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**Join**

**Shoal**

**and help to save  
the world's freshwater species**



# About Shoal

**There is a paradox. While there is a global crisis for freshwater fishes and other threatened and neglected freshwater species, there are a significant number of people, institutions and businesses with a direct interest in their conservation.**

**Shoal has been created to resolve that paradox by creating a strong partnership of those that care with those that can help. This partnership will effectively and efficiently act to prevent freshwater species extinctions.**

## Mission and Vision

### SHOAL'S VISION:

**A future where freshwater fish and other freshwater species flourish in nature.**

### SHOAL'S MISSION:

**To save and recover populations of the most threatened fishes and other threatened freshwater species.**

## Objectives

- to mobilise action for the conservation of threatened fishes and other threatened freshwater species
- to raise awareness of the need for more and better freshwater conservation
- to build capacity to implement impactful freshwater conservation work.

“This initiative presents an unmissable opportunity to secure the long-term conservation and sustainable use of freshwater fish which is of fundamental importance to the many businesses and people across the world whose livelihoods depend on them.”

(DOMINIC WHITMEE, CHIEF EXECUTIVE OFFICER, OATA)

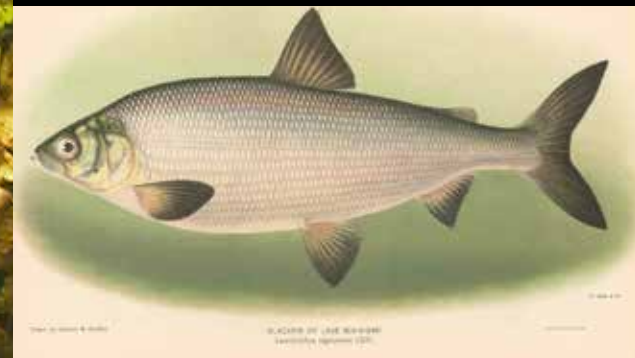
1 in 3 species of freshwater fish face extinction.

All of us who care about them must join together before it's too late.

