           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | D           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | E           |                 |         |      | SE06BK05                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | F           |                 |         |      | SE06BK12                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | G           |                 |         |      | SE06BK15                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | H           | 3301            | Unk/3   |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact         | FACSFACJAX      | 1319              | NRW06197   |  |

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| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors   | Agency Notified | Time (L) Notified | NRW Number | Comments                       |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|---|-----------------|-------------------|------------|--------------------------------|
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | I           |                 |         |      | SE06BK13                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | J           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | K           |                 |         |      | SE06BK16                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | L           |                 |         |      | SE06BK09                       | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | M           | 3442            | Unk/2   |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact, White Belly Visible | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | N           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | O           | 1249            | M/24    |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | P           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | Q           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | R           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | S           | 3346            | M/3     |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   | "Kingfisher" Entangled-Monitor |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | T           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 28-Jan-06 | 1242      | FWS555      | 29.80320               | -81.22849               | U           |                 |         |      |                                | SAG, Flipper Slap, Assoc w/dolphin, Belly to Belly Contact                      | FACSFACJAX      | 1319              | NRW06197   |                                |
| 01-Feb-06 | 1402      | FWS555      | 29.78740               | -81.25356               | A           | 1503            | F/21    |      |                                | Mom w/calf, Assoc w/dolphin   | FACSFACJAX      | 1412              | NRW06216   |                                |
| 01-Feb-06 | 1402      | FWS555      | 29.78740               | -81.25356               | B           |                 |         | Calf |                                | Mom w/calf, Assoc w/dolphin   | FACSFACJAX      | 1412              | NRW06216   |                                |

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| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors  | Agency Notified | Time (L) Notified | NRW Number | Comments                     |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|------------------------------|
| 14-Feb-06 | 1109      | FWS555      | 30.54815               | -81.21828               | A           | 1301            | F/23    |      |                                | Mom w/calf, Assoc w/dolphin, Nursing                               | FACSFACJAX      | 1132              | NRW06250   |                              |
| 14-Feb-06 | 1109      | FWS555      | 30.54815               | -81.21828               | B           |                 |         | Calf |                                | Calf w/mom, Assoc w/dolphin, Nursing                               | FACSFACJAX      | 1132              | NRW06250   |                              |
| 14-Feb-06 | 1412      | FWS555      | 30.23011               | -81.11210               | C           | 2710            | F/9     |      |                                | Mom w/calf, Nursing  | FACSFACJAX      | 1432              | NRW06253   |                              |
| 14-Feb-06 | 1412      | FWS555      | 30.23011               | -81.11210               | D           |                 |         | Calf |                                | Calf w/mom, Nursing  | FACSFACJAX      | 1432              | NRW06253   |                              |
| 15-Feb-06 | 1206      | FWS555      | 30.32700               | -81.27135               | A           |                 |         |      |                                |  | FACSFACJAX      | 1211              | NRW06260   |                              |
| 16-Feb-06 | 1157      | FWS555      | 30.14570               | -81.21218               | A           | 2320            | F/Unk   |      |                                | Mom w/calf   | FACSFACJAX      | 1200              | NRW06273   | "Piper" Previously Entangled |
| 16-Feb-06 | 1157      | FWS555      | 30.14570               | -81.21218               | B           |                 |         | Calf |                                | Calf w/mom   | FACSFACJAX      | 1200              | NRW06273   |                              |
| 16-Feb-06 | 1307      | FWS555      | 30.25927               | -81.21587               | C           | 1503            | F/21    |      |                                | Mom w/calf, Nursing  | FACSFACJAX      | 1325              | NRW06274   |                              |
| 16-Feb-06 | 1307      | FWS555      | 30.25927               | -81.21587               | D           |                 |         | Calf |                                | Calf w/mom, Nursing  | FACSFACJAX      | 1325              | NRW06274   |                              |
| 17-Feb-06 | 1247      | FWS555      | 30.57330               | -81.21560               | A           | 1151            | F/Unk   |      |                                | Mom w/calf, Body Contact   | FACSFACJAX      | 1251              | NRW06288   |                              |
| 17-Feb-06 | 1247      | FWS555      | 30.57330               | -81.21560               | B           |                 |         | Calf |                                | Calf w/mom, Body Contact, White Chin Visible                       | FACSFACJAX      | 1251              | NRW06288   |                              |
| 17-Feb-06 | 1257      | FWS555      | 30.52942               | -81.32590               | C           | 2791            | F/Unk   |      |                                | Mom w/calf, Body Contact, Nursing                                  | FACSFACJAX      | 1310              | NRW06289   |                              |
| 17-Feb-06 | 1257      | FWS555      | 30.52942               | -81.32590               | D           |                 |         | Calf |                                | Calf w/mom, Body Contact, Nursing                                  | FACSFACJAX      | 1310              | NRW06289   |                              |
| 17-Feb-06 | 1452      | FWS555      | 30.51621               | -81.36670               | E           | 2791            | F/Unk   |      |                                | Mom w/calf, Body Contact, Assoc w/dolphin                          | FACSFACJAX      | 1458              | NRW06292   |                              |
| 17-Feb-06 | 1452      | FWS555      | 30.51621               | -81.36670               | F           |                 |         | Calf |                                | Calf w/mom, Body Contact, Assoc w/dolphin                          | FACSFACJAX      | 1458              | NRW06292   |                              |
| 17-Feb-06 | 1616      | FWS555      | 30.08282               | -80.90437               | G           |                 |         |      |                                | Subsurface Travel  | FACSFACJAX      | 1651              | NRW06296   |                              |
| 17-Feb-06 | 1616      | FWS555      | 30.08282               | -80.90437               | H           |                 |         |      |                                | Subsurface Travel  | FACSFACJAX      | 1651              | NRW06296   |                              |
| 17-Feb-06 | 1616      | FWS555      | 30.08282               | -80.90437               | I           |                 |         |      |                                | Subsurface Travel  | FACSFACJAX      | 1651              | NRW06296   |                              |
| 17-Feb-06 | 1616      | FWS555      | 30.08282               | -80.90437               | J           | 1706            | M/19    |      |                                | Subsurface Travel  | FACSFACJAX      | 1651              | NRW06296   |                              |
| 17-Feb-06 | 1616      | FWS555      | 30.08282               | -80.90437               | K           |                 |         |      |                                | Subsurface Travel  | FACSFACJAX      | 1651              | NRW06296   |                              |
| 18-Feb-06 | 1032      | FWS555      | 30.62427               | -81.15512               | A           | 1151            | F/Unk   |      |                                | Mom w/calf, Surface Travel   | FACSFACJAX      | 1041              | NRW06303   |                              |
| 18-Feb-06 | 1032      | FWS555      | 30.62427               | -81.15512               | B           |                 |         | Calf |                                | Calf w/mom, Surface Travel   | FACSFACJAX      | 1041              | NRW06303   |                              |
| 18-Feb-06 | 1059      | FWS555      | 30.58320               | -81.11555               | C           | 2791            | F/Unk   |      |                                | Mom w/calf, Surface Travel, Body Contact                           | FACSFACJAX      | 1105              | NRW06304   |                              |
| 18-Feb-06 | 1059      | FWS555      | 30.58320               | -81.11555               | D           |                 |         | Calf |                                | Calf w/mom, Surface Travel, Body Contact                           | FACSFACJAX      | 1105              | NRW06304   |                              |
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | E           |                 |         |      |                                | SAG, Belly to Belly Contact, Assoc w/dolphin, Flipper Slap, Breach | FACSFACJAX      | 1205              | NRW06306   |                              |
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | F           |                 |         |      |                                | SAG, Belly to Belly Contact, Assoc w/dolphin, Flipper Slap, Breach | FACSFACJAX      | 1205              | NRW06306   |                              |

