



July 12, 2024

**10,000 ISLANDS DOLPHIN STUDY PROJECT
MARCO ISLAND, FLORIDA
2024 SECOND QUARTER REPORT MAY 1-JULY 31**

OBJECTIVE: The 10,000 Islands Dolphin Study Team monitors the travel range, social behavior, abundance, genealogy, feeding habits, health and overall well-being of the bottlenose dolphin population in the waters of north Marco Island, Florida and surrounding vicinity. The study has a database of documented sightings dating back to February 8, 2006, and created a new, unique database in 2018 to detail more efficiently the above mentioned criteria, and more. The enclosed information describes data compiled for the calendar period of April 1, 2024, thru June 30, 2024. The study continues.....

During this 3 month period the team experienced 128 excursions with a total of 2,126 individual sightings of more than 135 identified, local dolphins for an average of 17 dolphins per excursion. This brings our annual total for the first 6 months to 4,009 sightings during 282 excursions. Our 2023 total for the entire year yielded 4,763 individual, identified dolphin sightings of more than 125 local bottlenose dolphins during 434 excursions, an average of 11 dolphin sightings per trip.

ECOSYSTEM: The 10,000 Islands and Rookery Bay are mainly a red mangrove forest with shallow water content. Before human development in this region, dolphins primarily fed around the base of the mangroves, on the sandbars and the mud flats. The introduction of civilization produced additional foraging opportunities with docks, seawalls and canals. With an abundance of food in this habitat the bottlenose dolphin population does not migrate any great distance from our survey area, but some do have an extensive travel range. These are a residential, coastal species. Ranging from Young of Year to the oldest adults, this local population will consume, collectively, about 1 ton of fish per day.

FEEDING: Many of our dolphins feed individually along the base of the mangrove islands and on the sandbars because of the shallow waters here. They don't require a pod structured society as witnessed in offshore feeding habits. They also trap fish along the seawalls. On occasion, small groups will work together herding fish to sandbars or shorelines for an easier, shallow water catch. Strand feeding has been observed locally along mud flats.

IDENTIFICATION: Our dolphins are identified by markings on their dorsal fins; nicks and notches caused by one dolphin raking its teeth across another's dorsal fin. The marks are unique to each dolphin and rarely are any 2 dolphins' markings identical. Photos of every dolphin dorsal fin on each excursion are documented and transferred to

computer files of each individual dolphin which, in turn, are transferred to our database for historical purposes.

Markings will change over time so dated photo identifications and constant updating of files and the database are required to maintain accuracy of the monitored local population.

NAMES: Names given to dolphins here primarily derive from guests, staff and area organizations. They are unique to the 10,000 Islands Dolphin Study Program and are the property of the Project. Each dolphin also has a catalog number.

COOPERATIVES: The team has worked with, and assisted, Florida Fish and Wildlife Conservation Commission (FWC) as well as NOAA to rescue and/or identify dolphins in need of assistance and to provide historical data of deceased or injured mammals.

ENCLOSED IS A SUMMARY OF ACTIVITY REGARDING OUR BOTTLENOSE DOLPHIN POPULATION OVER THE SECOND QUARTER OF 2024 WITH AN INCLUSION OF HISTORICAL DATA DATING BACK TO 2006.

2024 SECOND QUARTER REPORT

CALVES: The primary birthing season of calves in our habitat is September, October and November. Of the 11 calves born in the Fall of 2023, 7 are still alive and will reach their first birthdays this Fall. Of the 4 that did not survive 3 were all

born to first time mothers. Our dolphins have a gestation period of about 12 months and calves typically stay by a mother's side for 3 years. As of mid to late June, 2024, 2 calves have left the care of their mothers, at approximately 33 months old each. This is a strong indication that these 2 adult females are about 9-10 months pregnant.

The team anticipates that 10 to 15 new calves will be documented this Fall birthing season.

From 2018 through 2023 the team has documented 52 new calves born, with 43 surviving, a success rate 80+%.

