

NESTING MONITORING ON SINT MAARTEN

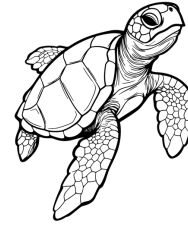
Leslie Hickerson
Nature Foundation Manager

*Sea Turtle Nesting Monitoring
Methods and Results 2005-2023*

Presentation Topics



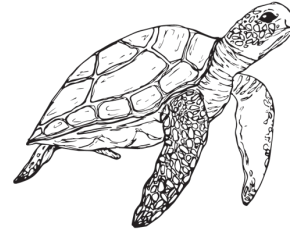
About NFSXM



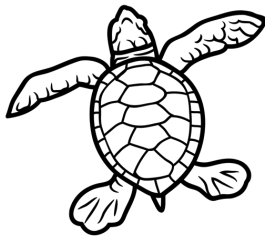
Current Methods



History of Monitoring



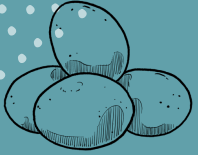
Data Results



Active Beaches

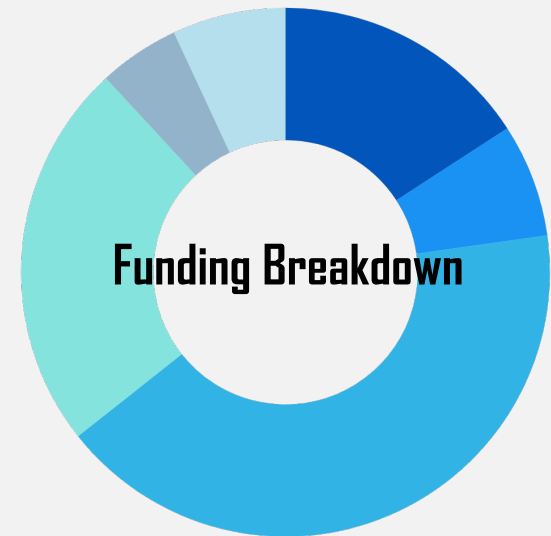


Challenges/Opportunities



About NFSXM

- Established in 1997
- Non-profit
- Non-governmental
- Operates via a Service Level Agreement with the Government of Sint Maarten.
- Only operates on the Dutch Side of SXM
- Extremely reliant on project staff and interns
- Tasks:
- Environmental Protection through; invasive species management, biodiversity preservation, endangered species protection as the CITES Authority for SXM
- Scientific Research & Monitoring
- Education & Awareness
- Manage 'Man of War Shoal' Marine Park



History of Monitoring



Unfortunately, methods have varied over the years, so a comprehensive data analysis is difficult.

The 2005-2018 data set is unreliable due to the number and nature of the recordings.

All sea turtle species are protected by the SPAW Protocol and the Nature Conservation Ordinance St. Maarten Articles 16 and 17, therefore it is illegal to kill, wound, capture or pick up sea turtles. It is also illegal to directly or indirectly disturb their environment resulting in a physical threat or damage, or to commit other acts which result in disturbance of the animal. It is forbidden to disturb, damage or destroy sea turtle nests, lairs or breeding places. Also, it is forbidden, by the same law, to pick up or to destroy the eggs of any species of sea turtle.

The Nature Foundation has kept record of sea turtle nesting on SXM since 2005



Nest Excavation in 2012

Sint Maarten / Saint Martin land border agreement

Red = Terrestrial Zone

Grey = Maritime Boundary (signed in Philipsburg on 6 April 2016)



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

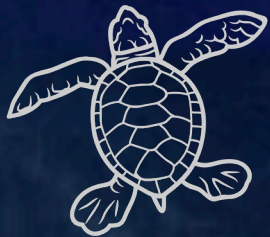
Image © 2023 Maxar Technologies

Image © 2023 Airbus



6 km

Active Beaches



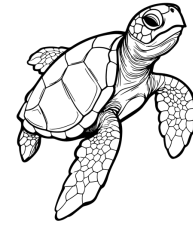
Only 9 Nests in 2023 on Sint Maarten
62k away on Sint Eustatius recorded 77 nests (55 confirmed via excavation)



It's currently the 2023 sea turtle nesting season on Sint Maarten! Swipe to find out what you need to know.

