

SHARK RAY 360
JOINS AS NEWEST
AFFILIATE PROJECT

NEW WALKING SHARK
SPECIES DISCOVERED
IN PAPUA NEW GUINEA

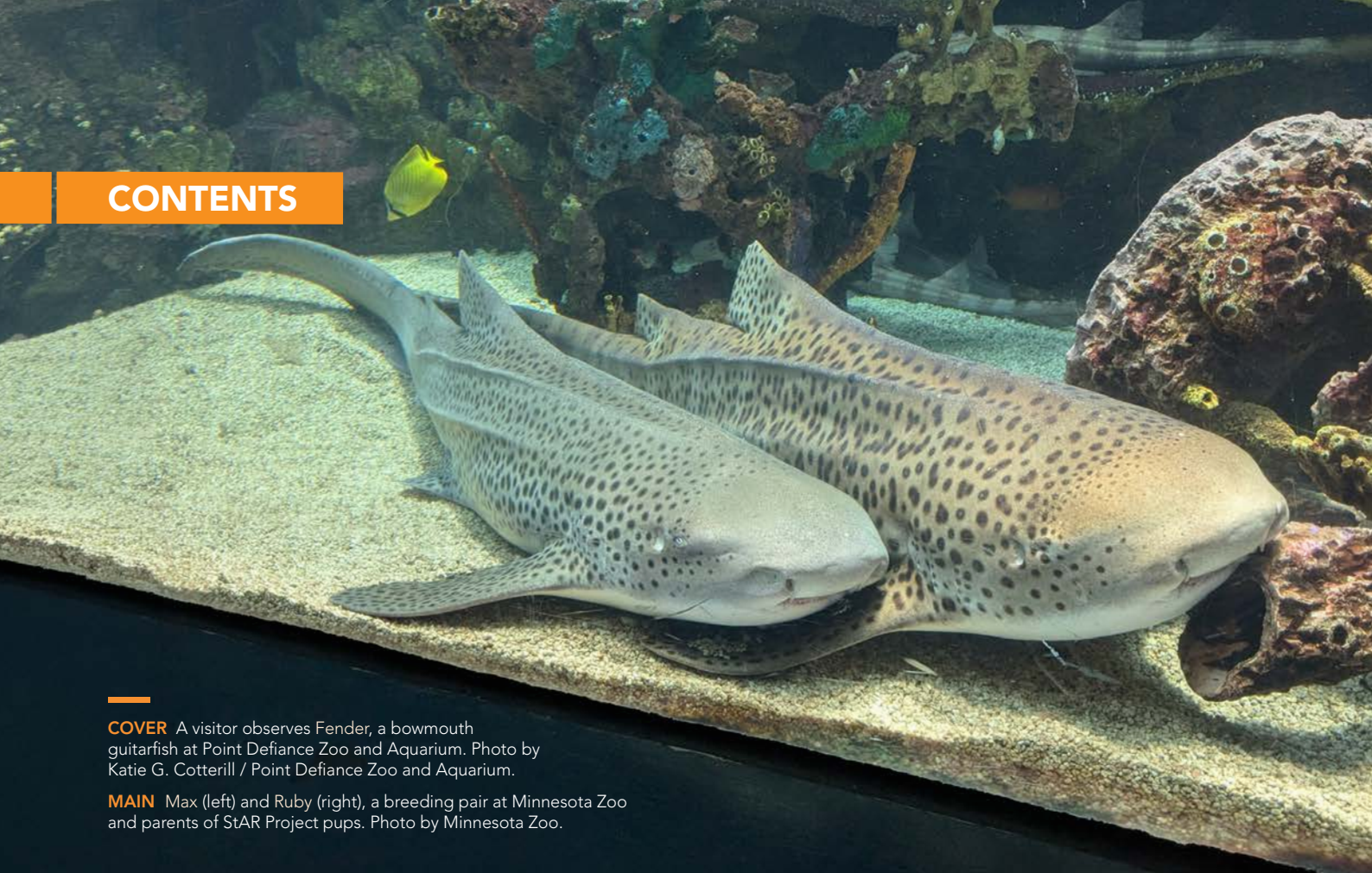
SHARK REWILDING
TAKES THE STAGE
IN SRI LANKA

the ReShark**er**

ISSUE 9 • AUGUST 2026



INTRODUCING
SHARK RAY 360 



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COVER A visitor observes Fender, a bowmouth guitarfish at Point Defiance Zoo and Aquarium. Photo by Katie G. Cotterill / Point Defiance Zoo and Aquarium.

MAIN Max (left) and Ruby (right), a breeding pair at Minnesota Zoo and parents of StAR Project pups. Photo by Minnesota Zoo.

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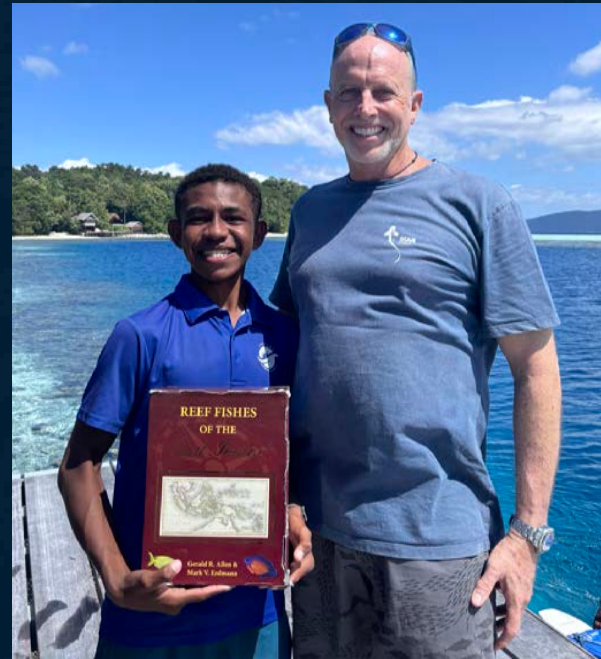
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Welcome to Issue 9 of *The ReSharker*, where we are delighted to welcome, at long last, our second affiliate project, Shark Ray 360, focused on the evolutionarily unique yet Critically Endangered bowmouth guitarfish (*Rhina ancylostomus*)! We're delighted to have a second ReShark species to focus on, and I encourage you to read more about this exciting initiative on page 4.