**Table 4. FWRI Primary Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors  | Agency Notified | Time (L) Notified | NRW Number | Comments       |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|----------------|
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | G           |                 |         |      |                                | SAG,Belly to Belly Contact,Assoc w/dolphin,Flipper Slap,Breach | FACSFACJAX      | 1205              | NRW06306   |                |
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | H           | 2608            | M/10    |      |                                | SAG,Belly to Belly Contact,Assoc w/dolphin,Flipper Slap,Breach | FACSFACJAX      | 1205              | NRW06306   |                |
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | I           |                 |         |      | SE06BK12                       | SAG,Belly to Belly Contact,Assoc w/dolphin,Flipper Slap,Breach | FACSFACJAX      | 1205              | NRW06306   |                |
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | J           |                 |         |      |                                | SAG,Belly to Belly Contact,Assoc w/dolphin,Flipper Slap,Breach | FACSFACJAX      | 1205              | NRW06306   |                |
| 18-Feb-06 | 1146      | FWS555      | 30.50693               | -81.26221               | K           |                 |         |      |                                | SAG,Belly to Belly Contact,Assoc w/dolphin,Flipper Slap,Breach | FACSFACJAX      | 1205              | NRW06306   |                |
| 18-Feb-06 | 1345      | FWS555      | 30.58965               | -81.16705               | L           |                 |         |      |                                | Breach   | FACSFACJAX      | 1407              | NRW06310   | Escort to 1301 |
| 18-Feb-06 | 1345      | FWS555      | 30.58965               | -81.16705               | M           | 1301            | F/23    |      |                                | Mom w/calf   | FACSFACJAX      | 1407              | NRW06310   |                |
| 18-Feb-06 | 1345      | FWS555      | 30.58965               | -81.16705               | N           |                 |         | Calf |                                | Calf w/mom   | FACSFACJAX      | 1407              | NRW06310   |                |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | O           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   |                |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | P           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   |                |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | Q           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   |                |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | R           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   |                |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | S           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   | No photos      |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | T           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   | No photos      |
| 18-Feb-06 | 1356      | FWS555      | 30.59492               | -81.17323               | U           |                 |         |      |                                | SAG,Assoc w/dolphin,Flipper Slap                               | FACSFACJAX      | 1418              | NRW06311   | No photos      |
| 21-Feb-06 | 1147      | FWS555      | 29.96132               | -80.81712               | A           | 1248            | F/Unk   |      |                                | Mom w/calf   | FACSFACJAX      | 1158              | NRW06316   |                |
| 21-Feb-06 | 1147      | FWS555      | 29.96132               | -80.81712               | B           |                 |         | Calf |                                | Calf w/mom   | FACSFACJAX      | 1158              | NRW06316   |                |
| 21-Feb-06 | 1217      | FWS555      | 30.00280               | -81.13705               | C           | 2791            | F/Unk   |      |                                | Mom w/calf,Nursing   | FACSFACJAX      | 1223              | NRW06318   |                |
| 21-Feb-06 | 1217      | FWS555      | 30.00280               | -81.13705               | D           |                 |         | Calf |                                | Calf w/mom,Nursing   | FACSFACJAX      | 1223              | NRW06318   |                |
| 22-Feb-06 | 1252      | FWS555      | 29.90256               | 81.23691                | A           | 2420            | F/Unk   |      |                                | Mom w/calf,Body Contact,Assoc w/dolphin                        | FACSFACJAX      | 1315              | NRW06324   |                |

**Table 4. FWRI Primary Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors  | Agency Notified | Time (L) Notified | NRW Number | Comments                       |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|--------------------------------|
| 22-Feb-06 | 1252      | FWS555      | 29.90256               | 81.23691                | B           |                 |         | Calf |                                | Calf w/mom,Body Contact,Assoc w/dolphin                            | FACSFACJAX      | 1315              | NRW06324   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | A           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,White Chin Visible | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | B           | 3346            | M/3     |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   | "Kingfisher" Entangled-Monitor |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | C           | 2303            | M/13    |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,White Chin Visible | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | D           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | E           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | F           | 1801            | M/18    |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | G           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | H           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | I           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | J           |                 |         |      | SE06BK04                       | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 27-Feb-06 | 1421      | FWS555      | 29.73987               | 80.99181                | K           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact                    | FACSFACJAX      | 1551              | NRW06342   |                                |
| 02-Mar-06 | 1217      | FWS555      | 29.89882               | 80.82154                | A           | 1801            | M/18    |      |                                | Subsurface Travel, Body Contact                                    | FACSFACJAX      | 1253              | NRW06369   |                                |
| 02-Mar-06 | 1217      | FWS555      | 29.89882               | 80.82154                | B           |                 |         |      |                                | Subsurface Travel, Body Contact, Lobtail                           | FACSFACJAX      | 1253              | NRW06369   |                                |
| 02-Mar-06 | 1217      | FWS555      | 29.89882               | 80.82154                | C           | 2740            | M/9     |      |                                | Subsurface Travel, Body Contact, Lobtail                           | FACSFACJAX      | 1253              | NRW06369   |                                |

**Table 4. FWRI Primary Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors   | Agency Notified | Time (L) Notified | NRW Number | Comments                             |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|---|-----------------|-------------------|------------|--------------------------------------|
| 02-Mar-06 | 1217      | FWS555      | 29.89882               | 80.82154                | D           |                 |         |      |                                | Subsurface Travel, Body Contact                           | FACSFACJAX      | 1253              | NRW06369   |                                      |
| 02-Mar-06 | 1217      | FWS555      | 29.89882               | 80.82154                | E           | 3230            | F/4     |      |                                | Subsurface Travel, Body Contact                           | FACSFACJAX      | 1253              | NRW06369   |                                      |
| 12-Mar-06 | 0942      | FWS555      | 30.05835               | 81.08630                | A           |                 |         |      |                                | SAG, Belly to Belly Contact                               | FACSFACJAX      | 1010              | NRW06413   |                                      |
| 12-Mar-06 | 0942      | FWS555      | 30.05835               | 81.08630                | B           |                 |         |      |                                | SAG, Belly to Belly Contact                               | FACSFACJAX      | 1010              | NRW06413   |                                      |
| 19-Mar-06 | 1128      | FWS555      | 29.94363               | 80.93039                | A           |                 |         |      |                                | Flipper Slap, Body Contact, Breach                        | FACSFACJAX      | 1144              | NRW06427   |                                      |
| 19-Mar-06 | 1128      | FWS555      | 29.94363               | 80.93039                | B           | 1301            | F/23    |      |                                | Flipper Slap, Body Contact, Breach, Underwater Exhalation | FACSFACJAX      | 1144              | NRW06427   | First time 1301 sighted without calf |
| 29-Mar-06 | 1233      | FWS555      | 29.88014               | 80.87791                | A           | 1151            | F/Unk   |      |                                | Mom w/calf  | FACSFACJAX      | 1238              | NRW06437   |                                      |
| 29-Mar-06 | 1233      | FWS555      | 29.88014               | 80.87791                | B           |                 |         | Calf |                                | Calf w/mom  | FACSFACJAX      | 1238              | NRW06437   |                                      |
| 29-Mar-06 | 1259      | FWS555      | 29.83822               | 81.09200                | C           | 1716            | M/19    |      |                                | Surface Travel  | FACSFACJAX      | 1304              | NRW06438   |                                      |

\* Time (L) is the initial sighting time. Final sighting time is reported to FACSFACJAX. In this table Time (L) minus Time (L) Notified does not indicate the amount of time it took FWRI to report an individual sighting.