WHEN IS NESTING SEASON?

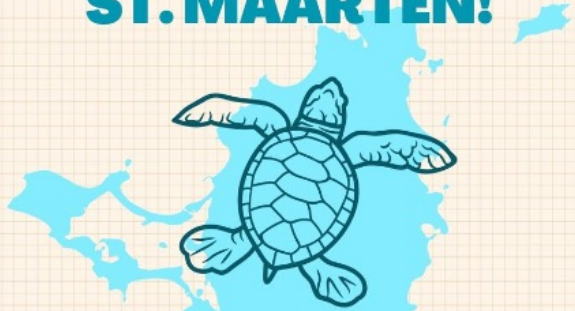
May 1 through December 31! Female sea turtles come ashore to dig nests and lay their eggs during these months. They may spend a few weeks swimming around the area and testing out sites before they lay. The eggs will hatch about 60 days later. In recent years, we've seen more nesting activity several weeks outside the traditional season. Tha... See more



Current Methods

- NFSXM currently executes daily beach monitoring from April-December.
- Volunteer network is sporadic with some years being strong and some being almost nonexistent.
- Monitoring data sheets are filled out with supplemental nesting/hatching data sheets.
- Beachfront property collaborations are extremely important.
- Outreach campaigns run throughout the year.

IT'S SEA TURTLE NESTING SEASON ON ST. MAARTEN!



WHAT YOU NEED TO KNOW

(2023 VERSION)



WHEN IS NESTING SEASON?

May 1 through December 31!*

Female sea turtles come ashore to dig nests and lay their eggs during these months. They may spend a few weeks swimming around the area and testing out sites before they lay. The eggs will hatch about 60 days later.

**In recent years, we've seen more nesting activity outside the traditional season. That means eggs are hatching as late as January or February!*



WHERE DO THEY NEST?

We see the most nesting activity on five less developed beaches with wider shorelines and remaining vegetation. They include:

- Dawn Beach
- Gibbs Bay
- Guana Bay
- Mullet Bay
- Simpson Bay

However, any beach with sufficient nesting area is fair game! Females have

- Great Bay
- Indigo Bay

WHAT CHANGES?

Bonfire policy!

Bonfires are **strictly prohibited** during the sea turtle nesting season on any of our top five nesting beaches. You **cannot** obtain a permit at this time.

Light emitting from the bonfires, or even the dying embers, deters females from coming ashore to nest (they prefer darkness) and disorients hatchlings (leading them to walk into the bonfire, instead of

HOW CAN I HELP?

Fill in any holes in the sand.

Hatchlings can become trapped in holes and ridges in the sand, preventing them from reaching the ocean.

Don't drive vehicles on the beach.

The weight and vibrations from cars and ATVs compact the sand, damaging the delicate eggs below the surface.

Reduce light radiance.

Close your blinds at night and look into red or amber sea-turtle friendly lighting, which sea turtles can't see as well.



Hawksbill Turtle

Sea Turtle Beach Patrols Info

Current Methods



Volunteer Training Sessions happen in late Spring each year and include interested residents, hotel employees, students, and property owners.

Signs have been placed on most active nesting beaches.

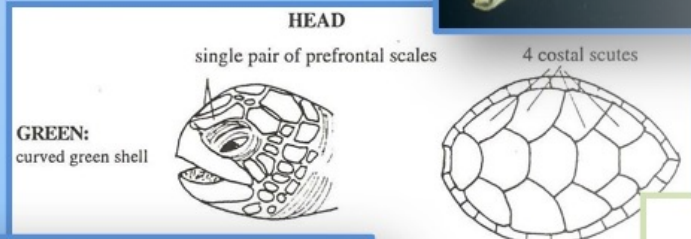
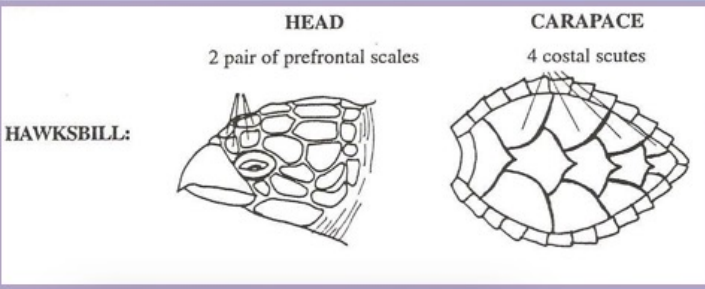


