

ANNUAL REPORT

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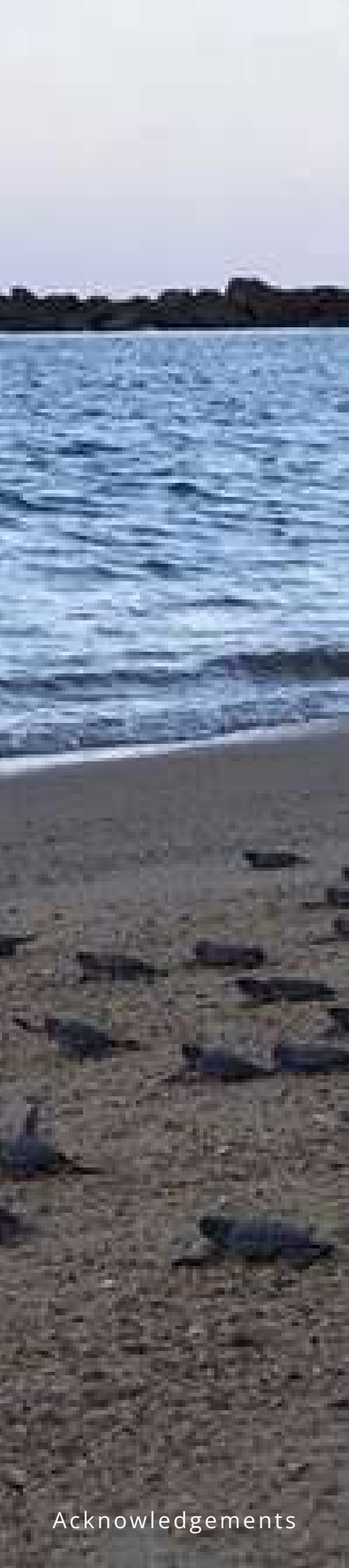
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PULIHARA AT
TANJONG JARA RESORT

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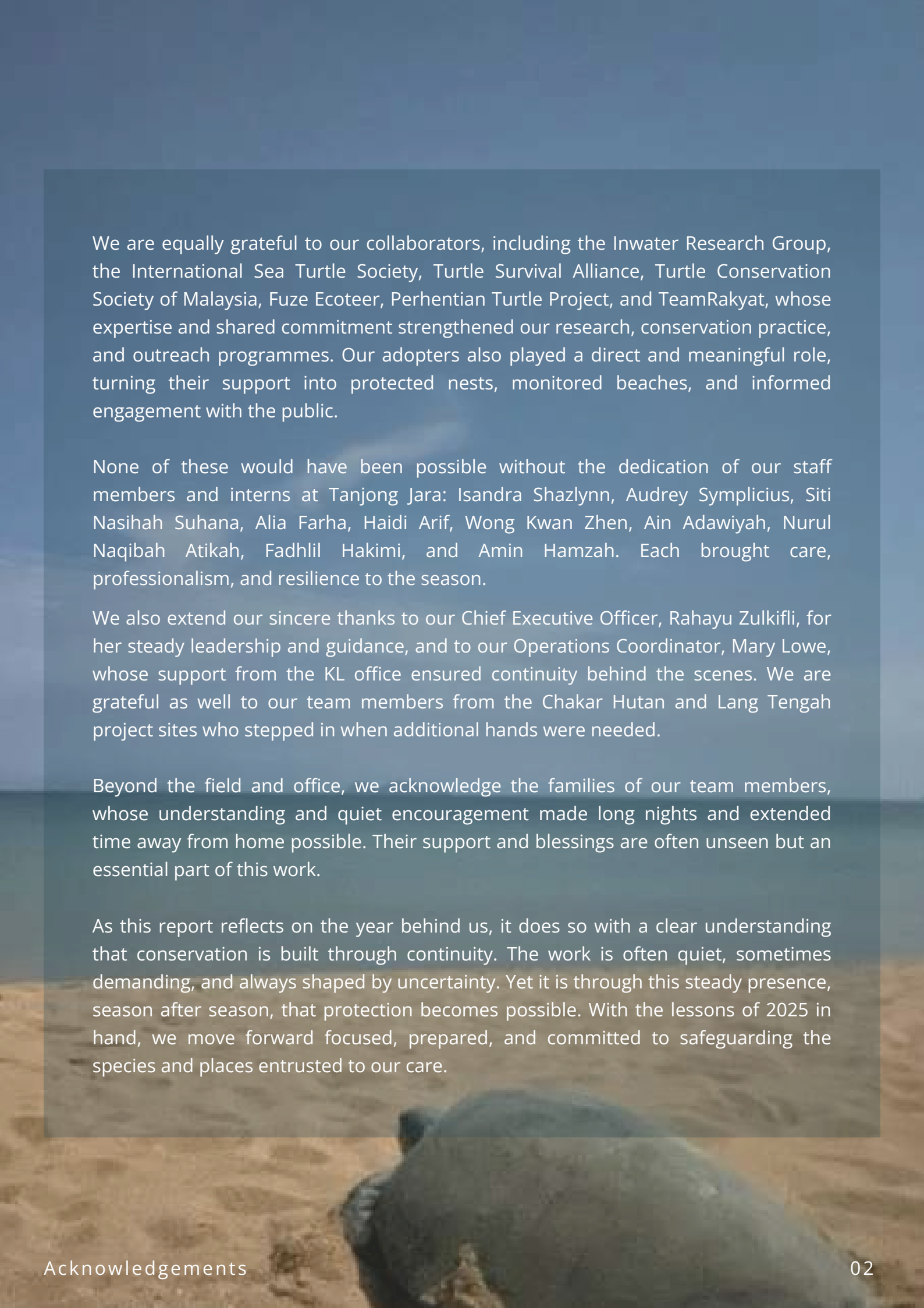
A SEASON IN MOTION

If 2024 was a year of transition, 2025 was a year of movement.

At its core, this year reaffirmed a familiar truth in conservation work: progress is rarely linear. Some seasons test patience, others test preparedness. 2025 did both, as the beaches surrounding Tanjong Jara did not rest. Nesting activity returned with consistency, the hatchery remained active throughout the season, and long nights once again became part of the rhythm as turtles came ashore with reassuring regularity. It was a season that demanded stamina, close attention, and confidence in the systems built through years of experience.

Our conservation and research efforts continued in close collaboration with the Department of Fisheries, PERHILITAN, and Tanjong Jara Resort, supported by the ongoing commitment of rangers, licensed egg collectors, staff members, interns, and supporters who made sustained fieldwork possible. Their work on the ground shaped the outcomes of the season in ways that cannot be captured by figures alone.

This work was further strengthened by the support of a broad network of partners. Corporate contributors including YTL Hotels, YTL Cement, and Lush Malaysia, alongside educational institutions such as Asia Pacific Smart School, and grants from the Turtle Conservation Fund and the Ministry of Finance Malaysia, provided support through funding, in-kind contributions, and community-driven fundraising. Together, these efforts expanded the scope and reach of our conservation activities.



We are equally grateful to our collaborators, including the Inwater Research Group, the International Sea Turtle Society, Turtle Survival Alliance, Turtle Conservation Society of Malaysia, Fuze Ecoteer, Perhentian Turtle Project, and TeamRakyat, whose expertise and shared commitment strengthened our research, conservation practice, and outreach programmes. Our adopters also played a direct and meaningful role, turning their support into protected nests, monitored beaches, and informed engagement with the public.

None of these would have been possible without the dedication of our staff members and interns at Tanjong Jara: Isandra Shazlynn, Audrey Symplicius, Siti Nasihah Suhana, Alia Farha, Haidi Arif, Wong Kwan Zhen, Ain Adawiyah, Nurul Naqibah Atikah, Fadhilil Hakimi, and Amin Hamzah. Each brought care, professionalism, and resilience to the season.

We also extend our sincere thanks to our Chief Executive Officer, Rahayu Zulkifli, for her steady leadership and guidance, and to our Operations Coordinator, Mary Lowe, whose support from the KL office ensured continuity behind the scenes. We are grateful as well to our team members from the Chakar Hutan and Lang Tengah project sites who stepped in when additional hands were needed.

