

# PHASE ONE

REPORT 2019 -2022



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Contents: Rajeev Raghavan

# Mike Baltzer, Executive Director



Four years already since SHOAL launched. In truth, that time has flown by. With the projects developed, partnerships made, funding proposals written, strategies developed, reports published and all the many other priorities, those four years have felt remarkably short. We have been so busy that there has barely been time to stop and take stock of what has been achieved.

It is for this reason that we decided to produce a report detailing some of the landmarks on the journey from where the initiative has come from. It is a chance to reflect on our achievements, celebrate the wins and lay out some plans for the future.

We are proud that we are recognised globally in conservation circles as an important actor in freshwater species conservation, that we have established programmes across five continents, and that we have built powerful partnerships with leading organisations who have been and will continue to be instrumental in helping us achieve our goals of protecting and restoring freshwater habitats and conserving the most threatened freshwater species globally.

There is of course much work still to do. But we have come a long way in those four short years. And with the network and momentum that have been built and the projects that have been developed, we are confident we can achieve huge things over the coming years.

By 2032, we aim to support 300 local organisations to protect, restore and rewild more than 300 habitats and halt the extinction of 1,000 species of freshwater fishes. To do that we need to increase the core capacity globally, engage more partners and financial supporters, and most importantly support action on the ground where it is most needed. The wonderful lesson we have learned in the last four years is that small amounts of funding and technical support from partners can make a huge difference, change the lives of thousands of people and halt the extinction of thousands of species.

Here's to the next four years!

A handwritten signature in black ink, appearing to read 'Mike'.

**MIKE BALTZER**  
Executive Director of SHOAL

Credit: Re:wild



Adam & Jessica Sweidan,  
Co-Founders and Trustees,  
Synchronicity Earth:

“Not long ago, SHOAL was just an idea that emerged to fill a critical gap in conservation. Now it is a truly inspirational platform, mobilising impactful conservation projects in five continents, directly helping to bring more than 60 of the most threatened freshwater species back from the brink of extinction.

SHOAL is an inherently agile and creative initiative, not afraid to try new things - the Lost Fishes Art Challenge and the Freshwater Inspire Network were instrumental in bringing together the freshwater community and amplifying the plight of freshwater biodiversity. The same is true for SHOAL's collaboration with the aquarium hobbyists. With the significant challenges facing freshwater species, innovative ideas are needed, and it has been wonderful to watch SHOAL bring that ethos to their work.”



Wes Sechrest, CEO and  
Board Chair, Re:wild:

“SHOAL's inspiring work is addressing one of the world's most urgent needs by protecting and recovering freshwater species. The interconnected biodiversity, climate, and human wellbeing crises cannot be tackled without addressing the rapid decline in freshwater ecosystems, which are key for a healthy planet for people and wildlife. This global collaborative initiative is saving threatened species from extinction in a wide variety of aquatic environments around the world.

SHOAL is working through a partnership network to support local individuals and organisations on the ground to catalyse action at an accelerated pace. This scaling up of attention, communication, collaboration, and effort is needed to tackle the threats to freshwater biodiversity. The SHOAL network is proving that it is absolutely up to the challenge, and its achievements demonstrate the potential for even more impact as the initiative evolves.”



Credit: Aya Sakamoto

# SHOAL: A GLOBAL NETWORK TO END THE FRESHWATER BIODIVERSITY CRISIS

SHOAL was created as a response to the fact that freshwater ecosystems are at the sharp end of the global biodiversity crisis, yet historically haven't received the attention they desperately need. Through SHOAL, the most threatened freshwater habitats and species are given vital conservation attention, and with it a much greater chance of survival.

The SHOAL 2032 Strategy has clear targets to shift and transform freshwater species conservation in the next 10 years from being almost entirely neglected, to receiving global levels of attention proportionate to the crisis these species face. By 2032, the SHOAL Initiative must have helped raise action for freshwater life so the level of support is equivalent to that given to marine and terrestrial life. **For example, we will shift from a few fish receiving our attention, to mobilising focused conservation action for at least 1,000 of the Earth's most threatened freshwater fish species.**

Through SHOAL's 2032 Strategy, the initiative aims to contribute to major global targets, including those of the UN Convention on Biological Diversity's New Global Framework for Managing Nature Through 2030, the UN Decade of Restoration, and the UN Sustainable Development Goals 2 (Zero Hunger), 6 (Clean Water and Sanitation), and 15 (Life On Land).

**We have now completed Phase 1. Over the coming years, we will fulfil Phases 2 and 3 of the 2032 SHOAL Strategy (see p.6 ).**



To achieve our 2032 vision, we have set three goals:

**GOAL ONE: INSPIRE** as many people as possible globally to appreciate and take action for the amazing and vital life that freshwater supports.

**GOAL TWO: MOBILISE** a global action network, built from the communities that care, to take action for freshwater fishes.

**GOAL THREE: ACT** to make a direct and immediate difference for at least 1,000 of the most threatened freshwater fishes.



Credit: Lake Shore Lodge



Credit: Celebica

### Phase 1 (2019 - 2022)

Firm in our foundations, set out our strategy, and build the partnerships to mobilise effective conservation action.

