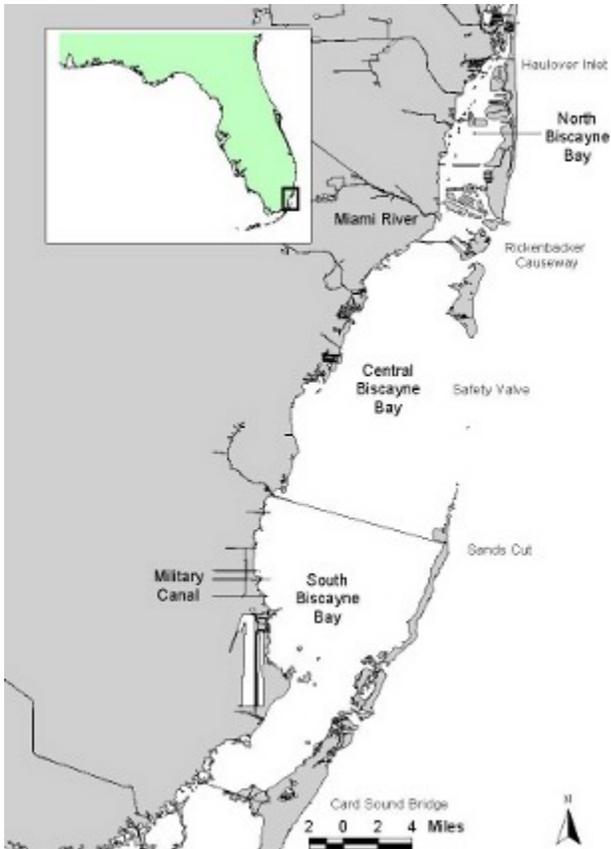


# Biscayne Bay Bottlenose Dolphin Photo ID Project



**Map of Photo ID Study Area**



**Bottlenose Dolphin D-057**

Photo Credit: SEFSC

**Bottlenose Dolphin D-057**

Photo Credit: SEFSC

**Bottlenose Dolphin D-057**

Photo Credit: SEFSC

- [Photos from our Photo-ID Studies, along with a selection of other marine mammal photos](#)
- [Archive Photo ID database \(1999\)](#)

## Introduction

In 1990, the National Oceanographic Administration (NOAA), National Marine Fisheries Service (NMFS), Southeast Fisheries Science Center (SEFSC) Miami Laboratory initiated low-level monitoring of bottlenose dolphins, *Tursiops truncatus*, in Biscayne Bay, Florida using photographic identification (photo-ID) methods to gather information on the numbers of bottlenose dolphins that utilize this area. The main goal of these surveys is to establish an archival database which can be used to detect large-scale changes and long-term trends in dolphin abundance and habitat use in Biscayne Bay. Major objectives include describing the Biscayne Bay population in terms of abundance, distribution, site fidelity, natality and mortality. Aside from 20 aerial surveys (40 survey hours), conducted in the mid 1970's by Odell, very little formal research had been conducted on the abundance and distribution of bottlenose dolphins in Biscayne Bay prior to 1990. Although the project began in 1990, initial survey effort was low and confined only to Central Biscayne Bay (CBB). Survey efforts were suspended in 1991. In February 1994 the project resumed, and in September 1994 the survey area was expanded to include both North Biscayne Bay (NBB) and South Biscayne Bay (SBB). Beginning in 1995, survey effort became more consistent, both in number of surveys and coverage of the entire study area.

The Biscayne Bay study site encompasses an area of approximately 200 mi<sup>2</sup>. For the purposes of the Biscayne Bay photo-ID project, the study area is divided into three fairly distinct physiographic regions. North Biscayne Bay (NBB), which is bounded by Haulover Inlet to the north and the Rickenbacker Causeway to the south, is characterized by significant shoreline development, numerous artificial "spoil" islands and dredged areas. The Port of Miami and Miami River are also located in the

NBB region. Central Biscayne Bay (CBB) which runs from the Rickenbacker Causeway south to an area of sand and mud "stringer shoals" called the Featherbed Bank. This region contains a moderate amount of shoreline development (mostly located in the northernmost areas), and consists of a variety of habitats, including shallow grass and mud flats, mangrove shoreline and relatively deep natural basins. The most significant feature of CBB is a broad area of shallow grass flats and evenly spaced tidal channels (The Safety Valve), which communicate directly with the adjacent offshore waters. South Biscayne Bay (SBB), which includes two smaller basins, Card and Little Card Sounds, extends from the Featherbeds south to the Card Sound Bridge. The shoreline of the SBB region remains largely undeveloped. SBB is characterized by shallow grass flats, numerous hard bottom communities, and mangrove islands. Card Sound links with several smaller bays (including Barnes and Blackwater Sounds), which communicate with Florida Bay and the waters of the Florida Keys.

### **Future projects**

In January 2000, a meeting was held at the NOAA/NMFS/SEFSC Miami Laboratory to establish a South Florida Bottlenose dolphin photo-identification cooperative. The purpose of creating the cooperative was to facilitate sharing of data and ideas of members through the development of a web-site. The web-site allows researchers from each of the representative photo-ID projects immediate access to current and updated photos and developments from all south Florida projects. The cooperative also links the various south Florida photo-ID projects, increasing the geographic coverage from Port Everglades through Florida Bay and the lower Keys.

We just completed a biopsy collection program which utilize DNA analysis and photo-id records to focus on individual dolphins to answer specific questions concerning:

1. The relationship of Biscayne Bay bottlenose dolphins to other populations found to the north (Indian River, Jacksonville), and to the south (Florida Bay and the Florida Keys).
2. The degree of mixing between Biscayne Bay dolphins and those found in the immediate offshore areas.
3. The relationship of association of animals within the Biscayne Bay population (social affiliates, parents and offspring).
4. The extent of seasonal range and rates of movement of animals found in Biscayne Bay within adjacent study areas.

Additionally, we would like to expand our southern boundary to include the adjacent waters of the upper Keys and northeastern Florida Bay including Barnes Sound, Blackwater and Little Blackwater Sound, Manatee Bay and Long Sound in order to investigate possible immigration, emigration and/or mixing with animals from adjacent photo-id projects in the South Florida dolphin cooperative.

We believe that photo-ID surveys should continue in the Biscayne Bay study area to maintain an uninterrupted database.

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