Beyond the field and office, we acknowledge the families of our team members, whose understanding and quiet encouragement made long nights and extended time away from home possible. Their support and blessings are often unseen but an essential part of this work.

As this report reflects on the year behind us, it does so with a clear understanding that conservation is built through continuity. The work is often quiet, sometimes demanding, and always shaped by uncertainty. Yet it is through this steady presence, season after season, that protection becomes possible. With the lessons of 2025 in hand, we move forward focused, prepared, and committed to safeguarding the species and places entrusted to our care.

OUR TEAM



Rahayu Zulkifli
Chief Executive
Officer



Mary Lowe
Operations
Coordinator



Isandra Shazlynn
Project Manager



Audrey Symplicius
Senior Outreach
Officer

CONSERVATION INTERNS



Haidi Arif
Universiti Putra Malaysia



Siti Nasihah Suhana
Universiti Putra Malaysia



Wong Kwan Zhen
Universiti Malaysia Sabah



Alia Farha
UiTM Jengka, Pahang



Nurul Naqibah
Universiti Malaysia Sarawak



Ain Adawiyah
Universiti Malaysia Sarawak

	Internship Period	Nationality	Current/Past Study	Notes
Siti Nasihah Suhana	March-September	Malaysian	BSc (Hons) Biology, Universiti Putra Malaysia	Previous experience studying the abundance and ecology of venomous jellyfish in the Muar estuary and coastal waters, Johor.
Alia Farha	March-August	Malaysian	BSc (Hons) in Biology, Universiti Teknologi Mara Jengka, Pahang	Conducted a Final Year Project on shiitake mushroom cloning using agar plate and liquid culture methods, focusing on mycelium growth and cloning efficiency.
Haidi Arif	March-August	Malaysian	BSc (Hons) Biology, Universiti Putra Malaysia	Previous research experience studying community structure and ecology of jellyfish from the fishing ground of Klang Strait and volunteering experience with Pfizer Malaysia for Jom Klik Sihat @ PPR Kampung Muhibbah
Wong Kwan Zhen	March-May	Malaysian	BSc (Hons) in Conservation Biology, Universiti Malaysia Sabah	Previous research experience in the dietary of silvery lutung (<i>Trachypithecus cristatus</i>) in Kinabatangan Wildlife Sanctuary, Sabah
Ain Adawiyah	July-September	Malaysian	BSc (Hons) in Aquatic Resource Scienc and Management, Universiti Malaysia Sarawak	Currently studying at UNIMAS the effects of Duckweed (<i>Spirodela polyrhiza</i>) on the growth perfomance of Tilapia (<i>Oreochromis niloticus</i>) and Green Coral Lettuce (<i>Lactuca sativa</i>) in aquaponic system.
Nurul Naqibah Atikah	July-September	Malaysian	BSc (Hons) in Aquatic Resource Science and Management, University Malaysia Sarawak	Previous volunteering experience with ISSUP Malaysia and currently at UNIMAS conducting research on fish nutrition.

CONSERVATION IMPACT AND RESEARCH

FROM DATA TO CONSERVATION ACTION



NESTING BEACH MONITORING

At the heart of our work lies a simple but demanding task: giving every egg the best possible chance to develop undisturbed. In 2025, increased nesting activity meant that this work unfolded at a faster pace and on more nights than the year before, requiring careful coordination between team members, rangers, and licensed egg collectors.

To support this effort, we constructed an inland hatchery located adjacent to our Visitors' Hut at Tanjong Jara Resort. A hatchery is a purpose-built conservation facility designed to protect turtle eggs from the moment they are relocated from natural nesting beaches until hatchlings emerge. The hatchery is designed to mimic the natural incubation environment, preventing disturbance and predation while still allowing natural temperature and moisture exchange.

The hatchery measures 16 metre by 4 metre and is capable of housing up to 112 nests within a single season. Individual plots are carefully measured and spaced to allow each clutch adequate room to develop, while enabling new nests to be relocated without disturbing those already incubating. Each clutch is carefully reburied at an appropriate depth to closely replicate natural nesting conditions, while enabling systematic monitoring and reliable data collection. This layout helps reduce the risk of accidental compaction or thermal interference between nests.



Once relocated, nests are monitored continuously by trained on-site teams. Hatchery checks focus on surface changes, temperature fluctuations, and signs of predator activity. These routine observations are supported by temperature loggers and detailed nest records, allowing incubation conditions to be interpreted accurately during post-emergence inspections (PEI). At the end of the incubation period, hatchlings emerge naturally at the sand surface and are released into the sea at appropriate times and locations, giving them the best possible chance of survival as they begin their life cycle.



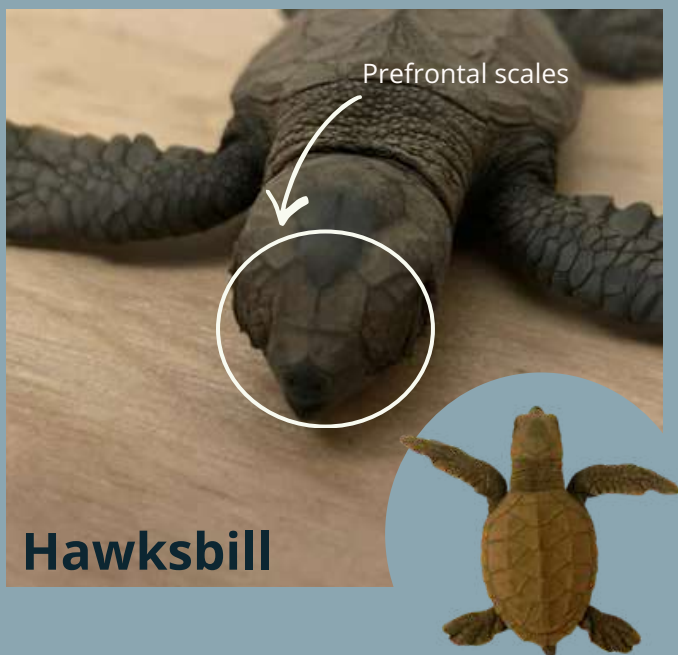
Left photo: A nesting mother completed oviposition and camouflaged her body pit. Right photo: Our ranger, En. Jani carefully probed the sand with a metal rod to locate the clutch before relocating the eggs to the hatchery for protected incubation.

Throughout the nesting season, a dedicated team of five rangers patrol Kuala Abang and Tahu Tiga beaches nightly. These rangers are often the first to encounter nesting turtles. When a nesting individual is located, the rangers notify the core team, who then proceed to the nesting site. The team then attends the nesting turtle, collects nesting and biometric data, and carefully retrieves and relocates the eggs to the hatchery. This coordinated approach allowed for timely responses across both beaches and resulted in the successful protection of 61 nests during the 2025 season.

But that is not all.....

We also had a rare, unexpected encounter at Tahu Tiga in June. Based on flipper track patterns and nest characteristics, this particular nesting event did not correspond with the green turtles typically recorded at the site. The crescent-shaped track, coupled with the smaller size of the eggs deposited, strongly suggested a hawksbill turtle (*Eretmochelys imbricata*). A total of 44 eggs were recorded from the nest and relocated for protection.

This identification was later reinforced when 30 hatchlings successfully emerged from the nest on August 29th, after 64 days of incubation. Hawksbill hatchlings are visibly distinct from their green turtle counterparts: they are generally smaller and more angular in appearance, with a noticeably narrow carapace and an elongated, pointed beak. Their scutes show a sharper, serrated outline, and the carapace often displays richer, darker tones compared to the rounder, smoother, and more uniformly coloured green turtle hatchlings. All viable hatchlings were released at Tahu Tiga on the same day under controlled conditions.