Asymmetrical tracks
70-85cm



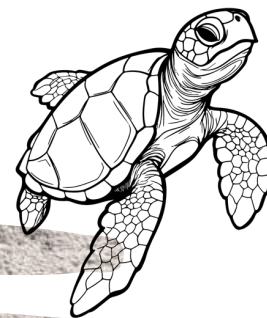
Green Turtle

Symmetrical tracks
100-130cm



Office: 5444267
Ranger: 5564298

Articles 16 and 17 of the Nature Conservation Ordinance St. Maarten to kill, wound, capture or pick up sea turtles or disturb their environment is forbidden to disturb, damage or destroy sea turtle nests, eggs or hatchlings.



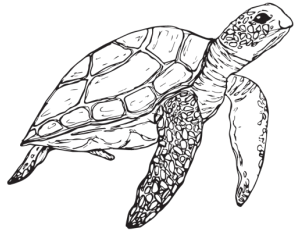
Current Methods

Current Methods



Spelling #s
1. malk
2. least
3. easy
4. socks
5. stuff
6. paid
7. cheese
8. Friday
9. June
10. elbow
11. program
12. shiny
13. piles
14. sticky
15. each
16. both
17. Comb
18. Holiday

PLACE VALUE
1,234
1000 200 30 4



Data Results

Species on St. Maarten:

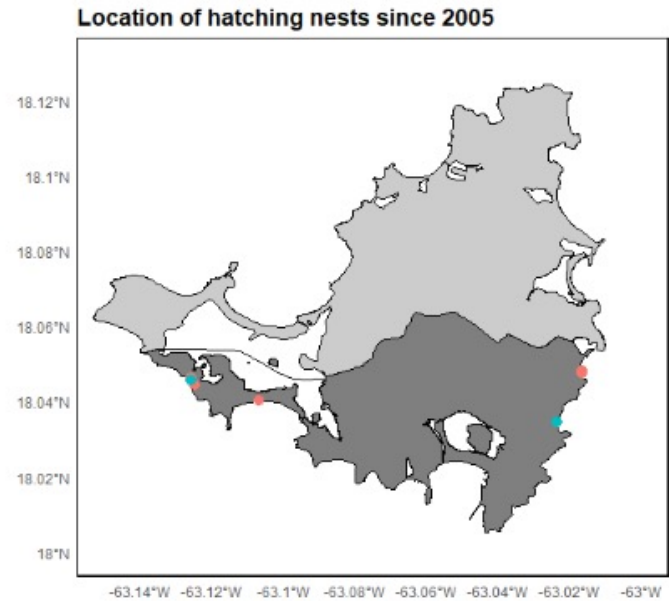
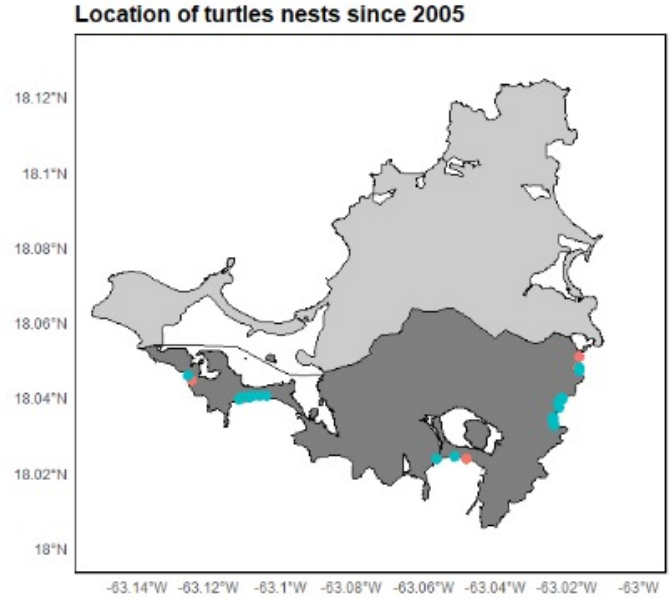
Foraging:

Green (*Cm*)/ Hawksbill (*Ei*)/
Leatherback (*Dc*)/ Loggerhead (*Cc*)

Nesting:

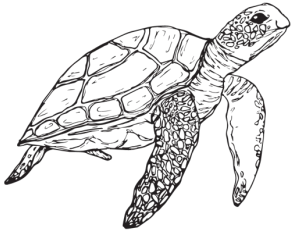
Hawksbill (*Ei*)/ Green (*Cm*) /
Leatherback (*Dc*)

1. Geographic Overview



Map of all observed turtle nests, hatched and unhatched.

Most nesting activity was observed on the Eastern beaches, Great Bay, West Simpson Bay and Mullet Bay. Nests were most successful in Mullet Bay, Simpson Bay and on the East side.



Data Results

2005 – 2018: There were very few surveys conducted. Data set is unreliable.

2019 – 2023: Regular surveys were conducted from March to November each year. Therefore, it is possible to interpret these data with confidence.

2. Yearly Data Overview

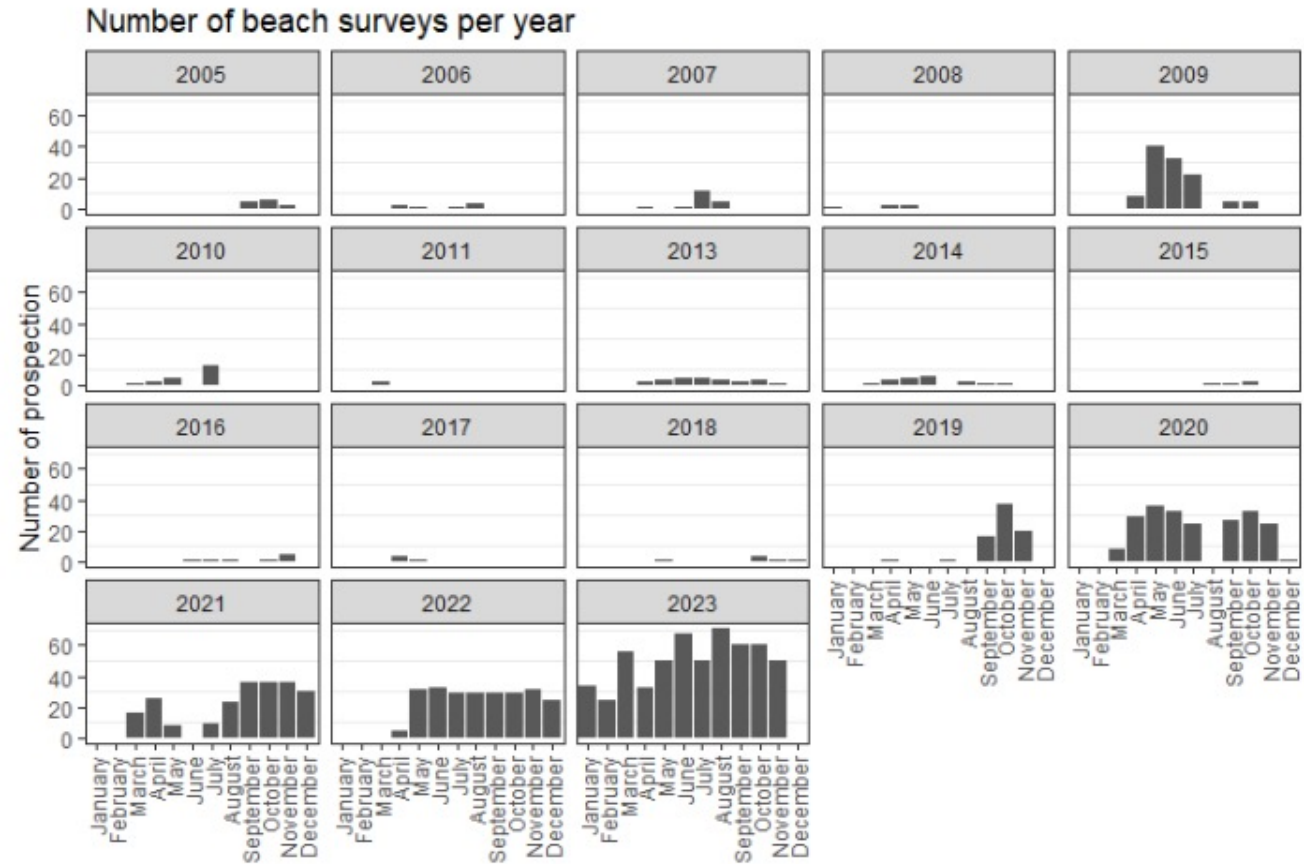
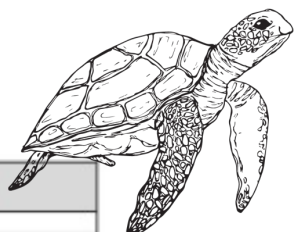


