

SOUTHWEST PAPUA
PROVINCIAL LEADERS
JOIN RELEASES

FIRST BOWMOUTH
GUITARFISH TAGGED
IN THE S. HEMISPHERE

GREAT AUSTRALIAN
STEGOSTOMA SEMEN
EXPEDITION 2.0

the ReShark^{er}

ISSUE 8 • APRIL 2026



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RESHARK COUNCIL

Abraham Sianipar
Dr. Barney Long
Dr. Erin Meyer
Hap Fatzinger
Dr. Lisa Hoopes
Dr. Mark Erdmann
Dr. Rima Jabado

STAR project STEERING COMMITTEE

Dr. Erin Meyer (Co-Chair)
Nesha Ichida (Co-Chair)
Abraham Sianipar
David Aparici Plaza
Dr. Caitlin Hadfield
Dr. Christine Dudgeon
Leah Neal
Dr. Mark Erdmann
Metavee Chuangcharoendee
Mochamad Iqbal Herwata

EDITOR

Nathaniel Soon

CONTACT

media@reshark.org
recruitment@reshark.org

Welcome to Issue 8 of *The ReSharker*, where we celebrate the exciting milestone of 75 leopard shark pups released into the wild, including 7 in Phuket, Thailand, and 68 in Raja Ampat, Indonesia. It is gratifying to reflect on the progress made since our last edition at the close of 2025. Since then, we have released 17 additional leopard shark pups in Raja Ampat, witnessed by a range of distinguished guests, from the Governor and Vice Governor of South-west Papua to representatives from breeding institutions that contributed eggs (Georgia Aquarium and Sea World Gold Coast), as well as donors supporting nursery operations, and most importantly, local schoolchildren from Raja Ampat!

Raja Ampat's next generation is playing an active role in the nurseries. Thrive Conservation's Raja Ampat education coordinator Yolanda Wamaer is regularly bringing schoolchildren to visit, where they help deliver "Uber Eats" of snails and clams for the pups while learning about conservation. This issue also highlights strong progress from Thailand, including a completed PVA to guide rewilding efforts, an upgraded sea pen, and a new cohort of eight leopard shark pups.

This issue also showcases pioneering science led by ReShark partners,



from collecting semen from aggregating wild male leopard sharks in Australia for use in artificial insemination trials, to deploying the world's first fin-mounted satellite tags on stags, as well as satellite and acoustic tagging of wild bowmouth guitarfish. The early findings are remarkable, particularly the movement data from newly released pups tracked using microPAT satellite tags.

While these stories highlight a range of exciting developments, one stands out as especially meaningful. Those involved in launching the StAR Project may recall a sobering figure previously shared: across more than 15,000 man-hours of underwater survey time by my Conservation International colleagues and I in Raja Ampat between 2001 and 2021 (pictured above), only 3 leopard shark sightings were recorded. Yes, 3 in 20 years of diving! This edition of *The ReSharker* documents 10 sightings in the last quarter alone, 8 of which are juveniles that are likely StAR-released individuals. Need I say more? Happy reading!

IN FOCUS



RAJA
AMPAT

IN FOCUS: STAR PROJECT INDONESIA

by

NESHA ICHIDA | THRIVE CONSERVATION
Project Manager, StAR Project Indonesia



IN FOCUS

Releasing Nausrau with Ahmad Nausrau,
Vice Governor of Southwest Papua.
Photo by Adnan Habib

SOUTHWEST PAPUA GOVERNOR & VICE GOVERNOR JOIN RELEASES

Formerly part of the West Papua Province, Raja Ampat has been transitioning into the newly established Southwest Papua Province since 2022, with its first official leadership elected only last year. As the release season began, we were honored to welcome members of this new provincial leadership to participate, marking an important step in strengthening government engagement and supporting the continued growth of StAR Project Indonesia.

Our 2026 release season in Raja Ampat kicked off with a series of milestone events, bringing together government leaders, conservation partners, resort guests, and local school groups as 17 Indo-Pacific leopard sharks (*Stegostoma tigrinum*) were successfully released in the first quarter of the year. Three days of releases were held in Misool from Jan. 15–17. The first release saw [Nausrau](#), returned to the wild alongside Ahmad Nausrau, Vice Governor of Southwest Papua, after whom the shark was named.

IN FOCUS

During his visit, the Vice Governor received a full briefing on the StAR Project and expressed strong support, encouraging local communities to help protect sharks returning to their waters. Over the following days, additional releases took place with guests from Misool Resort, including **Edloma**, a satellite-tagged female, and **Christopher**, a satellite-tagged male. The final day saw students from SMA Swasta Guppi Raja Ampat (Fafanlap Village) witness the release of **Herby** and **Caitlin**.

Releases continued at the RARCC nursery on Kri Island from Jan. 21–24, where six sharks were returned to the waters of the Dampier Strait. On Jan. 21, we hosted Elisa Kambu, Governor of Southwest Papua, who arrived with a delegation of nearly 100 people. The visit included the naming of a newborn pup, **Elisa**, in his honor, followed by the release of **Morin**. The Governor expressed his appreciation for the work achieved and his enthusiasm to see StAR Indonesia continue growing under the new provincial administration.



ELISA

On Jan. 22, more than 60 students from Batanta Hope Island School, Yenwaupnor School (via Raja Ampat SEA Centre), and Child Aid Papua joined the nursery for a special release event. After a guided introduction to the StAR Project led by Yolanda Wamaer (Raja Ampat Education Coordinator, Thrive Conservation), three sharks — **Hoopes**, **Munro**, and **Thomas** — were released, with **Thomas** marking the 60th shark released by StAR Indonesia. The day was further marked by the presence of Dr. Lisa Hoopes (Senior Director of Research and Conservation, Georgia Aquarium; ReShark Council member), who participated in the release of **Hoopes**, named in her honor.

Two additional sharks, **Ali** and **Anderson**, were released on Jan. 24 alongside guests from Papua Diving Resorts. Encouragingly, the aquarist team encountered **Anderson** again more than a week later, swimming calmly near the surface, providing a positive early post-release observation.