- Two pairs of prefrontal scales (Four scutes) between the eyes
- Narrower, more elongated head
- Distinctly pointed beak
- Generally dark brown to black colouration



- One pair of prefrontal scales (Two scutes) between the eyes
- Broader and rounder head
- Shorter and blunt, not hooked beak
- Lighter, ranging from greyish-black to olive colouration

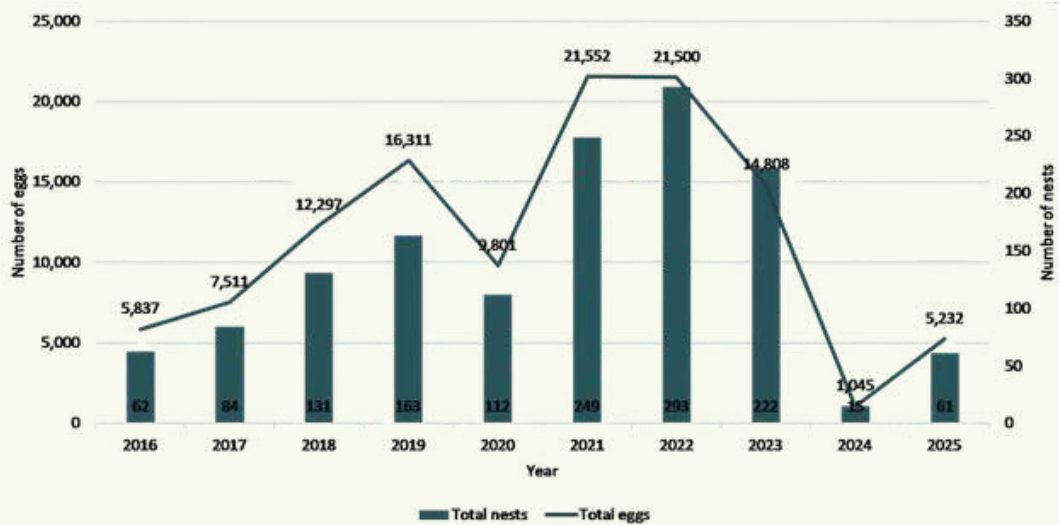


Figure 1. Comparison of green sea turtle and painted terrapin eggs and nests saved from 2016 to 2025.

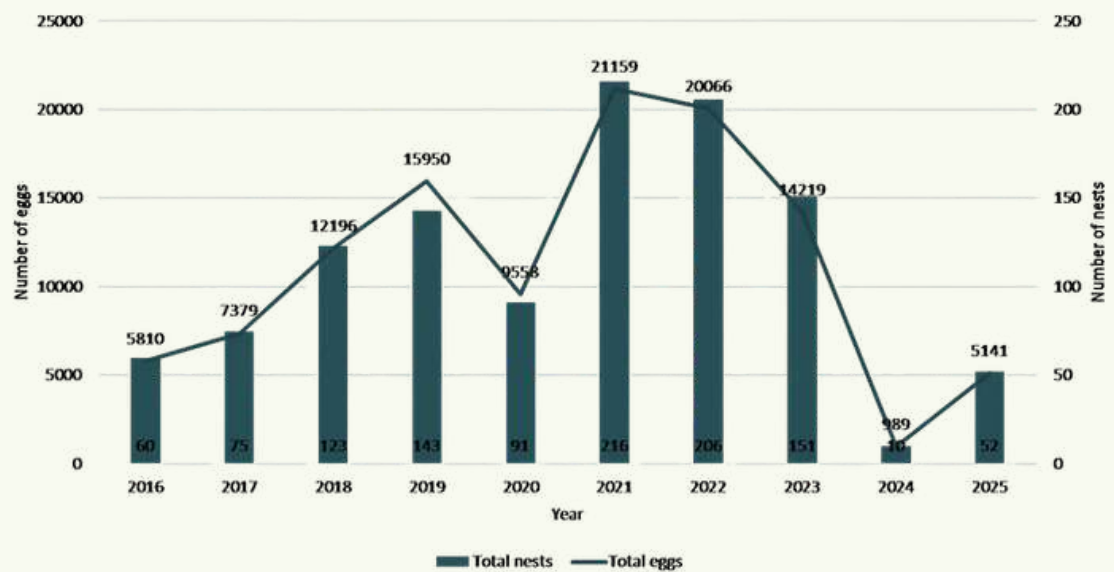


Figure 2. Comparison of green sea turtle eggs and nests saved from 2016 to 2025.

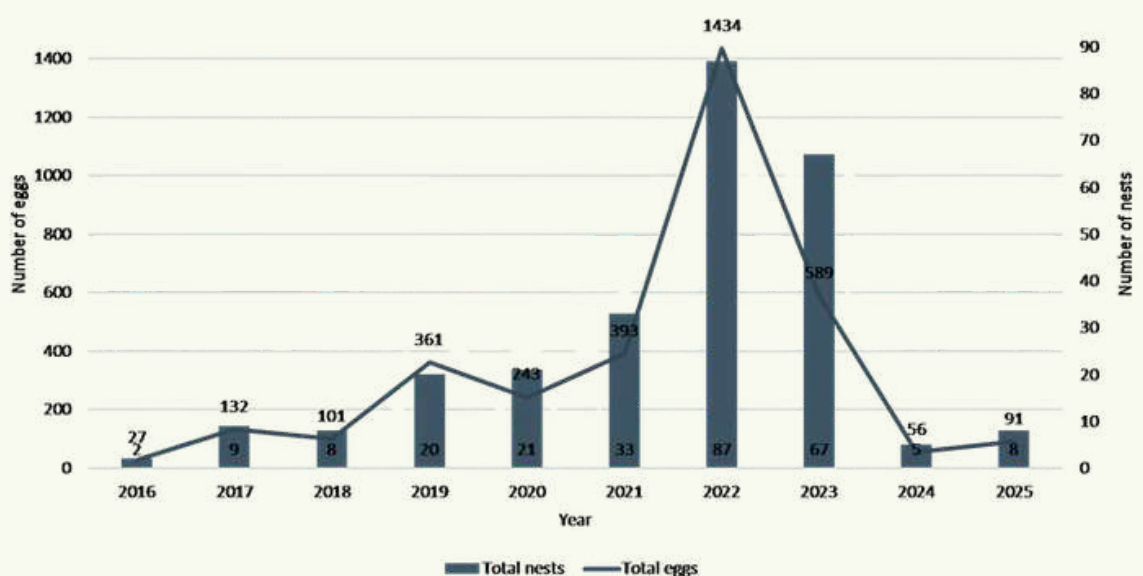


Figure 3. Comparison of painted terrapin eggs and nests saved from 2016 to 2025.



5,276

TOTAL EGGS SAVED

4,170

TOTAL HATCHLINGS RELEASED

61

TOTAL NESTS SAVED

HATCHING AND EMERGENCE SUCCESS RATES



Unhatched egg



Embryo with early-term development stage

While hatchling releases are the most visible outcome of a nesting season, much of the scientific value lies beneath the sand. In our hatchery, every relocated nest underwent a post-emergence inspection (PEI) to assess reproductive success in a systematic way. We document unhatched eggs, undeveloped embryos, evidence of fungal infection, and signs of predation by various predators, including crabs, ants, termites, monitor lizards and maggots. These observations inform practical improvements to our hatchery protocols and management procedures.

Hatching success rate (HSR) was calculated as the proportion of eggs that successfully hatched, based on the number of empty eggshells recovered relative to the total clutch size. Emergence success rate (ESR) reflected the proportion of hatchlings that not only hatched but also emerged from the nest chamber unaided.



Green sea turtle hatchlings

Green turtle nests generally exhibited strong hatching and emergence outcomes, with most nests falling within expected ranges for protected hatchery conditions. The average HSR is 82.48% (with a standard deviation of ± 17.53 , based on 50 nests). Simultaneously, the ESR averaged 79.65% (with a standard deviation of ± 19.72). The standard deviations reflect natural variability among clutches, which may be influenced by clutch size, relocation timing, and other environmental factors such as sand temperature and moisture.