## Strategic Partners

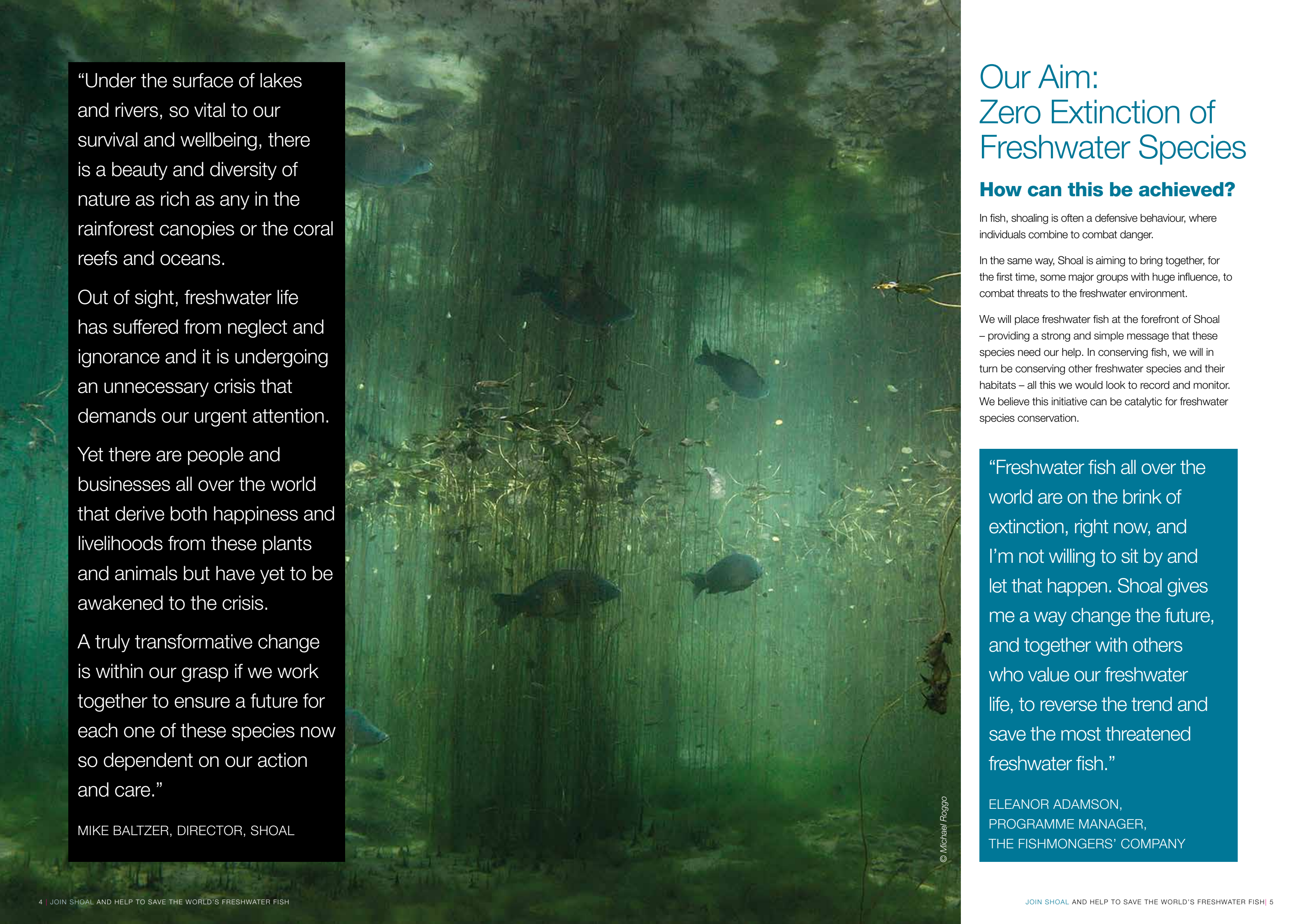


**Mascara Barb (*Dawkinsia Assimilis*):**  
**Listed as Vulnerable on the IUCN Red List**



**Blackfin cisco (*Coregonus nigripinnis*):**  
**Listed as extinct in 1996**



An underwater photograph showing several fish swimming in a pond with dense green reeds. The water is slightly murky, and the reeds are tall and thin, creating a textured background. The fish are of various species, including some with yellow and black stripes.

“Under the surface of lakes and rivers, so vital to our survival and wellbeing, there is a beauty and diversity of nature as rich as any in the rainforest canopies or the coral reefs and oceans.

Out of sight, freshwater life has suffered from neglect and ignorance and it is undergoing an unnecessary crisis that demands our urgent attention.

Yet there are people and businesses all over the world that derive both happiness and livelihoods from these plants and animals but have yet to be awakened to the crisis.

A truly transformative change is within our grasp if we work together to ensure a future for each one of these species now so dependent on our action and care.”

MIKE BALTZER, DIRECTOR, SHOAL

## Our Aim: Zero Extinction of Freshwater Species

### How can this be achieved?

In fish, shoaling is often a defensive behaviour, where individuals combine to combat danger.

In the same way, Shoal is aiming to bring together, for the first time, some major groups with huge influence, to combat threats to the freshwater environment.

We will place freshwater fish at the forefront of Shoal – providing a strong and simple message that these species need our help. In conserving fish, we will in turn be conserving other freshwater species and their habitats – all this we would look to record and monitor. We believe this initiative can be catalytic for freshwater species conservation.

“Freshwater fish all over the world are on the brink of extinction, right now, and I’m not willing to sit by and let that happen. Shoal gives me a way change the future, and together with others who value our freshwater life, to reverse the trend and save the most threatened freshwater fish.”

ELEANOR ADAMSON,  
PROGRAMME MANAGER,  
THE FISHMONGERS’ COMPANY



# Who Are Shoal?

## FISH KEEPERS

Home fish-keepers are part of a vast and expanding hobby worldwide - in the UK alone they spend over £400 million a year. They have a clear interest in supporting Shoal, both financially and as local advocates.