Releases continued on Mar. 2, when six pups were released from the RARCC nursery in a single day. The first three sharks — **Leah**, **Brunswick**, and **Abam** — were released alongside visiting school groups, creating a lively and celebratory atmosphere.

Later in the day, representatives from Sea World Gold Coast, Siobhan Houlihan and Clint Karger, released **Shishino**, the final pup in the nursery originating from their institution, marking a full-circle moment for the duo. “Spending the week on Kri Island with the sharks and their nannies was easily one of the top five highlights of my career,” Siobhan shares. “Witnessing the release of a pup we had cared for from egg to ocean was a powerful reminder of the impact of this work.”

Donor Katrine Bosley also took part, releasing **Lizzie**, a shark she sponsored and named for her niece. The final shark of the day, **Rima**, named in honor of Dr. Rima Jabado (Chair, IUCN Shark Specialist Group; ReShark Council member), was also released. Serendipitously, aquarists sighted **Rima** again near the RARCC nursery on Apr. 4, more than a month after release.

All six pups released in March measured more than 100 centimeters at the time of release, with **Leah** the largest at 117 centimeters and 5.3 kilograms. Five of the six sharks were fitted with microPAT satellite tags, scheduled to detach and transmit data in late April, in time for when we return for the next phase of releases.

LEFT TOP Releasing **Herby** and **Caitlin** with students from SMA Swasta Guppi Raja Ampat. Photo by Nesha Ichida.

LEFT MIDDLE Governor of Southwest Papua Elisa Kambu speaks to the press. Photo by Qintan Aulia.

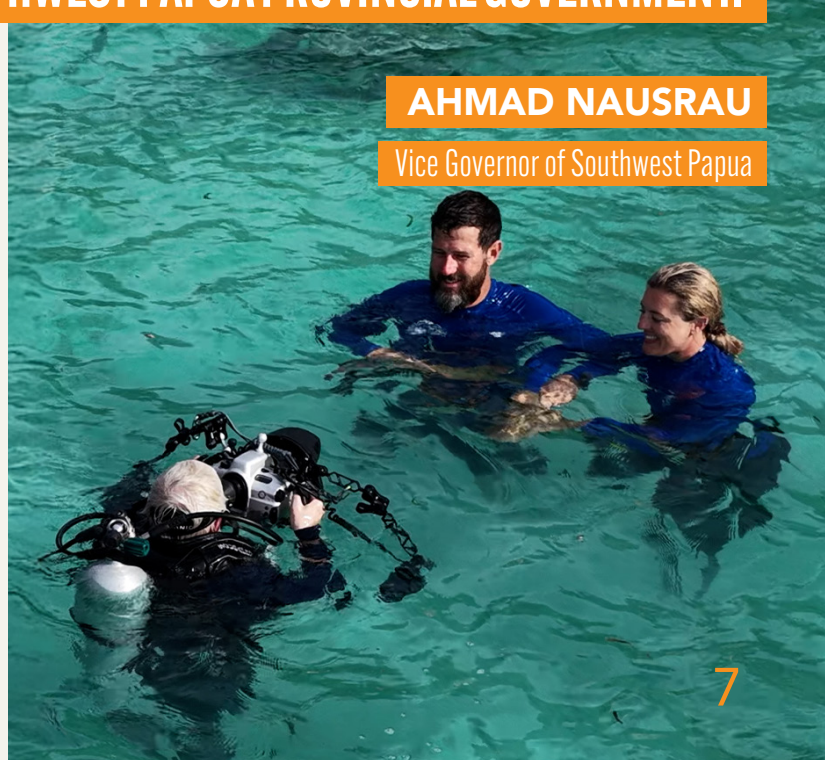
LEFT BOTTOM Dr. Lisa Hoopes releases her namesake, **Hoopes**. Photo by Tivara Tanudjaja.

RIGHT TOP Vice Governor of Southwest Papua Ahmad Nausrau observes a traditional ceremonial blessing prior to releasing **Nausrau** in Misool. Photo by Pambajeng Putro.

RIGHT BOTTOM Sea World Gold Coast team releases **Shishino**, photographed by David Doubilet. Photo by Mark Erdmann.



THE MISOOL FOUNDATION, TOGETHER WITH THE RAJA AMPAT MPA MANAGEMENT AUTHORITY AND RESHARK, IS PLAYING A KEY ROLE IN RESTORING THE ENDANGERED INDO-PACIFIC LEOPARD SHARK. THIS IS AN EXTRAORDINARY MOMENT, BOTH PERSONALLY AND FOR THE SOUTHWEST PAPUA PROVINCIAL GOVERNMENT.



IN FOCUS

POST-RELEASE MONITORING & CITIZEN SCIENCE OBSERVATIONS

Of the 17 sharks released during the first quarter of 2026, 12 were equipped with microPAT satellite tags to track their movements during their first months in the wild. These included Hoopes, Munro, Christopher, Nausrau, Thomas, Edloma, and Anderson from the January releases, as well as Leah, Brunswick, Abam, Rima, and Shishino from March.



A major milestone for the monitoring program came with the recovery of the first three microPAT satellite tags from StAR Indonesia–released pups. Spotty Dotty, released on Nov. 2, 2025, provided the first successful dataset after her tag detached following 72 days of deployment — marking the program’s first satellite track of approximately 2.5 months. Since then, tags from Thomas and Rima have also been recovered. (Read “Latest: Research and New Science” for more details.)

Recent citizen science observations from divers and visitors to Raja Ampat are also providing encouraging signs that juvenile leopard sharks are appearing on local reefs. In late Dec. 2025, Reto and Angela Koenig from Switzerland photographed a juvenile at Pulau Dua near Batanta in the Dampier Strait, less than 10 kilometers from the usual release site.

In early Feb. 2026, Henley Spires aboard the *Mantra* liveaboard captured clear identification pho-

tographs of another juvenile off Wara Beach, just east of Misool Resort. Although initially shy, the shark resumed foraging calmly in nearby sand and rubble, behavior consistent with natural post-release adaptation. These sightings may represent StAR-released individuals, and our team is currently comparing identification photos to confirm potential matches.