Of course, work continues for the StAR Project, and in this issue we celebrate the release of our 75th Indo-Pacific leopard shark pup in Raja Ampat in early July 2026. We're also delighted to welcome two new breeding institutions, Shedd Aquarium in Chicago and Singapore Oceanarium, both of which now have eggs and newborn pups in the RARCC Nursery on Kri Island. Those latest shipments allowed us to surpass the 200-egg mark for eggs shipped to Raja Ampat. And speaking of our RARCC Nursery, it is now 100% solar-powered, with the newly expanded Misool Foundation nursery soon to follow suit.

In the pages within, we also report on a range of exciting developments in post-release monitoring of leopard shark pups, including an eight-month acoustic tracking record for Similan, one of our pups released in Thailand, and an incredible 450-km

FOREWORD



Dr. Mark Erdmann presents the latest edition of his book, *Reef Fishes of the East Indies*, to Markus Hara, a Child Aid Papua student. Photo by RARCC.

movement by Edloma from Misool to Seram Island just two months after her release in Raja Ampat. We also describe a world-first solar-powered finmount satellite tagging technology that we are now trialing in Raja Ampat.

Finally, we have some great updates on a host of new international media exposure for ReShark, from magazines and radio to an IMAX film, as well as a summary of ReShark's significant presence at the Sharks International 2026 conference in Sri Lanka in May, including hosting a dedicated elasmobranch reintroduction workshop attended by nearly 100 participants. And a special mention of a newly described species of walking shark that may well become a ReShark focal species in the future. Read on and enjoy!

IN FOCUS

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**RESHARK IS A GLOBAL CATALYST FOR SHARK AND RAY
CONSERVATION, BRINGING TOGETHER THE RIGHT PEOPLE
AND PROJECTS TO ACCELERATE ACTION WHERE IT IS NEEDED MOST.
WELCOMING SHARK RAY 360 IS AN IMPORTANT STEP TOWARD THAT VISION.**

DR. MARK ERDMANN

Executive Director, ReShark

Shark Conservation Director, Re:wild

Fender, a bowmouth guitarfish at Point Defiance Zoo and Aquarium.
Photo by Katie G. Cotterill / Point Defiance Zoo and Aquarium.

IN FOCUS: SHARK RAY 360

by **DR. STEVE KESSEL** | SHEDD AQUARIUM
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RESHARK WELCOMES ITS SECOND AFFILIATE PROJECT FOCUSED ON BOWMOUTH GUITARFISH

ReShark officially welcomed [Shark Ray 360](#) as its second affiliate project in July 2026, marking the collective's first new affiliate project since the launch of the StAR Project in 2020 and an important expansion of its global shark and ray rewilding efforts.

Focused on the Critically Endangered bowmouth guitarfish (*Rhina ancylostomus*), Shark Ray 360 brings together more than 30 partners across four continents, including aquariums, universities, NGOs, fisheries experts, veterinarians, conservation planners,

and researchers working to advance the recovery of one of the world's most threatened shark-like rays.

Shark Ray 360, which has been active for the past three years, will continue to operate independently as an affiliate project while gaining access to ReShark's global network and expertise, expanded fundraising opportunities, and greater visibility through ReShark's communications platforms. In turn, Shark Ray 360 representatives will contribute to ReShark's broader leadership, helping expand the collective's species and geographic focus as its portfolio of recovery initiatives continues to grow.

IN FOCUS

A SPECIES ON THE BRINK

The bowmouth guitarfish is a distinctive shark-like ray distributed across coastal waters from East Africa and the Red Sea through Southeast Asia to Japan, northern Australia, the Solomon Islands, and New Caledonia. Despite its broad range, the species remains poorly studied in the wild, with major knowledge gaps in its movement ecology, habitat use, genetics, diet, age and growth, and reproductive biology.

The species is listed as Critically Endangered on the [IUCN Red List of Threatened Species](#). In a [2024 study](#), the bowmouth guitarfish was also identified as the most evolutionarily distinct and globally endangered (EDGE) jawed vertebrate on Earth, representing approximately 88 million years of unique evolutionary history.

International trade has been regulated under [Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#) since 2019. Restrictions were further strengthened in 2025 through the adoption of a zero annual export quota for wild-caught specimens traded for commercial purposes.

Despite these measures, enforcement challenges and ongoing fishing pressure continue to threaten populations throughout much of the species' range. Global populations are estimated to have declined by more than 80% over the past 45–50 years, driven primarily by targeted fisheries, illegal wildlife trade, and habitat degradation.



Global distribution of *Rhina ancylostomus*.

Demand for bowmouth guitarfish fins, meat, and their distinctive thorn-covered dorsal skin continues to fuel exploitation throughout parts of the Indo-Pacific. Fins can reportedly fetch prices exceeding US\$1,000 per kilogram, contributing to near-complete retention of animals captured in many fisheries.

A population of bowmouth guitarfish has been maintained in aquariums globally for more than two decades, providing valuable opportunities to advance breeding, veterinary care, and conservation planning for the species. Approximately 70 individuals are currently managed across roughly 40 aquariums worldwide, with regional zoological associations maintaining studbooks and coordinated population management programs.

The first successful birth event in North America occurred at Newport Aquarium in 2014. Singapore Oceanarium, Resorts World Sentosa, has also successfully bred the species and became the first aquarium to both breed and raise bowmouth guitarfish to adulthood, marking a significant milestone in the understanding and long-term care of the species under human care.

Juvenile bowmouth guitarfish are prepared for auction in Ranong Province, Thailand. Photo by Sirachai Arunrugstichai.



Sweet Pea and her pups. Photo by Newport Aquarium.



Rings mounted with bowmouth guitarfish thorns displayed at a shop near the coast in Krabi, Thailand. Photo by Sirachai Arunrugstichai.



ORIGINS OF SHARK RAY 360

Momentum toward a coordinated conservation initiative accelerated in November 2022, when Fred Fan Aquatics (FFA) acquired 12 bowmouth guitarfish from commercial fishing cooperatives based in the Yilan and Penghu regions of Taiwan. The species is commonly caught in nearshore permanent set nets and consumed throughout the region. FFA purchased the animals specifically for donation to international aquariums as part of a broader conservation-focused *ex situ* management effort, building upon husbandry work first initiated with Newport Aquarium in 2005. One of the individuals subsequently housed in an aquarium is Rhina, a female now at Seattle Aquarium, a Shark Ray 360 partner.