Phase 1 of SHOAL's development has been to create a solid base from which to build and ramp up impact. We have already made great strides to achieving this:

- **Direct conservation action for 67 species since 2019.**
- **Indirect action mobilised for a further 144 species.**

### Phase 2 (2023 - 2028)

Continue to build a powerful global 'shoal', mobilise action in five priority regions, and INSPIRE local communities and policymakers around the world about the world of wonder found in freshwater.

The next phase of SHOAL's development will be to consolidate and build on the foundations tried and tested in Phase 1. SHOAL will continue to build a powerful 'shoal' of freshwater fish scientists, communities, businesses, organisations, and individuals who are passionate about protecting fish and freshwater ecosystems.

We will continue to focus on **our current five priority regions: Mexico, the African Rift Valley Lakes, the Western Ghats in India, the Mediterranean, and Southeast Asia** and further stretch the shoal to **other priority regions, including the Amazon and Congo basins, Southeast United States, Australia, Madagascar and South China** (as defined by data from the IUCN SSC Freshwater Fish Specialist Group showing where freshwater fishes are under the greatest threat).

Alongside this, we aim to significantly raise the level of awareness and understanding of the beauty, diversity and importance of healthy, functioning freshwater systems, and the species that create, maintain and thrive in these complex systems, to motivate a level of concern and action to care for these species globally. In short, we aim to INSPIRE with the purpose of broadening and deepening the set of actors that are driving action for freshwater species.

### Phase 3 (2029 - 2032)

**Our target by 2032 is to have mobilised action for over 1,000 species - approximately one fifth of the world's threatened fish - through locally led and governed action.**

SHOAL will mobilise all its efforts to support the achievement of the UN Convention on Biological Diversity's New Global Framework for Managing Nature Through 2030, the UN Decade of Restoration, and the UN Sustainable Development Goals targets by 2030.

During this phase, SHOAL will reexamine its progress and impact, and prepare for the next decade.



## A GROWING, STRENGTHENING NETWORK FOR CHANGE

SHOAL's unique strength is its ability to heighten the potential of its Local Action Partners by mobilising the support and engagement of the Strategic Partners to make the difference where it matters most.

The SHOAL network grows in strength and impact by:

- designing effective local conservation action with the key stakeholders, backed by experts;
- connecting partners with a global network of scientists, conservationists and communicators;
- channelling funding, technical support and equipment; and
- promoting partners' work through the SHOAL's communications channels.

# INSPIRE



The driving force that propels SHOAL forward is the support that comes from a growing understanding that freshwater life is vital to all life on the planet and that each species plays a unique role in maintaining the value of freshwater systems for people and nature. We can no longer afford to overlook and neglect such an essential planetary force.

SHOAL aims to shift the perception of the value of freshwater life from neglect to action.

## SOME HIGHLIGHTS

### The Freshwater Inspire Network (FIN):

In 2022, SHOAL brought together a group of conservationists, campaigners, communicators and creatives from diverse organisations around the world to collaborate on inspiring people about freshwater biodiversity and hopefully encourage them to care more about protecting and conserving it. From this meeting – held at Bristol Zoo, with people dialling in from around the world – the Freshwater Inspire Network (FIN) was established. The FIN will be used as a vehicle to help drive inspiring communications about freshwater.

**New Species Report:** In early 2022, SHOAL released the first of an annual series of New Species reports, showcasing each of the world's freshwater fish species described throughout the previous year and highlighting a selection in detail. There have now been two New Species reports published.

Benchmarks:



5

LANDMARK  
REPORTS RELEASED

40K

AVERAGE TWITTER  
IMPRESSIONS / MONTH

>100

SHOAL MENTIONS  
IN INTERNATIONAL  
ONLINE NEWSPAPERS

~8K

SOCIAL MEDIA  
FOLLOWERS

63

FIN  
MEMBERS



**Search for the Lost Fishes Report:** When SHOAL launched the Search for the Lost Fishes programme in June 2021, we released a report to outline the programme and highlight the Top 10 Most Wanted species. The following month, we launched the Lost Fishes Art Challenge, which asked members of the public to submit art pieces about the 10 Most Wanted Species. There were categories for each of the species, under 18s, Youth, Portfolio, and Overall Winner. Winners of each category were displayed at an exhibition at Oxford University Museum of Natural History.



**The World's Forgotten Fishes Report:** In 2021, SHOAL released a critical report with WWF and 15 other leading conservation organisations, calling on governments to commit to an Emergency Recovery Plan for global freshwater biodiversity. 'The World's Forgotten Fishes' report depicts the amazing world of freshwater fish and details the important roles they play in ecology, society, economics, and the wellbeing of people and the planet. It is an urgent call to ramp up action to conserve freshwater fishes and the habitats they rely on. According to WWF, the report led to more than 400 articles published in 45 countries, with a reach of more than 2 billion!