## PUBLIC AQUARIA

They already support conservation projects, but as part of Shoal there is great potential for increasing their involvement in freshwater activity.

## ANGLERS

In the US alone there are an estimated 50 million recreational anglers and the sport is more popular than tennis, golf and even hiking.

Like the home aquaria owners they will provide a ready source of revenue and local champions for conservation projects.

## COMMERCIAL FISHERIES

They are already active in conservation projects that enhance their business, but Shoal will help them harness the potential PR value in supporting projects focussed on species beyond the immediately commercial.

## THE INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN)

As the world's largest environmental network and the global authority on the status of species, the IUCN can bring wider attention to the crisis facing freshwater species and help to put in place conservation plans for specific species.

## CONSERVATION GROUPS

Conservation organisations can provide vital funding and capacity building for organisations on the ground and collaborate to ensure that species conservation is targeted strategically and the most important information is shared with policymakers and practitioners.

## LOCAL COMMUNITIES

Freshwater species conservation can and should bring direct benefits to local communities living on the banks of the world's lakes and rivers. These communities are often threatened by the same issues which threaten the species themselves, so engaging local people in conservation projects is vital to the success of conservation projects.

## THE PHILANTHROPIC COMMUNITY

Well targeted philanthropy can help to bring in other sources of funds. Shoal provides the philanthropic community with access to the best knowledge and expertise on freshwater species and is a unique opportunity to support real change to save one of the most threatened and ecologically valuable groups of species on the planet.

About half the world's fish are freshwater fish and they represent a remarkable variety of biodiversity from the world's smallest fish, *Paedocypris progenetica*, smaller than your thumbprint, to the beluga sturgeon – once recorded as long as a single decker bus – that once swam in the River Danube. Freshwater fish are often as beautiful as anything found on a coral reef and this beauty has led them to be treasured in public and private aquaria. The variety is almost indescribable.

Freshwater fish are our entry point to freshwater conservation as there is already a strong community of support, particularly for the rarest and most interesting fishes.

But when we save fish, we also create the conditions to save other neglected and threatened species. There is a broad range of overlooked freshwater species requiring direct action, and many of these are vital to people's livelihoods and well-being. As Shoal evolves, we will also direct our support to some of these other critical freshwater species.



“As a keen aquarium hobbyist and conservationist, I was quickly drawn to the Shoal project. The main thing for me is the collaborative approach to involving all groups of people with an interest in fish and the habitats in which they live. The sustainability of our diverse hobby is dependent on the availability of wild, as well as farmed, fish and working with scientists, conservationists, businesses and (most importantly) local people gives us the best chance to ensure it.”

ANDY PATEL (AQUARIUM HOBBYIST)



# The Challenge: Why Freshwater Fish Desperately Need Our Help

**There are estimated to be more than 15,000 species of freshwater fish in the world. Of the approximately 6,000 species that have been assessed by the IUCN Red List of Threatened Species, over one third are in immediate danger of extinction.**

There are many species we do not know anything about that will potentially go extinct before we know more. Along with amphibians, they are the vertebrates most at risk, and they are 4 to 6 times more likely to become extinct than species living on land or in the sea.

It's inevitable that many species will be lost before ever being discovered. In North America alone, 53 species have become extinct since the start of the 20th century,

and now the factors responsible for this decimation are affecting other areas, putting much larger and more diverse populations in danger.

## We have been the problem, can we now be the solution?

Human development may not be the only problem, but it is one of the biggest. Wetlands – rivers, lakes, marshes and swamps – are often seen as wastelands and drained. The irony is that these same areas were actually the source of human development, providing fresh water and fertile land. Since 1900, over 64% of them have been lost.

As we degrade and destroy these habitats, the species which depend upon them also disappear.