Additional observations in early Apr. 2026 further suggest possible resightings of released pups. The liveaboard *Dive Damai* documented a leopard shark measuring approximately 1.4 meters at Nudi Rock in southeast Misool, around three kilometers from the usual release site. The individual was observed resting beside a coral bommie and being cleaned by wrasses, and was described as a likely sub-adult.

Separately, Muhammad Raissa Danendra, a dive guide from Papua Explorers Dive Resort, recorded a roughly 1.3-meter leopard shark during a night dive on the resort’s house reef. Having previously interned at our RARCC nursery, he noted features consistent with a recently released individual, including the presence of juvenile striping. While photo identification comparisons are still underway, both sightings occurred within one kilometer of existing acoustic receivers, increasing the likelihood that these individuals may be detected within the monitoring array if confirmed as StAR-released sharks.

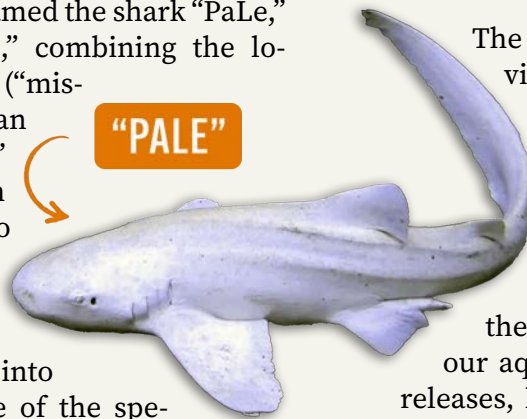


LEFT StAR Indonesia team after satellite tagging a pup prior to release. Photo by RARCC.

RIGHT Juvenile leopard shark at Pulau Dua, Dampier Strait. Photo by Reto and Angela Koenig.

An especially remarkable sighting occurred in Feb. 2026, when Mega Aurine (Dive Manager, Misool Resort) recorded a striking white adult leopard shark at the Boo Islands. Our analysis confirmed a match with footage recorded by Dr. Mark Erdmann (Executive Director, ReShark) at Eagle's Nest in April 2015, indicating the same individual has been sighted again more than 11 years later. This particular animal displayed leucism, a rare condition resulting in partial loss of pigmentation while retaining normal eye color. Estimated at approximately 2.2 meters in length, the animal appears to be a mature male and was also photographed in 2025 by Alberto Reija in the same area.

Our team has since nicknamed the shark "PaLe," derived from "pace bule," combining the local Papuan term *pace* ("mister") with the Indonesian word *bule* ("foreigner" or "white person"). With leopard sharks believed to live 40–50 years or more, the rediscovery of this distinctive individual offers a compelling glimpse into the long-term persistence of the species in Raja Ampat's waters, certainly an encouraging sign for ongoing rewilding efforts.



OUTREACH & CAPACITY BUILDING PROGRAMS IN FULL STEAM

Educational outreach and capacity-building efforts continue to expand alongside day-to-day nursery operations. Led by Yolanda, the program focuses on engaging local schools through nursery tours and strengthening relationships with nearby communities, including fishers and gleaners who support pup food sourcing. The RARCC nursery is now officially open to visitors and has become a popular stop for liveaboards, with at least one group visiting weekly and up to four during the high season. To help coordinate visits, advance inquiries are encouraged via info.resharknursery@gmail.com.

The RARCC nursery also hosted special visitors in Mar. 2026, when Peter and Julia Farrell (Owners, Barefoot Manta Island Resort and Barefoot Kuata Island Resort) traveled from Fiji to observe operations firsthand. Exploring the potential for a future StAR Project in the Yasawa Islands, they toured the nursery, engaged with our aquarist team, and witnessed several releases, leaving energized about the opportunity to expand the initiative to Fiji.

Yolanda giving Child Aid Papua students a tour of the RARCC nursery.
Photo by Anggi Aenun.



IN FOCUS

60th release with 60 students: releasing Hoopes, Munro, and Thomas with students from Batanta Hope Island School, Yenwaupnor School, and Child Aid Papua. Photo by Tivara Tanudjaja.



“

THE AQUARIST EXCHANGE PROGRAM WAS EXTREMELY REWARDING. I GAINED NEW KNOWLEDGE, BUILT CONNECTIONS WITH MY FELLOW AQUARISTS, AND LEARNED FROM DIFFERENT SYSTEMS TO ENHANCE AND ADAPT OUR NURSERY PRACTICES.

ANNISA FATHYA

Misool Foundation Aquarist

IN FOCUS



TOP Sea World Gold Coast's Clint Karger and Siobhan Houlihan with the RARCC aquarist team. Photo by RARCC.

MIDDLE StAR Indonesia aquarists completing their free-diving course. Photo by RARCC.

BOTTOM Fish veterinarian Dr. Citantyaning Kirana leading a knowledge-sharing session with the StAR Indonesia team. Photo by RARCC.



Capacity building among the StAR Indonesia team continues to grow. During the January release period, RARCC and Misool Foundation aquarists completed a formal free-diving course, funded by BlueMark Fund through Thrive Conservation and led by Óscar Aguilar (Dive Manager, Papua Diving Resorts). While aquarists are already experienced in breath-hold diving for daily husbandry, the training enhances safety and efficiency in the water.

An aquarist exchange program between the two nurseries has also been introduced to strengthen collaboration and share best practices. Mardia Sultan (RARCC nursery) spent two weeks at the Misool Foundation nursery in April 2025, while Annisa Fathya (Misool Foundation nursery) has recently supported operations at Kri during ongoing upgrades in Misool. She will also travel to Rote Island in East Nusa Tenggara to work with Thrive Conservation's Rote Project team, further broadening her experience in marine conservation.



Expert visits from across the ReShark coalition continue to provide valuable learning opportunities. During her January visit, Lisa delivered sessions on elasmobranch nutrition. In March, Siobhan and Clint worked alongside the team to refine husbandry techniques, including developing enrichment for the pups. Most recently, fish veterinarian Dr. Citantyaning Kirana, together with Thrive Conservation's veterinarian and Executive Director Dr. Jaya Ratha, shared expertise on fish health and parasite management, contributing to ongoing improvements in animal care.

