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Green turtles “SAF” on left and “SX” on right at Salt Pier Bonaire, Dutch Caribbean.
See pages 1-8. Photo by Kevin Pursley

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REPORT

The First Gulf of Thailand Sea Turtle Nesting Recovery Network Workshop: 13-15 November, 2019, Koh Talu, Thailand

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The country of Thailand is an important cultural, economic, and environmental center in Southeast Asia (Lim *et al.* 2011; Suanmali 2014), and as such, has a strong history of tourism and trade throughout Asia-Pacific and the West. Additionally, Thailand has an influential role in both the traditional and contemporary outlooks on the development of conservation initiatives for endangered species in the region (Nijman & Shepherd 2007; Steinmetz *et al.* 2014), as well as the conservation education of millions within both local community and tourism sectors of the country (Sujarittanonta 2014).

Of the seven species of sea turtles, five have historically been sighted in the waters of Thailand (Phasuk & Rongmuansart 1973;

Chantrapornsyl 1992), although by 1995, Settle (1995) suggested the loggerhead (*Caretta caretta*) had likely been extirpated from Thai waters, and soon after, Chantrapornsyl (2000) reports that only the hawksbill (*Eretmochelys imbricata*), green (*Chelonia mydas*), olive ridley (*Lepidochelys olivacea*), and the leatherback (*Dermochelys coriacea*) species remained throughout Thailand.

Nesting along the Andaman coast is mainly undertaken by olive ridleys (Settle 1995; Chantrapornsyl 1996; Aureggi 2010), although occasional reports of nesting leatherbacks, and more rarely hawksbills and greens, are provided to government agencies by local community members along this coast (Chantrapornsyl 1992; Chantrapornsyl 2000). Of all Thai waters, the Gulf of Thailand (GoT) (Fig. 1) is the area where the majority of hawksbill and green sea turtle nesting has historically occurred and been recorded



Figure 1. Map of the Gulf of Thailand bordering Cambodia on the southeast, and Malaysia on the southwest. Inset: Thailand regional view.

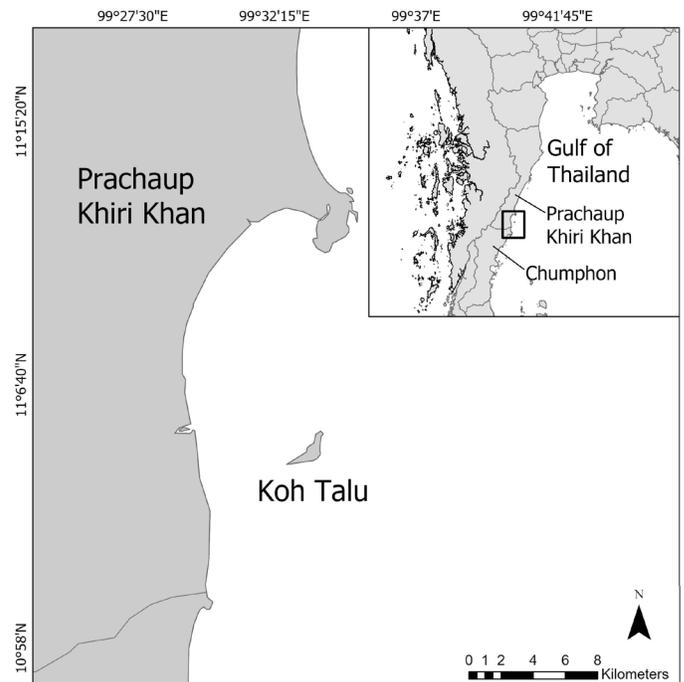


Figure 2. Map of western Gulf of Thailand showing the location of Koh Talu Island.



Figure 3. Dr. Nantarika Chansue (Chulalongkorn University, Thailand) provides opening remarks regarding the purpose and goals of the GoT NRN Workshop.



Figure 4. Mr. Preeda Charoenpak, owner of Koh Talu Island Resort, providing a historical background for the Siam Marine Rehabilitation Foundation, the only privately run, government authorized sea turtle head-starting program in the Gulf of Thailand.

even prior to a preliminary study report of sea turtles in this area by Commander Penyalop (1957) of the Royal Thai Navy. Despite the majority of nesting by three of the four species in Thailand taking place in the GoT, the majority of studies published have taken place in the area of southern Thailand on the Andaman coast (Aureggi & Chantrapornsy 2003; Aureggi 2006; Aureggi 2010).

