Study of Bottlenose Dolphin Occurrence in St. Andrew Bay, Florida and Coastal Waters Near the Naval Surface Warfare Center, Panama City Division Testing Range

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Spring 2016 Survey Status Report

Brian C. Balmer, PhD

Lori H. Schwacke, PhD

Introduction

The goal of the spring 2016 component of this project was to conduct photographic-identification (photo-id) surveys to determine seasonal (spring) abundance, habitat use, and distribution patterns of bottlenose dolphins in St. Andrew Bay (SAB) and adjacent coastal waters surrounding the Naval Surface Warfare Center, Panama City Division (NSWC PCD).

Methods

The study area, transect lines, and survey design were identical to those conducted during the fall 2015 SAB surveys (Figure 1).

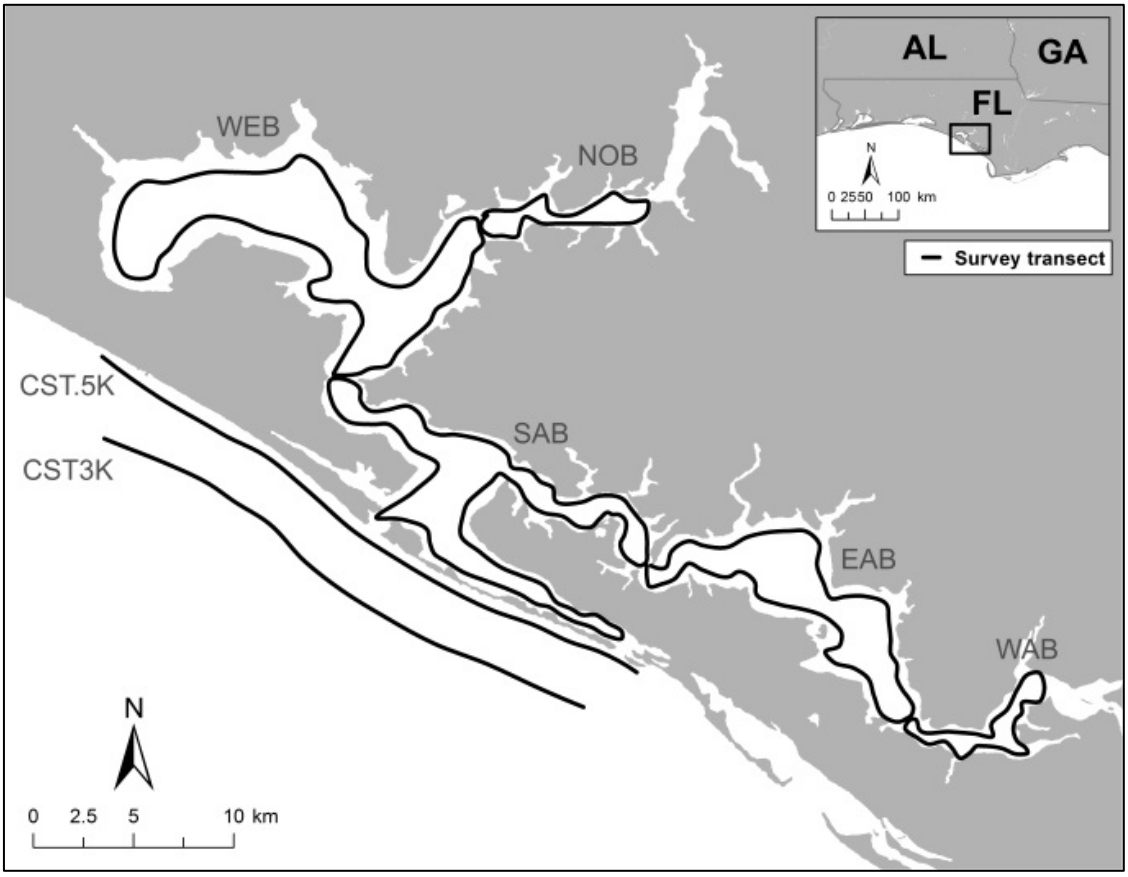

Figure 1. St. Andrew Bay (SAB) photo-id study area with survey transects. SAB study area includes the bay, sound, and estuarine (BSE) [St. Andrew Bay (SAB), North Bay (NOB), West Bay (WEB), East Bay (EAB), and Walker Bayou (WAB)] and coastal (CST) [coastal (CST.5K) and coastal 3 km (CST3K)] waters.

Results

The spring 2016 field work comprised 9 field days (18-21, 23-27 April), 56.29 field hours, and 952.70 km surveyed. All three secondary sessions, in both BSE and CST waters, were completed in 9 field days. A total of 73 sightings were recorded in which 462 dolphins [all bottlenose dolphins except two, Atlantic spotted dolphins (*Stenella frontalis*) sighted on CST3K transect], 27 calves, and 29 neonates were observed (Figure 2).