Hatchlings of painted terrapin

Painted terrapin nests showed greater fluctuation in both HSR and ESR. This variability is consistent with the species' sensitivity to incubation conditions and reinforces the importance of continued refinement of their protection strategies. The average HSR is 64.64% (with a standard deviation of ± 33.52 , based on 8 nests) and the average ESR stood at 52.66% (with a standard deviation of ± 29.02).

PHOTO-ID

Individuals that Returned and Those We Met for the First Time

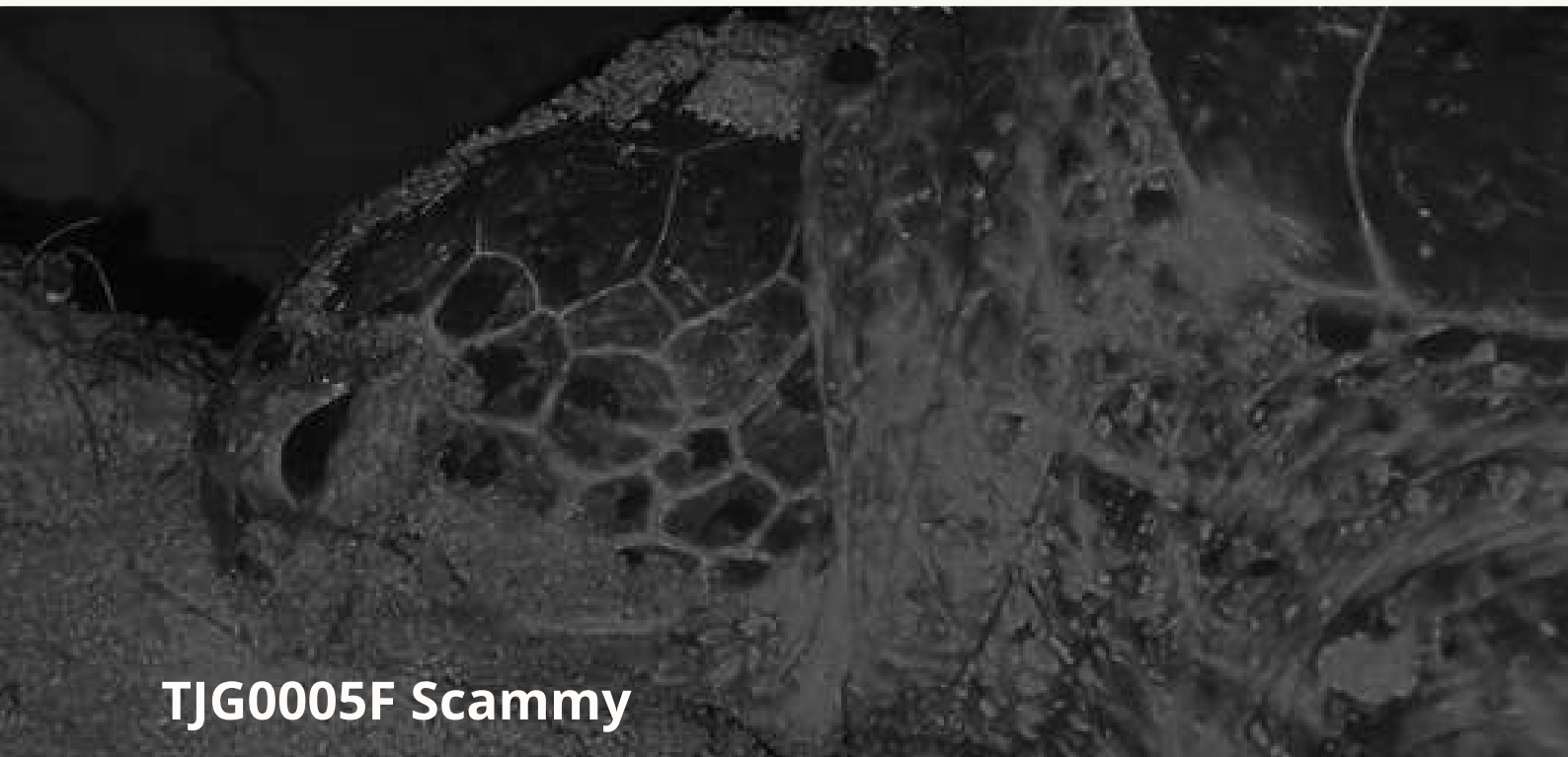


A familiar presence on the beach, Beatrice (TJG0033F) was documented through photo-ID as she returned in 2025 to continue her nesting journey.

We continue to grow our sea turtle photo-identification database, enhancing our understanding of how individual turtles use the Kuala Abang and Tahu Tiga beaches across nesting seasons. This non-invasive method relies on high-resolution images of the unique scale patterns on a turtle's face, which are permanent and specific to each individual. By comparing these facial patterns over time, we are able to distinguish returning females from newly documented nesters, allowing more accurate assessments of site fidelity, remigration intervals, and local population dynamics.

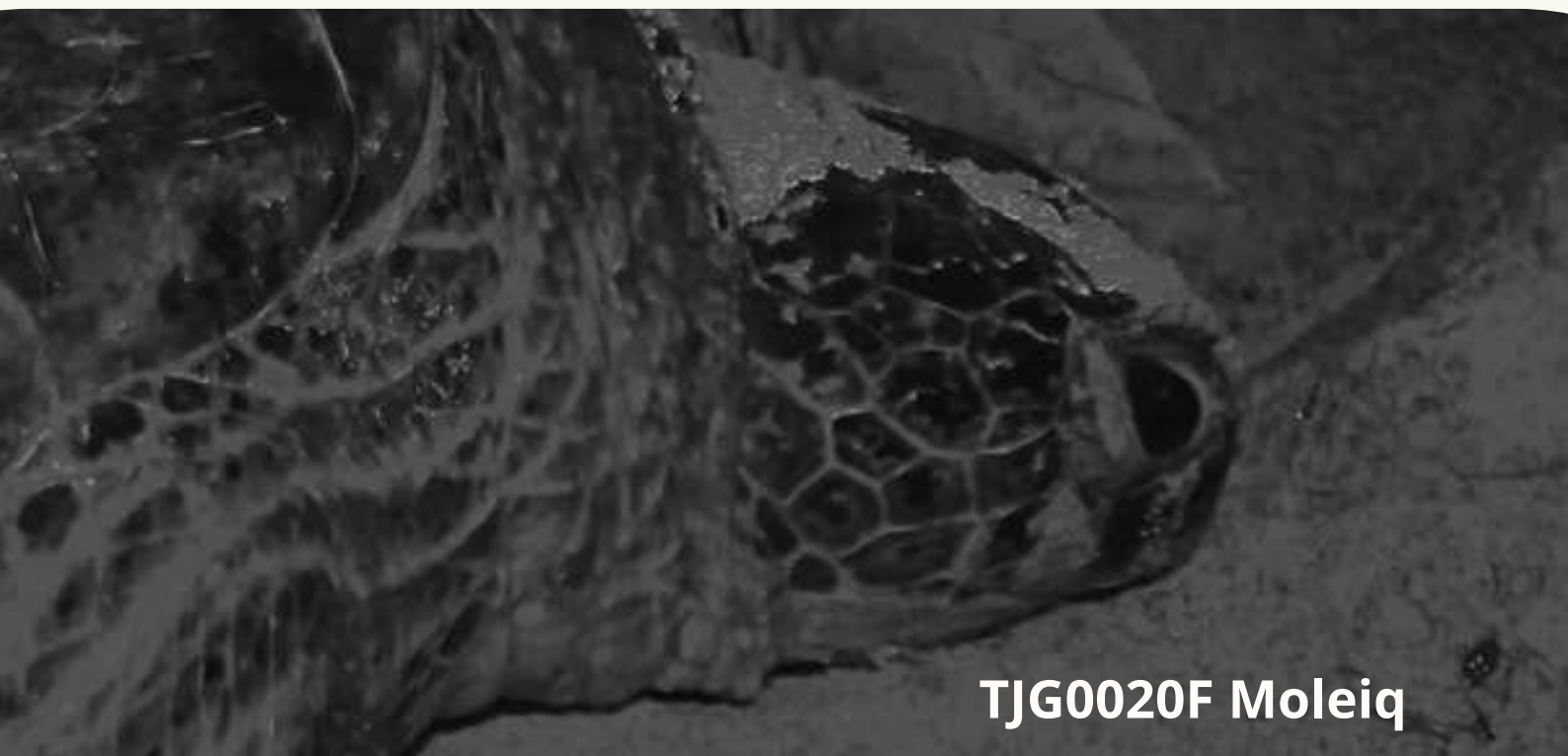
We were especially encouraged to welcome back several familiar nesters, whose return reinforces the value of long-term monitoring and consistent beach protection. Returning individuals documented this season include:

- **Scammy**, one of our longest-known nesters, first documented in 2019
- **Moleiq**, first identified in 2021, who returned to nest again in 2023 and once more in 2025
- **Beatrice**, first recorded in 2022
- **Iman** and **Meena**, both first identified in 2021



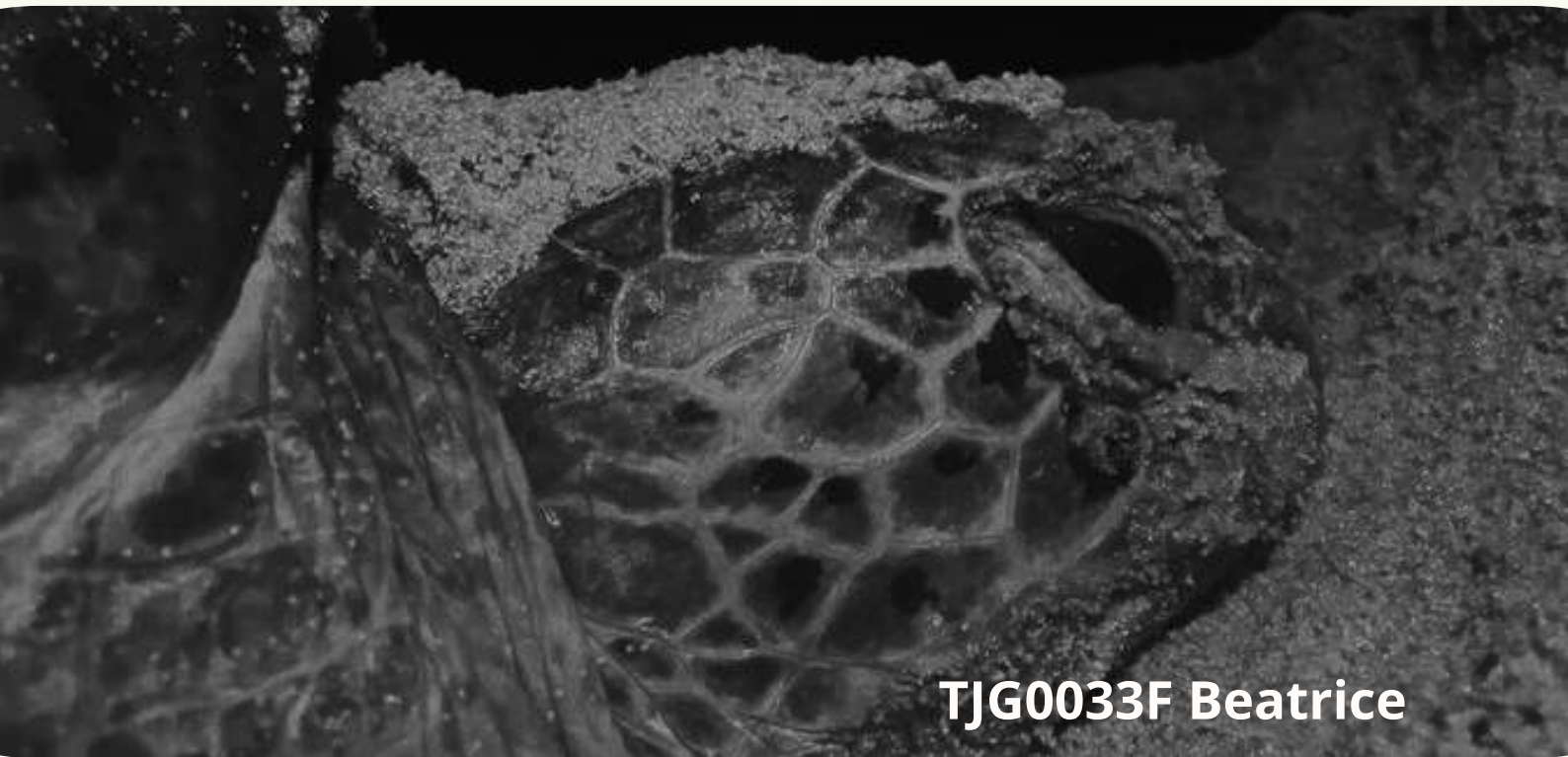
TJG0005F Scammy

Scammy was first identified in 2019, making her our longest-known nesting turtle. That year, she was sighted four times and laid a total of 330 eggs. Scammy was observed again in 2025, with three recorded sightings, two of which resulted in successful nesting events.



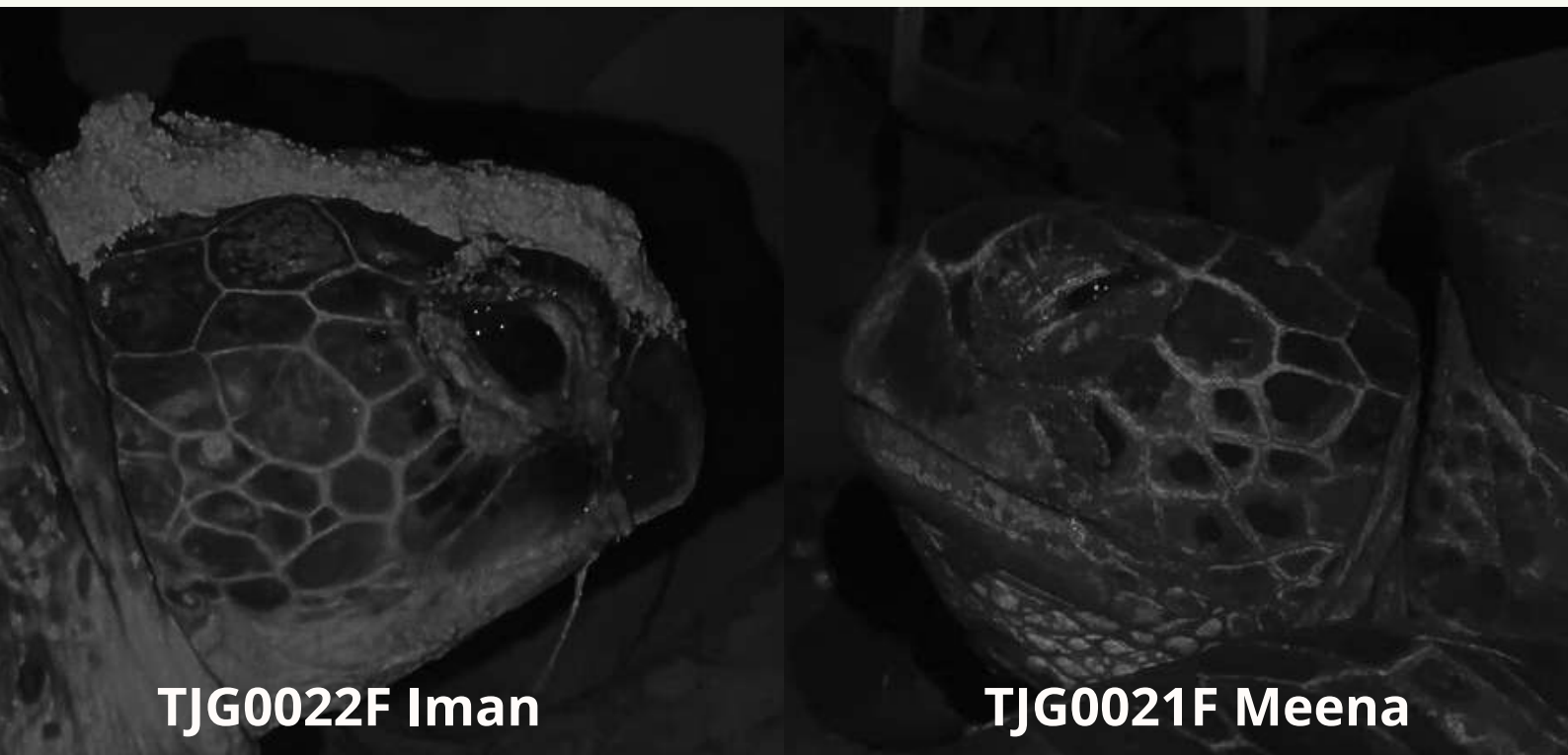
TJG0020F Moleiq

Moleiq was first recorded nesting at Kuala Abang beach in 2021. She returned again in 2023 and 2025. To date, Moleiq has nested 23 times, laying a total of 2,237 eggs. From these nests, 1,521 hatchlings have successfully been released into the sea. Truly an astonishing nesting mother!