**Table 5. Coastal Survey Activities Table**

Days with sightings are highlighted in green

| Date      | Flight Status |          |              |         | EWS Lines (25-34) | Survey File Name | Number of Whales    |                  | M/C Pair | Hobbs | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments  |
|-----------|---------------|----------|--------------|---------|-------------------|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|---|
|           | Option A      | Option B | Option A & B | Partial |                   |                  | Number of Sightings | Number of Whales |          |       |                      |                                    |   |
| 25-Jan-06 |               | X        |              |         |                   | fwri-c20060125   | 0                   | 0                | 0        | 4.4   | 399.72               | 117.12                             |   |
| 26-Jan-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 27-Jan-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 28-Jan-06 |               |          | X            |         |                   | fwri-c20060128   | 5                   | 32               | 0        | 7.5   | 481.24               | 406.32                             |   |
| 29-Jan-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 30-Jan-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- rain/t-storms   |
| 31-Jan-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 1-Feb-06  | X             |          |              |         |                   | fwri-c20060201   | 2                   | 4                | 1        | 7.3   | 428.04               | 428.04                             |   |
| 2-Feb-06  |               | X        |              |         |                   | fwri-c20060202   | 0                   | 0                | 0        | 4.7   | 402                  | 232.02                             | GPS out 0924-0933   |
| 3-Feb-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds, rain  |
| 4-Feb-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds, rain  |
| 5-Feb-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 6-Feb-06  |               |          | X            |         |                   | fwri-c20060206   | 0                   | 0                | 0        | 6.3   | 481.24               | 481.24                             | Standby- Pilot stuck in traffic   |
| 7-Feb-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 8-Feb-06  |               | X        |              |         |                   | fwri-c20060208   | 0                   | 0                | 0        | 4.8   | 402                  | 402                                |   |
| 9-Feb-06  |               | X        |              |         |                   | fwri-c20060209   | 0                   | 0                | 0        | 5.2   | 402                  | 269.01                             |   |
| 10-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 11-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 12-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 13-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 14-Feb-06 | X             |          |              |         | 30-34             | fwri-c20060214   | 2                   | 4                | 2        | 6.4   | 531.99               | 531.99                             | Coastal flew 4 southern primary lines out to 80°55 that would have been cut by 2 plane contingency plan. Humpback sighting.   |
| 15-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- maintenance issue   |
| 16-Feb-06 |               |          |              | X       | 30-34             | fwri-c20060216   | 1                   | 2                | 1        | 3.1   | 197.45               | 197.45                             | Coastal flew 4 southern primary lines out to 80°55 that would have been cut by 2 plane contingency plan. Turned around south of New Smyrna Beach b/c of low ceiling/rain. |
| 17-Feb-06 | X             |          |              |         | 30-34             | fwri-c20060217   | 1                   | 2                | 1        | 6.2   | 531.99               | 531.99                             | Standby- fog. Coastal flew 4 southern primary lines out to 80°55 that would have been cut by 2 plane contingency plan.  |
| 18-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 19-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 20-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- low ceilings  |
| 21-Feb-06 |               | X        |              |         |                   | fwri-c20060221   | 1                   | 2                | 1        | 5.2   | 402                  | 402                                | Standby- fog. Fog in Canaveral area. Off watch in some areas of dense fog. GPS error after lunch, had to take hand data.  |
| 22-Feb-06 | X             |          |              |         |                   | fwri-c20060222   | 0                   |                  |          | 5.5   | 428.04               | 428.04                             | Standby- fog  |

**Table 5. Coastal Survey Activities Table**

Days with sightings are highlighted in green

| Date      | Flight Status |          |              |         | EWS Lines (25-34) | Survey File Name | Number of Whales    |                  | M/C Pair | Hobbs | Nautical Miles Flown | Nautical miles flown sea state < 3 | Comments  |
|-----------|---------------|----------|--------------|---------|-------------------|------------------|---------------------|------------------|----------|-------|----------------------|------------------------------------|---|
|           | Option A      | Option B | Option A & B | Partial |                   |                  | Number of Sightings | Number of Whales |          |       |                      |                                    |   |
| 23-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- rain, low ceiling   |
| 24-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- down a co-pilot, high winds   |
| 25-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds, rain  |
| 26-Feb-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds, rain  |
| 27-Feb-06 |               | X        |              |         |                   | fwri-c20060227   | 0                   | 0                | 0        | 4.6   | 402                  | 402                                | Standby- frost, high wind   |
| 28-Feb-06 | X             |          |              |         |                   | fwri-c20060228   | 0                   | 0                | 0        | 5     | 428.04               | 428.04                             |   |
| 1-Mar-06  |               |          |              | X       |                   | fwri-c20060301   | 1                   | 1                | 0        | 5.4   | 319.94               | 319.94                             | Standby- fog.   |
| 2-Mar-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 3-Mar-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 4-Mar-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 5-Mar-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 6-Mar-06  |               | X        |              |         |                   | fwri-c20060306   | 2                   | 7                | 1        | 5.3   | 402                  | 402                                | After survey complete, flew N to verify mom/calf sighting called in from a boat.  |
| 7-Mar-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 8-Mar-06  | X             |          |              |         |                   | fwri-c20060308   | 1                   | 2                | 0        | 5.5   | 428.04               | 428.04                             |   |
| 9-Mar-06  |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 10-Mar-06 |               | X        |              |         |                   | fwri-c20060310   | 0                   | 0                | 0        | 4.6   | 402                  | 274.43                             |   |
| 11-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 12-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    |   |
| 13-Mar-06 | X             |          |              |         |                   | fwri-c20060313   | 0                   | 0                | 0        | 5.1   | 428.04               | 428.04                             | Survey w/ lines off Canaveral completed, no sightings   |
| 14-Mar-06 |               | X        |              |         |                   | fwri-c20060314   | 0                   | 0                | 0        | 4.7   | 402                  | 402                                |   |
| 15-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 16-Mar-06 | X             |          |              |         |                   | fwri-c20060316   | 0                   | 0                | 0        | 4.9   | 428.04               | 428.04                             |   |
| 17-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 18-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 19-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no survey- 3 surveys complete   |
| 20-Mar-06 |               | X        |              |         |                   | fwri-c20060320   | 0                   | 0                | 0        | 4.8   | 402                  | 341.7                              |   |
| 21-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 22-Mar-06 |               |          |              | X       |                   | fwri-c20060322   | 0                   | 0                | 0        | 2.6   | 138.6                | 138.6                              | Turned around at Canaveral due to high winds.   |
| 23-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- rain  |
| 24-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 25-Mar-06 |               |          |              |         |                   |                  |                     |                  |          |       |                      |                                    | no fly- high winds  |
| 26-Mar-06 |               |          |              | X       |                   | fwri-c20060326   | 2                   | 4                | 2        | 4.7   | 138.18               | 88.89                              | Coastal with primary survey pilots/plane. Flew south to respot entangled humpback south of Ponce Inlet for disentanglement attempt. |
| 27-Mar-06 | X             |          |              |         |                   | fwri-c20060327   | 0                   | 0                | 0        | 5.1   | 402                  | 397.07                             |   |

