

Illegal take of sea turtle in Bocas del Toro, Panamanian Caribbean.

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BACKGROUND

- In Bocas del Toro, Panama (Fig. 1), sea turtles were exploited for generations to supply local, national, and international markets of meat and tortoiseshells (1, 2).
- Following the legal protection of these species in the early 2000s and ongoing conservation efforts by research organizations, sea turtle populations have shown signs of recovery.
- Today, Bocas del Toro is one of the most important nesting sites for leatherback turtles and hawksbill turtles in the Caribbean Basin (3, 4).
- Despite this progress, the illegal take of sea turtles in the region has not been assessed in the past 20 years. Understanding its scale is key to effective management and long-term conservation in the Caribbean.

❖ Our aim is to assess the sea turtle illegal take in the nesting beaches of Bocas del Toro, Panama.

METHODS

Study Area

To assess the illegal take of sea turtles our study analyzed the data from seven nesting beaches located in Bocas del Toro, Panama: Bluff, Drago Beach, Long Beach, Soropta, Chiriquí, Escudo de Veraguas (EDV), and Red Beach (Fig. 1)

Data Collection

- We used the data collected by the Sea Turtle Conservancy (STC) during the nesting season between 2003 to 2024. Sea turtles/ nest when determinate taken according to the proposed by previous researchers (5, 6, 7)
- Data collected includes:



Figure 1. (a) Geographical location of Bocas del Toro in the Caribbean Sea.

The data was analyzed by using Microsoft Excel and R studio.

FINDINGS

At least 2,246 sea turtle nests and 232 sea turtles had been illegally taken in Bocas del Toro over the past two decades (Fig. 2, 3).

1. Illegal take of Sea Turtles

- The hawksbill turtles is the most taken species on the nesting beaches (91%, n=212).
- Green turtles is the second most taken species (6.5%, n=15) (Fig. 3).
- The leatherback turtles is the last take is not common (2.2%, n=5).

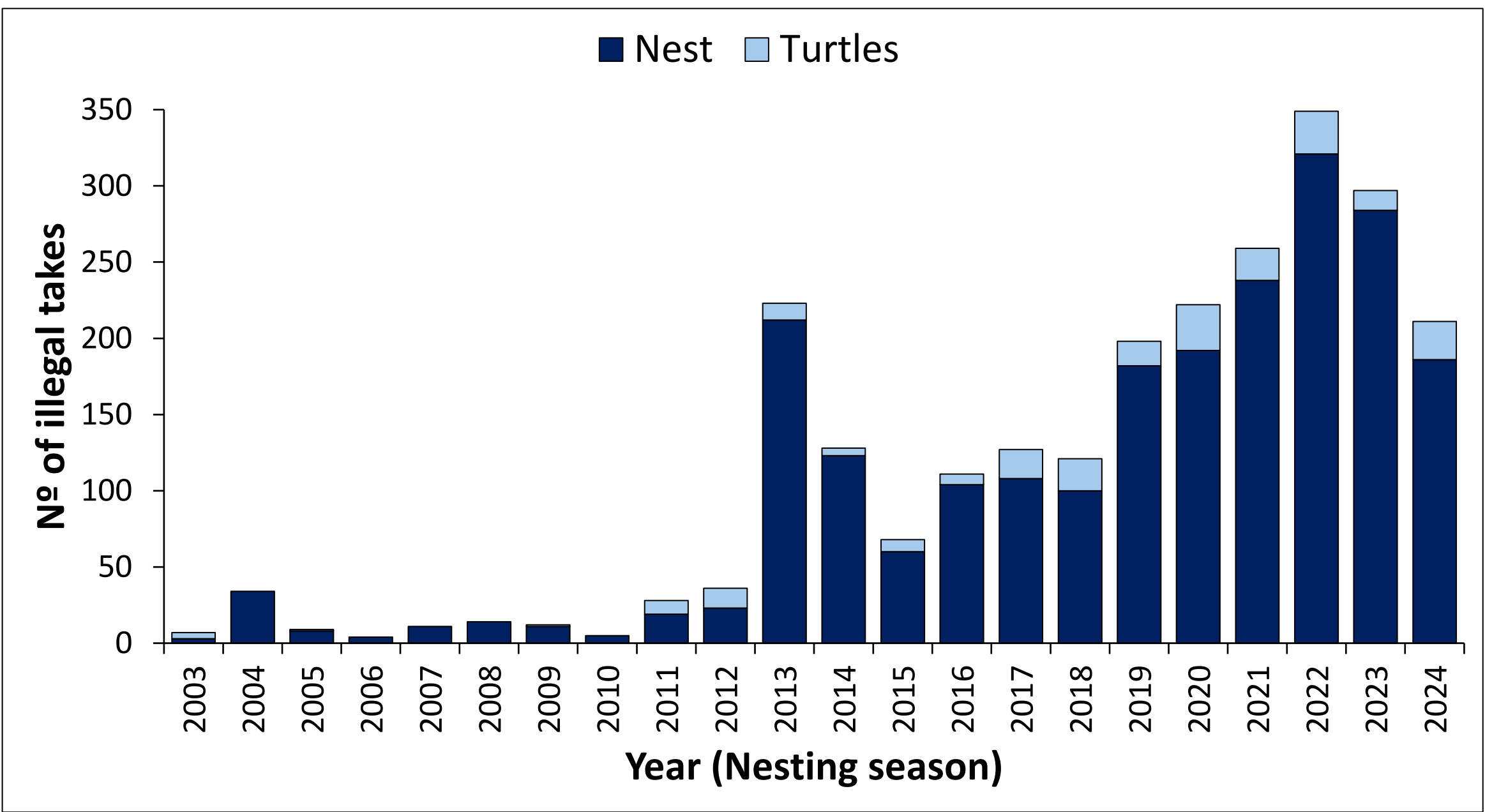


Figure 2. Illegal take of eggs and turtles in Bocas del Toro across the years.