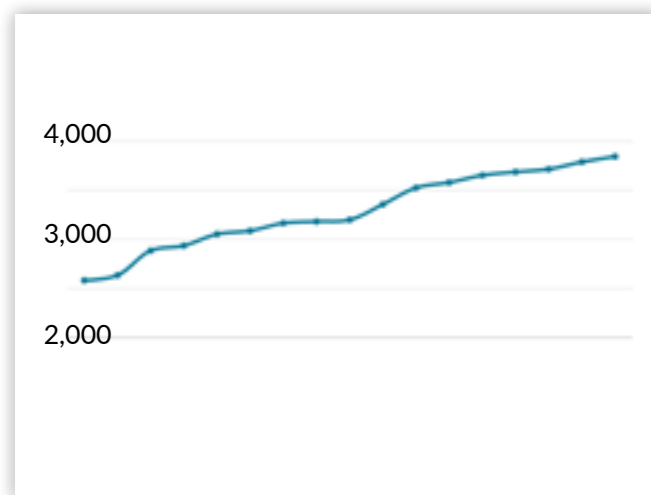


**Fantastic Freshwater:** SHOAL released Fantastic Freshwater: 50 Landmark Species for Conservation in 2022, alongside the IUCN Species Survival Commission (SSC), the IUCN SSC Freshwater Conservation Committee, and the Global Center for Species Survival at the Indianapolis Zoo. The report emphasises the urgent need for freshwater species conservation, and highlights species from across the taxonomic spectrum that we are set to lose unless urgent action is taken to alleviate threats. More than 70 scientists from 21 IUCN SSC Specialist Groups were consulted in the production of the report.

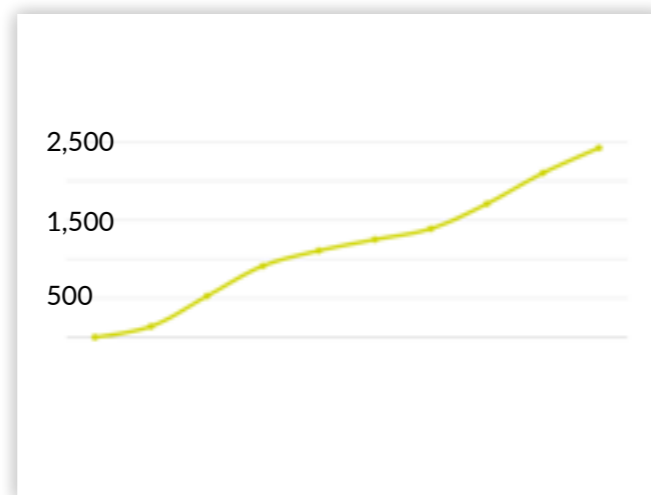




**Social media:** We continue to use social media as a tool both to inform on the excellent conservation work our partners are doing, and publish information on the wider world of freshwater species conservation. Our goal is that this will educate and inspire people about the wonders found in freshwaters around the world. There has been steady month-on-month follower growth, and at time of writing, SHOAL has accrued a social media following of nearly 8,000 followers.



Twitter followers from August 2022 - April 2023



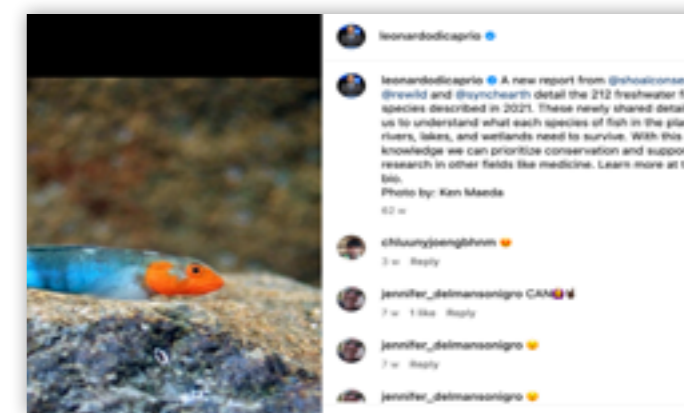
Instagram followers from August 2022 - April 2023

**Practical Fishkeeping magazine:** Practical Fishkeeping magazine is a world-leading home aquarium magazine. The magazine's editor Nathan Hill – a SHOAL advisor and a key figure in the SOS: Support Our Shoal alliance (see p.13) – has published three longform articles in the magazine about freshwater species and habitat conservation and SHOAL-related work, including pieces about the Denison's barb, about peat swamp fishes in Malaysia, and about highly threatened *Cryptocoryne* plants.



**Newsletter:** Our email newsletter The Stream provides updates about SHOAL and our partners, and compiles news pieces from around the world relevant to freshwater wildlife and habitats. We have recently increased the frequency of publication from quarterly to monthly.

**Media:** Over the past four years, there has been steadily increasing international coverage about SHOAL-related work, including in mainstream publications like the BBC, the Guardian, Scientific American, Washington Post and Mongabay.



# SEARCH FOR THE FAT CATFISH: ONE OF NATURE'S BIGGEST MYSTERIES

The fat catfish (*Rhizosomichthys totae*) has become a symbol of the unknown for all those who have worked closely with it. A mysterious riddle that asks more questions than it offers answers, the strange species has captured the imagination of everybody involved with its search.

What do we know about this Top 10 Most Wanted Lost Fish? Only 10 specimens have ever been formally recorded – and none since 1957. It has bizarre rings of fatty tissue surrounding its body which caused Dr. Ian Harrison, freshwater specialist at Conservation International, to describe it as, 'the closest a fish could get to the Michelin Man'. Legend has it that the fish is so greasy that people historically impaled dead specimens on sticks and set them alight to illuminate their homes.

Experts are baffled by its physiology, and there are no other recorded fish species with comparable rings of fat. There are theories, ranging from the grease keeping the fish warm in chilly mountain waters, to diet-induced weight gain, but none explain why it is the only known fish with this adaptation.