IN FOCUS



IN FOCUS: StAR PROJECT THAILAND

by

METAVEE CHUANGCHAROENDEE | WILDAID

Project Manager, StAR Project Thailand

Juvenile leopard shark being fed at the Maiton Island sea pen. Photo by Sirachai Arunrugstichai / WildAid / Ocean Blue Tree.

POPULATION VIABILITY ANALYSIS OF INDO-PACIFIC LEOPARD SHARKS IN THAILAND'S ANDAMAN SEA

A Population Viability Analysis (PVA) is a modeling tool used to assess how a population may change over time. It helps guide reintroduction planning by addressing key questions: How many sharks currently live in a given area? How many individuals should be released? And how long should releases continue for?

Conducting a PVA is standard practice across all ReShark rewilding projects. The first PVA for Indo-Pacific leopard sharks (*Stegostoma tigrinum*) in Raja Ampat was completed in 2021 for StAR Project Indonesia, led by Dr. Kathy Traylor-Holzer. It has since been expanded to the Andaman

Sea population to support planning for StAR Project Thailand. The updated assessment was completed in 2025 by Dr. Phil Miller (Director of Science and Data, IUCN Conservation Planning Specialist Group) in collaboration with the StAR Thailand team.

The results provide the strongest evidence to date that releases into the Similan Archipelago and Phang Nga Bay could meaningfully strengthen and stabilize the wild population. Key takeaways are outlined below:

Thailand's wild population is larger than Raja Ampat's, but remains relatively small. An estimated 57–172 leopard sharks currently inhabit the Similan Archipelago and Phang Nga Bay, based on mark-recapture data collected between 2019 and 2025.



IN FOCUS

The Andaman Sea release area has an estimated carrying capacity of approximately 1,000 leopard sharks. Spanning roughly 12,000 km², it is comparable in size to the Raja Ampat Archipelago. However, despite exceeding Raja Ampat's pre-rewilding population (estimated at 15–30 individuals in 2021), the current Thai population remains vulnerable to demographic fluctuations, environmental disturbances, and genetic loss.

Rewilding is projected to significantly improve both population size and genetic health. Across modeled scenarios, projected long-term population increases range from approximately 24% to 189%, depending on starting population size, growth rate, and release duration. Importantly, ≥90% gene diversity is retained under scenarios with sustained annual releases, while diversity declines in scenarios without intervention.

A 10-year release program emerges as the most effective strategy. Shorter programs (around four years) produce modest gains, while extending releases to approximately ten years yields substantial long-term improvements in both population size and genetic resilience. Programs extending beyond 16 years provide additional benefits, but with diminishing returns. Two dominant factors strongly influence outcomes in Thailand:

1. Initial wild population size: Starting estimates of 57, 115, or 172 individuals produce markedly different trajectories, with smaller populations benefiting disproportionately from reintroductions.
2. Natural population growth rate: The plausible range remains approximately 3–5% per year. Higher growth rates support faster

recovery, while lower rates require more sustained release efforts.

Post-release survival remains the most critical unknown. The updated PVA builds on early survival data from StAR Project Indonesia, which aligns with the “Optimistic” scenario used in the 2021

analysis. However, the model identifies survival to one year of age as the single most influential variable. Sensitivity analyses show that population trajectories decline sharply when survival falls below 30%, while even modest improvements drive significant long-term gains.

This underscores the importance of robust post-release monitoring in Thailand, mirroring ongoing efforts in Indonesia. Current benchmarks from Indonesia indicate approximately 90% hatch success and ~77% survival from hatch to release (around six months), with survival beyond one year in the wild still unknown.

The PVA produced several recommendations to guide StAR Project Thailand's rewilding efforts:

1. Maintain at least 3% annual population growth through habitat protection, threat reduction, and careful management of tourism.
2. Continue annual releases for a minimum of 10 years, identified as the most effective strategy for increasing both population size and genetic diversity.
3. Maximize early-life survival in rearing facilities, as the egg-to-release phase has a disproportionate influence on long-term outcomes.
4. Invest in robust post-release monitoring, particularly during the critical six- to 12-month period after release, a key determinant of rewilding success.



TOP LEFT New arrivals from Aquaria Phuket at the Maiton Island sea pen. Photo by WildAid / Ocean Blue Tree.

BOTTOM LEFT Engaging dive centers, like Love Diving Phuket, one of over 50 to date. Photo by Natthanan Phariwong.

TOP RIGHT StAR Thailand team with Elizabeth Ward and Camille Rovillain during a recent visit. Photo by Natthanan Phariwong.

BOTTOM RIGHT New sharks acclimating well in the Maiton Island sea pen. Photo by WildAid / Ocean Blue Tree.



UPGRADED MAITON SEA PEN & NEW COHORT OF SHARKS

Following StAR Thailand's successful release of its first cohort of seven Indo-Pacific leopard sharks into the Andaman Sea in 2025, the Maiton Island sea pen facility has been expanded to accommodate additional animals. In early March 2026, the team welcomed eight new pups from Aquaria Phuket. Averaging around 60 cm in length and aged between three and ten months, this cohort is notably younger than the initial group. We have also welcomed a new addition to our team — Natthanicha Puntukit (Pleng), who joins our aquarist team.

Early observations suggest the pups are adapting well to their new environment, with a clear preference for shaded areas of the enclosure. To foster

public engagement, we launched a naming contest themed around Songkran, inviting the general public to help name the sharks in celebration of the country's traditional New Year.

The pups also recently underwent their first health assessment, conducted by the StAR Thailand team in collaboration with the Department of Marine and Coastal Resources (DMCR) veterinary team, with all individuals found to be in good health. During this period, the sharks were introduced to snails and clams for the first time and began feeding successfully. These developments coincided with a visit by our friends — Elizabeth Ward (Co-Founder and Director, Shark Guardian) and Camille Rovillain (Co-Founder, The Smiling Seahorse), who had the opportunity to observe the new sharks and StAR Thailand's ongoing work.

IN FOCUS

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SEEING HOW MUCH PEOPLE CARE GIVES ME REAL HOPE THAT
GROWING AWARENESS CAN HELP DRIVE THE FUTURE OF
LEOPARD SHARK CONSERVATION IN THAI WATERS.