**Table 5. Coastal Survey Activities Table**

Days with sightings are highlighted in green

| Date      | Flight Status |             |                 |         | EWS Lines<br>(25-34) | Survey File<br>Name | Number of Whales       |                     |          | Hobbs | Nautical<br>Miles<br>Flown | Nautical miles<br>flown sea<br>state < 3 | Comments                      |
|-----------|---------------|-------------|-----------------|---------|----------------------|---------------------|------------------------|---------------------|----------|-------|----------------------------|--|-------------------------------|
|           | Option<br>A   | Option<br>B | Option<br>A & B | Partial |                      |                     | Number of<br>Sightings | Number of<br>Whales | M/C Pair |       |                            |  |                               |
| 28-Mar-06 |               | X           |                 |         |                      | fwri-c20060328      | 0                      | 0                   | 0        | 5.1   | 402                        | 402                                      |                               |
| 29-Mar-06 | X             |             |                 |         |                      | fwri-c20060329      | 0                      | 0                   | 0        | 5.8   | 428.04                     | 428.04                                   |                               |
| 30-Mar-06 |               |             |                 |         |                      |                     |                        |                     |          |       |                            |  | no survey- 3 surveys complete |
| 31-Mar-06 |               |             |                 |         |                      |                     |                        |                     |          |       |                            |  | no survey- 3 surveys complete |

**Table 6. FWRI Coastal Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors  | Agency Notified | Time (L) Notified | NRW Number | Comments |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|--|-----------------|-------------------|------------|----------|
| 28-Jan-06 | 0913      | FWS666      | 29.83277               | -81.24515               | A           |                 |         |      |                                | Flipper Slap,Assoc w/dolphins,SAG,Underwater Exahalation,White Belly Visible         | FACSFACJAX      | 0937              | NRW06190   |          |
| 28-Jan-06 | 0913      | FWS666      | 29.83277               | -81.24515               | B           |                 |         |      | SE06BK05                       | Flipper Slap,Assoc w/dolphins,SAG,Underwater Exahalation                             | FACSFACJAX      | 0937              | NRW06190   |          |
| 28-Jan-06 | 0913      | FWS666      | 29.83277               | -81.24515               | C           |                 |         |      |                                | Flipper Slap,Assoc w/dolphins,SAG,Underwater Exahalation                             | FACSFACJAX      | 0937              | NRW06190   |          |
| 28-Jan-06 | 0913      | FWS666      | 29.83277               | -81.24515               | D           | 3301            | Unk/3   |      |                                | Flipper Slap,Assoc w/dolphins,SAG,Underwater Exahalation                             | FACSFACJAX      | 0937              | NRW06190   |          |
| 28-Jan-06 | 0913      | FWS666      | 29.83277               | -81.24515               | E           |                 |         |      |                                | Flipper Slap,Assoc w/dolphins,SAG,Underwater Exahalation                             | FACSFACJAX      | 0937              | NRW06190   |          |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | F           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins                     | FACSFACJAX      | 0947              | NRW06191   |          |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | G           | 3442            | Unk/2   |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins,White Belly Visible | FACSFACJAX      | 0947              | NRW06191   |          |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | H           |                 |         |      | SE06BK12                       | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins                     | FACSFACJAX      | 0947              | NRW06191   |          |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | I           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins                     | FACSFACJAX      | 0947              | NRW06191   |          |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | J           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins                     | FACSFACJAX      | 0947              | NRW06191   |          |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | K           |                 |         |      |                                | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins                     | FACSFACJAX      | 0947              | NRW06191   |          |

**Table 6. FWRI Coastal Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors   | Agency Notified | Time (L) Notified | NRW Number | Comments  |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|---|-----------------|-------------------|------------|---|
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | L           |                 |         |      | SE06BK10                       | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins    | FACSFACJAX      | 0947              | NRW06191   |   |
| 28-Jan-06 | 0940      | FWS666      | 29.82507               | -81.25255               | M           |                 |         |      | SE06BK15                       | Flipper Slap,Lobtail,SAG,Belly to Belly Contact,Assoc w/dolphins    | FACSFACJAX      | 0947              | NRW06191   |   |
| 28-Jan-06 | 0955      | FWS666      | 29.81008               | -81.26153               | N           |                 |         |      |                                | Assoc w/dolphins,Belly to Belly Contact,Surface Travel              | FACSFACJAX      | 1004              | NRW06192   |   |
| 28-Jan-06 | 0955      | FWS666      | 29.81008               | -81.26153               | O           |                 |         |      |                                | Assoc w/dolphins,Belly to Belly Contact,Surface Travel              | FACSFACJAX      | 1004              | NRW06192   | same as L   |
| 28-Jan-06 | 1013      | FWS666      | 29.84485               | -81.25811               | P           |                 |         |      | SE06BK09                       | Surface Travel,Assoc w/dolphins,Underwater Exahalation,Body Contact | FACSFACJAX      | 1022              | NRW06193   |   |
| 28-Jan-06 | 1013      | FWS666      | 29.84485               | -81.25811               | Q           |                 |         |      | SE06BK17                       | Surface Travel,Assoc w/dolphins,Underwater Exahalation,Body Contact | FACSFACJAX      | 1022              | NRW06193   |   |
| 28-Jan-06 | 1013      | FWS666      | 29.84485               | -81.25811               | R           |                 |         |      | SE06BK13                       | Surface Travel,Assoc w/dolphins,Underwater Exahalation,Body Contact | FACSFACJAX      | 1615              | NRW06201   |   |
| 28-Jan-06 | 1553      | FWS666      | 29.78827               | -81.22758               | S           |                 |         |      |                                | Lobtail,SAG,Belly to Belly Contact                                  | FACSFACJAX      | 1615              | NRW06201   | same as A   |
| 28-Jan-06 | 1553      | FWS666      | 29.78827               | -81.22758               | T           | 1249            | M/24    |      |                                | Lobtail,SAG,Belly to Belly Contact                                  | FACSFACJAX      | 1615              | NRW06201   |   |
| 28-Jan-06 | 1553      | FWS666      | 29.78827               | -81.22758               | U           |                 |         |      |                                | Lobtail,SAG,Belly to Belly Contact                                  | FACSFACJAX      | 1615              | NRW06201   | same as L   |
| 28-Jan-06 | 1553      | FWS666      | 29.78827               | -81.22758               | V-FF        |                 |         |      |                                | SAG   | FACSFACJAX      | 1615              | NRW06201   | No Photos. Likely many of the same animals from previous sightings in area, had to go in b/c of diminishing daylight. |
| 1-Feb-06  | 0908      | FWS666      | 29.81668               | -81.25388               | A           | 1503            | F/21    |      |                                | Mom w/calf  | FACSFACJAX      | 0922              | NRW06210   |   |
| 1-Feb-06  | 0908      | FWS666      | 29.81668               | -81.25388               | B           |                 |         | Calf |                                | Calf w/mom  | FACSFACJAX      | 0922              | NRW06210   |   |
| 1-Feb-06  | 1612      | FWS666      | 29.32457               | -80.95953               | C           | 3301            | Unk/3   |      |                                |   | FACSFACJAX      | 1632              | NRW06218   |   |
| 1-Feb-06  | 1612      | FWS666      | 29.32457               | -80.95953               | D           |                 |         |      | SE06BK12                       |   | FACSFACJAX      | 1632              | NRW06218   |   |
| 14-Feb-06 | 1032      | FWS666      | 29.37020               | -81.07163               | A           | 1503            | F/21    |      |                                | Mom w/calf  | FACSFACJAX      | 1047              | NRW06248   |   |
| 14-Feb-06 | 1032      | FWS666      | 29.37020               | -81.07163               | B           |                 |         | Calf |                                | Calf w/mom  | FACSFACJAX      | 1047              | NRW06248   |   |
| 14-Feb-06 | 1053      | FWS666      | 29.32378               | -81.04788               | C           | 1611            | F/20    |      |                                | Mom w/calf  | FACSFACJAX      | 1104              | NRW06249   |   |
| 14-Feb-06 | 1053      | FWS666      | 29.32378               | -81.04788               | D           |                 |         | Calf |                                | Calf w/mom  | FACSFACJAX      | 1104              | NRW06249   |   |

