

A diver in a blue wetsuit and black mask is holding a tiger shark underwater. The diver's wetsuit has a '25' logo on the chest and a '02° S 130° E' tag on the sleeve. The background shows the water surface with ripples and the sandy seabed.

5 YEARS OF IMPACT

2020 — 2025

ReShark

FOREWORD

As we reflect on ReShark's first five years, our evolution from an ambitious vision to a dynamic force in shark and ray conservation is evident. Our commitment to restoring depleted populations through collaborative, science-based rewilding efforts has not only bolstered species recovery but also fostered a global network of partners and advocates.

Our first and flagship initiative, the *Stegostoma tigrinum* Augmentation and Recovery (StAR) Project, took shape in 2020 with an initial focus on Raja Ampat, Indonesia. Formally launched by the West Papuan Provincial Government in 2022, the StAR Project aims to recover Indo-Pacific leopard sharks. In less than three years, we progressed from forming the Steering Committee to the first releases of shark pups, a feat made possible by our collective dedication, expertise, and supporters.

ReShark's commitment to advancing scientific understanding has been equally impactful. Our team continues to lead cutting-edge research, including progressing artificial insemination methodologies, and shares findings at international conferences, contributing valuable knowledge to the broader scientific and aquarium communities.

Following our inaugural retreat in 2023, ReShark established a governance structure, a roadmap for future growth, and a framework for evaluating new projects. The retreat also catalyzed the StAR Project's expansion into a second country in 2024, Thailand, building on the strong foundation and momentum established in Indonesia. We are currently working with partners to onboard additional projects into the coalition, which would put the StAR Project model to work for other threatened species.

This impact report chronicles the milestones and successes of ReShark's first five years, illustrating the power of partnership and the effectiveness of our approach. It also provides an early look at what's ahead as we expand rewilding efforts, refine methodologies, and deepen our impact.

On behalf of ReShark, we extend our heartfelt gratitude to everyone who has contributed to this journey. Your passion, perseverance, knowledge, and unwavering support have been critical to our progress. Together, we are forging a brighter future for sharks, rays, and the health of our oceans.

Sincerely,
The ReShark Council



DR. MARK ERDMANN

HAP FATZINGER

DR. LISA HOOPES



DR. RIMA JABADO

DR. ERIN MEYER

ABRAHAM SIANIPAR

OUR MISSION

We are an innovative, international collective of aquariums, NGOs, governments, academics, and local communities dedicated to scalable shark and ray rewilding. We link *ex situ* and *in situ* shark and ray conservation efforts through breeding and conservation translocations.

OUR FOUNDATION

- ✓ Conservation accelerator and amplifier
- ✓ Multicultural, diverse leadership and international collaboration
 - ✓ Ethical and equitable coalition
 - ✓ Knowledge-transfer centered
 - ✓ Evidence-based and adaptive
- ✓ Creating and sharing stories of hope





01 FOUNDATIONAL MILESTONES

2019

SEMINAL LEOPARD SHARK RECOVERY WORKSHOP

Hosted by Georgia Aquarium to assess the feasibility of a conservation translocation program for the species. Culminated in agreement to launch the *Stegostoma tigrinum* Augmentation and Recovery (StAR) Project.

StAR PROJECT STEERING COMMITTEE



DR. MARK ERDMANN

DR. ALISTAIR DOVE

MOHAMMAD IQBAL HERWATA

DR. CHRISTINE DUDGEON

DR. CAITLIN HADFIELD

ABRAHAM STANIPAR

LEAH NEAL

DR. ERIN MEYER

NESHA ICHIDA

METAVEE CHUANGCHAROENDEE

2021

FIRST POPULATION VIABILITY ANALYSIS (PVA)

Completed for Raja Ampat's leopard shark population, setting a goal of rewilding 500 leopard shark pups within 5-10 years.

2020

StAR PROJECT STEERING COMMITTEE & WORKING GROUPS

Steering Committee and five Working Groups (Husbandry, Indonesian Implementation, Research, Veterinary, and Communications and Public Relations) for StAR Project formed, meeting bi-monthly. The Thailand Implementation Working Group formed in 2024 upon StAR Project Thailand's launch.