Another layer of mystery is the location of where the fish was historically found. Cecil Miles, an Englishman working in Colombia at the time, is credited with describing the fat catfish in 1942. He recorded the



Engaging Lake Tota communities with images of the fat catfish. *Credit: Ictiología y Cultura*



Lake Tota, Colombia community members sing 'Pez Grasso', the fat catfish song: [Watch here!](#)  
*Credit: Ictiología y Cultura*

type locality as Lake Tota, high in Colombia's eastern Cordillera. Miles, a passionate amateur ichthyologist, said the fish was once so common there that, after an earthquake, there were so many dead that they, 'served admirably to burn in lamps; but despite having collected enough specimens to fill many barrels of oil, there were still leftovers and they rotted on the beaches, to such an extent that for a time they made it impossible to approach them due to the smell' (Miles 1945, in Camargo 1982).

Yet there are no records of an earthquake at that time around Lake Tota. Might Miles have made a navigational mistake? Recent research from SHOAL partner Ictiología y Cultura suggests there is a chance the species is not from Lake Tota at all, but from mountain streams that feed into the lake, or might even be from a different lake entirely. The mystery deepens.

SHOAL has been working closely with Ictiología y Cultura and researchers from the Alexander von Humboldt Biological Resources Research Institute in Bogotá, the Universidad de los Andes, and the National University of Colombia as part of a multidisciplinary search for the species.

Ictiología y Cultura have now completed the social and historical side of this. They spoke with community members in the towns and villages surrounding Lake Tota, showing them images of the fish and asking if anybody remembered it, and consulted historical documents to deepen understanding of where the fish may be hiding. Their findings provide valuable insight into where

to conduct the scientific side of the search.

Now, researchers will use environmental DNA testing (in partnership with Nature Metrics) and traditional fishing techniques in an attempt to find physiological evidence of the species.

The search has so inspired people's interest that El Espectador – one of Colombia's largest national newspapers, with a circulation of 50,000 – published a paragraph about it on the front page, with a full-page feature on the second page. A tweet from Juan Pablo Correa, the journalist who wrote the article, received well over 2,000 likes and nearly 600 retweets.

Susana Caballero, an associate professor at the Universidad de los Andes, is co-leading on the research trips to Lake Tota. She is upbeat about the fish's chances: "We think that the fat catfish is probably still alive, but [living] in other microhabitats in the depths of Lake Tota. We don't know [for certain], but we will try to look for this species in Lake Tota and surrounding areas in other lakes and lagoons".

Stay tuned!



Ictiología y Cultura and the Fishermen's Association of Lake Tota, Colombia. *Credit: Ictiología y Cultura*

# MOBILISE



*The stronger and larger the SHOAL, the greater the impact the initiative will be able to achieve, at a faster pace.*

## Benchmarks:



2

HOST PARTNERS

35

STRATEGIC PARTNERS

21

LOCAL ACTION PARTNERS

3

STRATEGIC ALLIANCES CREATED

1

GRANT-MAKING PLATFORMS

## Partnerships: Our SHOAL

Partnerships are key to the work that SHOAL does. Over the past four years, we have been lucky enough to have partnered with some of the most inspiring and impactful organisations in the conservation sector.

The SHOAL is made up of three types of partners: HOSTS, STRATEGIC PARTNERS and LOCAL ACTION PARTNERS. The goal is to ensure that each partner, particularly the local action partners, has the capacity to deliver high quality effective conservation action for freshwater species.

SHOAL has also created three alliances with key supporters (see p.13).



The IUCN SSC Freshwater Fish Specialist Group (FFSG) and SHOAL maintain an essential partnership, and we work closely with them to ensure sound science underpins conservation actions and help transfer their strategy and knowledge to foster more action on the ground.



A researcher in Zempoala, Mexico



# LOCAL ACTION PARTNERS



## STRATEGIC PARTNERS



**HOST PARTNERS**



## STRATEGIC ALLIANCES CREATED:



In 2023, we developed the **SHOAL Alliance of Zoos and Aquaria** – a commitment by a coalition of zoos and aquaria to support SHOAL's mission by working together to raise awareness of freshwater species and habitats, establish and collaborate on captive breeding programmes, provide capacity building and technical support for partners acting to halt extinctions, and provide funds to a pooled fund, The SHOAL Fund.

We also developed The Freshwater Inspire network (FIN), to better communicate the inspiring wonders of freshwater life. Turn to p.8 to learn more.



**SOS: Support Our Shoal**, established in 2022 is the SHOAL partnership with the aquaria hobby led by SHOAL with Dominic Whitmee, CEO, OATA, Nathan Hill, Editor, Practical Fishkeeping, and Pete Carey, Head of Global Innovation, CASCO Pet. It provides a trusted mechanism for aquarists and the home aquaria hobby to fund and engage with conservation projects that protect and conserve the species they are passionate about. In 2022, OASE, a world leader in manufacturing aquatic environment technology, became the first SHOAL corporate partner.



Chester Zoo employees inspect the freshwater aquarium © Chester Zoo



Guppies in a breeding tank

# STORY: SUSTAIN LAKE TANGANYIKA

The Rift Valley lakes of East Africa support an incredible diversity of threatened endemic fish, and are therefore one of SHOAL's priority regions. There are presently over 800 known species of cichlid fish found there, of which 250 are from Lake Tanganyika.