WANSIRI MEEMANA (PANG)

StAR Project Thailand Aquarist

StAR Thailand aquarist Pang sharing about the StAR Project with divers from Aussie Divers Phuket at Racha Noi. Photo by @luchi.in.the.jungle.

CITIZEN SCIENCE ENGAGEMENT ACROSS BANGKOK & PHUKET

We have been ramping up outreach and citizen science engagement across Bangkok and Phuket, including the Phi Phi Islands, working closely with dive centers, liveaboard operators, and the broader diving community since our first successful releases in 2025.

To date, we have engaged nearly 50 dive centers. We have also begun extending outreach into schools, including a recent session at Raffles American School during STEAM Week in Bangkok. During these engagements, we share updates on the StAR Project's rewilding efforts and introduce the *Spot the Leopard Shark – Thailand* citizen science initiative, encouraging divers to submit photographs and videos of leopard sharks encountered in Thai waters. With sharks now back in the wild, these community sightings are becoming an increasingly valuable tool for post-release monitoring, helping us track early recovery trends.

As part of these efforts, one of our shark aquarists, Wansiri Meemana (Pang) recently joined a day trip with Aussie Divers Phuket to Racha Noi, where she introduced both StAR Thailand and the *Spot the Leopard Shark – Thailand* initiative directly to divers at sea, while also participating in dives at one of the region's known leopard shark sites.

Thailand remains one of the world's premier diving destinations, supporting an extraordinary diversity of marine life. Through StAR Project Thailand, the growing citizen science community we are engaging plays a vital role in tracking leopard shark sightings, helping us better understand their distribution and directly supporting the species' recovery in the Andaman Sea.





Research team affixing a satellite tag to a bowmouth guitarfish. Photo by Ross Miller.



LATEST: RESEARCH & NEW SCIENCE

FIRST BOWMOUTH GUITARFISH TAGGED IN THE SOUTHERN HEMISPHERE

Across its broad Indo–West Pacific range, from South Africa to Japan and south to Australia, the bowmouth guitarfish (*Rhina ancylostoma*) faces intense pressure from both artisanal and commercial fisheries. The species is frequently caught using trawls, gillnets, and line gear and is also highly vulnerable to habitat degradation. In several parts of its range, including Indonesia, populations have declined sharply due to targeted and largely unregulated fisheries.

Although bowmouth guitarfish adapt well to aquarium environments, much remains unknown about their biology in the wild. To help close these knowledge gaps, ReShark and its partners, including the Shark Ray 360 initiative, have begun investing in foundational research on the species, focusing on population genetics, diet, and movement ecology. At the same time, aquarium collaborators continue refining conservation breeding techniques. By building this knowledge base, the bowmouth

guitarfish is emerging as a strong candidate for potential future rewilding efforts.

Between Nov. 21–26, 2025, a team of conservation scientists from ReShark, Biopixel Oceans Foundation, Georgia Aquarium, SEA LIFE Sydney Aquarium, and Cairns Marine conducted a research expedition to the far northern Great Barrier Reef, near the edge of the Torres Strait, to locate and tag bowmouth guitarfish.

Working in reef areas where commercial crayfish fishers had previously reported encounters with the species, the team spent long days setting drum lines and conducting fishing surveys. After six days and more than 70 hours of effort, the team successfully captured a 2.2-meter mature female.

The individual was carefully processed and released following a series of research procedures, including tissue sampling for genetic and physiological analyses, cloacal sampling, implantation of an internal acoustic tag, and the attachment of an external miniPAT satellite tag.

LATEST

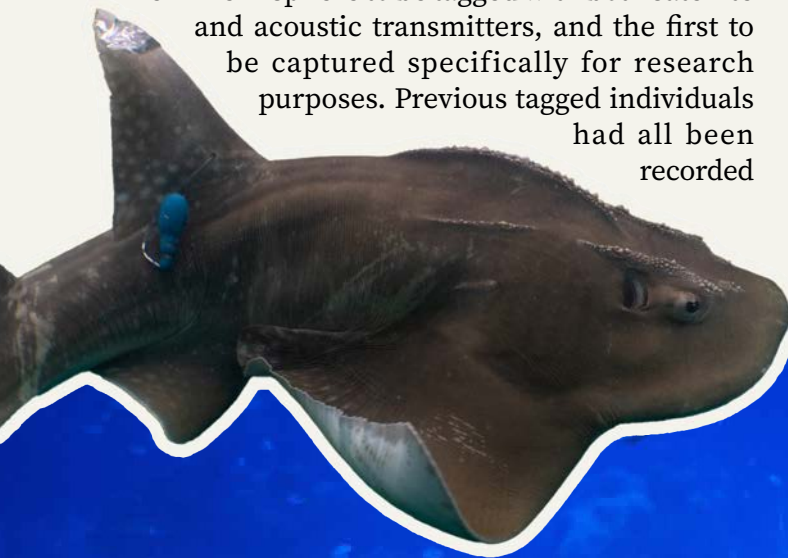
The miniPAT satellite tag deployed on this individual detached after 134 days, surfacing in the Torres Strait less than 50 kilometers from the original tagging location. Preliminary data indicate that it remained within a relatively confined area during the deployment period, suggesting limited movement over several months. While this contrasts with observations of the species in offshore pelagic environments elsewhere in its range, it provides an initial indication that bowmouth guitarfish may potentially exhibit restricted movement patterns in some regions.

To the team's knowledge, this individual represents the first bowmouth guitarfish in the Southern Hemisphere to be tagged with both satellite and acoustic transmitters, and the first to be captured specifically for research purposes. Previous tagged individuals had all been recorded

through fisheries bycatch. Data collected from these tags will provide valuable insights into the species' movement ecology and habitat use, helping researchers better understand how bowmouth guitarfish use reef and coastal ecosystems. These findings will also contribute to the Shark Ray 360 initiative, which is developing science-based conservation and recovery strategies for this Critically Endangered and top-ranked EDGE (Evolutionarily Distinct and Globally Endangered) species.

During the expedition, the team also recorded important observations of two additional threatened ray species: the bottlenose wedgefish (*Rhynchobatus australiae*) and the giant guitarfish (*Glaucostegus typus*), both of which are being considered as potential future focal species for rewilding.