The acquisition prompted an initial coalition to explore whether integrated *ex situ* and *in situ* conservation strategies could contribute meaningfully to the species' long-term survival and recovery. This led to an *ex situ* conservation assessment workshop at Shedd Aquarium in Chicago from November 14–16, 2023, facilitated by the IUCN Species Survival Commission Conservation Planning Specialist Group (CPSG) and bringing together international expertise across conservation, veterinary science, husbandry, research, and *ex situ* population management. Participating and supporting organizations included Shedd Aquarium, Georgia

Aquarium, Seattle Aquarium, Newport Aquarium, Singapore Oceanarium, Ocean Park Hong Kong, Oceanogràfic València, Fred Fan Aquatics, and the AZA SAFE Shark and Ray Program.

Participants reviewed the conservation status of bowmouth guitarfish across the species' range, identified key knowledge gaps, and assessed how *ex situ* management could contribute to a broader One Plan Approach to species recovery. Recommendations included establishing a globally managed insurance population, strengthening rescue and rehabilitation capacity for bycaught or trafficked individuals, advancing husbandry and veterinary research, and assessing the long-term feasibility of augmentation or repopulation efforts.

RHINA



The workshop also produced one of the first consolidated syntheses of husbandry experience for bowmouth guitarfish, drawing from institutions with established expertise including Osaka Aquarium Kaiyukan, Georgia Aquarium, Newport Aquarium, and Singapore Oceanarium. One of the workshop's most significant outcomes was the recommendation to formally establish Shark Ray 360 as an international collective dedicated to advancing coordinated conservation action for bowmouth guitarfish globally.

Participants at the *ex situ* conservation assessment workshop at Shedd Aquarium in 2023. Photo by Shedd Aquarium.



IN FOCUS

TOP An animal care specialist conducts target training with an adult bowmouth guitarfish. Photo by Ocean Park Hong Kong.

BOTTOM Participants at the opening of the 2025 bowmouth guitarfish PVA workshop at Singapore Oceanarium. Photo by Singapore Oceanarium, Resorts World Sentosa.

NEXT PAGE More than 60 experts gather for the inaugural bowmouth guitarfish PVA workshop in May 2025. Photo by Singapore Oceanarium, Resorts World Sentosa.

BUILDING A GLOBAL CONSERVATION COALITION

Today, Shark Ray 360 is co-chaired by Dr. Steve Kessel (Director of Marine Research, Shedd Aquarium) and Dr. Lisa Hoopes (Chief Science Officer, Discovery Place), with a Steering Committee and working groups spanning research, husbandry, veterinary care, communications, and capacity building.

At the heart of Shark Ray 360's mission is the reintroduction and long-term survival of the Critically Endangered bowmouth guitarfish. Its partners combine research, field conservation, and responsible management of populations in human care to address key knowledge gaps, strengthen husbandry, veterinary care, and rescue and rehabilitation capacity, and build the foundations for future recovery efforts across the species' range.

This integrated approach reflects the [IUCN Species Survival Commission's](#) recognition of the growing contributions that zoos and aquariums can make to species conservation. Knowledge gained from managed populations can provide critical expertise and conservation infrastructure to complement recovery efforts in the wild.

As one of its first practical outputs, Shark Ray 360's Husbandry Working Group completed a Bowmouth Guitarfish Husbandry Quick Start Guide in late 2025. Developed collaboratively by partners with experience caring for the species, the guide consolidates best practices for transport, acclimation, feeding and nutrition, handling, behavioral concerns, and veterinary care.



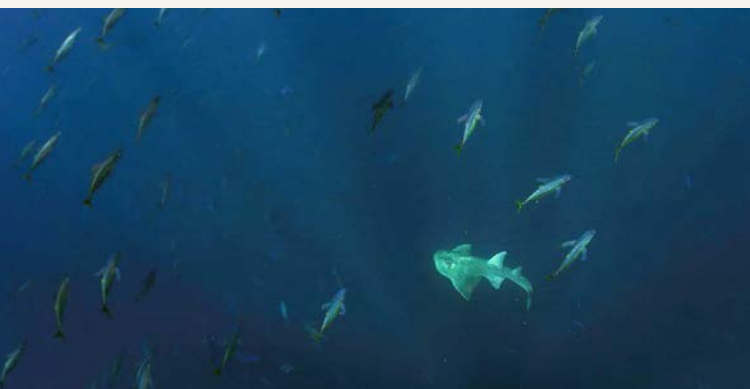


IN FOCUS

PLUGGING THE GAPS: SHARK RAY 360'S EARLY RESEARCH PRIORITIES

One of the earliest knowledge gaps identified by Shark Ray 360 was the limited understanding of the spatial ecology of wild bowmouth guitarfish. Traditionally considered largely benthic and coastal, the species has also been documented far offshore in pelagic waters.

An observation of a bowmouth guitarfish associated with a tuna school in the open Indian Ocean first suggested the species may undertake more extensive offshore movements than previously understood (Forget & Muir, 2021). This was later reinforced by multiple incidental captures documented by tropical tuna purse seine fleets between 2017 and 2023 (Salgado *et al.*, 2025).



In response, Shark Ray 360 collaborators launched some of the world's first satellite and acoustic tagging efforts for the species. Wild bowmouth guitarfish have since been tagged in Taiwan, Okinawa, and northern Australia using miniPAT archival satellite tags and acoustic transmitters.



Early findings have already revealed horizontal movements exceeding 100 kilometers, repeated vertical movements throughout the water column, and nighttime surface associations. Collectively, these represent the first known telemetry datasets for the species and are reshaping understanding of bowmouth guitarfish spatial ecology.



