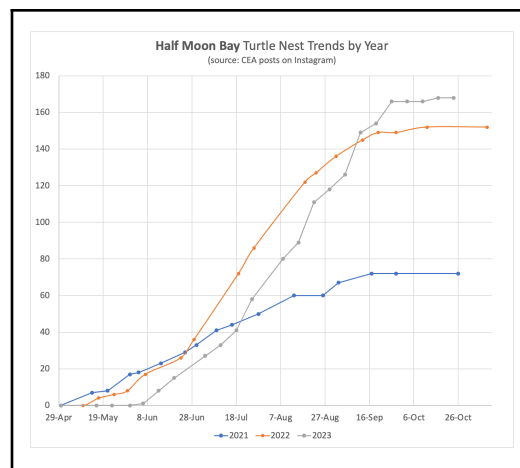


# Monitoring Turtle Nesting on the HMB Beach

The Centro Ecologico de Akumal is an independent environmental group based in Akumal that has been studying marine turtles since 1993. They have reached out to the HMB Sargassum Project about monitoring of the possible impacts on marine turtle populations that might result from the installation of a sargassum barrier outside the reef in Half Moon Bay. CEA is not getting paid to do this work by either EPA or the HMB Sargassum Project. EPA, however, is loaning CEA resources to improve their capabilities for monitoring turtle hatchlings during their swim out to the open ocean. These resources include a boat, underwater scooter, drones and a Go Pro.

CEA's original plan for environmental monitoring of turtles centered around tracking the outbound currents that hatchlings rely on to exit the bay. Marine biologists on the CEA staff thought adult turtles were unlikely to be impacted by the mesh skirt of the barrier because it extends only about a meter below the surface so they originally focused on turtle hatchlings and had fewer procedures in place for monitoring nesting activity. [As of September 15, 2023, however, nesting activity was higher in 2023 than it was in either 2022 or 2021.](#) And, in fact, 2023 nesting only began AFTER the beach had been cleared of sargassum that accumulated before the barrier was installed. So it seems possible that excess sargassum on the beach does, in fact, impact nesting, as shown in [this scientific study](#) on climate change.



As CEA points out, however, changes in nesting activity are coincident with MANY significant changes in our local environment:

- 1) Major new construction along the northern beaches where most nesting took place last year as well as lingering impacts from the construction of Nikte and Nikte-Ha.
- 2) An earlier start to the sargassum season than ever before PLUS more sargassum buildup, including on northern beaches
- 3) A significant reduction in beach cleaning activity
- 4) The installation of a sargassum barrier outside the reef in Half Moon Bay

CEA cautions that is not reasonable to jump to conclusions that the barrier impeded nesting activity, especially because:

- 1) The HMB barrier is almost identical to the sargassum barrier installed at the Vidanta Resort that does not interfere with nesting activity on their beach at all.
- 2) There appears to be a connection between sargassum and nesting activity. The first recorded nest in 2023 has arrived just as the first real efforts at beach cleaning began. And the image below from a [2022 Nesting Chart](#) shows how sargassum buildup may have been impeding nesting activity on long stretches of the HMB beach before the barrier was installed:



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## 2023 DATA COLLECTION PLAN

- 1) The impact on 2023 nesting at other beaches where barriers have been installed.
  - a) How many nests have been laid to-date in 2023 at beaches protected by barriers, including at **Vidanta** and along **Bahia Akumal**?
  - b) Has nesting activity on these other beaches decreased since barriers were first installed at these other beaches?
- 2) The impact on 2023 nesting from excess sargassum buildup
  - a) Comparison of 2023 sargassum removal efforts at the 4 beaches monitored by CEA. How do the “walls” of sargassum along Bahia Media Luna compare in size with the “walls” of sargassum along the beaches of Akumal Sur, Playa Tortuga and Akumal Bay? Is there more sargassum or less cleaning activity on BML than on other local beaches?
  - b) What is nesting data like on other beaches that have high “walls” of sargassum buildup just like BML? Are turtles clambering over sargassum “walls” of a similar height on other beaches? In other words, are there beaches with more nests behind “walls” of sargassum than we have on BML?