In July 2018, supported by funds from the United States Fish and Wildlife Service-Marine Turtle Conservation Fund (USFWS-MTCF), we initiated a rapid assessment for nesting hawksbills along the entire GoT, and began connecting small communities and government agencies along this area into the Gulf of Thailand Sea Turtle Nesting Recovery Network (GoTNRN) (Dunbar *et al.* 2019).

Our purpose here is to provide a brief report of the first Gulf of Thailand Sea Turtle Nesting Recovery Network workshop held 13-15 November, 2019 on Koh Talu Island (Fig. 2) at the Koh Talu Island Resort. The purpose of the workshop was to bring together key community leaders, government agency officers, and sea turtle researchers, to establish the need for a collective network of communities throughout the GoT that would work together in a coordinated fashion to develop common goals, standard beach monitoring and data collection methods, and to forge a growing

sense of comradery and pride for community-based sea turtle conservation efforts in the GoT. Another goal of the workshop was to facilitate capacity building for representatives of local communities where sea turtle nesting is currently taking place, and to dispel some misconceptions regarding sea turtle life history stages, turtle movements, potentially injurious head-starting practices, and turtle health. Additionally, the workshop was to provide a venue for GoT community representatives who attended the Regional Training Workshop for Sea Turtle Conservation in Kep, Cambodia from 29 October-02 November 2018, to present information they had garnered from that workshop that was applicable to hawksbill nesting recovery in the GoT.

The team of facilitators (the authors) arrived on Koh Talu on 13 November to set up for the workshop and prepare seating, tables, and audio-visual arrangements under a roofed, but wall-less open seating area at the northern end of the resort property. On the morning of 14 November, the facilitators awoke to a monsoonal downpour and rain blowing into the area where the workshop was to be held. Working quickly with the help of resort staff, we were able to move



Figure 5. Department of Marine and Coastal Resources (DMCR) veterinarian, Dr. Chawanya Chiakwathanyu, explains the basic anatomy of sea turtles to workshop participants, and discusses the role of DMCR during reported stranding events throughout the Gulf of Thailand.



Figure 6. With many years of marine mammal and sea turtle rescue experience, Dr. Suwan Pitaksinthorn (Marine Scientist, Department of National Parks, Wildlife, and Plant Conservation, Trat Province) discusses how to foment opportunities to work in partnership with local communities.



Figure 7. Workshop participants practice decision-making regarding relocating nests to higher-shore locations.



Figure 8. During a practice night beach patrol, accurate data recording with standard nesting beach data sheets was stressed in different night-time scenarios.

Content and speakers	1	2	3	4	5
The contents were informative and useful	0%	0%	0%	42.9%	57.1%
The contents were interesting	0%	0%	0%	28.6%	71.4%
The speakers submitted clear and appropriate questions	0%	0%	0%	50%	50.0%
The speakers answered the questions	0%	0%	0%	21.4%	78.6%
The activities were useful	0%	0%	0%	21.4%	78.6%
The knowledge was applicable	0%	0%	7.1%	21.4%	71.4%
I can distribute what I have learned from the workshop	0%	0%	7.1%	28.6%	64.3%

Table 1. A Likert-scale (from 1= strongly disagree to 5 = strongly agree) survey of participants on the workshop contents and speakers.

Nesting recovery network	1	2	3	4	5
The workshop is useful for establishing the network	0%	0%	7.1%	35.7%	57.1%
The network needs to expand	0%	0%	0%	21.4%	78.6%

Table 2. A Likert-scale (from 1= strongly disagree to 5 = strongly agree) survey for workshop participants to gauge the establishment of the Nesting Recovery Network.

Nesting recovery network participation	Nesting recovery network participation	
	Yes	No
Another nesting and rescue workshop should be done in the future	100%	0%
I would like to participate in the activities in the network	100%	0%

Table 3. A survey to gauge participation and need for future Nesting Recovery Network workshops.