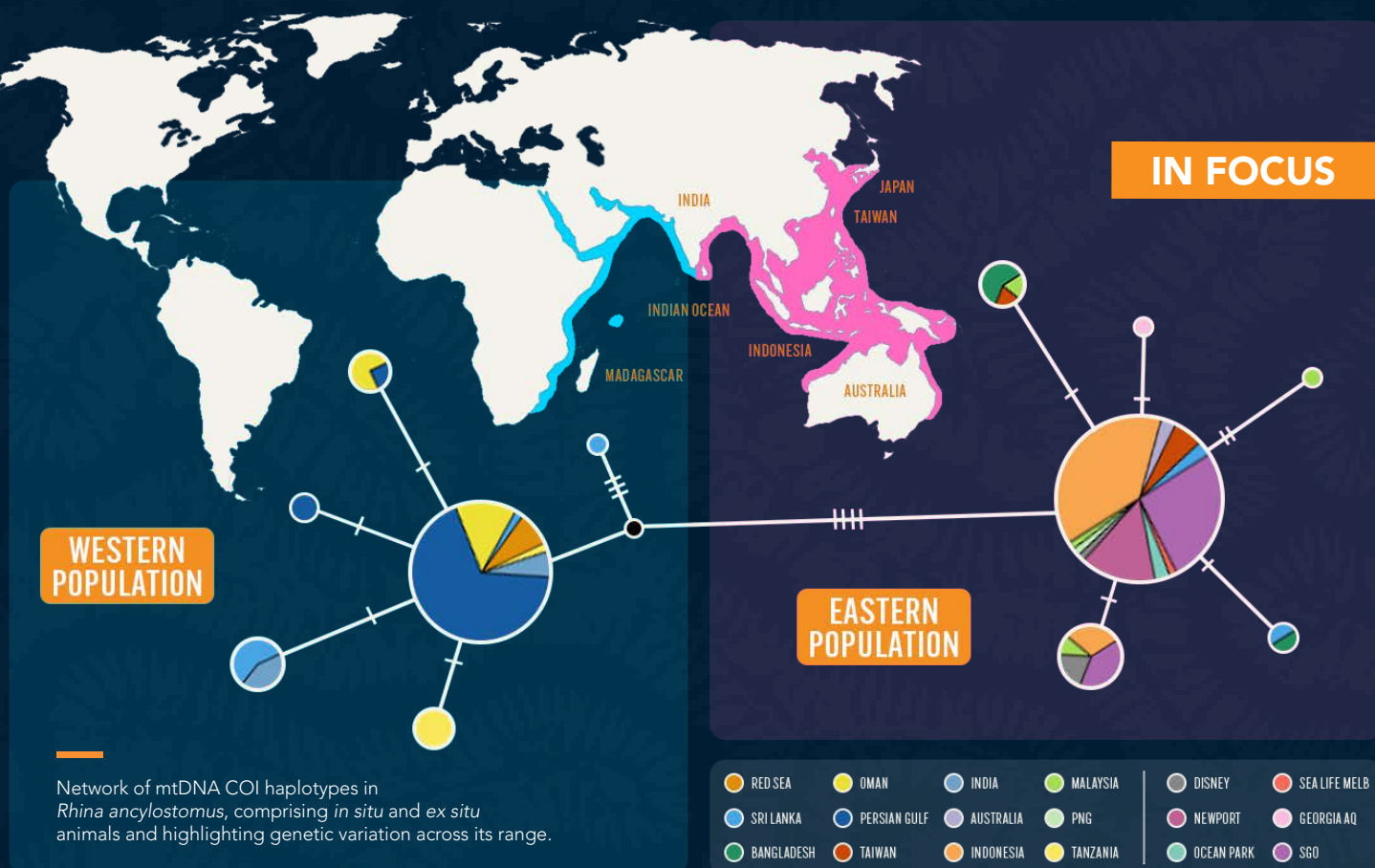
Future telemetry work aims to expand tracking across multiple regions and life stages, building datasets that better describe habitat use, movement, and spatial requirements throughout the species' life cycle. These data will help inform future release site assessments, spatial protection requirements, and post-release monitoring frameworks.

Diet represents another major research priority. Future work aims to improve understanding of prey preferences and feeding ecology in wild populations through fish market surveys and dietary analyses. Findings will help inform both release site assessments and nutritional management of *ex situ* animals.

LEFT A bowmouth guitarfish with an associated school of tuna in the Indian Ocean. Photo by Fabien Forget & Jeff Muir.

TOP RIGHT Dr. Steve Kessel joins partners in Taiwan to tag and release bowmouth guitarfish. Photo by Steve Kessel.

BOTTOM RIGHT Dr. Lisa Hoopes joins partners in Okinawa to tag and release bowmouth guitarfish. Photo by Steve Kessel.



Shark Ray 360 has also begun addressing major gaps in understanding the species' population genetics. Early analysis of DNA from wild and managed individuals has revealed a clear east-west genetic pattern, with a major divide across the Indian Ocean separating western Indian Ocean populations from those in Southeast Asia and the wider Indo-Pacific.

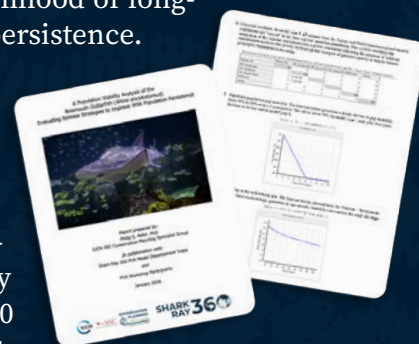
These findings suggest that future breeding and release efforts should maintain this genetic separation rather than mixing animals from the two regions. Most of the aquarium animals analyzed so far appear to originate from the eastern population and are genetically compatible with proposed release locations in Taiwan and Indonesia. Further sampling will help refine our understanding of population structure and connectivity across the species' range.

Alongside the genetic work, broader recovery planning has also been underway. In May 2025, more than 60 experts from 19 institutions gathered at Singapore Oceanarium for a Bowmouth Guitarfish Population Viability Analysis (PVA) workshop facilitated by CPSG. The workshop explored demographic and logistical requirements needed to support future population recovery efforts, including founder population needs, release feasibility, genetic diversity, and candidate site selection considerations.

The resulting PVA, finalized in January 2026, found that reintroducing bowmouth guitarfish pups could be a viable strategy for re-establishing self-sustaining wild populations. The analysis also helped define the release frequency, duration, and conditions that could be required to maximize the likelihood of long-term population persistence.

While no release locations have yet been identified, the workshop also provided an opportunity for Shark Ray 360 representatives to engage government officials from Taiwan, Indonesia, India, and Thailand in early discussions around potential reintroduction opportunities.

Building on the PVA, Shark Ray 360 has also developed a Conservation Program Plan to translate these priorities into a coordinated pathway for action. The plan brings together research, husbandry, veterinary, capacity-building, and outreach priorities, providing a framework to move the initiative from planning toward long-term implementation.





SHARK RAY 360:
an international collective effort to recover
the Bowmouth Guitarfish (*Rhina ancylostomus*)

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SHARK RAY 360



LOOKING AHEAD

Throughout its development, Shark Ray 360 has drawn heavily from lessons established through the *Stegostoma tigrinum* Augmentation and Recovery Project (StAR Project), the world's first elasmobranch rewilding program focused on Indo-Pacific leopard sharks.

Existing frameworks for the StAR Project, including nursery operations, release planning, acoustic and satellite telemetry for post-release monitoring, and international partnership coordination, have provided valuable models for how future shark and ray rewilding efforts might be approached.