Figure 2.1: Number of beach surveys per month each year from 2005 to 2023



Data Results

First nests were observed in March, and last nests were mainly in November. Most nests were not confirmed.

The number of nests per month varies between years, with no observable trends over time.

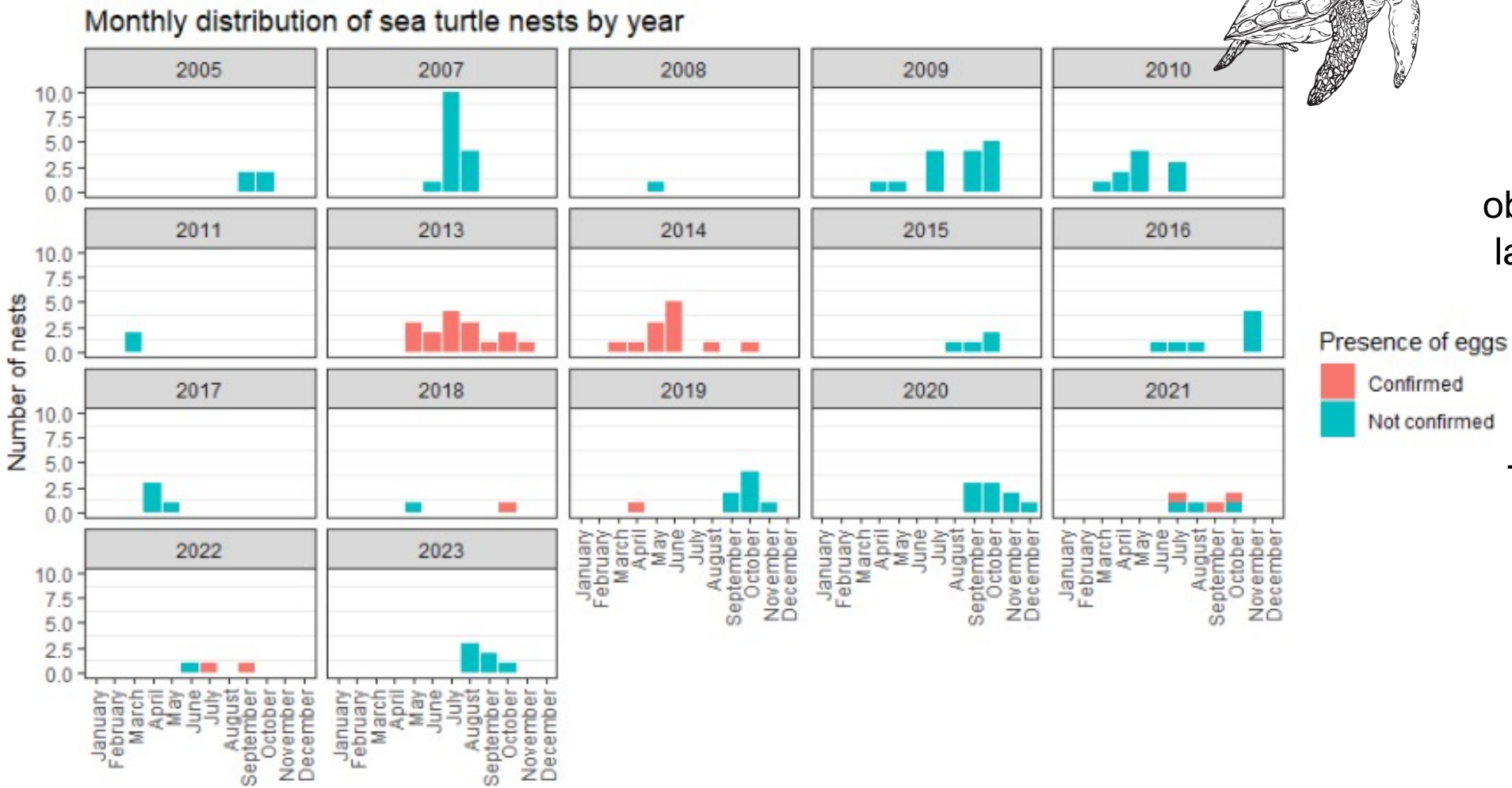
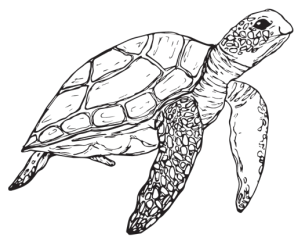