The expedition was supported by the Fat Tire Foundation, Djinda Foundation, and the Rolex Perpetual Planet Initiative, with field logistics provided by Aroona Luxury Boat Charters.



The inaugural bowmouth guitarfish PVA workshop, held in May 2025 and organised by the Singapore Oceanarium and the Shark Ray 360 coalition, brought together representatives to shape key *ex situ* conservation strategies for the species. Photo by Singapore Oceanarium.



GASSE team extracting a blood sample from a leopard shark at the surface. Photo by Mark Erdmann.

LATEST



GREAT AUSTRALIAN STEGOSTOMA SEMEN EXPEDITION (GASSE) 2.0

In December 2025, a team of scientists and veterinarians from Biopixel Oceans Foundation, Ocean Park Hong Kong, Sea World Gold Coast, SEA LIFE Sydney Aquarium, Irukandji Shark & Ray Encounters, ReShark, Thrive Conservation, Griffith University, and The University of Queensland successfully completed the second Great Australian *Stegostoma* Semen Expedition (GASSE 2.0).

The expedition, led by Dr. Christine Dudgeon, focused on studying healthy populations of Indo-Pacific leopard sharks (*Stegostoma tigrinum*) that aggregate seasonally near North Stradbroke Island, off Brisbane. While the species is listed as Endangered on the IUCN Red List, regions such as Australia and New Caledonia still support relatively robust populations. These strongholds provide valuable opportunities to study the species' biology and reproductive ecology in the wild.



Semen
extractions from
35 wild males
and 5 males
in human care



Blood and hormone
samples
20
taken from
wild females and 7
females in human care



Ultrasound
examinations
conducted on
17 wild
females



7 females
across
3 aquariums
artificially
inseminated



Acoustic tags
implanted in
10 wild
animals



Satellite tags
successfully
deployed on
3 wild
females



LATEST

TOP Artificial insemination of a female leopard shark at Sea World Gold Coast. Photo by Gesa Mueller.

BOTTOM LEFT Semen extraction from an adult male leopard shark at the surface. Photo by Gesa Mueller.

BOTTOM RIGHT All smiles from the GASSE team. Photo by Mark Erdmann.

“

GASSE 2.0 WAS A GREAT SUCCESS. STREAMLINED FIELD METHODS

ALLOWED US TO SAMPLE MORE SHARKS THAN IN 2024 AND

ENABLED MORE FEMALES IN HUMAN CARE TO UNDERGO

ARTIFICIAL INSEMINATION. WE LOOK FORWARD TO

GENETICALLY TESTING ANY RESULTING PUPS.



DR. CHRISTINE DUDGEON

Senior Researcher, Biopixel Oceans Foundation

Co-Chair, StAR Project Research Working Group



THE RESHARKER ISSUE 8

During the expedition, the team successfully collected semen from 35 wild male leopard sharks, along with samples from an additional five males in human care at Sea World Gold Coast, Irukandji Shark & Ray Encounters, and SEA LIFE Sydney Aquarium. Using a natural and reversible state known as tonic immobility, researchers carefully collected semen before preparing a balanced mixture designed to optimize sperm vitality and maximize genetic diversity for breeding.

The artificial insemination (AI) work was led by Dr. Paolo Martelli and Irene Tai from Ocean Park Hong Kong, working alongside veterinary teams from the participating aquariums. As Dr. Martelli noted: “Certain clinical techniques, such as underwater blood and semen collection, semen analysis and cryopreservation, and AI can be better developed and validated in the controlled environments presented by public aquariums. GASSE allows applying these skills and techniques *in situ*, thus creating new opportunities for research and conservation action, as well as for non-predatory replenishment of genetic material for sharks under human care.”

The collected samples were then used to perform AI on seven female leopard sharks across the three Australian aquariums. The objective is to increase egg production and enhance the genetic diversity of offspring that may support future rewilding efforts. While it will take time to determine reproductive success, the team expects initial insights over the coming three to six months.

The semen samples are also being analyzed as part of Siobhan Houlihan’s PhD research with Griffith University and Sea World Gold Coast, which is investigating the reproductive ecology of the species. Her work focuses on sperm characteristics, reproductive timing, breeding success, and hormone profiles, helping to improve understanding of breeding cycles in both wild and managed populations and informing future conservation breeding strategies.

Researchers also carried out a range of complementary studies during the expedition. Blood samples were collected from 20 wild females and seven females in human care, as well as from all sampled males, to analyze reproductive hormone profiles.

In addition, ultrasound examinations were conducted on 17 wild females to assess ovarian follicle development and reproductive readiness, providing valuable baseline data to refine the timing of conservation breeding interventions. This work forms part of Gesa Mueller’s PhD with the University of the Sunshine Coast.

Movement ecology was another major focus. A total of 10 wild leopard sharks were surgically implanted with internal acoustic tags, which can remain active for up to 10 years, enabling long-term tracking through the IMOS acoustic receiver network. In addition, three wild females were fitted with satellite tags to track broader-scale movements beyond the acoustic array for approximately six months, generating detailed data on diving behavior, habitat use, and thermal tolerance.

GASSE 2.0 was generously supported by the Djinda Foundation and the Rolex Perpetual Planet Initiative.

EXPANDING SATELLITE TELEMETRY FOR LEOPARD SHARKS GLOBALLY

Over the past few months, significant progress has been made in expanding the use of satellite telemetry to better understand the movement ecology of Indo-Pacific leopard sharks (*Stegostoma tigrinum*) across both wild populations and StAR Project releases.



Recent successes include the recovery of multiple satellite tags deployed across Indonesia, Australia, and New Caledonia. In Oct. 2024, a MiniPAT (Mini Pop-up Archival Transmitting) tag deployed on an adult female in Nouméa, New Caledonia, was successfully retrieved by a team from Aquarium des Lagons and the University of the Sunshine Coast.

LATEST

As previously reported in Issue 7 of *The ReSharker*, two additional MiniPAT tags deployed on adult females off Julian Rocks in Australia by Dr. David Robinson (Co-owner, SunDive Byron Bay) and colleagues were also recovered, including one that recorded up to 320 days of data before detaching. Building on this work, six more MiniPAT tags have since been deployed on female leopard sharks in the same Australian locality. Three were deployed in Dec. 2025 (during GASSE 2.0) and another three in Feb. 2026, alongside the collection of blood samples from eight individuals and semen from one. These tags remain at large.