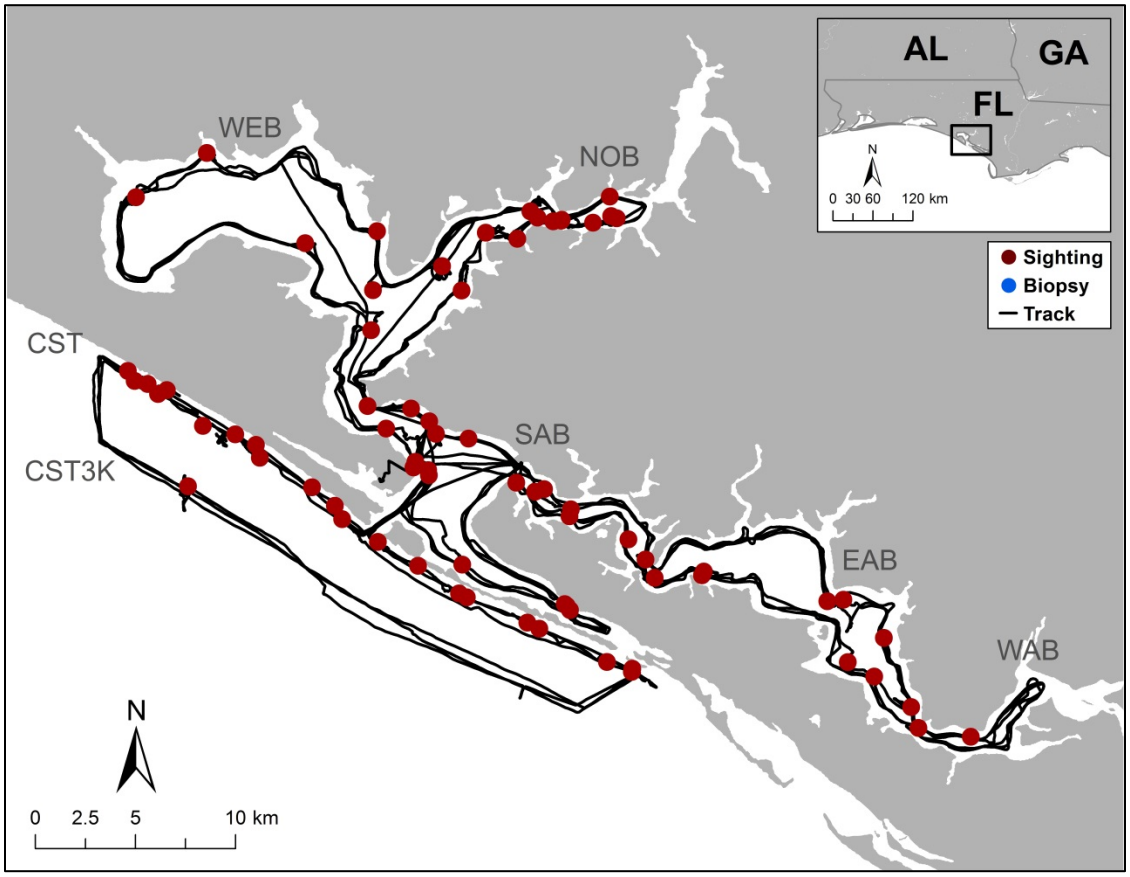

Figure 2. Spring 2016 survey track lines and sightings.

Discussion

The spring 2016 SAB field work was the third season for the SAB NSWC PCD project. Overall, favorable conditions (wind < 15 mph; BSS 1-3) allowed for the surveys to be completed within the projected time frame; only one day of strong storms prevented the research team from surveying. For coastal transects, there was generally a 2-3 day window of favorable conditions, before 1-2 days of increased winds and rough seas.

A large influx of dolphins was observed in coastal waters, similar to observations of spring influxes into coastal waters of the adjacent St. Joseph Bay region, hypothesized to be members of the Northern Coastal Stock. Xenobalanus prevalence on coastal animals was generally low relative to heavier loads observed on coastal animals during the summer 2015 survey period. Salinity was low throughout the BSE waters (~15-20 ppt), water clarity was poor (dark red in color), and preliminary data suggest that there were fewer sightings in some of the more interior BSE waters (WEB, EAB, and WAB) than during previous survey periods (Figure 2). Although NOB had similar environmental conditions to the other interior BSE waters, this subarea had generally comparable numbers of sightings to previous surveys and many sightings in which foraging was observed on small (2-4 in) silvery fish, possibly scaled sardines (*Harengula jaguana*). Several provisioned animals (specifically begging, patrolling, and depredation behavior) were observed during the surveys, with heavy, small vessel boat traffic [primarily dolphin tour operators, trolling fishermen (mackerel), and sight casting fishermen (cobia)] during the weekend in the BSE and CST waters around Shell Island, and the entrance to St. Andrew Sound. Spring appears to be a seasonal reproductive peak (N = 29 neonates including resightings) with 2015 summer and fall surveys yielding only 1-2 neonates observed. The CST3K offshore transect had no sightings except for two, Atlantic spotted dolphins that bow rode the survey vessel for ~10 minutes before losing interest and heading farther offshore. Based upon stock assessment reports and personal communications, Atlantic spotted dolphins may have seasonal (spring) movements into the nearshore waters of the northern Gulf of Mexico, specifically the coastal waters of SAB.

Data entry and photo analyses for all 2015 field work are complete. The dorsal fin catalog, sighting locations, and a draft final report for the 2015 data will be submitted to the Gulf of Mexico Dolphin ID System (GOMDIS), OBIS-SEAMAP, and Naval Undersea Warfare Center Division Newport, respectively, by August 31, 2016. Data entry and photo analyses for the 2016 data will begin during this time as well.