**Table 6. FWRI Coastal Survey Sighting Data (Identifications are PRELIMINARY)**

| Date      | Time (L)* | Survey Name | Latitude (Dec Degrees) | Longitude (Dec Degrees) | RIWH Letter | NARWC ID Number | Sex/Age | Calf | Intermatch code 2005-06 Season | Behaviors   | Agency Notified | Time (L) Notified | NRW Number | Comments |
|-----------|-----------|-------------|------------------------|-------------------------|-------------|-----------------|---------|------|--------------------------------|---|-----------------|-------------------|------------|----------|
| 16-Feb-06 | 0952      | FWS666      | 29.78493               | -81.16479               | A           | 1817            | F/Unk   |      |                                | Mom w/calf, Surface Travel  | FACSFACJAX      | 1012              | NRW06271   |          |
| 16-Feb-06 | 0952      | FWS666      | 29.78493               | -81.16479               | B           |                 |         | Calf |                                | Calf w/mom, Surface Travel  | FACSFACJAX      | 1012              | NRW06271   |          |
| 17-Feb-06 | 1154      | FWS666      | 28.66487               | -80.63670               | A           | 1611            | F/20    |      |                                | Mom w/calf, Body Contact  | FACSFACJAX      | 1202              | NRW06290   |          |
| 17-Feb-06 | 1154      | FWS666      | 28.66487               | -80.63670               | B           |                 |         | Calf |                                | Calf w/mom, Body Contact  | FACSFACJAX      | 1202              | NRW06290   |          |
| 21-Feb-06 | 1621      | FWS666      | 28.65844               | -80.62740               | A           | 1611            | F/20    |      |                                | Mom w/calf, Assoc w/dolphins, NURS  | FACSFACJAX      | 1130              | NRW06315   |          |
| 21-Feb-06 | 1621      | FWS666      | 28.65844               | -80.62740               | B           |                 |         | Calf |                                | Calf w/mom, Assoc w/dolphins, NURS, Flipper Slap                                | FACSFACJAX      | 1130              | NRW06315   |          |
| 1-Mar-06  | 1524      | FWS666      | 29.98905               | -81.30856               | A           |                 |         |      |                                | Assoc w/dolphins, Subsurface Travel   | FACSFACJAX      | 1538              | NRW06363   |          |
| 6-Mar-06  | 1105      | FWS666      | 27.08290               | -80.06312               | A           |                 |         |      |                                | SAG, Belly to Belly Contact   | FACSFACJAX      | 1119              | NRW06396   |          |
| 6-Mar-06  | 1105      | FWS666      | 27.08290               | -80.06312               | B           |                 |         |      |                                | SAG, Belly to Belly Contact   | FACSFACJAX      | 1119              | NRW06396   |          |
| 6-Mar-06  | 1105      | FWS666      | 27.08290               | -80.06312               | C           |                 |         |      |                                | SAG, Belly to Belly Contact   | FACSFACJAX      | 1119              | NRW06396   |          |
| 6-Mar-06  | 1105      | FWS666      | 27.08290               | -80.06312               | D           |                 |         |      |                                | SAG, Belly to Belly Contact   | FACSFACJAX      | 1119              | NRW06396   |          |
| 6-Mar-06  | 1105      | FWS666      | 27.08290               | -80.06312               | E           |                 |         |      |                                | SAG, Belly to Belly Contact   | FACSFACJAX      | 1119              | NRW06396   |          |
| 6-Mar-06  | 1425      | FWS666      | 30.12152               | -81.24493               | F           | 1151            | F/Unk   |      |                                | Mom w/calf  | FACSFACJAX      | 1442              | NRW06398   |          |
| 6-Mar-06  | 1425      | FWS666      | 30.12152               | -81.24493               | G           |                 |         | Calf |                                | Calf w/mom  | FACSFACJAX      | 1442              | NRW06398   |          |
| 8-Mar-06  | 1326      | FWS666      | 28.31888               | -80.31773               | A           |                 |         |      |                                | Subsurface Travel, Assoc w/dolphins   | FACSFACJAX      | 1344              | NRW06404   |          |
| 8-Mar-06  | 1326      | FWS666      | 28.31888               | -80.31773               | B           |                 |         |      |                                | Subsurface Travel, Assoc w/dolphins   | FACSFACJAX      | 1344              | NRW06404   |          |
| 26-Mar-06 | 954       | FWS666      | 29.34035               | -81.01998               | A           | 1151            | F/Unk   |      |                                | Mom w/calf, Assoc w/dolphins  | FACSFACJAX      | 1004              | NRW06434   |          |
| 26-Mar-06 | 954       | FWS666      | 29.34035               | -81.01998               | B           |                 |         | Calf |                                | Calf w/mom, Assoc w/dolphins, White Belly Visible                               | FACSFACJAX      | 1004              | NRW06434   |          |
| 26-Mar-06 | 1332      | FWS666      | 29.31225               | -81.04757               | C           | 1151            | F/Unk   |      |                                | Mom w/calf, Surface Travel, Assoc w/dolphins                                    | FACSFACJAX      | 1343              | NRW06436   |          |
| 26-Mar-06 | 1332      | FWS666      | 29.31225               | -81.04757               | D           |                 |         | Calf |                                | Calf w/mom, Flipper Slap, Surface Travel, Assoc w/dolphins, White Belly Visible | FACSFACJAX      | 1343              | NRW06436   |          |

\* Time (L) is the initial sighting time. Final sighting time is reported to FACSFACJAX. In this table Time (L) minus Time (L) Notified does not indicate the amount of time it took FWRI to report an individual sighting.