Figure 3. Sea turtles illegally taken in Bocas del Toro. Photos: taken by staff of the STC in the area.

2. Illegal take of eggs

- The leatherback turtle is the most affected species by the illegal take of eggs (59.2%, n=1329), followed by the hawksbill sea turtle (40.1%, n=900).
- Soropta is the location where more eggs has been taken (60%) (Fig. 4).

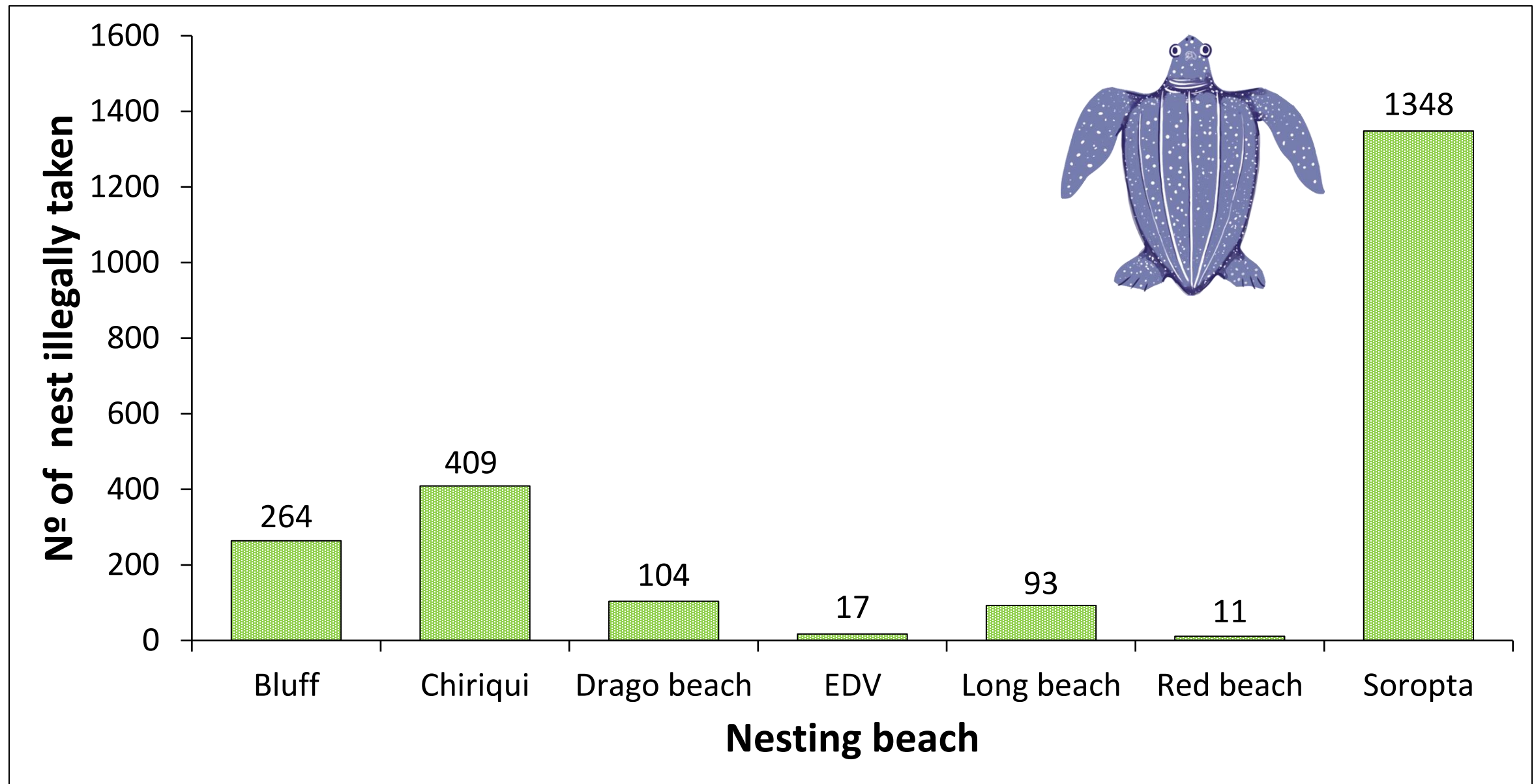


Figure 4. Number of nest illegal taken in the nesting beaches of Bocas del Toro from 2003 to 2024.

DISCUSSION

- Illegal take of sea turtles for meat or eggs is a significant issue in Bocas del Toro (4)
- The critically endangered hawksbill turtle are the most targeted for meat and tortoiseshell. Green turtles, though rarely nesting locally, are also taken.
- Our findings represent the minimum take, as it does include the turtles taken remotely, transported, captured at sea, or removed without detectable signs (6).



Figure 5. (a) Leatherback turtle nesting in Soropta. (b) Hatchery built at Soropta. Photos: Raul Garcia-Varela

- In recent years, the illegal take of sea turtle eggs has increased in Soropta, with 90% of leatherback nests taken. Therefore, the STC built a hatchery for nest protection (Fig. 5).

FINAL REMARKS

- Further conservation strategies and education programs involving stakeholders, government, and organizations are urgently needed to reduce the illegal take of sea turtles in Bocas del Toro
- The actual number of sea turtles and eggs taken illegally may be higher than documented in this study.
- This study sheds light about the illegal take of sea turtles in Bocas del Toro, providing hotspots and crucial data for the protection of these species in the Caribbean Basin.
- Finally, we expect our findings will contribute to the enhancement of Law No. 371, approved in March 2023, for the conservation of sea turtles in Panama.



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