Bringing Shark Ray 360's work to the wider shark and ray conservation community, Steering Committee representatives, including co-chair Dr. Steve Kessel (Director of Marine Research,

Shedd Aquarium) and Riley Pollom (Assistant Director of Conservation & Science, Singapore Oceanarium), presented on the initiative's development, research priorities, and emerging spatial ecology findings at Sharks International 2026 in Colombo, Sri Lanka, in May. Their presentations formed part of a broader session organized by ReShark examining global elasmobranch re-introduction efforts.

Shark Ray 360's immediate priorities center on continuing the research and conservation planning needed to inform future recovery efforts, including expanded telemetry, population genetics, reproductive research, assisted breeding, husbandry, and veterinary care. At the same time, the collective is strengthening partnerships throughout the species' range and continuing to build the scientific foundation needed to guide future conservation decisions.



Fender, the bowmouth guitarfish, comes face-to-face with aquarium visitors. Photo by Katie G. Cotterill / Point Defiance Zoo and Aquarium.

“

**IT'S NOT A ROSY PICTURE
FOR BOWMOUTH GUITARFISH RIGHT NOW,
SO IT CAN FEEL LIKE A RACE AGAINST THE CLOCK.
BUT THIS SPECIES HAS NEVER HAD THIS LEVEL OF
INTERNATIONAL CONSERVATION ATTENTION BEFORE EITHER.
AND WE BELIEVE THAT'S SOMETHING WORTH CELEBRATING.**

DR. STEVE KESSEL

Director of Marine Research, Shedd Aquarium & Co-Chair, Shark Ray 360 Steering Committee

Partners are also beginning to explore the long-term potential for future releases involving aquarium-bred individuals. However, substantial work remains before any rewilding efforts could proceed. Consistent with ReShark's rewilding framework, any future release site would need to demonstrate strong, long-term conservation measures, including effectively managed and enforced marine protected areas (MPAs), sustainable fisheries management, supportive legal frameworks, and the capacity for robust post-release monitoring. Genetic assessments,

habitat evaluations, regulatory approvals, and strong partnerships within range countries would also be essential prerequisites.

As Shark Ray 360 joins ReShark, the focus now turns to converting years of planning and early research into coordinated conservation action. Any future reintroduction remains a long-term ambition, but the collective is steadily laying the groundwork to give bowmouth guitarfish a stronger chance of recovery in the wild.



IN FOCUS

IN FOCUS: StAR PROJECT

ADVANCING INNOVATIONS AND SUSTAINABILITY:
NEW BREEDERS, FINMOUNT TAGS AND SOLAR-POWERED NURSERIES

by **DR. ERIN MEYER** | AMERICAN HUMANE SOCIETY
Co-Chair, StAR Project Steering Committee

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Co-Chair, StAR Project Steering Committee

IN FOCUS

A shark is born! Newly hatched Indo-Pacific leopard shark Barney, from an egg originating from Irukandji Shark & Ray Encounters. Photo by RARCC.



IN FOCUS

LATEST FROM THE FIELD

INDONESIA

The past few months have marked significant progress for the StAR Project, with new releases and high-profile visits in Raja Ampat, continued developments in Thailand, and important advances in post-release monitoring.

In late April, Djinda, Jeff, and Pickle became the 69th, 70th, and 71st Indo-Pacific leopard shark pups released by StAR Indonesia in Raja Ampat. This was followed by another four releases in late June, when Bertie, Antoine, Cap, and Hap returned to the wild, bringing the total number of pups released in Raja Ampat to 75 since the program's first releases in 2023. The four latest pups were among the largest released by StAR Indonesia to date, with Bertie measuring 120 cm total length (TL), Cap 118 cm, Antoine 107 cm, and Hap 106 cm.

The releases also provided an opportunity to have wildlife presenter Bertie Gregory and cameraman Ben Cherry at the RARCC Nursery

for a week of filming. Gregory, after whom Bertie the pup was named, documented all four June releases and plans to produce a short film about his visit. He also captured 360-degree footage of the pups, including Hap's release, for Blue Bubble Immersive, which will use the material to bring immersive ocean experiences to children in hospitals across the United Kingdom.

Cap's release was particularly special. The pup was adopted and named by children from Child Aid Papua in recognition of their two years of regularly supplying snails and clams to help feed the sharks at RARCC.

The children joined the team for Cap's release, cheering him on as he swam into deeper water before taking the film team into the mangroves to forage for more shark food.

The RARCC nursery also welcomed several notable visitors throughout May, including renowned ocean explorer Dr. Sylvia Earle and colleagues from the IUCN Patrons of Nature, Mari Pangestu (Special Envoy of the President of Indonesia for International Trade and Multilateral Cooperation), and Indonesian Minister of Tourism Widiyanti Putri Wardhana.



PREVIOUS PAGE Minister of Tourism Widiyanti Putri Wardhana tours the RARCC nursery. Photo by Papua Diving Resorts.

LEFT Feeding time at the Maiton Island sea pen. Photo by Valerie Cornet / WildAid / Ocean Blue Tree.

TOP RIGHT Pang takes the stage at Thailand Dive Expo 2026. Photo by WildAid / Ocean Blue Tree.

BOTTOM RIGHT StAR Thailand team at PADI Pro Night in Phuket. Photo by Natthanan Phariwong.

IN FOCUS



THAILAND

At Thailand Dive Expo (TDEX) 2026 in May, the team joined Love Wildlife Foundation and WildAid Thailand to deliver interactive activities that engaged over 800 participants. Aquarist Wansiri Meemana (Pang) also shared her experience caring for juvenile leopard sharks and preparing them for release, highlighting the recent resighting of [Similan](#) and the role of citizen science in post-release monitoring. In July, aquarist Natthanicha Puntukit (Pleng) joined Project Manager Metavee Chuangcharoendee (May) as a guest speaker at PADI Pro Night in Phuket. Together, they introduced the project and discussed caring for juvenile sharks as they prepare for release.

Outreach continued in August, with Pleng joining AquaMaster Thailand's Aqua Mornings event in Phuket and May representing StAR Thailand at Wit in Bangkok 2026, a science and technology festival hosted by the Bangkok Metropolitan Administration. The team was part of a public

booth featuring hands-on activities and the Spot the Leopard Shark – Thailand citizen science project. May also joined a fully booked online Shark Awareness Day talk hosted by PandaDumnam and WildAid, connecting with divers across Thailand and encouraging them to contribute sightings.