TJG0033F Beatrice

Beatrice was first observed in 2022, when she laid a single nest containing 103 eggs (99 hatchlings came out). She returned in 2025 and quickly became known as our “sunrise fairy” for her love of nesting early in the morning. Over her time with us, she laid a total of six nests, producing 625 eggs, from which 572 hatchlings were released.



TJG0022F Iman

TJG0021F Meena

Iman and Meena, discovered in 2021, returned in 2025 to nest. Iman laid three nests with her calm and gentle nesting styles, whereas Meena laid two, delighting everyone with her playful “sand-flying” antics. Together, they helped bring new life to the beach, continuing the legacy of our growing turtle family.

As of the current reporting period, the Tanjong Jara photo-ID database comprises 47 identified individuals, including 3 new nesters. Each identified turtle adds continuity to the dataset, allowing conservation decisions to be informed not by isolated seasons, but by patterns observed over time.

Table 1. Nesting information of eight individual female green turtles.

Turtle ID	Turtle Name	New /Returning Mother	No. of nests	Total eggs laid	Average clutch size (mean + SD)	Nesting site	Inter-nesting interval
TJG0005F	Scammy	Returning	3	344	115±8.96	Tahu Tiga	11 - 12 days
TJG0020F	Moleiq	Returning	7	692	99±12.21	Kuala Abang	10 - 12 days
TJG0021F	Meena	Returning	2	197	99±3.54	Tahu Tiga	12 days
TJG0022F	Iman	Returning	3	344	115±8.96	Tahu Tiga	11 - 12 days
TJG0033F	Beatrice	Returning	5	522	104±13	Kuala Abang	10 - 12 days
TJG0045F	Barney	New	3	361	120±18	Tahu Tiga	NA*
TJG0046F	Saddie	New	1	97	97	Kuala Abang	NA*
TJG0047F	Embun	New	3	361	120±8.02	Tahu Tiga	10 days

***Note:** Inter-nesting interval data are recorded only when the same individual is encountered nesting more than once within a single season. Entries marked N/A indicate cases where a turtle was observed nesting only once, where subsequent nesting events occurred outside the monitoring period, or where individual re-identification was not possible. As such, inter-nesting intervals could not be calculated for these records.



SEX RATIO

The Question of Balance

Sex ratio monitoring remained a priority throughout the 2025 season, reflecting its importance in understanding the long term viability of sea turtle populations. Unlike many species, sea turtles do not have genetically determined sex. Instead, hatchling sex is shaped by the temperature of the surrounding sand during the middle third of incubation period, a process known as temperature dependent sex determination. Even small shifts in temperature during the thermosensitive period can alter sex ratios, making this an especially sensitive indicator of environmental change.

In general, eggs incubated at cooler temperatures, typically below around 29.5°C, tend to produce male hatchlings, while warmer conditions produce females. With rising global temperatures and increasing modification of nesting habitats, this balance is becoming more difficult to maintain. Our sex ratio monitoring continues on as mounting evidence suggests that climate warming may increasingly skew populations towards females, with potential long term consequences for breeding success.

HOBO MX TidBit 400 temperature loggers were deployed in selected nests relocated to the hatchery. These devices recorded incubation temperatures continuously across the 45 to 70 day development period. Data collected during the thermosensitive window were analysed using a logistic equation to estimate hatchling sex ratios, based on a proposed pivotal temperature of 29.1°C for the Malaysian green turtle population.



Left photo: Signs of mass emergence were observed as the sand surface loosened and subsided, indicating that hatchlings were making their way to the surface. Right photo: The hatchery, fitted with movable thatched atap nipah roof, allowed sand temperature adjustments during incubation.

Across the 2025 nests analysed (Refer to Table 2), average temperatures during the TSP ranged from 27.58°C to 29.65°C, with corresponding female proportions spanning from near complete male production (0.04%) to strongly female-biased clutches (96.05%). Nests with TSP temperatures below approximately 29.0°C were predominantly male-biased, whereas those exceeding approximately 29.4–29.6°C produced mostly females.

Compared to 2024, the 2025 season experienced higher rainfall. Increased precipitation likely contributed to lower sand temperatures through evaporative cooling and higher substrate moisture content. This cooling effect is reflected in the generally longer incubation durations observed this year, with several nests exceeding 60 days. Prolonged incubation is typically associated with cooler thermal conditions, which in turn favour male hatchling production.

The broader distribution of sex ratios recorded this season suggests that microhabitat variation within the hatchery, such as shading, nest depth, and moisture retention, also influenced thermal profiles at the clutch level. Continued temperature monitoring and annual comparison are essential for understanding how interannual climatic variation, particularly rainfall and heat patterns, may influence population-level sex structure over time.

Table 2. Nest temperature and sex ratio of 14 nests in our hatchery.

Nest	Days of Incubation	Average temperature during thermosensitive period (°C)	Percentage of female hatchlings (%)
2	56	29.11	58.52
4	58	28.74	17.1
8	64	28.42	3.64
12	65	28.56	7.17
14	63	28.73	16.2
17	58	29.42	88.14
18	58	28.75	17.23
23	63	28.45	4.21
25	65	28.49	5.22
29	63	28.94	37.15
35	60	29.65	96.05
39	61	29.65	96.05
42	65	28.45	4.21
48	67	27.58	0.04

PAINTED TERRAPIN RESEARCH

In 2025, PULIHARA's painted terrapin programme progressed from preliminary exploration into active field implementation, marking an important step forward in the conservation of *Batagur borneoensis*. The focus this season was on establishing a strong foundation for long-term research, with the understanding that meaningful conservation outcomes depend as much on careful preparation and consistency as on data collection itself.

Field efforts to date have concentrated on the lower Dungun river system where painted terrapins have been historically reported or are suspected to occur based on habitat features and local knowledge. Early observations suggest a mix of suitable foraging habitat interspersed with areas facing varying degrees of human disturbance. The study will continue with seed funding support from Turtle Conservation

Fund, reflecting wider collaborative interest in strengthening painted terrapin research in the region. As a long-term initiative, this work will extend into 2026 as sampling effort increases and emerging patterns can be examined more rigorously.



Capture-Mark-Recapture and Trapping Efforts

Capture-mark-recapture surveys commenced following permit approval from PERHILITAN. Trapping during this initial phase was largely exploratory, with the primary aim of refining trap design, placement, and soak times under local river conditions.

Both baited and unbaited traps were deployed, with jackfruit (*Artocarpus heterophyllus*) used consistently as bait. Two bait presentation methods were tested. In one approach, jackfruit was submerged within the trap. In the second, bait was suspended above the water surface near the trap, with terrapins intercepted using a net as they surfaced to feed. A higher number of sightings and capture opportunities were recorded when using the second method, suggesting that feeding behaviour and bait presentation may play an important role in detectability and capture success. These findings will inform the standardisation of trapping protocols as the study continues.