# The decline of the great Chinese Paddlefish *Psephurus gladius*

Paddlefish (family Polyodontidae) are remarkable “primitive fish” that have changed little since the earliest evidence we have of them, dating back to the Late Cretaceous 70-75 million years ago (when Tyrannosaurus rex was the greatest predator on Earth). Chinese Paddlefish are incredible looking fish up to 7 metres in length. Sadly they have suffered massive declines in recent years. They are now so rare, with only two confirmed sightings in recent years, the last in 2007, that most scientists believe them to be extinct,

Like Salmon they are anadromous, living in both salt and fresh water. They are born upstream in the fast-flowing parts of the Yangtze and migrate to the sea until they are ready to breed. Then they return hundreds of kilometres to the

headwaters where they were born. Migrations of this scale are one of the great wonders of the natural world.

Like many fish, the Chinese Paddlefish has suffered from overfishing, pollution, and human development. Dams have blocked its seasonal upstream migration and the alteration of rivers has changed the natural flow, destroying spawning habitat and nursery areas. Tragically there is little or no chance of recovery for the species, but by addressing these problems, there is a chance of saving others threatened by the same dangers.



## Key threats include:

**DAMMING AND FRAGMENTATION**  
the blocking, canalising and dredging of rivers has unnaturally altered flows, restricted migration and fragmented fish populations. Vital breeding areas have been destroyed and the changes have affected not just freshwater but estuarine and marine populations as well as species whose lifecycle spans salt and fresh water.



**OVEREXPLOITATION**  
ever-increasing human populations and commercialisation of fishing have put intolerable pressure on freshwater fish and their environment. Fishing with electricity, dynamite and chlorine destroys not just fish, but the bio-diverse environments they depend on.



**WATER ABSTRACTION**  
in the last 50 years, abstraction of water has tripled, shrinking lakes and wetlands and even preventing some rivers, like the Nile, the Yellow and the Colorado, from reaching their deltas.



**HABITAT CHANGE AND DEGRADATION**  
it's not just activity in and on the water that affects freshwater habitats. Changes to the way land is used across the entire watershed can reduce the amount of water entering the system, cause sediment and harm the balance of nutrients, to the detriment of the species living there.



**POLLUTION**  
the second most important driver of extinction for species on the IUCN Red List. Contamination by an ever-increasing list of pollutants does unseen harm to the biodiversity that supports fish populations.



**INVASIVE SPECIES**  
introduction of invasive animals and plants, whether intentional or by mistake, is the main driver of current extinctions. They can quickly and drastically alter the freshwater environment.





# What is Being Done at the Moment?

**All these destructive factors are only magnified by the lack of resources and conservation efforts being directed towards the freshwater environment.**

Freshwater conservation receives just 3.2% of grant funding from European environmental foundations. Biodiversity itself is also a peripheral focus of most water-related conservation. For example, only 6.6% of freshwater conservation philanthropy from 2012 to 2015 went towards projects specifically targeting the conservation of one or a subset of freshwater species.

Where there are conservation efforts, they tend to be directed towards more charismatic species, like water birds, river dolphins, crocodiles or turtles.

## Attitudes are beginning to change

There is increasing recognition of the 'natural capital' provided by freshwater environments, and the way green and blue infrastructure provides far more cost-effective solutions for industry and society than non-natural technological interventions.

Major NGO programmes are beginning to put freshwater ecosystems and habitats front and centre of water policy debates.

Now is the time to take this to a different level – to start creating actions that are site or species specific.

By joining Shoal, you can be at the heart of this effort.