The fish are a vital source of protein for the people living around the lake. There is also a large trade of fish for the home aquaria hobby. Overharvesting and invasive fishes are the two biggest threats to the rich biodiversity that is found there.

In 2020, SHOAL made the strategic decision to support efforts to protect and recover populations of endemic cichlids in Lake Tanganyika as the first priority in the region.

Any conservation work of the species had, until this point, been led by a team from a private tourism lodge, advised by Dr. Ad Konings, a leading figure in cichlid conservation and the author of many books for the home aquaria hobby. SHOAL identified this team as potential partners, and they together developed a project focusing on the conservation of nine species in Lake Tanganyika.

The following year, the project was developed fully through consultations with other conservation organisations that had experience working in and around the lake, including The Nature Conservancy.

In 2022, SHOAL was instrumental in the creation of a new NGO in Tanzania to be committed to supporting conservation in the lake. Sustain Lake Tanganyika focuses on creating and managing protected areas for cichlid research and sustainable harvesting practices, developing aquaculture facilities for native Tanganyika tilapia species, and helping develop the Lake Tanganyika Cichlid Rescue Centre for ex situ breeding of

cichlids for supply to the ornamental trade.

The outcomes that the Sustain Lake Tanganyika/SHOAL partnership achieves are therefore intimately linked with the home aquaria fish trade. They also support sustainable livelihoods for the local villagers in an area that is recognised as a potential freshwater Key Biodiversity Area.

There are 12 villages that form the community in the project area. The project will support development in each of the villages to help improve education, sanitation, income generation and food security. The creation of the Tanganyika Aquahub aquaculture facility enables the breeding of the tilapia species which will provide an important source of protein for the communities.



Nkwonde Island, Lake Tanganyika, Tanzania.



Kipili Centre of Learning, Kipili, Lake Tanganyika, Tanzania.



Cichlid Rescue Centre, Kipili, Lake Tanganyika, Tanzania.



SHOAL's capacity to act is dependent on the motivation and strength of the shoal across the globe (SHOAL's INSPIRE and MOBILISE objectives), both of which will take time to build. However, we have achieved significant progress in the first four years and positive impact has been demonstrated for species, habitats and communities already. Furthermore, having mobilised impactful conservation action from 21 Local Action Partners across 20 local project sites in seven countries in just four years, SHOAL has shown that the initiative can scale rapidly, while ensuring highest quality conservation outputs and building for the future.

### SOME HIGHLIGHTS:

Over the past four years, SHOAL has made some major achievements, including:

- 🐟 **Developed a suite of programmes across five continents (see p.19 for details).**
- 🐟 **Mobilised critical conservation work in Sulawesi's ancient lakes through partners Yayasan Bumi Sawerigading and Progres, even under the shadow of the COVID-19 pandemic.**
- 🐟 **Launched the Search for the Lost Fishes programme, with expeditions to search for the duck-billed bunting and the fat catfish currently underway in Sulawesi and Colombia respectively.**
- 🐟 **Helped in the rediscovery of two fishes thought to be lost – the Batman River loach and the Dumbéa River pipefish, in Turkey and New Caledonia respectively.**
- 🐟 **Alongside partners the University of Morelos, Goodeid Working Group and Chester Zoo, participated in the wild release of the Extinct in the Wild golden skiffia into its native range in the Rio Teuchitlán, Mexico, allowing the species a second shot at survival in the wild.**



Credit: Yayasan Bumi Sawerigading

- 🐟 Alongside partners, drafted an action plan for Malaysian peat swamp fishes – one of the first freshwater fish-focused action plans to be developed in Malaysia.
- 🐟 Alongside IUCN SSC ASAP and Mandai Nature, produced *A Strategic Framework to accelerate urgent conservation action for ASAP Freshwater Fishes in Southeast Asia*.
- 🐟 Alongside 15 other leading conservation organisations, signed onto the WWF-led Forgotten Fishes report.
- 🐟 Helped in the development of two new NGOs: Sustain Lake Tanganyika in Tanzania, which will drive community-led conservation action for endemic fish in Lake Tanganyika, and the Rare African Fish Ark, based in South Africa.
- 🐟 Launched the SOS: Support Our Shoal campaign to provide a trusted mechanism for the UK aquarium hobby to donate funding to freshwater conservation programmes.
- 🐟 Began to build a powerful network of conservationists and communicators to address the freshwater biodiversity crisis, including Synchronicity Earth and Re:wild as organisational hosts.



Credit: Merlijn van Weerd



# STORY: GOLDEN SKIFFIA

In October 2022, SHOAL's Mike Baltzer and Michael Edmondstone visited Morelia in Mexico, where they took part in a workshop led by the University of Morelos, Chester Zoo, and the Goodeid Working Group to plan the conservation of 41 species of Mexican goodeid fish.

Alongside the workshop, they participated in the reintroduction of the golden skiffia, which had been listed as Extinct in the Wild since 1996. Invasive species and habitat degradation had led to populations of the fish plummeting in its native range of the Teuchitlán River in Jalisco, central-western Mexico, and by 1996, there were none left.

For over a decade, the Universidad Michoacana de San Nicolás de Hidalgo and Chester Zoo worked with the Goodeid Working Group – a knowledgeable and passionate group of home aquarium hobbyists – and many other partners on an ex situ breeding programme with the aims of ensuring a robust population of the species and releasing enough into the Teuchitlán River to ensure a sustainable population in its native range.