Population Viability Analysis (PVA) Report for Population Augmentation of Zebra Sharks (*Stegostoma tigrinum*) in Raja Ampat, Indonesia



MAY 2021

Prepared by Kelly Taylor-Hopar, Ph.D., Senior Program Officer, IUCN SSC Conservation Planning Specialist Group





STAR
project



2023

RESHARK RETREAT

Inaugural governance retreat and technical workshop hosted by Seattle Aquarium from July to August 2023

ReShark officially recognized as the umbrella initiative for rewilding projects specializing in threatened sharks and rays



2022

OFFICIAL LAUNCH OF STAR PROJECT IN INDONESIA

StAR Project Indonesia launched by the Indonesian government in Sorong, West Papua in November 2022, with tour of the RARCC nursery by high-ranking government officials



2020-2023

STANDARD OPERATING PROCEDURES

Completed for animal care, hatchery management, egg shipment, research, breeder onboarding (including disease risk assessment, parthenote, and genetic testing), and messaging

2020–2025

KEY ENDORSEMENTS

Key endorsements for ReShark and the StAR Project received from:



2023

FORMATION OF RESHARK COUNCIL

Six-member council established to oversee global governance and strategic planning





02

BUILDING CAPACITY & INFRASTRUCTURE



DEVELOPING FACILITIES

2 NURSERIES

equipped with life support systems and sea pens are operational in Raja Ampat, and run by the Raja Ampat Research and Conservation Centre (RARCC) and Misool Foundation

RESHARK LODGE

at Kri Island housing aquarists, interns and visiting partners and researchers, has been constructed and is now operational

DEDICATED FACILITIES

for breeding and egg collection established at partner aquariums



HUSBANDRY TRAINING

12 SHARK AQUARISTS

recruited and trained to manage daily nursery operations full-time, with 4 on duty at any time

INTERNSHIP PROGRAM

14 INDONESIAN INTERNS

hosted through the inaugural StAR Project Indonesia internship program to date, with each internship at a nursery in Raja Ampat lasting 2-4 months





DOLLY TAAHELE
2022-2023

JULIA TAPILATU
2022-2023

ANGGI AENUN
2024-PRESENT

ORPA BALALE
2022

MARDIA SULTAN
2024-PRESENT

MARYROSE TAPILATU
2022-2024

SHANNON LATUMAHINA
2022-PRESENT

RARCC
AQUARISTS

AISYA RAMADHANI
2024-2025

DADY ALQADRI
2022

KYRA WICAKSONO
2022-2024

AGI ZALMA
2023-PRESENT

ANNISA FATHYA
2025-PRESENT

MISOOO FOUNDATION
AQUARISTS

FINANCIAL HIGHLIGHTS



PUBLIC FUNDRAISING

platform launched in November 2024
with 53 unique donations received from
10 countries within the first 5 months



49 ADOPT-A-SHARK

donations at \$10,000 each
have been secured to support
the StAR Project



7 FOUNDATIONAL DONORS

have been successfully engaged to
fund initial implementation activities
and support ReShark's mission



03

RECOVERING THREATENED SHARKS & RAYS



BREEDER PARTICIPATION

12 APPROVED BREEDERS

from 5 countries for the StAR Project,
with 5 having already contributed viable eggs:



164 INDIVIDUAL SHARKS

from 32 accredited partner aquariums, including 25 institutions from the Association of Zoos and Aquariums (AZA), 3 from the Zoo and Aquarium Association Australasia (ZAA), and 4 from the European Association of Zoos and Aquariums (EAZA), have been genetically tested for breeding appropriateness as part of the StAR Project, with all institutions working with carefully managed breeding populations





STAR PROJECT INDONESIA IN NUMBERS

CAA MARCH 2025

90

eggs shipped
to Raja Ampat

65

hatchlings raised
in nurseries

29

juveniles currently
in nurseries

15

eggs currently
in nurseries

22

sharks released
in Raja Ampat



TRACKING GROWTH RATES

11.6CM PER MONTH

is the average growth rate across all released leopard sharks during their first 6 months of life, with Kathlyn taking the lead at 14.1 cm/month

POST- RELEASE MONITORING

44 ACOUSTIC RECEIVERS

have been installed across 800 km² in Raja Ampat to monitor released sharks, and of the 22 sharks released, all pinged the array on release day, with the longest tracks lasting 16 days from Misool and 26 days from the Dampier Strait before leaving the monitoring area





“ตามหาดลามเสือดำ”

เส้นทางสู่ความเข้าใจและการอนุรักษ์

SPOT THE LEOPARD SHARK THAILAND

Contribute your leopard shark photos

Who we are

Spot the Leopard Shark is a citizen science program that uses photo-ID of leopard sharks (*Stegostoma tigrinum*), also known as zebra sharks, to assist scientists in investigating their populations, behaviour and longevity.

