

Seabrook Island Final Report for funding period April 2020-December 2020

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Description of the Project:

The Seabrook Island dolphin education program recruited 14 volunteer educators to rotate 4 hours shifts on the beach daily from May through December. Each shift bracketed low tide when dolphins are most likely to be feeding and when the spit sees the most visitors (to see the dolphins). The educators post 5 signs at approximately 45 feet from the water's edge to encourage visitors to stand there. The educators collected data such as weather parameters, an estimate of the number of dolphins seen during the shift, an estimate of the number of dolphins participating in strand feeding, and how many visitors they talked to and their reactions. Frequency and type of harassment was also recorded. The main objective for the educators was to engage with the public, give information about the local dolphins that came into the spit and to provide information about the Marine Mammal Protection Act (MMPA) regulations and guidelines. They asked the public to:

- View dolphins from a distance and get a better view using binoculars.
- Give dolphins plenty of space and keep dogs away from the shore where dolphins may be present.
- Avoid loud or sudden movements.
- Do not feed or attempt to feed wild dolphins! Feeding or attempting to feed dolphins in the wild is both harmful and illegal – this includes throwing fish on the shore back to dolphins while they are strand feeding.

Conservation Plan Goals:

This project proposed to educate local residents and visitors about dolphin conservation, in hopes to reduce disturbance to strand feeding dolphins.

- This was the main objective of the program and we were successful in fulfilling this goal. Educators were on the beach daily to talk to visitors and residents about the dolphins, strand feeding and to reduce disturbance to the feeding dolphins. The public was overall very receptive to the educator's information, respectful of their suggestions about giving the dolphins space, and often very thankful for our work at the spit. We got to know many Seabrook residents and found many residents passing this information onto their friends, visitors, and/or renters.

This project proposed to educate residents and visitors that Seabrook Island is very unique because it is one of the few places where dolphins are known to strand feed and the public can easily access the area where strand feeding occurs and view this behavior.

- The educators were equipped with this information as well as laminated NOAA fact sheets to share with inlet visitors. The educators are trained to educate visitors how unique this feeding behavior is both within the greater Charleston area as well as the world. They also told visitors about how few dolphins participated in this behavior making the behavior even more unique and at risk without intervention.

The project proposed to educate the community about dolphin conservation by requesting local businesses (i.e. hotels, marinas, bait shops, boat retail facilities) to help distribute outreach materials.

- We have brochures placed at the Town Hall. Additional brochures were placed at local business around Freshfields, and to a few rental companies. Due to the Covid-19 pandemic, we were not able to set up at any local events.

Outcomes:

1. Continued to monitor a small group of strand feeding dolphins.
2. Continued to monitor a mother/calf pair as the mother has been “teaching” her calf.
3. Scheduled to present to SINGH (Feb 11th).
4. Spent an additional 46 days on the beach than 2019.
5. Talked to an additional **1,722** beach visitors than 2019.
6. Consulted with two natural history films on Seabrook Island.

The main outcome proposed was to reduce harassment to feeding dolphins. We feel we were successful in this goal. While education can be hard to quantify, most of the visitors we talked to showed a positive response to our information and followed our suggested guidelines. A high percentage of these folks were also unaware of any regulations with the dolphins and thus we were providing novel information. We saw dolphins and strand feeding in every month of the program, with a peak in visitors in June-August. When an educator was present, visitors were likely to stay back from the dolphins, keep quiet, sit down and avoid disturbing the dolphins. The success of the educator program was most apparent when there was not an educator on the opposite side of the spit. On days when an educator was not present, visitors on that side were reported to be following, disturbing, rushing or trying to swim with the dolphins. Visitors would stand with their toes in the water to try and get a good picture. Visitors were reported to approach the dolphins, allow kids to splash and yell at the animals and follow them back and forth. We had two major incidents of visitors interacting with the dolphins on SBI- one person on the ground grabbing fish from the dolphins as they fed, and 2, a fisherman tossing bait at the dolphins. Both incidents occurred when an educator was not present to intervene. Other minor incidents were people jumping in the water to swim, tossing food items towards the dolphins, and chasing and/or following the dolphins in a boat or kayak. During the filming of the two films, it was noted that the dolphins spend a greater proportion of time in or near the inlet than previously known. On some days, the dolphins stayed in the inlet for 12 hours (including a high tide). On other days, the dolphins would come and go from Beachwalker park over an extended period of time. This indicates the dolphins rely on this inlet more heavily than previously known and we intend to investigate this further. We also documented the 3 yr old calf (known as Kai), often watching others strand feed, working the edges closely with its mother, and other behaviors that appear it is learning the process. No new calves were identified this year. This information is valuable as it indicates the spit is a critical habitat for this group of dolphins and disturbance could alter their behavior, thus, losing this phenomenon on Seabrook Island.