Over at Maiton Island, the team upgraded the sea pen during the recent monsoon season. The work will help keep the current cohort of juvenile leopard sharks secure through their expected release later this year or early next year. The team is also exploring options for a more permanent home combining a sea pen with a fully functional nursery capable of incubating eggs, which would bolster the expansion of StAR Thailand's work.





IN FOCUS

Fancy a treat? Photo by Valerie Cornet / WildAid / Ocean Blue Tree.



Max Ammer presents Dr. Sylvia Earle with a painting of a juvenile Indo-Pacific leopard shark by ReShark contributing artist Nate Wilson. Photo by Mike Veitch / Indo-Pacific Films.



May and the WildAid Thailand team at Wit in Bangkok 2026. Photo by Pimpakarn Laongdee.



Bertie Gregory joins StAR Indonesia and Child Aid Papua students to collect shark food. Photo by RARCC.



Rati Erwin leads a storytelling session on Ma'ya of Raja Ampat for children in Gamta Village, Misool. Photo by Pambajeng Putro.

NURSERY AND HUSBANDRY DEVELOPMENTS

With the Misool Foundation nursery still finishing up upgrading works, all international egg shipments to Raja Ampat in 2026 have so far been received at the RARCC nursery on Kri Island. The international network of aquariums supporting StAR Indonesia also continues to grow, with several significant shipments having arrived recently.

The first shipment of the year arrived in April and represented a major logistical achievement for the project: 22 eggs transported from three aquariums across three continents. Eight came from SEA LIFE Sydney Aquarium in Australia, three from Aquarium of the Pacific in the United States, and 11 from Singapore Oceanarium, marking the institution's first contribution as a StAR Project breeding partner. The first hatchling from Singapore Oceanarium was named [Merli](#).

Another 15 eggs arrived from Singapore Oceanarium in June, pushing StAR Indonesia past a significant milestone: more than 200 eggs received in Raja Ampat since the first shipment in August 2022.

In July, six additional eggs arrived from the United States, with two from Aquarium of the Pacific and four from [Shedd Aquarium](#). This shipment welcomed Shedd as the StAR Project's newest breeding partner, further expanding the

network of aquariums contributing eggs to the nurseries.

The new arrivals have kept the RARCC nursery busy. By late July, more than 10 eggs were still incubating alongside 26 recently hatched pups or larger juveniles at various stages of preparation for release.

The nursery itself has also undergone an important transformation and is now [fully solar-powered](#). The transition was led by Max Ammer and the RARCC and Papua Diving Resorts teams, with Matt Basinger carrying out the installation. Victron Energy sponsored the inverters, chargers, and solar charge controllers, while MAC3 Impact Philanthropies and the Djinda Foundation supported the remaining costs.

Beyond reducing the nursery's reliance on fossil fuels, the transition is expected to substantially reduce its operating costs.

It also forms part of a broader effort to reduce the environmental footprint of StAR Indonesia's field operations. The upgraded Misool Foundation nursery is also planned to operate entirely on solar power, while a hybrid electric-diesel education catamaran is being developed for the Raja Ampat outreach program.



The RARCC nursery, seen in the background, is now powered entirely by solar energy. Photo by Mark Erdmann.

SEEING OUR RELEASED SHARKS THRIVING IN THE WILD IS
EXTREMELY ENCOURAGING. IT'S ALSO EXCITING TO SEE THEIR SPOT
PATTERNS CHANGE AS THEY GROW. SIMILAN, OUR LONGEST-TRACKED SHARK,
GIVES US HOPE FOR THE FUTURE OF LEOPARD SHARKS IN THAILAND, WITH THE
CITIZEN SCIENCE COMMUNITY EAGER TO BE PART OF THEIR RECOVERY.

MAY METAVEE CHUANGCHAROENDEE

StAR Thailand Project Manager, WildAid

POST-RELEASE MONITORING

One of the most remarkable movements recorded so far came from Edloma, released in Misool. After approximately nine weeks, her microPAT satellite tag surfaced off the southern coast of Seram Island, around 270 km from her release site in a straight line. To reach that location by water, however, Edloma would have needed to swim around Seram, making her minimum journey more than

EDLOMA

450 km and requiring her to cross the approximately 5,000 m-deep Seram Sea.



The journey challenges one of the early assumptions underpinning the StAR Project's work in Raja Ampat: that pups released within the archipelago would remain there. While Edloma may prove to be an unusually adventurous individual, the growing dataset from other released pups is helping the team determine how typical such long-distance horizontal movements might be.

Three more microPAT tags reported back from Leah, Abam, and Shishino following their releases from Kri Island. Abam and Shishino both traveled approximately 28 km south before their tags surfaced near the mangrove-lined bays of northern Batanta Island. Leah ventured considerably farther, traveling nearly 200 km southwest before her tag surfaced in the Nampale “blue water mangroves” off northwestern Misool.

As of the time of this publication, the StAR Indonesia team had deployed 16 microPAT satellite tags on released pups and received useful data from 12. These deployments revealed horizontal movements ranging from approximately 25 to 450 km, as well as numerous dives deeper than 100 m. Most pups moved toward mangrove ecosystems following release, consistent with observations from Australia. This provides important clues about the role these ecosystems play during the species' early life stages.

An April download of StAR Thailand's acoustic receivers around Phang Nga Bay detected three previously released pups, Similan, Maiton, and Hope, over several months. Similan was detected on four receivers over approximately 6.5 months and traveled at least 130 km, while Maiton was detected on four receivers over approximately three months and traveled at least 75 km. Hope covered at least 121 km over nearly four months, including approximately 45 km in a single day.

SIMILAN

Similan provided another encouraging sign of post-release survival when a diver filmed him eight months after release. The footage extends StAR Thailand's longest visual resighting and provides an opportunity to examine how his distinctive spot pattern has developed since release.





Retrieving an acoustic receiver in Phang Nga Bay to download data for post-release monitoring. Photo by DMCR / WildAid / Ocean Blue Tree.



IN FOCUS

Mission success! Satellite tags retrieved after popping off released sharks in Raja Ampat. Photo by Nesha Ichida.



It takes a village: StAR Thailand team and government partners after a successful acoustic receiver download. Photo by DMCR / WildAid / Ocean Blue Tree.

RESEARCH AND INNOVATION

A new satellite telemetry technology is being tested that could significantly improve the team's ability to follow released sharks in real time. As reported in Issue 8 of *The ReSharker*, an initial trial was conducted in February by ReShark researcher Dr. Hugo Lassauce and the Sea World Gold Coast team, using a SPOT (Smart Position and Temperature) transmitting tag on a wild adult female leopard shark at North Stradbroke Island, Australia. The successful trial provided detailed, real-time movement data and prompted the team to explore how the technology could be adapted for much smaller juvenile sharks.