How to help



CITIZEN SCIENCE

SPOT THE LEOPARD SHARK

is a citizen science platform for photo-ID submissions of leopard sharks that was revived and is now leveraged to raise awareness and support monitoring efforts

POLICY IMPACT

SPECIES PROTECTION

for leopard sharks was attained successfully at the national level in Thailand and officially initiated in Indonesia in 2024

FUTURE INITIATIVES

PRIORITY LIST OF SPECIES

for potential future ReShark project has been compiled, with ongoing discussions on possible collaborations with two threatened elasmobranch rewilding efforts: the Maugean Skate Recovery Project in Tasmania and Shark Ray 360



CITIZEN SCIENCE

(CAA MARCH 2025)

LEOPARD SHARKS SIGHTINGS IN RAJA AMPAT

07

sightings of wild individuals, including from 8 years preceding the StAR Project

11

resightings confirmed or strongly suspected as StAR Project releases

03

resightings likely StAR Project releases, but data deficient



NOV 2024 • LIKELY RESIGHTING

UNKNOWN
JAN 2024
SUSPECTED RESIGHTING



KAREN
OCT 2024 • 1 WK POST-RELEASE
CONFIRMED RESIGHTING



KAREN
OCT 2024 • 1 MO POST-RELEASE
CONFIRMED RESIGHTING