Figure 2.2: Number of nests observed per month each year. “Confirmed” (red) means that eggs were found in the nest. “Not Confirmed” (blue) means that eggs were not found, but not that there were no eggs.



Data Results

There have been more confirmed hatchings in the recent years. Hatchings occur between June and January

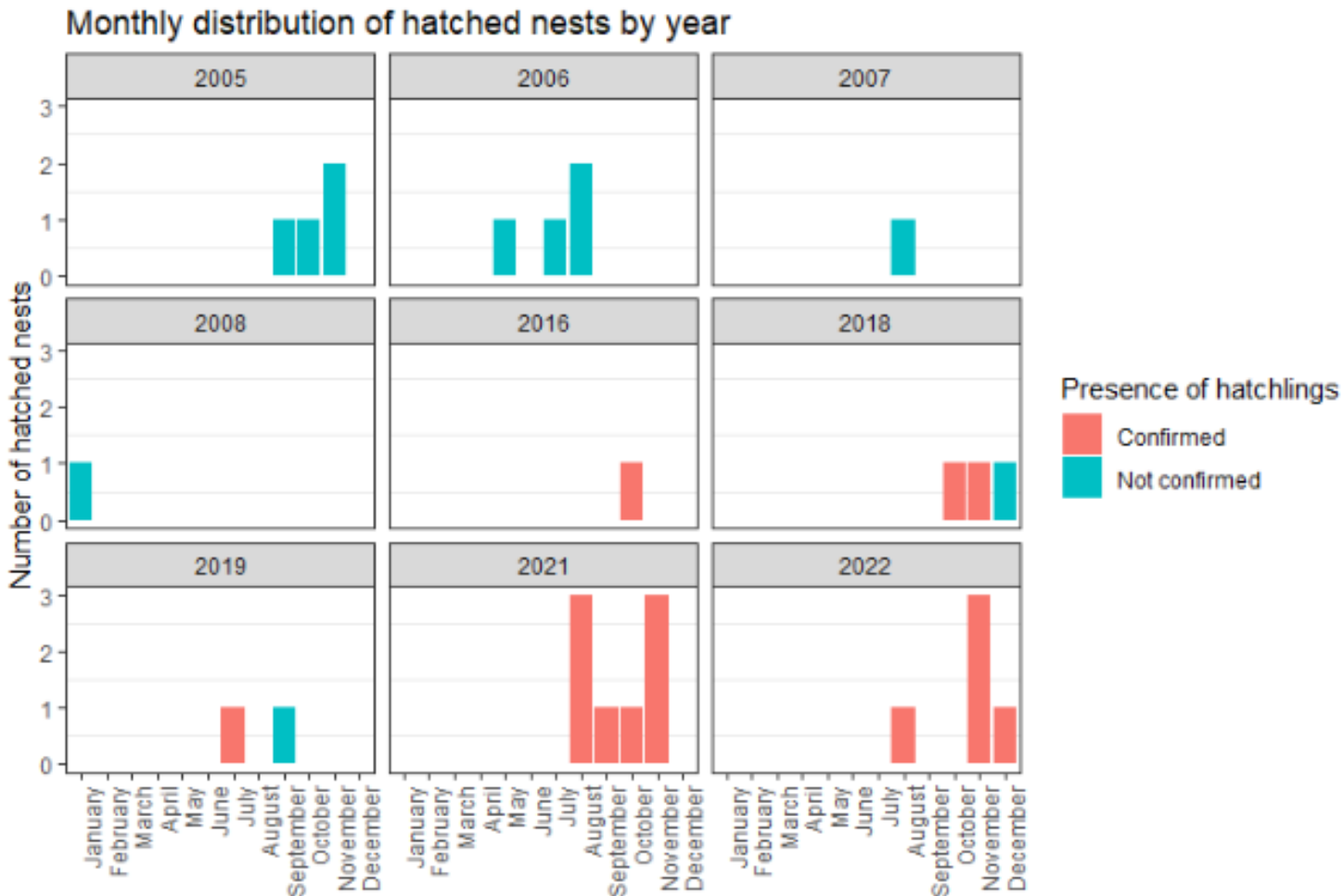


Figure 2.4: Number of hatched nests per month each year. “Confirmed” (red) means that hatchlings were found. “Not Confirmed” (blue) means that hatchlings were not found.

In 2022, 128 hatchlings were found stuck or obstructed by coastal development



Challenges





Challenges

<https://www.facebook.com/naturefoundationsxm/videos/215510583786508>



Graphic Image Warning