**Table 7. Whale/Vessel Interactions**

| Date      | Survey Team | Number of Whales | Type of Vessel       | Closest Distance between Whales and Vessel in Meters |        |         |          |       | Initial Whale Behavior                                       | Visible Whale Reaction | Post Interaction Behavior  | Communication Response   | Vessel Response  |
|-----------|-------------|------------------|----------------------|--|--------|---------|----------|-------|--|------------------------|--|--|--|
|           |             |                  |                      | 0-25   | 26-100 | 100-500 | 501-2000 | >2000 |  |                        |  |  |  |
| 20-Dec-05 | FWRI        | 2                | Shrimping            |  |        | X       |          |       | Various- traveling, flipping, spyhopping, SAG, and posturing | No                     | Whale behavior varied, so difficult to determine reaction              | No   | Headed away from whales at this time   |
| 20-Dec-05 | FWRI        | 2                | Shrimping            | X  |        |         |          |       | Various- traveling, flipping, spyhopping, SAG, and posturing | No                     | Whale behavior varied, so difficult to determine reaction              | No   | Maintained course and speed  |
| 20-Dec-05 | FWRI        | 2                | Shrimping            |  | X      |         |          |       | Various- traveling, flipping, spyhopping, SAG, and posturing | No                     | Whale behavior varied, so difficult to determine reaction              | Yes, no verbal response though   | Vessel slowed after transmission of whales close to them by name                                     |
| 20-Dec-05 | FWRI        | 2                | Shrimping            |  |        |         | X        |       | Various- traveling, flipping, spyhopping, SAG, and posturing | No                     | Whale behavior varied, so difficult to determine reaction              | No (VHF broken)  | Headed away from whales at this time   |
| 31-Dec-05 | NEA         | 4                | USCG Inflatable      |  |        |         | X        |       | SAG  | No                     | Whole SAG moved slightly to the NW Unsure if movement caused by vessel | No, Direct contact b/w aircraft and vessel failed Aircraft contact USCG JAX to relay info about whales | Vessel slowed, but had already cleared whales to the E   |
| 4-Jan-06  | WT-SC       | 2                | 25 ft Recreational   |  |        |         | X        |       | Milling, rolling, tail slashing                              | No                     |  | Yes, told aircraft they would remain stationary to fish  | Stopped traveling to fish  |
| 16-Jan-06 | NEA         | Mom/Calf         | 18-24ft Recreational |  |        | X       |          |       | Logging  | No                     |  | No   | Maintained course and speed  |
| 8-Feb-06  | WT-GA       | Mom/Calf         | 40 ft Recreational   |  |        |         | X        |       | Traveling  | Yes                    | Dove and changed direction   | No   | Maintained course and speed  |
| 15-Feb-06 | NEA         | 1                | 25 ft Recreational   |  |        |         | X        |       | Logging  | No                     |  | Yes  | Vessel altered course to avoid whales and then called the aircraft to report more whales later       |
| 15-Feb-06 | NEA         | 5                | 25 ft Recreational   |  |        |         | X        |       | SAG  | No                     |  | Yes, same vessel as other close call on this day   | Vessel slowed and altered course to avoid whales   |
| 16-Feb-06 | NEA         | 7                | Car Carrier          |  |        |         | X        |       | SAG  | Yes                    | 2 separate SAGs joined and some individuals broke off                  | Yes, Pilot boat requested aircraft stay onsite until it brought the car carrier through                | The pilot boat placed itself between the SAG and the car carrier while traveling through the channel |
| 17-Feb-06 | WT-SC       | 1                | LNG Tanker           | X  |        |         |          |       | Traveling, breach  | No                     | Dove 1/2nm from ship   | No   | Maintained course and speed  |

**Table 7. Whale/Vessel Interactions**

|           |        |          |                       |   |   |   |   |  |                                   |     |  |   |  |
|-----------|--------|----------|-----------------------|---|---|---|---|--|-----------------------------------|-----|--|---|--|
| 18-Feb-06 | FWRI   | Mom/Calf | 18 ft<br>Recreational |   | X |   |   |  | Traveling                         | No  |  | n/a   | Vessel stationary during the entire event  |
| 18-Feb-06 | NEA    | Mom/Calf | Container Ship        |   |   |   | X |  | Logging                           | No  |  | Yes, acknowledged information                           | Vessel had previously slowed, but quickly altered course to the east after communication                       |
| 22-Feb-06 | FWRI   | Mom/Calf | 20 ft<br>Recreational | X |   |   |   |  | Surface resting                   | Yes | Multiple dives, began swimming W   | Yes, sarcastic response and did not stop harassment     | Vessel altered course towards whales, made repeated full speed approaches before departing                     |
| 22-Feb-06 | NEA    | 1        | 35 ft<br>Recreational |   |   | X |   |  | Diving, but not traveling         | Yes | Moved away from the area, lost whale after interaction   | No  | Maintained course and speed, whale not visible when vessel passed  |
| 27-Feb-06 | FWRI   | 7        | 40 ft Sailboat        |   | X |   |   |  | SAG                               | No  |  | No  | Maintained course and speed  |
| 2-Mar-06  | FWRI   | 5        | 40 ft<br>Recreational |   | X |   |   |  | Various Traveling and lobsailing  | No  | Stopped lobsailing and continued traveling Whale behavior varied, so difficult to determine reaction | No  | Vessel altered course toward whales and approached from behind Slowed to idle to get closer then left the area |
| 8-Mar-06  | FWRI-C | 2        | 20 ft<br>Recreational |   | X |   |   |  | Traveling                         | No  |  | No  | Vessel slowed to idle and approached whales from behind then left the area                                     |
| 19-Mar-06 | FWRI   | 2        | Tanker                |   |   |   | X |  | Traveling with breaching observed | No  |  | Yes, recorded position and agreed to monitor the whales | Maintained course and speed, no immediate reaction necessary   |

\*This table has been edited and abbreviated from the original data in order to present it in tabular form.