Working with Wildlife Computers, the team subsequently adapted the miniature solar-powered SPOT-S-433A satellite tag, originally developed for sea turtle hatchlings, for use on juvenile leopard sharks. A custom 3D-printed saddle was engineered to further allow the tag to be mounted on a pup's dorsal fin and transmit location data whenever its antenna breaks the surface.

Djinda and Pickle became the world's first leopard shark juveniles fitted with the new finmount tags when they were released from Kri. Both successfully transmitted real-time movement data, with Pickle's tag remaining at-

with Pickle's tag remaining attached for four days and Djinda's for 12 days. The initial deployments were deliberately short, using crimps designed to corrode quickly so that the pups would not carry the experimental tags for unnecessarily long periods.



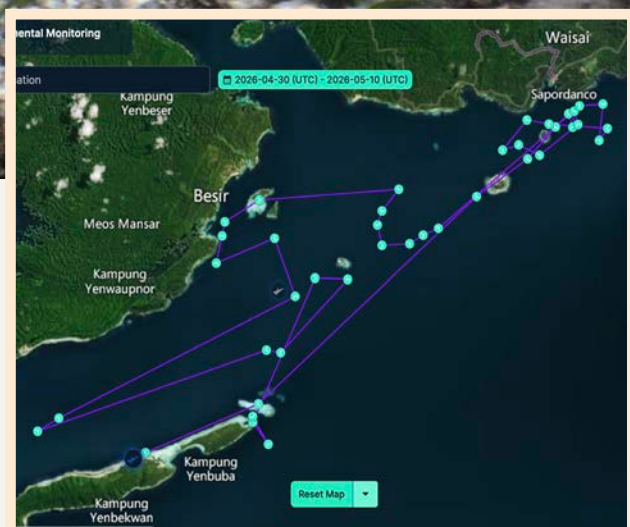


PREVIOUS PAGE Djinda dons a finmounted SPOT tag. Photo by RARCC.

TOP Pickle released with her finmounted SPOT tag. Photo by Mark Erdmann.

LEFT First two days of finmounted satellite tag data from Djinda and Pickle.

RIGHT Four-year-old Ethan with the satellite tag he retrieved. Photo by Tony.



The trials demonstrated that the technology could successfully provide real-time locations from released pups and showed that both sharks spent considerable time at the surface. Building on these results, Bertie, Antoine, and Cap were each also fitted with solar-powered finmount tags during their June releases, allowing the team to test the technology over longer deployments. Hap was fitted with a microPAT tag programmed for a two-month deployment.

Continued research on wild adult leopard sharks in Australia is meanwhile providing an important comparison for interpreting the movements of sharks released through the StAR Project. Over the past 18 months, researchers deployed 10 miniPAT satellite tags on adult leopard sharks aggregating during the austral summer around North Stradbroke Island and Byron Bay. Programmed for deployments of six to 12 months, the tags are helping researchers investigate where the

sharks travel after dispersing from their summer aggregation sites.

By June, seven tags had popped off as programmed, with the remaining three scheduled to release in late August. Remarkably, six of the seven released tags were physically recovered, including one discovered on the Sunshine Coast by four-year-old beachcomber Ethan.

Physically recovering these tags gives researchers access to the high-resolution data stored onboard, providing details of the sharks' movements and behavior throughout their deployments.

Dr. David Robinson and Dr. Hugo Lassauce are now analyzing these data for a manuscript on adult leopard shark movements, with findings expected to help inform our understanding of the movements and habitat use of sharks released through the StAR Project.



LATEST: RESEARCH & NEW SCIENCE

NEW WALKING SHARK SPECIES DESCRIBED FROM PAPUA NEW GUINEA

A chance encounter during fieldwork around Milne Bay in Papua New Guinea has led to the formal description of the world's 10th known species of walking shark, named in honor of Dr. Christine Dudgeon.

The newly described *Hemiscyllium dudgeonae*, or Dudgeon's walking shark, is known only from a small area of southeastern Papua New Guinea. Its local name, *kadedekedewa*, loosely translates to "dog shark" or "lazy shark," referring to the characteristic four-finned gait walking sharks use to move across shallow reef habitats.

The discovery began during fieldwork in Milne Bay in 2025, where University of the Sunshine Coast PhD student Jessica Blakeway, and collaborators Dr. Christine Dudgeon, Nesha Ichida, and Dr. Mark Erdmann were investigating the distribution and conservation status of walking sharks across the region. During a night survey, Dudgeon encountered an unfamiliar individual with distinctive white dashes along its brown body, rather than the spotting expected from other species in the region.



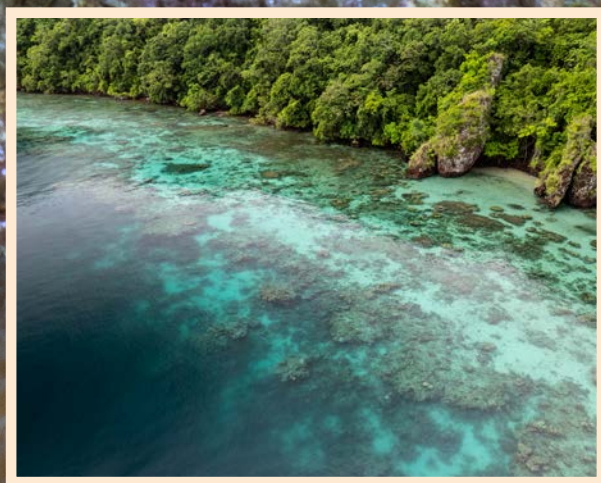
Over the following two nights, the team encountered another 11 individuals displaying the same pattern. Measurements and tissue and blood samples were collected, with subsequent genetic analyses in Australia confirming what the team had suspected in the field: they had encountered a species previously unknown to science.

The new species was formally described by Dr. Gerald Allen, Dr. Mark Erdmann, and Blakeway and named *H. dudgeonae* in recognition of Dudgeon's more than two decades of research on walking sharks and her contributions to elasmobranch genetics and ecology.

The discovery also raises immediate conservation concerns. *H. dudgeonae* appears to have a highly restricted geographic range and may already face pressures from fishing, habitat degradation, and climate change. Five other walking shark species are already listed as threatened with extinction on the IUCN Red List because of their similarly restricted distributions.