Comment by participant	
1	“The workshop was too short”
2	“The weather was bad”
3	“There should be more participants in the workshop”
4	“The activities should be expanded”

Table 4. Comments provided by workshop participants to the open-ended survey question requesting feedback on any aspect of the overall workshop.



Figure 9. The group of participants in the first Gulf of Thailand Nesting Recovery Network Workshop.

the workshop set-up to a larger roofed area with walls on two sides with two sides open to the elements, yet far enough inside that blowing rain showers were of minimal impact. Workshop attendees arrived to the island by charter boat at approximately 8:30 AM amid another monsoonal downpour. Shortly after attendees settled in, we opened the workshop with introductions of all attendees and the opening ceremonies, with Dr. Nantraika Chansue describing the purpose, goals, and general flow of the workshop (Fig. 3). In addition, Chansue introduced the owner of Koh Talu Island Resort, Mr. Preeda Charoenpak (Fig. 4). Charoenpak introduced how his previous activities as a commercial fisher in the GoT influenced him to take a personal interest in ensuring sea turtles continued to survive in the region. He shared how he developed a vision to protect nesting turtles on Koh Talu Island, and became the initiator of the Koh Talu Island sea turtle conservation program (now called the Siam Marine Rehabilitation Foundation), which is currently the only non-governmental facility in the GoT with permission from the Department of Marine and Coastal Resources (DMCR) to be directly involved with head-starting turtles.

Once opening ceremonies had been completed, speakers began to provide their presentations. Presenters included faculty from the Marine Veterinary Department at Chulalongkorn University, a sea turtle expert, several staff veterinarians from regional offices of the DMCR (Figs. 5 & 6), and staff of the Koh Talu Siam Marine Rehabilitation Foundation (SMRF) turtle project. Presenters provided insights on a range of topics, including sea turtle life-history stages, species identification and tagging, nesting beach protocols and techniques, data management and education outreach, necropsy and sample collection, community stakeholders, and turtle bycatch management and rescue. All five Thai representatives who attended the Regional Training Workshop for Sea Turtle Conservation in Kep, Cambodia in 2018, presented regional information gathered from that workshop with applications to sea turtles in the GoT.

In addition to presentations, we held practical sessions in which all workshop participants used standard techniques for identifying nesting species from simulated beach tracks, practiced the translocation of eggs from a low-tide nest area, and recorded standard data during a nighttime beach patrol (Figs. 7 & 8). These practical exercises provided opportunities to dispel misconceptions, clarify proper techniques, and develop best-practice strategies for

nesting protocols. Over the short timeframe of the workshop, we facilitated 16 presentations, three practical working sessions, and two breakout discussion and reporting sessions.

Prior to the conclusion of the workshop we assembled for a group photograph to commemorate the workshop (Fig. 9), then provided participants with an opportunity to provide feedback to the workshop organizers in the form of a Likert-scale (from 1= strongly disagree to 5 = strongly agree) workshop evaluation survey. We requested responses from participants in five areas of the workshop; Contents and Speakers (Likert), Accommodations and Travel (Likert), Nesting Recovery Network (Likert), Nesting Recovery Network Participation (Yes/No), and Suggestions (open ended). Responses to surveys were very positive (Tables 1-4; we have omitted the comments regarding the accommodations for this report), with 100% of participants agreeing there should be another GoTNRN workshop in the future, and 100% of participants stating their interest in participating in future GoTNRN workshop activities.

We recognized the limited past and current research-directed conservation efforts for all species of sea turtles in the GoT, and the need to develop strategies for the recovery of nesting and foraging populations in the region. Such strategies for sea turtle conservation may only be successful if there is commitment to these efforts by local communities, local and federal government agencies, national tertiary educational institutions, and research collaborators. It is our stated goal to work with all such stakeholders in further establishing and expanding the GoTNRN, and to work in collaboration with interested agencies to collect information throughout the GoT that may be used to improve recovery and conservation outcomes for all sea turtle species in this area of Southeast Asia.

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Juvenile loggerhead sea turtle released on the beach on South Core Banks, North Carolina, USA, after successful rehabilitation from cold-stunning. Photo by MH Godfrey.

**The MTN was founded in 1976 by Nicholas Mrosovsky
at the University of Toronto, Canada**

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