**Table 8. 2005-2006 FWRI Right Whale Biopsy Summary**

| Date      | Departure Port                        | Beaufort | Number of Groups visited | Number of whales photographed | Number of Samples |     |             | Comments                          |
|-----------|---------------------------------------|----------|--------------------------|-------------------------------|-------------------|-----|-------------|-----------------------------------|
|           |                                       |          |                          |                               | Calf              | Mom | Other Adult |                                   |
| 1/9/2006  | St.John's River                       | 2        | 1                        | 2                             | 1                 |     |             | Gill Nets Observed                |
| 1/11/2006 | St.John's River                       | 2        | 3                        | 6                             | 1                 |     |             | Gill Nets Observed                |
| 1/16/2006 | St.John's River                       | 2        | 1                        | 2                             |                   |     |             | Gill Nets Photo-ed                |
| 1/19/2006 | St.John's River                       | 3        | 0                        | 0                             |                   |     |             | Gill Nets Observed                |
| 1/20/2006 | St.John's River                       | 2        | 1                        | 2                             |                   |     |             | Gill Nets Observed                |
| 1/21/2006 | St.John's River                       | 2        | 1                        | 1                             |                   |     |             | Gill Netter Observed              |
| 1/24/2006 | St.John's River                       | 3        | 1                        | 3+                            |                   |     |             | Buoy found, Gill Nets observed    |
| 2/1/2006  | St.John's River                       | 2        | 1                        | 2                             |                   |     |             |                                   |
| 2/6/2006  | St.John's River                       | 2-3      | 1                        | 2                             |                   |     |             | Gill Netter observed              |
| 2/10/2006 | St.John's River                       | 2-3      | 0                        | 0                             |                   |     |             |                                   |
| 2/14/2006 | Brunswick                             | 2        | 3                        | 8                             | 1                 |     | 5           |                                   |
| 2/15/2006 | Fernandina (worked Brunswick Channel) | 1-3      | 2                        | 21                            |                   |     | 3           | Large SAG milling                 |
| 2/17/2006 | Fernandina                            | 2-3      | 2                        | 2                             | 1                 |     |             |                                   |
| 2/22/2006 | Fernandina                            | 3        | 0                        | 0                             |                   |     |             | Humpback sighted and photographed |
| 2/28/2006 | Brunswick                             | 1-3      | 2                        | 4                             | 1                 |     | 1           |                                   |
| 3/2/2006  | Fernandina                            | 2-4      | 0                        | 0                             |                   |     |             | Wind picked up, had to come in.   |

**Biopsy Samples**

| Date      | Field ID | Darting Location |            |            | Sample Distribution | Comment                                       |
|-----------|----------|------------------|------------|------------|---------------------|---|
|           |          | Time (L)         | Latitude   | Longitude  |                     |   |
| 1/9/2006  | B        | 1342             | 30°28.9331 | 81°08.8100 | Trent/NMFS          | Calf of 2791                                  |
| 1/11/2006 | F        | 1736             | 30°20.1232 | 81°18.0429 | Trent/NMFS          | Calf of 1817                                  |
| 2/15/2006 | N        | 1602             | 31°03.1935 | 81°2.7126  | Trent               | Juvenile                                      |
| 2/14/2006 | A        | 1113             | 31°00.35   | 81°21.7    | Trent               | Juvenile                                      |
| 2/14/2006 | B        | 1114             | 31°00.35   | 81°21.7    | Trent               | Juvenile                                      |
| 2/14/2006 | C        | 1210             | 31°00.7951 | 81°20.3380 | Trent               | Juvenile                                      |
| 2/14/2006 | D        | 1245             | 31°00.16   | 81°18.95   | Trent               | Juvenile                                      |
| 2/14/2006 | F        | 1251             | 31°00.09   | 81°18.88   | Trent               | Juvenile                                      |
| 2/14/2006 | H        | 1612             | 30°52.13   | 81°03.44   | Trent/NMFS          | Calf of 1950                                  |
| 2/15/2006 | O        | 1618             | 31°03.4919 | 81°14.0203 | Trent               | Juvenile                                      |
| 2/15/2006 | P        | 1620             | 31°03.5284 | 81°14.0601 | Trent               | Juvenile                                      |
| 2/17/2006 | B        | 1806             | 30°46.1    | 81°21.7    | Trent/NMFS          | Calf of 1821                                  |
| 2/28/2006 | B        | 1447             | 30°43.5075 | 81°06.5633 | Trent               | Calf of 1151, not enough sample for both NMFS |
| 2/28/2006 | D        | 1650             | 31°06.8141 | 81°11.8294 | Trent               | Juvenile                                      |

# Whale/Ship Interaction (Close Call) Report Form

Date

Unique Report Number

Observer's Last Name(s)  Contact

Survey Agency or Organization (circle one):    WT    FWC    NEA    GDNR    Other: \_\_\_\_\_

Survey Area

Are there photos?    Yes    No    Location/name of photo files

Is there video?    Yes    No    Location/name of video files

## *Whale Information (Initial)*

Time of initial whale sighting (local, 24 hour)  Total number of whales  Number of calves

Whale IDs

Whale's initial activity (circle the one that best fits; use description field for additional activities)

Swimming/Traveling    Nursing    Diving    SAG    Rolling    Logging    Milling    Avoidance

Description of whale activity

Heading of Whale/Whale group

Whale's initial latitude  Whale's initial longitude  (NAD 83 datum assumed)

## *Whale Information (Post Interaction)*

Time whale was observed at the last location (local, 24 hour)

Whale's last latitude  Whale's last longitude  (NAD 83 datum assumed)

Did the whale change course?    Yes    No    Did the whale's activity change?    Yes    No

New heading of Whale/Whale group

Description of activity/direction change:

Additional Information:

# Whale/Ship Interaction (Close Call) Report Form

Date  Unique Report Number

## Vessel Information

Is this a close approach (500 yard rule?)  Homeport  State Regist. #

Vessel  of  (one sheet for each vessel) Time vessel was spotted (local, 24 hour)

Vessel Length (feet)  Vessel Name

Vessel Code  Vessel Description (i.e. yacht, shrimper, etc.):

Vessel Type (circle one): Commercial Fish Dredge Military Tug and Barge Cruise Ship Recreational  
Large Merchant Other: \_\_\_\_\_

Vessel Speed (knots)  Vessel Speed (Qualitative): None Idle Slow (min. wake) Plowing Planing

Method of determining speed  Vessel Heading

Circle: Inbound / Outbound Destination Port  Origin Port

Description of vessel's initial location relative to whale(s)

Vessel's initial latitude  Vessel's initial longitude  (NAD 83 datum assumed)

Closest distance between whale and vessel  Please circle units: Feet Meters Yards Miles

Was communication attempted? (Did you try to hail them?) Yes No

Was communication achieved? (Did they respond?) Yes No

Did the vessel's heading change? Yes No New Heading

Did the vessel's speed change? Yes No New Speed (knots)

New Speed (Qualitative): None Idle (no wake) Slow (min. wake) Plowing Planing

Description of vessel's last location relative to whale(s)

Notes on the communication effort:

Time of vessel's last recorded location (local, 24 hour)

Vessel's last latitude  Vessel's last longitude  (NAD 83 datum assumed)

Additional whale information specific to this vessel:

## Why Protect Marine Turtles?

Marine turtles have existed for over 180 million years and play a substantial role in marine ecosystems. All species of marine turtles are classified as either threatened or endangered. Species observed in the southeast Atlantic and Gulf of Mexico include Kemp's ridley, loggerhead, green, leatherback, and hawksbill.

## What Laws Protect Marine Turtles?

The Endangered Species Act (ESA) is the primary Federal law that protects marine turtles. International agreements, such as the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC) and the Convention on International Trade in Endangered Species (CITES) are also instrumental in marine turtle conservation.

The ESA prohibits the **take** of endangered marine turtles in U.S. waters and on the high seas. **Take** is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." **Harm** is further defined by regulation as an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, **feeding**, or sheltering.