The team will return to Papua New Guinea in October 2026 to further document the species' distribution, abundance, and conservation status, supporting a future IUCN Red List assessment.

Although Dudgeon's walking shark is not currently a ReShark focal species, its restricted distribution and apparent conservation challenges make the discovery particularly relevant to ReShark's expanding species recovery work and could ultimately open the door to future conservation efforts in Papua New Guinea.



MAIN Newly described *Hemiscyllium dudgeonae*, the 10th known species of walking shark. Photo by Mark Erdmann.

INSET Habitat of the newly discovered walking shark: shallow reef flats in Milne Bay, Papua New Guinea. Photo by Mark Erdmann.

LATEST

SHARKS INTERNATIONAL 2026 IN COLOMBO, SRI LANKA

ReShark was strongly represented at Sharks International 2026, held in Colombo, Sri Lanka, in May. The week began with an all-day workshop on shark rewilding, organized in collaboration with Dr. Charlotte Hopkins and her team from the University of Hull and attended by nearly 100 participants.

Across the remainder of the conference, more than 15 ReSharkers contributed through presentations, posters, and discussions. The conference concluded with a dedicated ReShark-organized session, “Elasmobranch Reintroductions: The Future Is Now,” bringing together presentations on emerging reintroduction initiatives and the science, planning, and monitoring needed to support them.

Sharks International 2026 also provided an opportunity to look beyond ReShark's existing programs, sparking discussions with members of the global shark and ray community about potential future affiliate projects in Fiji, the Maldives, Bahrain, South Africa, and elsewhere.

Speaking to *Mongabay* during the conference, ReShark Executive Director Dr. Mark Erdmann reflected on the growing role reintroduction could play in shark and ray conservation:



“

SHARK REWILDING IS NOT A PANACEA,

BUT UNDER THE RIGHT CONDITIONS, IT CAN BE

A CRUCIAL TOOL FOR RECOVERING SOME OF THE WORLD'S

MOST THREATENED SPECIES. WE FEEL THE TIME TO START IS NOW.

DR. MARK ERDMANN

Executive Director, ReShark

Shark Conservation Director, Re:wild



ReShark, in collaboration with the University of Hull, hosted an all-day workshop on shark rewilding ahead of Sharks International 2026. Photo by Nathaniel Soon.



LEFT TOP Dr. Steve Kessel presents on the importance of spatial ecology research for elasmobranch rewilding. Photo by SI 2026.

LEFT MIDDLE Team ReShark at dinner. Photo by Nathaniel Soon.

LEFT BOTTOM StAR Thailand aquarist Yam presents her poster. Photo by SI 2026.

RIGHT TOP PhD student Siobhan Houlihan presents her work on leopard shark reproduction. Photo by SI 2026.

RIGHT MIDDLE Team ReShark at Sharks International. Photo by SI 2026.

RIGHT BOTTOM StAR Indonesia aquarist Mardia Sultan with her poster. Photo by SI 2026.



LATEST



TOP LEFT Dr. Christine Dudgeon presents at the first OceanOmics workshop in Perth, Australia. Photo by Rita Santos.

BOTTOM LEFT The Bionesia team visits the Minderoo Foundation facility. Photo by Frankie Ixfeld.

TOP RIGHT Participants at the first OceanOmics workshop on eDNA in marine research. Photo by Oceans Institute, UWA.

BOTTOM RIGHT Dr. Christine Dudgeon training the Misool Foundation team to conduct eDNA sampling. Photo by Nesha Ichida.



EXPANDING ENVIRONMENTAL DNA (eDNA) CAPACITY FOR FUTURE RESEARCH

From June 15–19, ReShark researchers joined the first OceanOmics workshop in Perth, Australia, hosted by the Minderoo Foundation and the University of Western Australia. The workshop brought together researchers from across the region for training in the rapidly developing use of environmental DNA (eDNA) in marine research and conservation.

ReShark was represented by Dr. Christine Dudgeon (Senior Researcher, Biopixel Oceans Foundation; Chair, StAR Project Research Working Group) and University of the Sunshine Coast PhD student Jessica Blakeway. They were joined by Bionesia colleagues Andrianus Sembiring, Ni Luh Astria Yusmalinda, Candra Apriliani, and Rossa Risa Savitri, with other participants from Kon-

servasi Indonesia, IPB University, and Malaysia's Centre of Marine and Coastal Studies.

Training was delivered by researchers from OceanOmics, the Ocean Biomolecular Observing Network (OBON), and Anemone Global, covering sampling design and techniques, potential applications of eDNA, bioinformatics, and data analysis. Participants also received hands-on training across the laboratory workflow, including approaches to laboratory design that minimize contamination and improve efficiency.

Hosted by Dr. Shannon Corrigan and Dr. Rita Franco-Santos, the workshop provided an important opportunity to strengthen regional expertise and collaborations around eDNA, with ReShark now exploring how these approaches can be incorporated into future research.

Science

Sharks on a Plane

To overcome functional extinction in Indonesian waters, global aquariums are airlifting zebra sharks back to the Pacific.

By Johnny Sturgeon
August 12, 2026



Marquar to the zebra shark, a critically endangered Indonesian species. Credit: Mark Emmert/PolishEye

TRUMP 2.0: The Reckoning

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LATEST: MEDIA HIGHLIGHTS

SHORT WAVE

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A cooler of eggs and a bold plan to save leopard sharks

JULY 28, 2026 - 3:00 AM ET

By Katerina Barton, Nathan Rott, Rachel Carlson, Rebecca Ramirez, Hannah Chinn

13-Minute Listen

+ PLAYLIST

Two leopard shark pups snack on snails at the nursery in Raja Ampat, Indonesia in December 2025. Credit: Mark Emmert/PolishEye

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ReShark: Bringing Leopard Sharks Back From the Brink in Raja Ampat

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Philip Jacobson
14 Sep 2025 - 4:45 PM

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THE RESHARKER ISSUE 9

Shedd Aquarium to rebuild endangered sharks population, sends zebra shark eggs to Indonesia

Chicago Sun-Times Edited by Andrew Newman 10 Images 100

Shedd Aquarium's In This Book Photo by AP Photo/Chris Wedel

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A special **THANK YOU** to everyone who supports ReShark through individual contributions. Every contribution, no matter the size, helps advance our mission of recovering the world's most threatened sharks and rays.

StAR Indonesia aquarist Anggi Aenun feeds Leah in the sea pen. Photo by Hans-Peter Ganstar.



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