Additional progress has come from Indonesia, where Abraham Sianipar (Executive Director, Elasmobranch Institute Indonesia) and colleagues recovered a MiniPAT tag in late Jan. 2026 from an adult female in East Kalimantan following an eight-month deployment. This represents one of the longest satellite tracks recorded for the species to date.

Encouraging results are also emerging from microPAT (Micro Pop-up Archival Transmitting) satellite tags, attached using a modified “Grubbs sawfish harness,” deployed on StAR Project Indonesia pups in Raja Ampat. These are providing the first detailed movement data from rewilded juveniles. To date, 17 tags have been deployed, 10 in the Dampier Strait and seven in Misool, with three successfully recovered.



The tag deployed on Spotty Dotty, released

on Nov. 2, 2025, in South Misool, surfaced on Jan. 18, 2026, in the South Sorong region, more than 160 kilometers from her release site. The tag was recovered by Nesha Ichida (StAR Indonesia Project Manager), together with the Misool Foundation team and Konservasi Indonesia. This marks the first successful satellite tag recovery from a StAR Project-released pup.

Using a goniometer tracking instrument, the team conducted a 13-hour search across open water and

mangrove channels before locating the floating tag. Initial data reveal extensive movement during the first 2.5 months post-release, including travel well beyond the existing acoustic array.

Until recently, post-release monitoring in Raja Ampat has relied largely on acoustic transmitters, detected by receiver arrays around Misool and the Dampier Strait, with a typical range of 15–20 kilometers. Spotty Dotty’s movements provide the first clear evidence that some juveniles travel far beyond this range. Subsequent recoveries from two additional pups, Thomas and Rima, have yielded further insights.

Thomas’ tag surfaced near Batanta Island on Mar. 3, 2026, recording dives to depths of 143 meters.



Comprehensive analyses of these datasets are ongoing and will be shared in future issues of *The ReSharker*. Early findings suggest that both adults and juveniles spend more time near the surface than previously assumed. Some pups have been recorded surface swimming for more than two hours at a time, while also making repeated dives beyond 150 meters.

These findings are opening new opportunities for fin-mounted satellite tags, which can transmit real-time location data when sharks surface. To date, most deployments have relied on archival pop-off tags designed for species that rarely approach the surface. An initial trial was conducted in Feb. 2026 by ReShark postdoctoral researcher Dr. Hugo Lassauce and the Sea World Gold Coast team. They deployed a SPOT (Smart Position and Temperature) transmitting tag on an adult female at North Stradbroke Island, Australia. The tag is now providing a detailed, real-time track of movements along the Australian coastline. We are continuing to explore this approach in collaboration with Wildlife Computers, with the goal of developing a miniaturized fin-mounted tag suitable for deployment on StAR Project sharks at release. If successful, this technology could significantly enhance post-release monitoring of early movements and survival.





EAST KALIMANTAN, INDONESIA

- 3 MINIPAT TAGS DEPLOYED (MAY 2025)
- 1 MINIPAT TAG RETRIEVED FROM ADULT FEMALE (JAN 2026)
- PARTNERS INVOLVED:



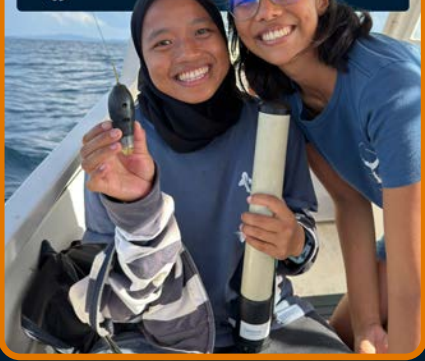
NOUMÉA, NEW CALEDONIA

- 2 MINIPAT TAGS DEPLOYED (JUN 2024)
- 1 MINIPAT TAG RETRIEVED FROM ADULT FEMALE (OCT 2024)
- PARTNERS INVOLVED:



DAMPIER STRAIT, RAJA AMPAT, INDONESIA

- 10 MICROPAT TAGS DEPLOYED (SINCE MAY 2025)
- 2 MICROPAT TAGS RETRIEVED (THOMAS & RIMA) TO DATE
- PARTNERS INVOLVED:



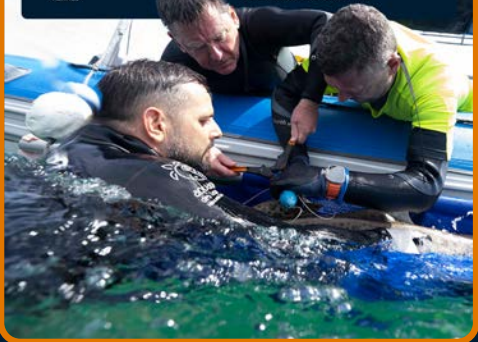
MISOOL, RAJA AMPAT, INDONESIA

- 7 MICROPAT TAGS DEPLOYED (SINCE MAY 2025)
- 1 MICROPAT TAGS RETRIEVED (SPOTTY DOTTY) TO DATE
- PARTNERS INVOLVED:



NORTH STRADBROKE ISLAND & BYRON BAY, AUSTRALIA

- 10 MINIPAT TAGS DEPLOYED (SINCE APR 2025)
- 2 MINIPAT TAGS RETRIEVED FROM ADULT FEMALES (OCT 2025)
- PARTNERS INVOLVED:



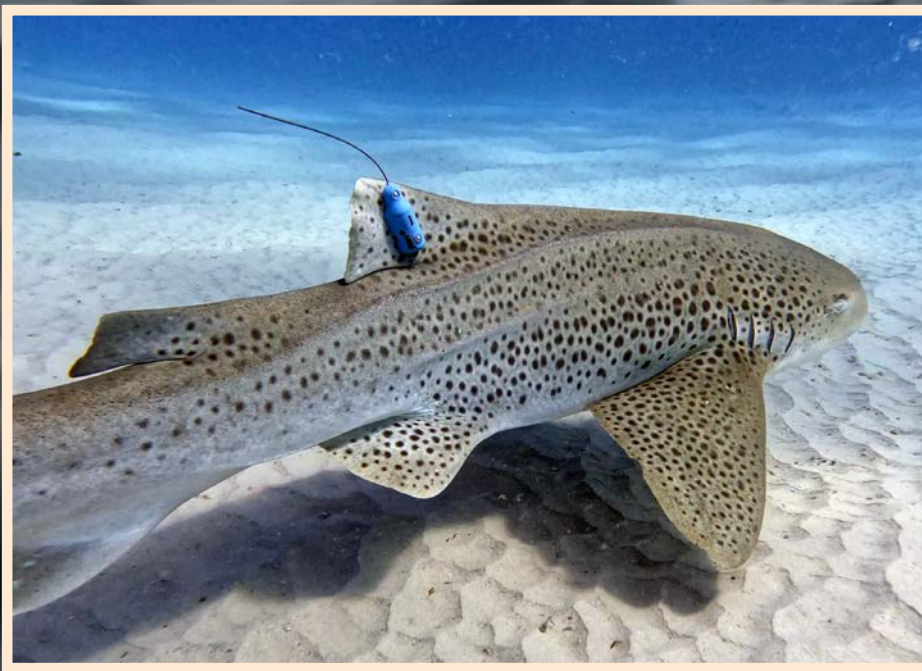
Photos by Elasmobranch Institute Indonesia, Hugo Lassauce, Misool Foundation & RARCC.

LATEST

MAIN Topside blood and semen sampling on an adult leopard shark at Byron Bay. Photo by Simone Caprodossi.



Affixing a fin-mounted SPOT tag to an adult female leopard shark at North Stradbroke Island. Photo by Hugo Lassauce.



Back to the wild: This SPOT tag provides 3–5 accurate positions daily. Photo by Hugo Lassauce.



Map showing initial tracks from the SPOT tag.

“

RESULTS FROM OUR SATELLITE TAGGING HAVE BEEN HIGHLY ENCOURAGING. NEW TAGS AND TECHNIQUES ARE BEING DEVELOPED TO TRACK BOTH JUVENILE AND ADULT LEOPARD SHARKS, AS WELL AS BOWMOUTH GUITARFISH, GENERATING VALUABLE AND UNEXPECTED INSIGHTS INTO THEIR MOVEMENT ECOLOGY, WHICH WILL CONTINUE TO INFORM REWILDING EFFORTS.

DR. MARK ERDMANN

Executive Director, ReShark

Shark Conservation Director, Re:wild

Thai Conservationists Reintroducing Leopard Sharks to Andaman Sea Coast

LATEST

Reporter/Provider - Ryan Wu/Jahn Van Truiste
Publish Date - 01/26/2026

Description Transcript

Oceans of Change

Oceans of Change - Full Documentary

13 Feb 2026 08:00pm

DR. MARK ERDMANN
Executive Director
ReShark

has the potential to basically recover a species

Ikhtiar Belimbing

Sabtu, 07 Februari

Ade S

Di sebuah tempat dalam telur & ant...

Intervention by instinct

AUGMENTING HOPE FOR RAJA AMPAT'S LEOPARD SHARKS

In a nursery in Raja Ampat, a team of researchers are pioneering new methods to reverse the current declines in marine biodiversity across the Indo-Pacific, taking bold new steps through an artificial insemination programme developed to support a genetically diverse and self-sustaining breeding population of endangered leopard sharks. Because in Raja Ampat, eggs mark the spot.

Words by Sienna Green
Photography by Dr Mark Erdmann

LATEST

MEDIA HIGHLIGHTS

RNZ News Life Radio Podcasts Video Te Ao Māori Pacific

The man on a mission to re-wild the oceans with sharks

From Nine To Noon, 10:05 am on 1 April 2026

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Nine To Noon 1 April 2026
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2m left

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Environman · Follow

opard shark (Indo pacific leopard shark) is one of the sharks that was previously seen frequently in Thailand by divers. At this time, it has be... See m

ranslation

(SEA) BUT UNHEARD

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opard shark (Indo pacific leopard shark) is one of the sharks that was previously seen frequently in Thailand by divers. At this time, it has be... See m

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NATIONAL GEOGRAPHIC Berita Infografis Majalah Galeri Jurnal Xplorasi

Mengapa H Prioritas Ko

Minggu, 25 Januari 2026 | 1

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Annisa Faathya (Shark Aquar...

untuk dilepaslarkan. Nausra...

setelah 3 bulan untuk mengu...

NATIONAL GEOGRAPHIC Berita Infografis Majalah Galeri Jurnal Xplorasi

Menolak jadi Memori di Buku Sejarah, Hiu Belimbing Memilih Pulang ke Rumah

Rabu, 04 Februari 2026 | 20:03 WIB

Bagikan: f g t w

28

Donny Fernando/National Geographic Indonesia

Morin, hiu belimbing (Stegostoma tigrinum) ke-57 yang dilepaslarkan di Pulau Kri, Distrik Meos Mansar, Kabupaten Raja Ampat, pada Rabu 21 Januari 2026.

Reuters

World Business Markets Sustainability More

Thailand releases endangered leopard sharks in conservation push

By Napat Wesshasartar

January 26, 2026 5:46 PM CMT+8 · Updated January 26, 2026

Malton Island, Thailand

WILDAID

THE RESEARCHER ISSUE 8



Lunch time in the sea pen: A StAR Thailand aquarist feeds a leopard shark at Maiton Island. Photo by Reuters.



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Raja Ampat MPA Management Authority
Raja Ampat Regency Government
Regional Research and Innovation
Agency of West Papua Province
Southwest Papua Provincial Government
West Papua Provincial Government
BIONESIA (Biodiversitas Indonesia)
Child Aid Papua
Elasmobranch Institute Indonesia
Indo-Pacific Films
Jakarta Aquarium and Safari
Konservasi Indonesia
Molobin Raja Ampat
Misool Foundation
Misool Resort

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Raja Ampat Research and Conservation Centre
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NEW CALEDONIA

Aquarium des Lagons

FIJI

Barefoot Manta Island Resort

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