Table 1: Data 2019-2020

Year	2019	2020
Number of people spoken to	1,252	2,974
Number of shifts	80	126
# of hours on the beach	320	504
# of dolphin sightings	348	676

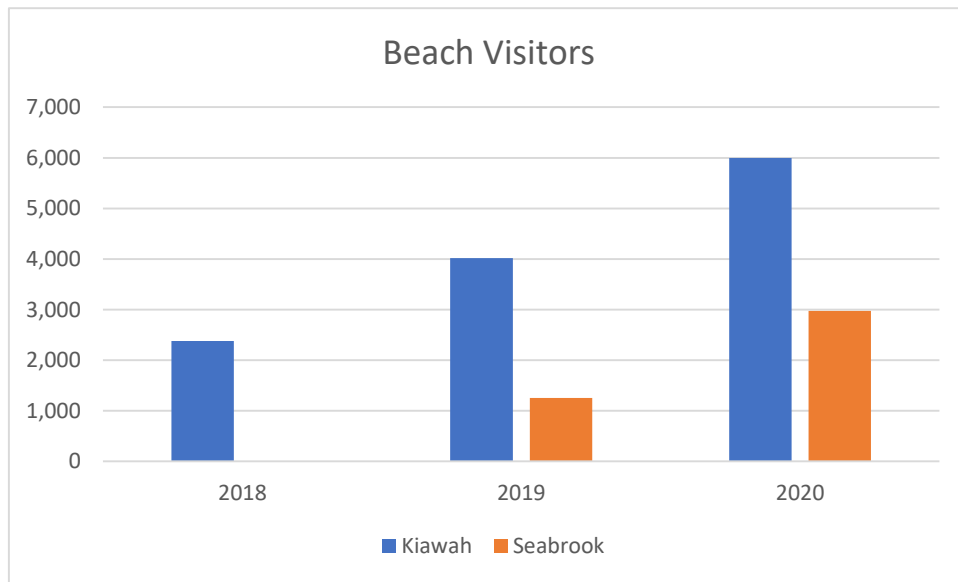


Fig. 1: Total number of visitors spoke to over the 3 study years. While the number significantly increased, we did spend an additional 46 days on the beach in 2020. We did notice the beach was busier than normal likely due to the pandemic with residents and visitors staying on Seabrook to ride it out. As we spend more shifts at the spit, we feel the data becomes more accurate. This highlights the significant # of visitors that visit the spit to see the dolphins.

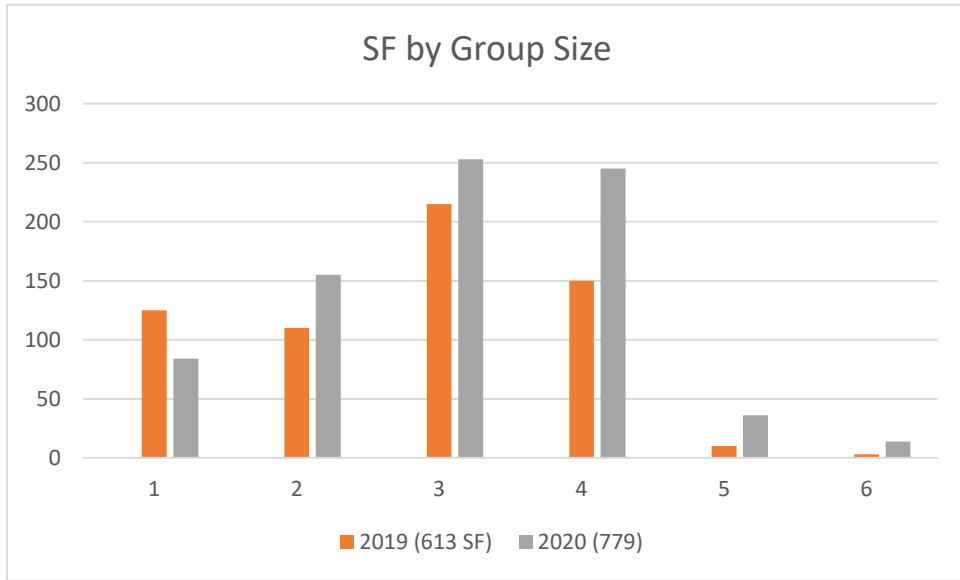


Fig. 2: # of animals that strand fed together (1-6 animals together), with 3 animals being the most common. 2019 vs. 2020