Traps were checked at one-hour intervals to minimise stress and reduce the risk of injury. All captured individuals were handled in accordance with ethical wildlife handling guidelines and released immediately at their point of capture following processing. Standard morphometric measurements were taken, sex was determined where possible, and overall health condition was assessed visually. Each terrapin was assigned a unique identification number using non-toxic markers applied to the carapace, which wore off naturally after approximately three weeks. Data collected through this process form the foundation for future estimates of population size, structure, and movement patterns as recapture rates increase.

Table 3. Information on 10 individuals of painted terrapin that were found.

Terrapin ID	Date Captured	Date Recaptured	Sex	Curved Carapace Length (cm)	Curved Carapace Width (cm)	Weight (kg)
TJ001	23-08-2025	-	Female	51.6	49	20
TJ002	23-08-2025	13-09-2025	Male	38.5	33.5	7.95
TJ003	23-08-2025	-	Male	33.5	31.5	6.55
TJ004	24-08-2025	-	Female	56.1	49.3	22.5
TJ005	24-08-2025	-	Male	43.3	38.4	10
TJ006	24-08-2025	-	Female	50.2	46.6	18
TJ007	13-09-2025	-	Male	47.5	43.1	12.9
TJ008	13-09-2025	-	Female	47.9	46	15.7
TJ009	13-09-2025	-	Female	55.6	50.1	21
TJ010	14-09-2025	-	Female	50.9	47.7	17.5

Females



Males



Did you know that...

the *Batagur borneoensis* exhibits sexual dimorphism? Adult females are noticeably larger, with broader carapaces and more subdued colouring, while adult males are smaller and exhibit darker pigmentation with distinctive markings on the head, located between its eyes. This marking will turn bright red during the breeding season.

Preliminary Observations and Emerging Patterns

To date, traps have been deployed across multiple locations along the Dungun River, covering a range of microhabitats. Despite this broad effort, all documented individuals, including one recaptured terrapin, were recorded within a single locality near a fishermen's jetty. No captures have yet been recorded outside this area, despite repeated trapping attempts elsewhere.

This spatial clustering prompted closer attention to the ecological features of the jetty site. Informal interviews with local fishermen revealed that painted terrapins are frequently observed in this area, particularly when food waste is discarded into the river. These accounts align with repeated field observations of terrapin presence near the jetty. While no conclusions can be drawn at this stage, the emerging pattern suggests that the site may function as an important foraging area. The physical structure of the jetty itself, including pilings and adjacent pontoons, may also provide shelter or refuge. This working hypothesis will be tested further as sampling effort increases and additional recapture data are collected in 2026.

Big thanks to...

This work would not have been possible without the technical, financial, and permitting support provided by Turtle Survival Alliance, Turtle Conservation Fund, the Ministry of Finance Malaysia, PERHILITAN, and the Turtle Conservation Society. Their support has opened a critical pathway for this pilot study and laid the groundwork for continued research and conservation action into 2026 and beyond.



BEACH CLEAN-UPS

Community Action for Cleaner Beaches

During nightly patrols and the many hours spent observing nesting individuals, the team also became acutely aware of the condition of the beaches themselves. Following the monsoon season, large volumes of trash were deposited along Kuala Abang and Tahu Tiga beaches by strong waves and shifting currents. This influx of debris significantly increased the risks faced by nesting turtles and hatchlings. Litter can obstruct nesting, alter beach profiles, entangle flippers, and disorient hatchlings as they make their journey to the sea.



Given limited manpower, clean-up efforts had to be carefully planned and prioritised. Rather than attempting to address the entire coastline at once, the team focused first on key nesting hotspots identified through years of monitoring. These areas, known to be repeatedly used by nesting turtles, were cleared as a priority to reduce immediate risks during the nesting season. Once these critical stretches were addressed, efforts were extended to other parts of the beaches as capacity allowed.



To carry out this work, we partnered closely with the local grassroots initiative Geng Plastik Ija (GPI). The involvement of GPI volunteers made a substantial difference, allowing weekly beach clean-ups to be conducted throughout the season. Together, we removed approximately 1,333.01 kilograms of trash from Kuala Abang and Tahu Tiga beaches. While this represents a significant effort and a meaningful reduction in immediate hazards, parts of the coastline remain affected by ongoing litter.



Despite these challenges, the regular presence of volunteers on the beach, often seen collecting rubbish every Friday, has become an important part of our outreach. We hope that this visibility, combined with ongoing awareness efforts by PULIHARA and GPI, will encourage a shift in mindset among beachgoers. Cleaner beaches ultimately require more than clean ups alone; they depend on collective responsibility and everyday choices that prevent waste from reaching the shore in the first place.

Archives from the Field: with GPI Dungun





1,333.01

KG OF TRASH REMOVED

479.32

KG OF RECYCLABLE TRASH REMOVED

853.69

KG OF NON-RECYCLABLE TRASH REMOVED

TURTLE STRANDING

A single turtle stranding was recorded during the season. On 9 May 2025, at 6:00 p.m, a green sea turtle (*Chelonia mydas*) carcass was discovered by staff of Tanjong Jara Resort.

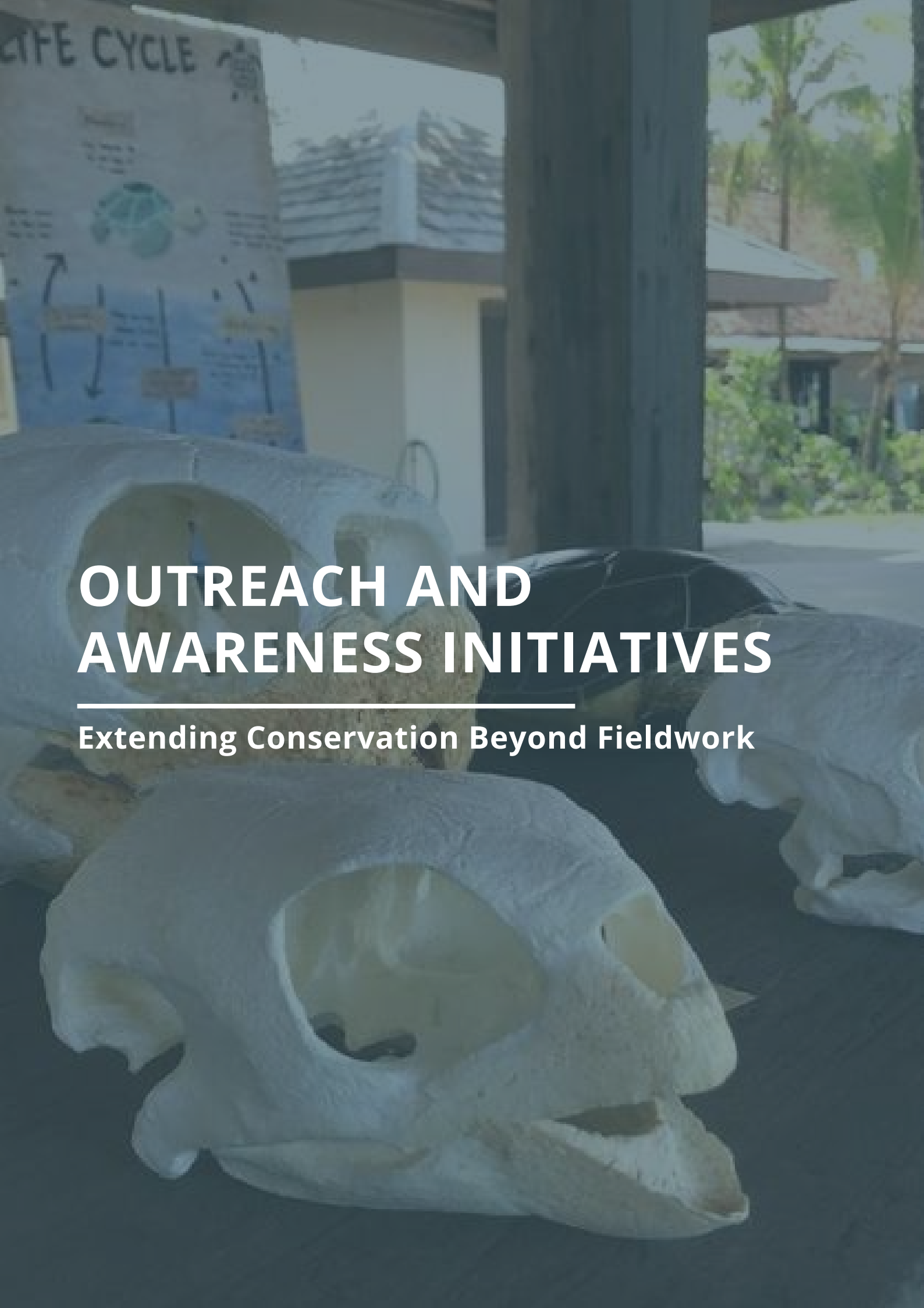
A standard assessment was conducted. The examination include:

- Signs of external injuries to the carapace and plastron
- Facial scale patterns for photo-identification
- Sex determination based on tail length
- Measurement of curved carapace length (CCL) and width (ccw)
- Inspection for the presence of flipper tags or tag scars.