## How Can YOU Protect Marine Turtles?

Prevent the event—if you see marine turtles surface:

- Slow down.
- Steer away from their direction of travel.
- DO NOT cast your line or set gear near marine turtles.
- Keep your distance. The NOAA Fisheries minimum recommended viewing distance for sea turtles is 50 yards.

## What Should YOU Do If You Hook or Entangle a Marine Turtle?

- Gently bring the turtle close to you, use a dip net or firmly hold its front flipper and shell to safely lift it out of the water.
- DO NOT lift the turtle above water by pulling the line—this will result in further injury.
- AVOID the turtle's mouth and flipper claws.
- Cut line close to the hook using blunt scissors or knife and remove any excess line that has become entangled around the turtle.
- DO NOT remove the hook unless the turtle is lightly hooked and it can be taken out without further injury. If you are uncertain, DO NOT remove the hook.
- Disengage the engine and release the turtle on the side away from the engine.
- If the retrieval distance is too great or the turtle too large, cut the line as short as possible to release the turtle.
- DO NOT dispose of line and hooks overboard. DO NOT place your anchor on coral or seagrass beds, as this may harm marine turtle habitat.

**Turtles with serious cuts, ingested, or deeply embedded hooks need veterinary care. Keep turtle in the shade and DO NOT transport. Immediately call your local wildlife agency!**

**The maximum fine for violating the MMPA is \$20,000 and one year in jail.**

**The maximum fine for violating the ESA is \$50,000 and one year in jail.**



For more information, contact:  
**NOAA Fisheries**  
Protected Resources Division  
263 13th Avenue South  
St. Petersburg, FL 33701  
727-824-5312

### ON THE COVER

*Dolphin photo by Randall S. Wells,  
Sarasota Dolphin Research Program*



Courtesy of NOAA Fisheries in collaboration with Alabama Marine Resources Division, Florida Fish and Wildlife Conservation Commission, Georgia Department of Natural Resources, Mississippi Department of Marine Resources, North Carolina Department of Marine Fisheries, Save the Manatee Club, South Carolina Department of Natural Resources, Texas Parks and Wildlife Department, Louisiana Department of Wildlife and Fisheries, Virgin Islands Department of Planning and Natural Resources, Puerto Rico Department of Environmental and Natural Resources, U.S. Coast Guard Auxiliary, and U.S. Fish and Wildlife Service.

# HELP PREVENT ENTANGLEMENT

Protecting Marine Mammals and Marine Turtles  
A Guide for Recreational Fishermen

## Why Protect Marine Mammals?

Marine mammals are an important part of the marine ecosystem. Some species of marine mammals are classified as depleted, endangered, or threatened. Of particular concern in the southeast Atlantic and Gulf of Mexico are the right, humpback, sperm, and fin whales; as well as the bottlenose dolphin, harbor porpoise, and manatee.

## What Laws Protect Marine Mammals?

The Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) are the principle Federal laws that guide marine mammal species protection and conservation policies. The MMPA delegates authority for whales, dolphins, porpoise, seals, and sea lions to the National Marine Fisheries Service (NOAA Fisheries); and manatees, walrus, and sea otters to the U.S. Fish and Wildlife Service (USFWS). Some states also have protective laws in place.

The MMPA prohibits the take of all marine mammal species in U.S. waters. Take is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” Take is further defined by regulation to include feeding or attempting to feed a marine mammal in the wild.

## Why is Feeding Marine Mammals Illegal?

Animals accustomed to eating bait, chum, or released fish and, in the case of manatees, produce, may lose their natural wariness of humans. Acclimation to humans makes marine mammals more susceptible to gear entanglements and boat collisions, lose their ability to forage, become “nuisance animals,” or get sick from spoiled bait or chum.

## How Can YOU Protect Marine Mammals?

- If fishing from a boat, don't chum when marine mammals are nearby.
  - Avoid fishing in an area where marine mammals are actively feeding, as they may mistake bait for food.
  - Watch your bait and fishing gear continuously and don't let marine mammals grab it.
  - If marine mammals continue to grab bait, try hauling gear and moving.
  - Avoid catching and releasing fish in the presence of marine mammals, as the marine mammals may try to eat them.
  - Don't leave fishing gear unattended.
  - Don't dispose of fishing gear in the water. Even small amounts can be harmful to marine mammals if entangled or ingested.
- THROWING PLASTIC INTO THE OCEAN IS ILLEGAL.**
- **Keep your distance. Avoid approaching and pursuing any marine mammals. Avoiding direct interactions with these animals and watching from a distance are best for both people and marine mammals.**

NOAA Fisheries' minimum recommended viewing distances are:

**dolphins, porpoises, and seals: 50 yards**  
**whales: 100 yards (Federal law prohibits all approaches to right whales within 500 yards)**



Wendy Noke, Hubbs-SeaWorld Research Institute

- **Don't encircle, entrap, or chase marine mammals.**
- **When in the presence of marine mammals, idle your watercraft's engine to allow them to pass safely.**
- **Wear polarized sunglasses to better see marine mammals in the water and avoid contact.**
- When in manatee areas, obey posted speed limits and “No Entry” signs to avoid hitting manatees.
- Pole, paddle, or use a trolling motor when near grass beds, which are preferred manatee habitat.

## What Should YOU Do If You See Harassment of a Marine Mammal?

Report any violations of the MMPA to the NOAA Fisheries Southeast Enforcement Division at 1-800-863-1964.

If you are in the following states, you can also call:

**North Carolina:** 1-800-682-2632  
**South Carolina:** 1-800-922-5431  
**Georgia:** 1-800-241-4113  
**Florida:** 1-888-404-FWCC (3922)  
**Alabama:** 1-800-262-3151  
**Mississippi:** 1-800-294-5551  
**Louisiana:** 1-800-442-2511  
**Texas:** 1-800-962-6625  
(1-800-9mammal)  
**U.S. Virgin Islands:**  
St. Thomas/St. John:  
1-340-775-6762—A/H 911  
St. Croix:  
1-340-773-5774—A/H 911

Learn more about preventing and reporting entanglement by visiting NOAA Fisheries online at [www.nmfs.noaa.gov](http://www.nmfs.noaa.gov)

## What Should YOU Do If You Entangle or Spot an Entangled/Injured Marine Mammal?

Contact the NOAA Fisheries Stranding Hotline at 1-305-862-2850. You can also call the numbers below if you are in the following states:

**North Carolina:** 1-252-728-8762  
**South Carolina:** 1-800-922-5431  
**Georgia:** 1-800-241-4113  
**Florida:** 1-888-404-FWCC (3922)  
**Alabama:** 1-800-799-6637  
**Mississippi:** 1-800-799-6637  
**Louisiana:** 1-504-378-2580  
**Texas:** 1-800-962-6625  
(1-800-9mammal)  
**U.S. Virgin Islands:**  
St. Thomas/St. John: 1-340-775-6762

REMINDER: All commercial fisheries are required to report to NOAA Fisheries all incidental injuries or mortalities of marine mammals caused during the course of fishing activities. Call NOAA Fisheries at (727) 824-5312 for reporting forms or further information.



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