Alongside this, the threats that had wiped the species out from the wild were addressed, and strong community engagement ensured community members were empowered to help safeguard the long-term viability of the golden skiffia that were released.

On 4 November 2022, Día de los Muertos in Mexico – Day of the Dead – community members and representatives from the University of Morelos released more than 1,000 golden skiffia into the Teuchitlán River.

The event was marked with traditional dance performances and a theatre production that told the story of the golden skiffia.

Individuals released into the wild were tagged with a non-toxic elastomer before release and will now be monitored for the next five years to assess whether



Community members helping with the release of the golden skiffia, Teuchitlán, Mexico. © Manfred Meiners / Re:wild

the population is increasing and whether the fish are reproducing and growing successfully in their natural habitat.

Conservationists hope that the released fish will ultimately result in a healthy, self-sustaining population taking hold. The species can then fulfil its important natural role in the ecosystem of eating algae and mosquito larvae, helping to keep populations of those species in check.

If the success of the tequila splitfin reintroduction and the predictions for a successful golden skiffia project are anything to go by, there is good reason to believe this collaborative, interdisciplinary conservation programme will bring these goodeid species back from the brink of extinction.

# IMPACT: SPECIES

## Benchmarks:



67

SPECIES DIRECTLY SUPPORTED BY SHOAL, including..

19

RANGE RESTRICTED SPECIES

12

CRITICALLY ENDANGERED SPECIES

17

ENDANGERED SPECIES

5

EDGE SPECIES

1

EXTINCT IN THE WILD SPECIES, and a..

144

FURTHER SPECIES SHOAL HAS MOBILISED ACTION FOR

**Mexican Goodeids:** Project led by the University of Michoacán with the Goodeid Working Group, Chester Zoo and the University of Morelos.

In 2022, SHOAL helped support the reintroduction of the Extinct in the Wild golden skiffia and has participated in an action plan for the conservation of all of the Mexican goodeids (more than 40 species) to be released in 2023.



Blackspot goodeid. Credit: Wolfgang Gessl

**Hump-backed Mahseer (*Tor remadevii*), Critically Endangered:**

The hump-backed mahseer is a giant fish, once sought after by anglers, now confined to two tributaries of the Kaveri River. The fish has been outcompeted by an invasive mahseer, and the remaining population is protected from the invasives by dams that have created an artificial refuge.

With support from The Fishmongers' Company, SHOAL is working with the Mahseer Trust and the Kerala University of Fisheries and Ocean Studies, to deliver conservation actions to save this remarkable species and its habitat.



Hump-backed mahseer

**Denison's Barb (*Sahyadria denisonii*),**

**Endangered:** This species, treasured by home aquaria hobbyists and found in most aquaria shops, desperately needs help in the wild. SHOAL is working with the Kerala University of Fisheries and Ocean Studies, and Zoo Outreach to mobilise action to bring it back from the brink of extinction.



Credit: Beta M



Blackspot goodeid. Credit: Wolfgang Gessl



Steel blue killifish. Credit: Max Pedley



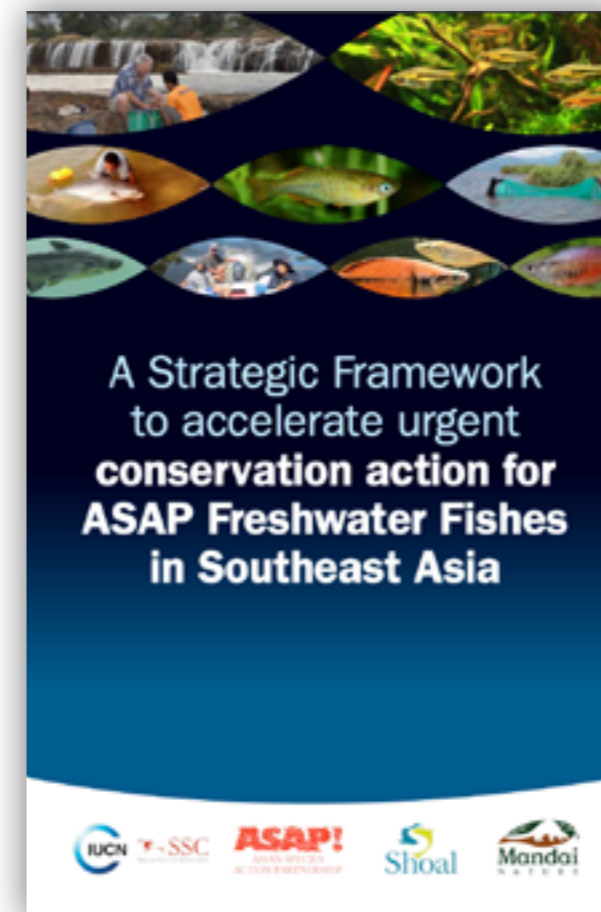
Sulawesi snail



Sulawesi shrimp



Lake Tanganyika cichlids



### Sulawesi Ancient Lake Endemics:

The ancient lakes of Sulawesi are often referred to as the “freshwater Galapagos”. Each lake has a unique assemblage of species, demonstrating the power of evolutionary radiation. SHOAL is partnering with local Sulawesi organisations Yayasan Bumi Sawerigading, Progres and Celebica to address the challenges the biodiversity in these lakes face, including tackling invasive species.