WAYAG LAGOON

YEFNABI

MANTA RIDGE

KURKAPA

RARCC NURSERY



UNKNOWN
JAN 2025 • SUSPECTED RESIGHTING



UNKNOWN
MAR 2025 • LIKELY RESIGHTING



MALI
MAR 2024 • 8 MOS POST-RELEASE
SUSPECTED RESIGHTING

MISOOL FOUNDATION NURSERY



PULAU SAPENNIPNU

MALI
NOV 2023 • 4 MOS POST-RELEASE
2 SUSPECTED RESIGHTINGS



CHRISTINA
JAN 2025 • 4 MOS POST-RELEASE
CONFIRMED RESIGHTING

MARSHAL
MAR 2024 • 1 WK POST-RELEASE
CONFIRMED RESIGHTING



UNKNOWN
OCT 2024 • SUSPECTED RESIGHTING



UNKNOWN
OCT 2024 • SUSPECTED RESIGHTING



UNKNOWN
FEB 2025 • LIKELY RESIGHTING



04

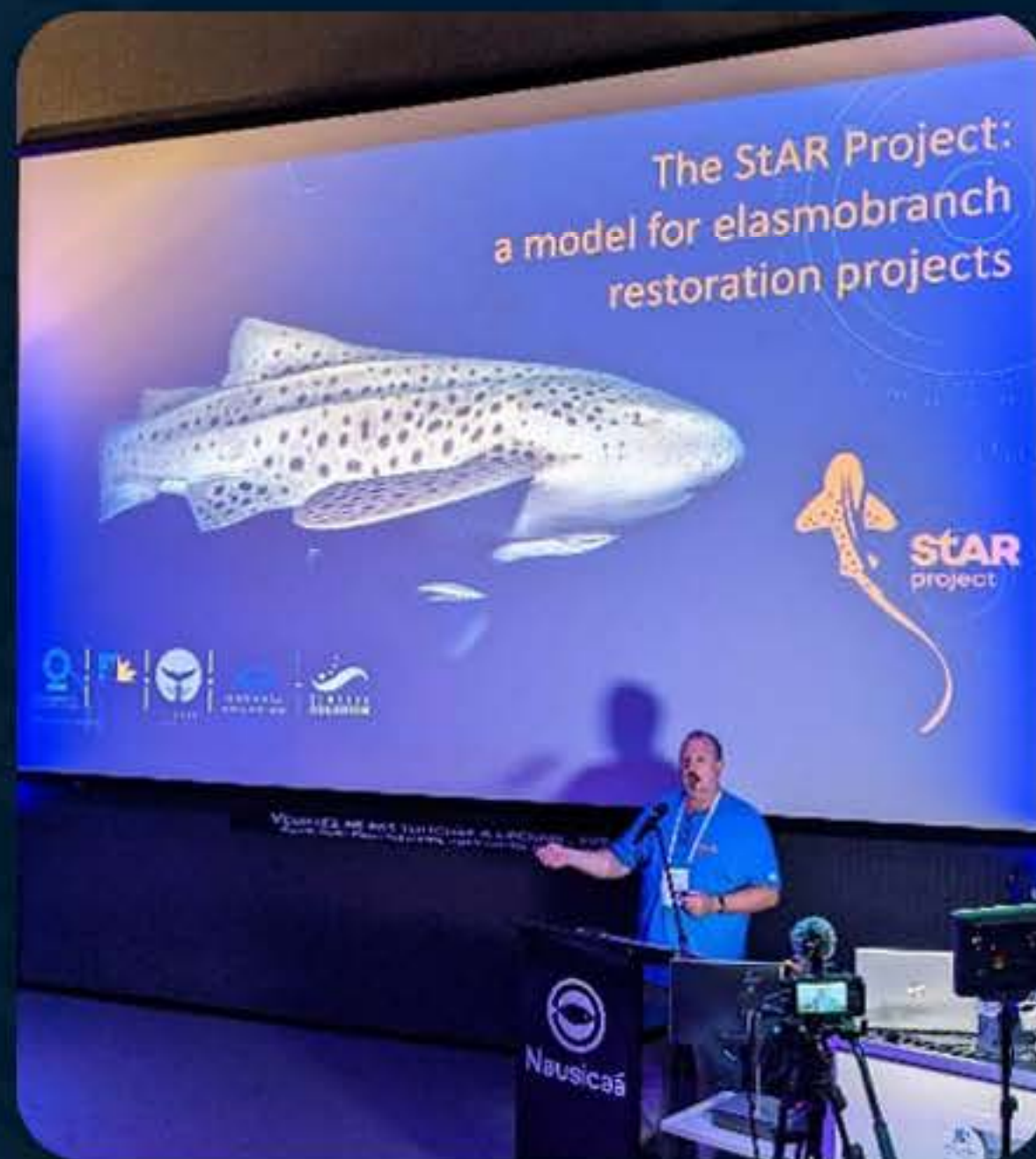
PIONEERING CUTTING-EDGE SCIENCE

CONFERENCE CONTRIBUTIONS

19 PRESENTATIONS

on ReShark and the StAR Project have been made, including plenary addresses at several of the world's leading aquarium and conservation forums:







ReShark: An international, collective effort to recover threatened sharks and rays around the world



SCIENTIFIC PUBLICATIONS

6 ARTICLES

highlighting the StAR Project and the ReShark approach have been published by partners in leading science, conservation and aquarium industry publications, including:

SHARK NEWS

BY IUCN SSC SHARK SPECIALIST GROUP

Connect MAGAZINE

BY THE ASSOCIATION OF ZOOS AND AQUARIUMS

ALERTDIVER

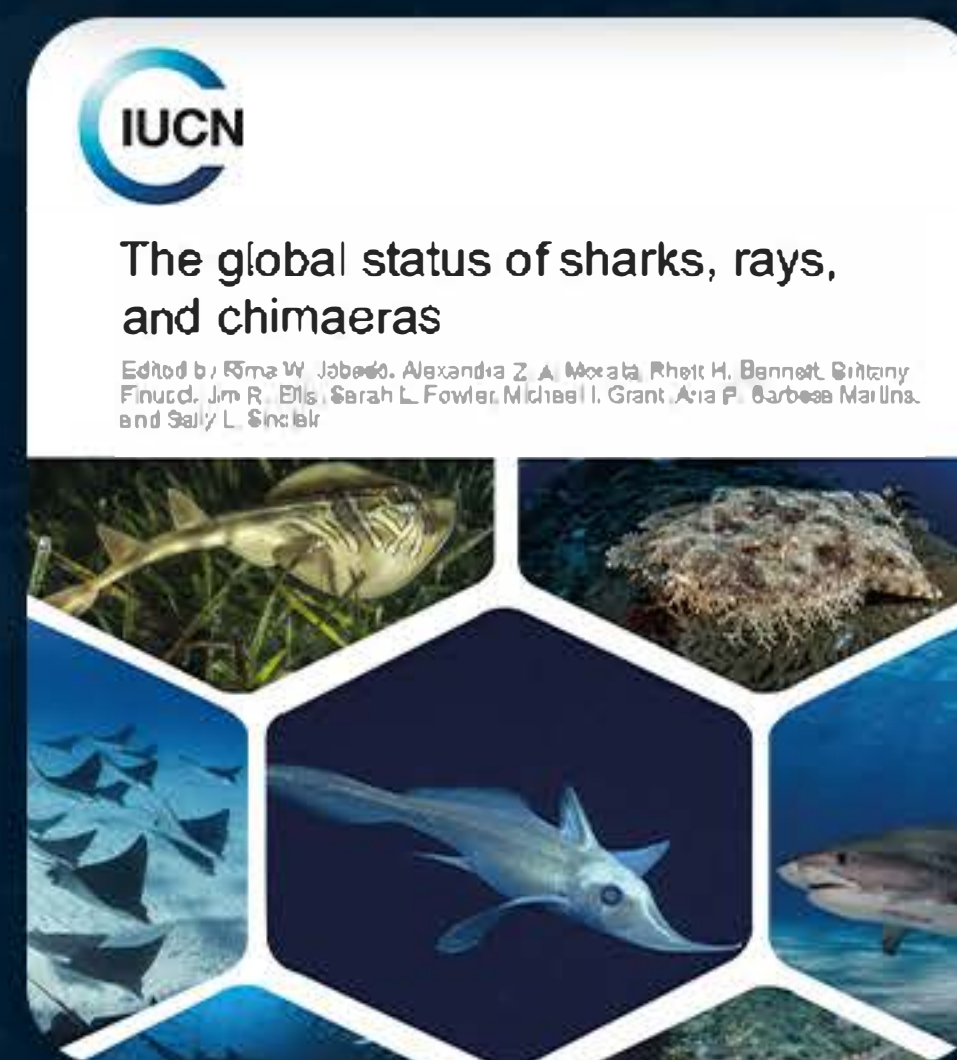
BY DIVERS ALERT NETWORK

THE GLOBAL STATUS OF SHARKS, RAYS, AND CHIMAERAS

BY IUCN

frontiers in Veterinary Science

FRONTIERS IN VETERINARY SCIENCE



Resharking leopards in Raja Ampat: a behind-the-scenes look at the StAR (*Stegostoma tigrinum*) Augmentation and Recovery) project.



Monitoring egg fertility, embryonic morbidity, and mortality in an oviparous elasmobranch using ultrasonography

Lance Adams^{1*}, Jennifer T. Wyffels^{2,3}, Brittney Goodwin¹, Rachel Munson¹, Louise LeBorgne¹, Kevin A. Feldheim⁴ and Kady Lyons¹

¹Aquarium of the Pacific, Long Beach, CA, United States; ²Riley's Aquarium, Orlando, FL, United States; ³Delaware Biotechnology Institute, Center for Biomedical Research and Genomics, University of Delaware, Newark, DE, United States; ⁴Phyler Laboratory for Molecular Systematics and Evolution, The Field Museum, Chicago, IL, United States; ⁵Center for Shark Research, Georgia Aquarium, Atlanta, GA, United States

RESEARCH MILESTONES

6 POST-GRADUATE RESEARCHERS

are currently pursuing ReShark-related studies in marine science and conservation at institutions around the world:

MARYROSE TAPILATU
(FORMER AQUARIST)
PhD, UNIVERSITY TBD
2025-2028

SIOBHAN HOULIHAN
PhD, GRIFFITH UNIVERSITY
2024-2027

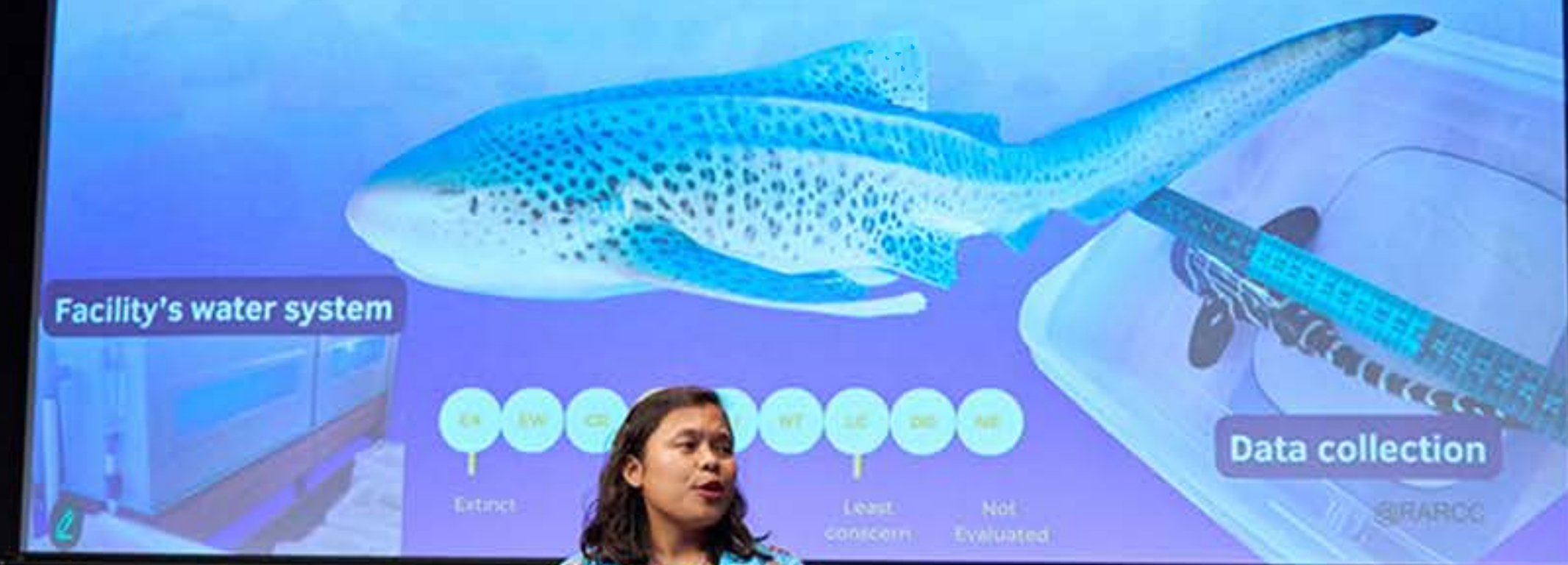
DR. HUGO LASSAUCÉ
POSTDOCTORAL FELLOWSHIP,
UNIVERSITY OF THE SUNSHINE COAST
2024-2025

KYRA WICAKSONO
(FORMER AQUARIST)
MASTER'S, THE UNIVERSITY
OF EDINBURGH
2024-2025

JULIA TAPILATU
(FORMER AQUARIST)
MASTER'S, TEXAS A&M UNIVERSITY
2023-2025

ALEXA HOFFMAN
MASTER'S, JAMES COOK UNIVERSITY
2025-2026

Safeguarding Zebra Shark Population through Research & Conservation Efforts







RESEARCH MILESTONES

2 HEALTHY POPULATIONS

of leopard sharks in New Caledonia and Australia are being studied to better understand the nutrition, ecology, and artificial insemination techniques of the species for the StAR Project:



30

adult leopard sharks successfully acoustic tagged in Australia



42

blood samples and 34 cloacal swabs obtained from adults in Australia



02

adult leopard sharks satellite tagged in New Caledonia



17

juveniles hatched, tagged, released, and are monitored in New Caledonia





RESEARCH MILESTONES

WORLD-FIRST INNOVATION

in shark conservation accomplished, with semen extracted from wild male leopard sharks from North Stradbroke Island during the 2024 Great Australian *Stegostoma* Semen Expedition (GASSE) to support artificial insemination and boost genetic diversity of eggs shipped to Raja Ampat:



17 male leopard sharks from Australia had semen successfully extracted



06 female leopard sharks in public aquariums artificially inseminated



04 partner aquariums in Australia, Hong Kong, and Singapore involved



10 international partners came together to make GASSE a success

EXPANDING GLOBAL PARTNERSHIPS & AUDIENCES

05



GLOBAL ALLIANCE

105 PARTNERS

across 19 countries, including governments, NGOs, zoos and aquariums, academic institutions, and businesses, are now part of ReShark's global coalition, which has grown from 25 partners across 7 countries in the first year



GOVERNMENTS

Ministry of Marine Affairs and Fisheries, Republic of Indonesia
National Research and Innovation Agency, Republic of Indonesia
West Papua Provincial Government, Republic of Indonesia
Southwest Papua Provincial Government, Republic of Indonesia
Regional Research and Innovation Agency of West Papua Province, Republic of Indonesia
Raja Ampat Regency Government, Republic of Indonesia
Raja Ampat MPA Management Authority, Republic of Indonesia
Department of Marine and Coastal Resources, Thailand
Department of National Parks, Wildlife and Plant Conservation, Thailand

ZOOS & AQUARIUMS

Acquario di Genova
ABQ BioPark Zoo
Aquarium de Lyon
Aquarium des Lagon, New Caledonia
Aquarium of the Pacific
Aquaria Phuket
Association of Zoos and Aquariums
Atlantis, The Palm
AZA Saving Animals from Extinction
Canadian Parks and Wilderness Society
Columbus Zoo and Aquarium
Discovery Cove
European Association of Zoos and Aquaria
Field Museum
Georgia Aquarium
Golden Nugget Las Vegas
Irukandji Shark and Ray Encounters
Jacksonville's Museum of Science & History
Jakarta Aquarium and Safari
Jenkinson's Aquarium
Johnny Morris' Wonders of Wildlife
Kansas City Zoo & Aquarium
Landry's Downtown Aquarium
Loro Parque
Loveland Living Planet Aquarium
Minnesota Zoo

Mystic Aquarium
National Aquarium
Nausicaá Centre National de la Mer
New England Aquarium
North Carolina Aquarium at Fort Fisher
Ocean Park Hong Kong
Oceanário de Lisboa
Oceanogràfic València
Océanopolis Brest
OdySea Aquarium
Okinawa Churaumi Aquarium
Omaha's Henry Doorly Zoo and Aquarium
Poema del Mar Aquarium
Point Defiance Zoo and Aquarium
Ripley's Aquarium of Canada
Ripley's Aquarium of Myrtle Beach
Royal Burgers' Zoo
S.E.A. Aquarium, Resorts World Sentosa
SEA LIFE Aquarium at LEGOLAND California
SEA LIFE Sydney Aquarium
SEA LIFE Trust Australia and New Zealand
Sea World Marine Park Gold Coast
Seattle Aquarium
SeaWorld Orlando
SeaWorld San Antonio
SeaWorld San Diego
Shark Reef Aquarium at Mandalay Bay

ACADEMIC INSTITUTIONS

James Cook University
Kwame Nkrumah University of Science and Technology
Mote Marine Laboratory
Loyola University
Universitas Papua
University of Delaware
University of Queensland
University of the Sunshine Coast

BUSINESSES

Andrew Wicklund Design
Cairns Marine
Indo Pacific Films
Misool Resort
Papua Diving
Pelagos Marine Nusantara
Sundive Byron Bay
TJP Inc.

NON-GOVERNMENTAL ORGANIZATIONS

Biopixel Oceans Foundation
Child Aid Papua
Conservation International
Elasmobranch Institute Indonesia
Fondation Segré
Indonesian Ocean Pride
IUCN Conservation Planning Specialist Group
IUCN SSC Conservation Translocation Specialist Group
IUCN SSC Shark Specialist Group
Konservasi Indonesia
MarAlliance
Misool Foundation
Ocean Blue Tree
Raja Ampat Research and Conservation Centre
Re.wild
Shark Advocates International
Thai Sharks and Rays
Thrive Conservation
WildAid



COMMUNITY OUTREACH

OVER 1,000 STUDENTS

from 7 primary and high schools across the Dampier Strait and South Misool in Raja Ampat have been engaged through the StAR Project to build local stewardship and commitment:



FOOD COLLECTION

partnership arrangements where students collect and bring food like snails and clams for the shark pups



NURSERY TOURS

which provide students hands-on experience to learn about sharks ecology and conservation



EDUCATION PROGRAM

through the incorporation of marine ecology and conservation into school curriculum



INTERNSHIPS

for high-performing youths from Indonesia at the ReShark nurseries to learn alongside aquarists





The Guardian

Is it time to begin rewilding the seas?



