INITIAL RESULTS OF THE RAPID NESTING AND THREATS ASSESSMENT FOR THE RECOVERY OF HAWKSBILL NESTING IN THE GULF OF THAILAND

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BACKGROUND

- Sea turtle nesting in Thailand has declined greatly since the 1960s (Meylan & Donnelly, 1999).
- Declines in nesting especially pronounced for hawksbills (*Eretmochelys imbricata*).
- Main method of sea turtle conservation has been through establishing head-starting facilities throughout the country (Aureggi, 2006).
- 1998 – WWF Thailand recommends national program of nesting recovery and nesting beach recovery to replace head-starting as national strategy for recovery of sea turtle nesting.
- No prior reported assessment for nesting hawksbills in the Gulf of Thailand (Piyakarnchana, 1985).
- Need for nesting beach assessment, education outreach, and beach monitoring training in the context of a GoT Nesting Recovery Network.

***Objectives*:**

1. Assess areas of GoT for recent hawksbill nesting. Confirm through community interviews.
2. Map illegal sale of turtle products throughout GoT.
3. Provide education outreach on sea turtle ecology and beach monitoring training to community members and government agencies.
4. Develop GoT-wide "Nesting Recovery Network" among communities.

METHODS

Beach Surveys

- Subjectively assessed beaches as appropriate nesting habitat for hawksbills (i.e. reduced lighting, beach slope, vegetation, few obstructions) and scored each beach as "Yes" or "No" for potential hawksbill nesting.
- Interviewed local fishers, community members, and DMCR*, DNP†, and RTN$ personnel for recent sightings and confirmation of nesting activity.
- Mapped locations where nesting confirmed.

Illegal Turtle Products

- Thai team requested turtle egg, shell, meat products from vendors. Used TURT app to map markets, stores, restaurants where turtle products for sale.

Education Outreach

- Held area workshops for community members and government personnel in sites where nesting activity confirmed and documented.
- Provided *in situ* beach monitoring training during day and night.

Networking

- Facilitated inter-community connections by social media and through in-person workshops bringing multiple communities and government personnel together. Inter-community communications on turtle nesting activities along the GoT.

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RESULTS, DISCUSSIONS, AND FUTURE WORK

Beach Surveys

We surveyed 141 beach locations (Fig. 1) over >833 km of GoT coastline between July 2018 and April 2019 (Fig. 2), interviewing >60 community residents for sea turtle sightings (Fig. 3).

Through surveys and interviews we located and mapped 9 sites with observed hawksbill and green turtle (*Chelonia mydas*) nesting, and 1 leatherback (*Dermochelys coriacea*) nesting site (Fig. 1).

Illegal Turtle Products

We found essentially *no evidence* of illegal turtle product use in all locations we surveyed. Market stall and shop owners were fully aware that using, selling, or consuming turtle products carried stiff penalties from law enforcement, and were unwilling to be in violation of the law.

Fig. 1. Examples of beaches surveyed during day and night for suitability for hawksbill nesting. Beaches with vegetation along high shore, high slope areas, little development, and little or no commercial or house lighting were considered optimal as hawksbill nesting beaches.

Fig. 2. Map showing Thailand (inset) and the more than 800 km of coastline surveyed for hawksbill nesting, and the locations where nesting in the past 3 years was confirmed by community members.

Fig. 3. More than 60 community members we encountered along coastal zones were informally interviewed for their knowledge of historical and recent sea turtle nesting and sightings at sea.

Fig. 4. More than 150 community members, government personnel, and local NGOs from eight locations have received beach monitoring training and education, to date. Plans are in place to exponentially increase awareness through school outreach programs for coastal and inland communities throughout the GoT, and to link communities to international foraging sites through a satellite telemetry project.

Education Outreach

During 2019 and 2022 we conducted four area workshops in which >150 community members and government personnel received education and training on identifying species, species tracks, turtle ecology, collecting turtle data, photo-ID, and beach monitoring during day and night (Dunbar, et al, 2020) (see Fig. 4).

Networking

As a result of this USFWS-MTCF-sponsored project, there is increasing awareness and interest in further sea turtle education, training, data sharing, and beach monitoring by community members and personnel from DMCR, DNP, and RTN.

Future Work

Plans are in place for 2023 and 2024 to expand marine turtle education outreach to coastal and inland community school children, and to work with the Thai government to establish a Thailand National Sea Turtle Day to increase awareness of sea turtles and their importance nationally and internationally.

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