### Lake Tanganyika Endemic Fishes:

SHOAL is working closely with a new organisation, Sustain Lake Tanganyika, focused on the conservation of the incredible diversity of the lake’s fishes. With financial support from Fondation Segré, SHOAL and Sustain Lake Tanganyika are creating new protected areas off the shores of the lake, which should provide refuges for the endemics to breed and thrive.

### ASAP Freshwater Fishes in Southeast Asia:

The SHOAL core team worked with the IUCN SSC Asian Species Action Partnership (ASAP) and Mandai Nature to produce a major report - *A Strategic Framework to accelerate the urgent conservation action of ASAP Freshwater Fishes in Southeast Asia* - detailing the conservation actions needed to address the challenges facing the Critically Endangered freshwater fish species in Southeast Asia. Over the next phases of SHOAL’s development, many of these actions will be implemented.

# IMPACT: HABITATS



## Benchmarks:

SHOAL has directly contributed to action with partners to protect and restore habitat in:

20

LOCAL PROJECT SITES

7

COUNTRIES

including countries in all five SHOAL priority regions and two countries where Top 10 Most Wanted Lost Fishes have previously been recorded.



Nkwonde Island, Tanzania  
Credit: Sustain Lake Tanganyika



Lake Tanganyika, Tanzania



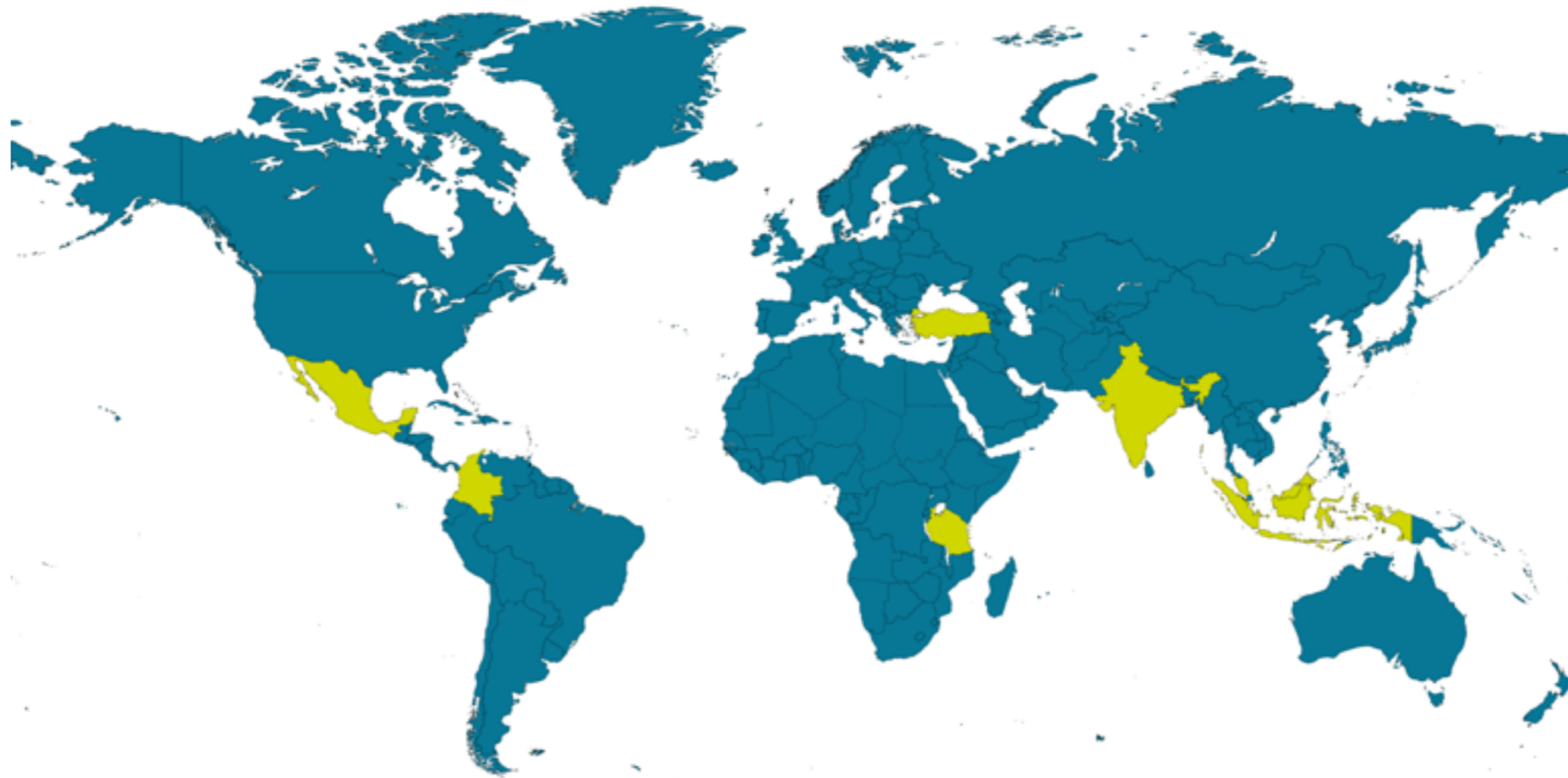
Zempaola, Mexico



Lake Pátzcuaro, Mexico



Lake Tota, Colombia  
Credit: Ictiología y Cultura



Peat swamp, Malaysia  
Credit: Félix Feider



Batman River, Turkey  
Credit: Re:wild



Lake Lindu, Sulawesi, Indonesia  
Credit: Progres



Western Ghats, India  
Credit: Rajeev Raghavan



Western Ghats, India



Kaveri River, India



Lake Mahalona, Sulawesi, Indonesia  
Credit: Yayasan Bumi Sawerigading



Fishermen on Lake Tanganyika, Tanzania

# IMPACT: PEOPLE & COMMUNITIES



Benchmark:



100%

of the field-based projects have strong community participation - a vital consideration in every SHOAL project.