SHARKTOPIA

SHARK WEEK



Raja Ampat



5 YEARS OF IMPACT



THE WALL STREET JOURNAL



SAVING SHARKS

GLOBAL PRELUDE TO REWILD BABY ZEBRA SHARKS



SAVING INDONESIA'S LEOPARD SHARKS

REWILDING SHARKS



PRADA RE-NYLON

05 • EXPANDING GLOBAL PARTNERSHIPS & AUDIENCES



New Scientist

Conservationists are collecting semen from endangered



A WILD PLAN



SCUBA

How Captive Breeding is Saving Shark Conservation



Science

Aquariums hatch unusual plan to save endangered zebra shark



Hilfe für Zebrahaie



SAVE THE SHARKS...



Rewilding Coral Reefs



ReShark

35

MEDIA HIGHLIGHTS

OVER 250 MILLION VIEWS

Worldwide across 3 documentary features: Wilderness with Simon Reeve on BBC Two, Rewilding Sharks on CNA, and Sharktopia on Discovery Channel's Shark Week, with 5 more currently in production, including Blue Planet III

WILDERNESS WITH SIMON REEVE

Discovery SHARK WEEK

cna INSIDER

OVER 50 FEATURE STORIES

in international news and magazine publications, including National Geographic's coverage of the first releases in the July 2023 print issue, which reached more than 80 million readers worldwide

NATIONAL GEOGRAPHIC

The Guardian

New Scientist

MEDIA HIGHLIGHTS

what is the world's first shark and ray rewilding initiative?

07

active social media platforms and a website with regular updates

20,000

followers across social media platforms, with over 20 million combined views accumulated

11

short films produced in-house, capturing key milestones

05

issues of the newsletter *The ReSharker* published and shared with partners

OUR SUPPORTERS

Alchemy of Change Fund
Amy Allshouse
Andrew Wicklund Design
Anheuser-Busch
Antony Warren
Asia Community Foundation
AZA Conservation Grants Fund
AZA Saving Animals from Extinction
AZA SAFE Shark and Ray
Baillie Family
Blue Penguin Ocean Conservation Trust
BlueMark Fund
Charles Annenberg Weingarten
Charles Engelhard Foundation
Conservation International
Daniel Roozen
Djinda Foundation
Fondation Segré
George Meyer
Georgia Aquarium

Hansen Family Foundation
Heidi and Chris Rogers
Henry Foundation
Jill Warnick
Jon Persky
Julie Munro
Kansas City Zoo & Aquarium
Kathy Xu
Katrine Bosley
Leonard Conway
Lisa and Michael Anderson
Lisa Williams
MAC3 Impact Philanthropies
Marie-Elizabeth Mali
Michael Light
Mission Blue
Morshul Charitable Fund
Myra Shulman
Nate Wilson
Ocean Blue Tree

Ocean Park Conservation Foundation Hong Kong
Paul Webb
Phil Yeung
Port of Seattle
Repass-Rodgers Family Foundation
Rumah Foundation
Samantha and Seren Bass
Save The Blue Foundation
Sea Connection Art
Seattle Aquarium
Shannon and Audrey Wong
Silolona Sojourns
Sonia Henricot
The Plum Foundation
Tropical Marine Centre
Virginia Aquarium & Marine Science Center
Vogel Family
Wolcott Henry



PRODUCED BY

Nathaniel Soon

PHOTOGRAPHY BY

Alex Lindbloom

Djordje Zlatanovic

Misool Foundation

RARCC

Aquarium des Lagons

Georgia Aquarium

Nathaniel Soon

Sea World Gold Coast

Bluegreen Production

Luca Vaime

Pambajeng Putro

Texas A&M University

Burt Jones

Mark Erdmann

Pimpakarn Laongdee

WAZA

5 2020 - 2025
**YEARS OF
IMPACT**