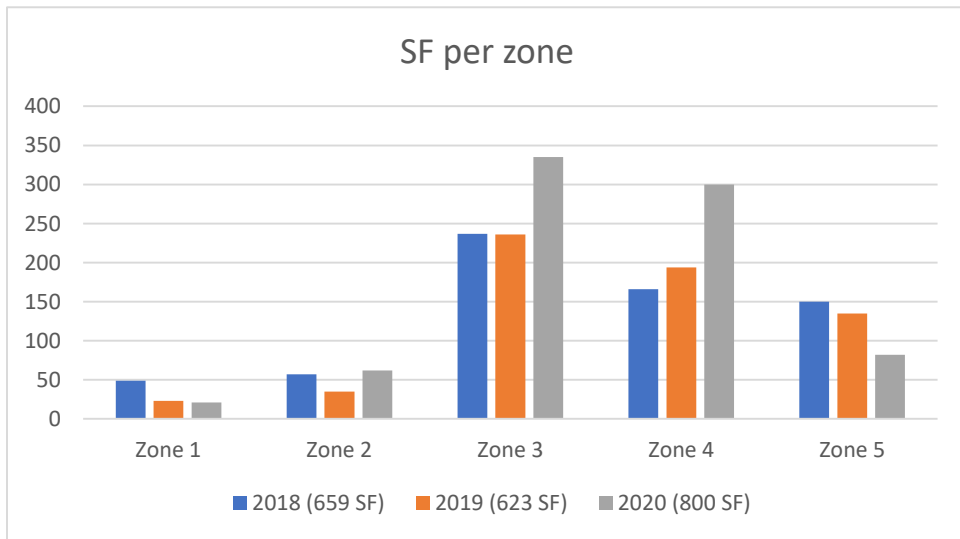


Fig. 3: Strand feeding per “zone”. We have 5 designated zones that covers the inlet on both Seabrook and Kiawah island. Zone 3 is the middle section of Kiawah and Zone 4 is all of SBI.

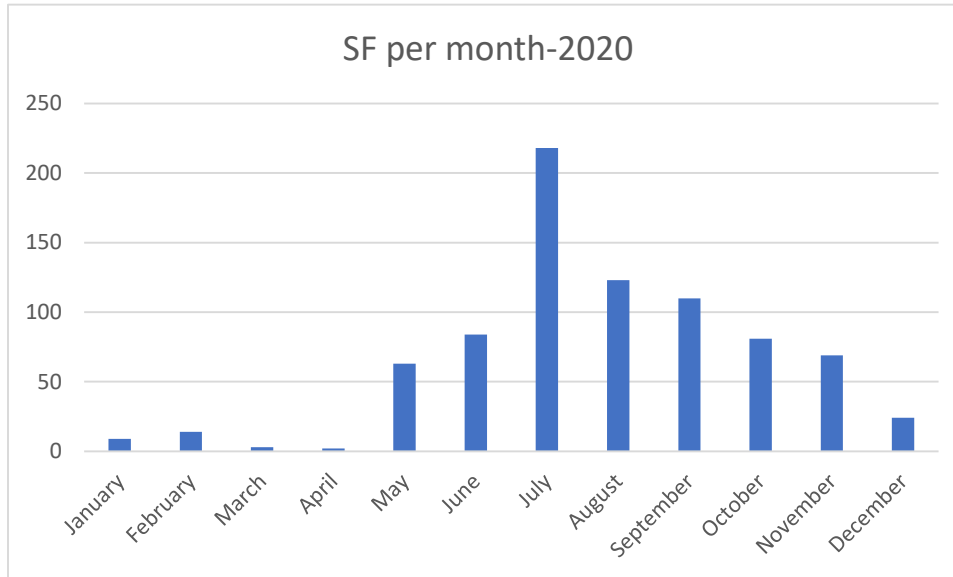


Fig. 4: Stranding events that were recorded each month over the course of 2020, indicating the dolphins strand fed the most during July.