SHOAL works alongside many communities that are dependent on fish for their food



A member of the Orang Asli community, who is helping with peat swamp management in Malaysia.



Dr. Adrian Pinder from Mahseer Trust working with community members in southern India.



Woman demonstrating how to make products from invasive flowerhorn cichlids, Tole Village Lake Mahalona, Sulawesi.



SHOAL's Mike Baltzer and Synchronicity Earth's Félix Feider with community members and YBS, Sulawesi.



Mexican goodeid breeding, Teuchitlán, Mexico. Credit: Skiffia Project



The Celebica team, Lake Poso, Sulawesi. Credit: Celebica



Abdul Malik Saleh, Director of YBS, examining endemic molluscs in Lake Mahalona, Sulawesi.



A Tota community member, Colombia.  
*Credit: Ictiología y Cultura*



Tanganyika Aquahub, Kipili Village, Tanzania.



Progres' Chilo in Sulawesi.  
*Credit: Progres.*



Dr. Münevver Oral engaging high school children about the Batman River loach, Batman, Turkey. *Credit: Dr. Cüneyt Kaya*



Progres' Anim and Chilo engaging community members with freshwater species conservation in Sulawesi.



Workers clear reeds to make space for reintroduced fish species, Michoacán, Mexico.



Fishermen on Lake Tanganyika, Tanzania.



Fisherman in Lake Poso, Sulawesi.  
*Credit: Progres.*

# Looking ahead

## PHASE 2 (2023 - 2028): GROWTH OF THE SHOAL

The next exciting and critical phase of SHOAL's development will be to expand the breadth and depth of our impact. This will require SHOAL to increase its energy, focus and determination to end the freshwater biodiversity crisis. To achieve our ambitions, we will need every bit of funding support and engagement we can mobilise. We will continue to build a powerful 'shoal' of freshwater fish scientists, communities, businesses, organisations, and individuals who are passionate about protecting fish and freshwater ecosystems. Through these partners and communities, we will take action to:

- foster conservation for a target of 1,000 freshwater species,
- increase the number of Local Action Partners, particularly with the aim to couple each partner with one or more of the target species and habitats, to ensure SHOAL has the capacity to support action in all priority countries,
- expand the funds available for the priority regions, especially for Mexico and Southeast Asia priority regions,
- develop action plans for the Rift Valley Lakes, the Western Ghats in India, the Mediterranean basin, killifish in East Africa,
- support action for umbrella and flagship angling species such as taimen, mahseer and arapaima,
- develop programmes for the Amazon and Congo basins, Madagascar and South China,
- deepen the strength of the Freshwater Inspire Network (FIN) to escalate awareness of the wonders of freshwater life and the challenges affecting it, leading to high levels of public attention and engagement,
- raise funds to increase SHOAL's ability to create pooled funds, and direct funds to the most ready and willing Local Action Partners and to research related to the priorities of the IUCN SSC Freshwater Fish Specialist Group and Freshwater Conservation Committee.

## PHASE 3 (2028-2032): ACCELERATING TO IMPACT

Our target by 2032 is to have mobilised action for over 1,000 species - approximately one fifth of the world's threatened fish - through locally led and governed action. In 2032, or close to 2032 we will know how well we have done towards this target and how we should make further impact to bend the curve for freshwater species.

As we near the end of SHOAL's first ten-year strategy, we will take stock of the progress and direct focus to the efforts that still require attention and to those creating the most impact. It will be the opportunity to examine the strategies, partnerships and approach, and reassess the circumstances that threaten success, and the opportunities that will help propel the network forward. A key component will be to further build the capacity of all partners, garnering the support, skills, expertise and knowledge of the Strategic Partners.



# Thanks

A very special thanks to our host partners, Synchronicity Earth and Re:wild, for their continued support in helping SHOAL achieve its aims. Their financial support, capacity and facilities give SHOAL a strong foundation from which to reach its goals. Without them, SHOAL would not exist.

SHOAL could not carry out its vital conservation work without the critical funding and support of its donors, including our host partners, Andy Patel, Ernest Kleinwort Charitable Trust, Fondation Segré, Mandai Nature, Mars Petcare, OASE, OATA, and WWF, along with many individual donors, and the other significant donors who choose to remain anonymous.

We also wish to thank each of our partners for the vital conservation work they do, and all the individuals and organisations, too many to name here, who help us in our mission to halt extinctions and recover populations of the most threatened freshwater species in the wild. Each of them together make up our 'shoal', and through their support, interest and engagement, we can continue to increase the scope and scale of the work we are able to achieve.



Credit: Eiko Jones



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