- c) Is there truth to the anecdotal evidence that fewer properties are removing excess sargassum from the BML beach in 2023 than in 2022 and that there might be fewer cleared “passages” through the sargassum “walls” along the beach in 2023 than there were in 2022?
- d) Could nesting behavior be influenced by the fact that the sargassum buildup in 2023 began earlier than in previous years and now extends further north in 2023 than it did in 2022? (EX. *Can we find photos of the sargassum buildup in front of La Mirage from April 2022 to compare to this photo from April 2023?*)



- e) How far does the sargassum buildup currently extend along the BML shore? What efforts are being made along the northern beach to clear sargassum buildup?

## HISTORICAL DATA COLLECTION PLAN

### 3) Comparison of nesting data from 2023 with historical data.

- a) CEA will create data tables to compare historical nesting & sargassum info to data from 2023, including, for example, data on the date of the first “false crawl” on the HMB Beach in each of the previous five years. Neighbors who want to edit or comment on these data tables, should feel free to do so!!

### DRAFT DATA TABLES

- b) CEA will analyze the [2022 nesting activity in the spreadsheet below](#) to determine why nesting was higher at properties that actively removed sargassum buildup from the shoreline and why there were 0 nests along the sargassum “High Impact Zone” of HMB beach. This photo below gives a pictorial representation of the nesting data in the chart below.

## HMB Nests vs Sargassum Infestation in 2022

| Lot # | Property Name                 | # Nests | Sargassum Buildup | Removal        |
|-------|-------------------------------|---------|-------------------|----------------|
|       | Yool Canal                    | 1       | None              |                |
|       | Empty lots North of La Mirage | 19      | Minimal           | Excess removed |
| H-D   | La Mirage                     | 7       | Minimal           | Excess removed |

|                |                          |           |           |                |
|----------------|--------------------------|-----------|-----------|----------------|
| H-E            | La Tortuga               | 8         | Minimal   | Excess removed |
| H-F            | Tortuga empty lot        | 5         | Minimal   | No removal     |
| G-53           | Tanik                    | 30        | Moderate  | Excess removed |
| G-52           | Tanik empty Lot          | 2         | Moderate  | No removal     |
| G-51           | Casa Fortuna             | 6         | High      | Excess removed |
| G-50           | La Joya                  | 1         | High      | Excess removed |
| G49 & G48      | Los Flamingos            | 0         | High      | No removal     |
| G-47           | La Bahia                 | 0         | Very High | No removal     |
| G-46           | The Reef                 | 0         | Very High | No removal     |
| G-45           | Luna Azul                | 0         | Very High | No removal     |
| G-44           | Playa Caribe             | 0         | Very High | No removal     |
| G-43           | Nikte Ha                 | 1         | Very High | No removal     |
| G-42           | Nikte                    | 1         | Very High | No removal     |
| G-41           | Playa Blanca             | 0         | Very High | No removal     |
| G-41-D         | Del Sol Norte            | 1         | Very High | No removal     |
| G-41-B         | Half Moon Bay            | 0         | High      | No removal     |
| G-41-B         | La Belle Vie             | 0         | High      | No removal     |
| G-41-C         | Lol Ka'Naab              | 1         | High      | No removal     |
| G-39 to G-41-B | Del Sol Hotel & Condos   | 1         | High      | No removal     |
| G-37-G39       | LBV Empty Lots           |           | High      | No removal     |
| F-34 to F-36   | La Buena Vida (business) | 0         | Moderate  | No removal     |
| F-33           | The Rock House (house)   | 0         | Moderate  | No removal     |
|                | <b>Totals</b>            | <b>84</b> |           |                |

[2023 DATA COLLECTION PLAN](#)

[HISTORICAL DATA COLLECTION PLAN](#)