Benefits to the Town of Seabrook:

One proposed benefit of this project was the safety of both the dolphins and humans at the spit. Adherence to our recommendations allows the dolphins to feed safely and undisturbed.

Strand feeding is a rare behavior and one of great value to the Charleston community and specifically Seabrook Island as the opportunity to see it is so accessible. Residents and visitors come to the spit for a chance to see the dolphins feeding, whether on land or by a water vessel. We see residents come routinely and often bring friends and visitors. We’ve also met part time residents that come yearly and have been for many years and decades. The value to both the tourism and local community (and general beauty) of Seabrook Island is high but should be regarded cautiously because without continued monitoring there is a high risk of losing this unique behavior. We only identified 11 dolphins that strand feed at the spit, but we regularly see the same 6-7 animals. We cannot stress enough that this is a very small portion of the population and chronic harassment could cause the animals to retreat. This education program provided information to ~3,000, only a fraction of those who come to the spit.

Another benefit to the town is the amount of scientific data we’ve collected on the dolphins, their behaviors and use of the spit. This is a great study site for the reliability of dolphins present and the small number of known animals. Moving forward we’d like to look at individual animals, observe the learned behavior between mother and calf, continue to monitor the frequency of strand feeding vs. educator presence, and survey visitors to better inform our outreach. This information can be used by Town leaders or managers when assessing development, land use, moving of the spit, or other major planning decisions. We plan to publish our data this year in a per-review journal.

Concerns and Recommendations:

One concern was the amount of disturbance kayaks in the spit had with the dolphins. While we realize much of this was unintentional and likely due to a lack of knowledge about federal guidelines (NOAA recommends vessels do not approach within 50 yards) it was a common threat throughout the year, particularly during the summer months. Kayaks often approached within a few feet, crowd dolphins on the shoreline or docks, followed for extended periods of time (back and forth in the spit), circled animals, split up animals or created a semi-circle to the shoreline essentially “trapping” animals. Feeding dolphins were often approached and “spooked” off sometimes leaving the spit altogether. The dolphins often times were seen exhibiting signs of distress or disturbance such as “chuffing” (loud exhalation usually 3-4 times in a row), tail slapping several times, leaping from the water, or abandoning attempts to feed.

I think NOAA sums up our concerns best in two recent statements:

“Chronic disturbance can lead to displacement from, or avoidance of, important habitats”.

And...

“Though a single disturbance may seem inconsequential, nearshore pods frequently experience numerous disturbances throughout the day from commercial dolphin tours and recreational viewers”.

A second concern are boats cruising through the inlet fast to get to/from the ocean. We applied for a “no wake zone” but we were denied based on the fact that the inlet is wide enough for boater safety. While we are researching other methods, we’d encourage both towns to communicate to their residents the importance of moving slowly and cautiously through the inlet. During the busiest season, there are almost always dolphins in the inlet. They are moving slowly and typically near the surface. Additionally, when hunting they may not be as aware of a fast - moving vessel. The boats coming through quickly often are not aware of the dolphins and we have witnessed them whizzing directly overhead of dolphins. They also disrupt feeding attempts as their wake displaces schools of fish and lastly, it often ruins the opportunity for onlookers to view the dolphins as 9/10 the dolphins abandoned feeding efforts, dive deep to avoid vessels, or left the inlet when boats arrived, thus, disturbing the experience of visitors who came to view the dolphins. This experience has great value to the town and any effort to protect it should be taken.

With the PGA tour in May, increased island visitors due to the pandemic, and media attention once the wildlife films are aired will undoubtedly bring more visitors to the spit. Our goal is to increase our volunteer program to ensure we are onsite each day, increase outreach within the community and share our data with the community.

Recommendations:

- We know how important watching strand feeding is to the Seabrook Community and we recommend continued, permanent education (such as monitoring/educators) and feel this is critical to the sustainability of this behavior here at Seabrook.

- The semi-permanent signs were a great help but only helpful when posted (during the 4 hour shifts when an educator present). We'd like the town to consider posting permanent signs near the spit to alert visitors when an educator is not present.
- Additional information given to guests, property owners, and visitors to increase the awareness about the dolphins and recommendations.
- We'd encourage the Town to communicate about the federal regulations and the town's commitment to enforce both town ordinances and federal regulations.

I'd like to thank the Town of Seabrook for this opportunity to serve the community and bring my knowledge and expertise to this important cause. I'm always welcome to suggestions on making the program better. -Lauren Rust