SUB ADULTS: Young dolphins that leave the care of an adult female are no longer calves, but now known as “Sub Adults” since they will not become adults until they mature at 7 to 14 years of age. Some dolphins in this category will form small groups of 3 to 6 individuals that socialize and feed together on a regular basis. We anticipate that several more calves will join this category as adult females give birth to new calves. Some of the male sub adults tend to leave the area. Outside studies suggest that the older, mature males will drive the young males from the region, recognizing that they may be competition for mating rights as they mature. Female sub adults to be free to roam within the existing society.

The health and well being of the sub adult population in general is excellent. Foraging does not appear to be an

issue, since many of these were taught to feed by their mothers in a certain area, described as a “natal range” and our team finds these sub adults feeding in these areas frequently, exactly where they were taught to feed by the mothers.

ADULT FEMALES: Adult females in our study area total 39, outnumbering males almost 3 to 1 (15 males). Once they begin producing calves, the tendency is to birth a newborn about every 3 to 4 years. Since 2006 we have documented females that have given birth, and those young females have now given birth, producing 9 known grandmothers in our society.

We have a young female that, if she gives birth this Fall, we will know our first documented great grandmother, a 4th generation of dolphins in our study group.

The team has listed 15 females that have potential to give birth this Fall. Likely, not all of these will produce a calf, but the birthing season should be healthy in 2024.

Even though our births take place primarily in September, October and November, there are noted exceptions. Female Sparky gave birth in the Fall of 2022 and that calf only survived about 8 months, until May 2023. It is typical for an experienced female mother to get pregnant within 60-90 days of losing a calf. With a gestation period of 12 months we have witnessed several moms producing a new calf 14

months after the loss of a calf. Sparky should give birth this month, July, 2024, or August at the latest.

In general our adult female population is very healthy.

ADULT MALES: Of the 15 adult males in our society, 6 dominate the mating in our area. 3 pairs of males, known as “Male Pair Bonds” are the “kings of the jungle” and will often deter other males from approaching females by use of physical interaction, sometimes very rough.

Some of these dominant males are aging and the average age of these top 6 is estimated to be about 40 years old each, possibly more. Younger males about 16 to 20 years of age are becoming more aggressive and may take over a top spot in the male society.

Several adult males tend to stay to themselves, occasionally socializing, feeding or traveling with others in small groups but very singular in their general behavior.

Overall, the male population appears strong and healthy.

ENVIRONMENTAL ISSUES: There have been no significant weather events in 2024 and no known algal blooms or other bacteria related outbreaks in the Marco Island area.

Hurricane season is upon us and we will monitor our dolphin behavior closely over the next quarter.

2024 EVENTS: Societal behavior has been consistent over the past 3 months with no significant changes to report.

Some of the 3 year olds have now left their mothers' sides as birthing season approaches, with several more calves anticipated to follow that trend in the next few months. This is a strong indication that the mothers of these calves are pregnant and are expected to birth a calf this Fall.

The team has listed a potential 15 adult females that may give birth this Fall, plus a few sub adults that may have matured and produce a first calf as well.

With a total identified population of 135 dolphins the team could potentially document a 10% increase in our population this Fall, much more than usual.

The average number of identified dolphins per excursion this quarter is 16. Over the past 4 years each quarter has produced an average of 11 identified dolphins per trip. This is quite an unexpected increase.

The number of identified dolphins for all of 2023 was 4,763. In just the first 6 months of 2024 our number is 4,009. This is quite an increase in such a short period of time, but all of the sightings are local, identified dolphins familiar to our team.

In addition, there have been many transient and unidentified dolphins in our survey area as well.

Changes in dorsal fin markings will continue and will be noted daily so as not to lose track or mistake the identity of any bottlenose dolphin in our local society.

REPORT: This report was compiled by the 10,000 Islands Dolphin Study Project's team members which include an Environmental Scientist, a Marine Biologist and 3 Florida Master Naturalists (Certified thru the University of Florida). This report is presented to you by Lead Naturalist / Florida Master Naturalist Bob McConville.

You may contact Bob at 239-642-6899 or by email at dolphinsofmarco@gmail.com. Bob and the team welcome all inquiries regarding our program and look forward to other institutions sharing their data and thoughts with our team.

Thank you for your time to read our report. We hope it generates some thoughts about the importance of sharing data worldwide.

Our motto: PASSION, INTEGRITY, EDUCATION!

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