The turtle was in a moderate state of decomposition. No visible external injuries were observed. A full necropsy could not be performed; therefore, the cause of death could not be determined. The CCL measured 98.0 cm and the CCW measured 85.0 cm, confirming the individual as an adult. Based on the tail morphology, the turtle was identified as a female. Photo-ID analysis yielded no match within the existing database.

A stranding encounter report form was completed and submitted to Department of Fisheries (DoF) in accordance with standard reporting procedures.





OUTREACH AND AWARENESS INITIATIVES

Extending Conservation Beyond Fieldwork



I.S.T.A PROGRAMME

Outreach and education continued to form a central pillar of PULIHARA's conservation approach, recognising that long term protection of sea turtles depends not only on field interventions, but also on informed and engaged communities.

In 2025, PULIHARA strengthened its outreach and education efforts through the development and initial rollout of the International Sea Turtle Ambassador (I.S.T.A.) Programme. Delivered in partnership with the Inwater Research Group (IRG) and supported by the International Sea Turtle Society (ISTS) Innovation Grant, the programme combined structured education, hands-on learning, and scientific context.

A key milestone this season was the launch of the Junior Conservationist Programme, developed under the I.S.T.A. framework to nurture young conservation ambassadors from primary schools in and around Dungun. Designed to move beyond classroom based learning, the programme unfolded across three carefully structured sessions. The first introduced students to sea turtle biology and the threats turtles face throughout their life cycle. The second provided hands-on exposure through simulated rehabilitation and release activities using the Turtle Trunk. The final session shifted ownership to the students themselves, culminating in a school based knowledge sharing event led by the participants.

A total of 75 students were selected from three primary schools in Dungun, namely SK Pusat Dungun, SK Balai Besar, and SK Sura. During the final session, selected participants stepped into facilitator roles, confidently guiding their peers through learning stations focused on the sea turtle life cycle, threats, and conservation actions. This peer led approach allowed the programme's impact to extend well beyond the initial group. Through this single initiative, a total of 1,325 students were reached, made possible with additional support from the Ministry of Finance Malaysia



Beyond numbers, the Junior Conservationist Programme demonstrated the value of empowering young participants with both knowledge and responsibility. By positioning students as messengers rather than passive recipients, the programme fostered confidence, ownership, and a clearer understanding of how individual actions connect to wider environmental outcomes.



Survey findings indicated that more than 80% of selected participants showed a measurable increase in their understanding of sea turtle ecology. To assess learning progress, pre- and post-programme questionnaires were administered to evaluate each student's development. The assessments focused primarily on fundamental knowledge of sea turtle biology and conservation, allowing us to track improvements in both awareness and comprehension.



As preparations continue to refine and expand the I.S.T.A. Programme, plans are already underway to run the Junior Conservationist Programme again in the coming season. The focus remains on depth, continuity, and relevance, with the aim of encouraging young ambassadors to speak not only for sea turtles, but for the wider natural systems they depend on.

SK Pusat Dungun



SK Balai Besar



SK Sura



THE VISITORS' HUT

A Place for Learning and Everyday Conversations

Alongside structured programmes, outreach continued through regular engagement at the Visitors' Hut, which serves as a direct point of contact between ongoing conservation work and resort patrons. The Hut offers a setting where conservation is experienced rather than simply explained. While modest in scale, it plays a steady and meaningful role in shaping public understanding through consistent presence and dialogue.



Throughout the season, the Visitors' Hut welcomed 5,065 visitors from diverse backgrounds, each participating in a range of guided sessions and informal conversations. Through visual materials, hands-on displays, and direct interaction with team members, visitors were introduced to sea turtle nesting ecology, hatchery management practices, and the pressures turtles face across different stages of their life cycle. In addition to these engagements, we conducted multiple Hatchling release sessions, attended by 1,427 guests, offering participants a first-hand opportunity to witness and understand a critical stage of the sea turtle life cycle within a guided and ethically managed setting.

A highlight of the outreach calendar was the annual Mini Sea Turtle Carnival, held in conjunction with World Sea Turtle Day and now in its fourth year. Designed as an eco-conscious event, the carnival featured games and activities created using recyclable materials, with more than 80 percent sourced from beach clean ups conducted earlier in the season. Beyond its celebratory atmosphere, the event offered an approachable entry point for visitors to engage with conservation themes, while reinforcing practical messages around waste reduction, reuse, and environmental responsibility.



ADOPTION PROGRAMME

By adopting a nest or a turtle, individuals and organisations play a direct role in safeguarding vulnerable nests and ensuring the survival of future generations. Contributions through this programme provide tangible support to our field teams, enabling the ongoing monitoring, protection, and management of sea turtle populations.

The Adoption Programmes maintained its momentum alongside an increase in recorded nests at Tanjong Jara. Support for the Nest Adoption Programme has grown in parallel, reflecting continued public interest and confidence in the initiative. To extend impact, adopters are now offered the choice of where they would like to adopt a nest, and in some cases, have adopted nests at both Tanjong Jara and our sister project site at Chakar Hutan. This approach allows contributions to directly support multiple nesting beaches and reinforces the collaborative nature of regional sea turtle conservation efforts.

Through these initiatives, adopters remain an integral part of the conservation process, ensuring that each nest benefits from protective measures and attentive monitoring during the critical incubation period. We are deeply grateful to all adopters for their continued generosity, trust, and shared commitment to preserving these iconic marine species.



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SPECIAL THANKS TO OUR ADOPTERS

LOOKING AHEAD

Building on Progress, Preparing for Tomorrow

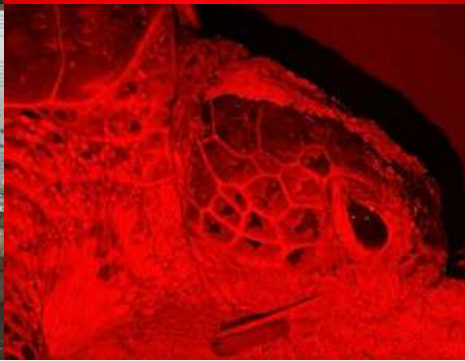
As the 2025 season draws to a close, PULIHARA reflects not only on the achievements and lessons of the past year, but also on the work that lies ahead. Conservation is a long-term endeavour, and each season provides critical insights that shape future strategies. The successes of 2025, from the protection of nests and hatchlings to the expansion of outreach programmes and the first steps of the painted terrapin study, offer a strong foundation on which to build.

The road ahead may be challenging, but informed by data, guided by experience, and strengthened by a community of supporters, PULIHARA enters 2026 with cautious optimism, commitment, and a renewed focus on protecting turtles, terrapins, and the ecosystems they rely on.





2025 SEASON



Thank you to our funders, sponsors, collaborators, adopters, volunteers, interns and supporters.

Your support has been at the core of our progress, empowering us to reach meaningful milestones in marine conservation and community engagement. From safeguarding nests to inspiring the next generation, none of these achievements would have been possible without you.



COLLABORATORS AND SPONSORS