Challenges



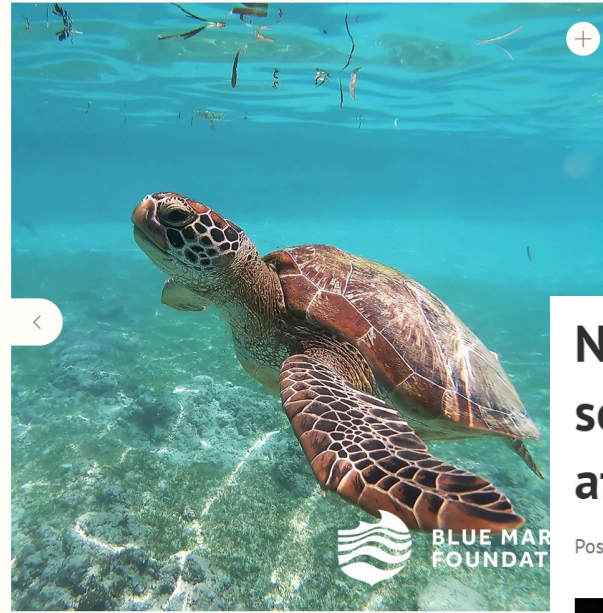
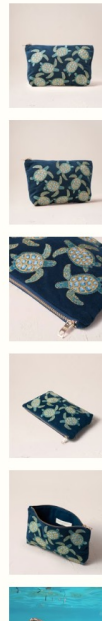
Graphic Image Warning





Opportunities

- Expanded Research
- Sea Turtle Friendly Lighting Outreach and Policy Work
- Expanded Education for Students, Residents, and Visitors
- Habitat Protection Policy Work (beach protection and speed limit enforcement within lagoon and coast)



Home > Turtle Conservation Everyday Pouch

Bought for a gift and she absolutely loved it, amazing quality products

Gill G. Verified Buyer

Turtle Conservation Everyday Pouch

★★★★★ (167)

Nature Foundation investigates solutions into light pollution affecting sea turtles

Posted on 21 Jun 2023





Nature Foundation

SINT MAARTEN



Thank You!