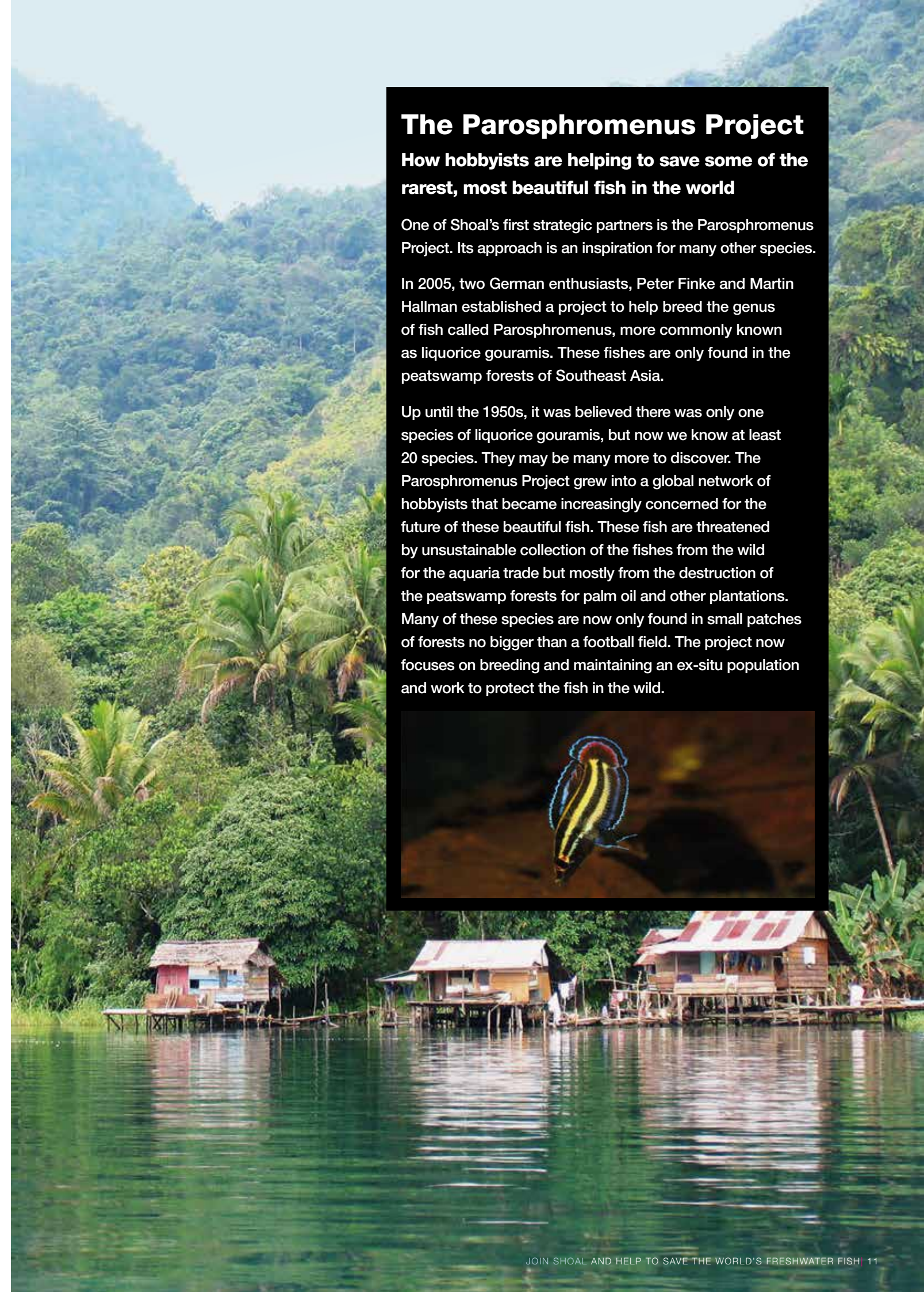
## The Parosphromenus Project

**How hobbyists are helping to save some of the rarest, most beautiful fish in the world**

One of Shoal's first strategic partners is the Parosphromenus Project. Its approach is an inspiration for many other species.

In 2005, two German enthusiasts, Peter Finke and Martin Hallman established a project to help breed the genus of fish called Parosphromenus, more commonly known as liquorice gouramis. These fishes are only found in the peatswamp forests of Southeast Asia.

Up until the 1950s, it was believed there was only one species of liquorice gouramis, but now we know at least 20 species. They may be many more to discover. The Parosphromenus Project grew into a global network of hobbyists that became increasingly concerned for the future of these beautiful fish. These fish are threatened by unsustainable collection of the fishes from the wild for the aquaria trade but mostly from the destruction of the peatswamp forests for palm oil and other plantations. Many of these species are now only found in small patches of forests no bigger than a football field. The project now focuses on breeding and maintaining an ex-situ population and work to protect the fish in the wild.





# Initial Programme Framework and potential projects under development







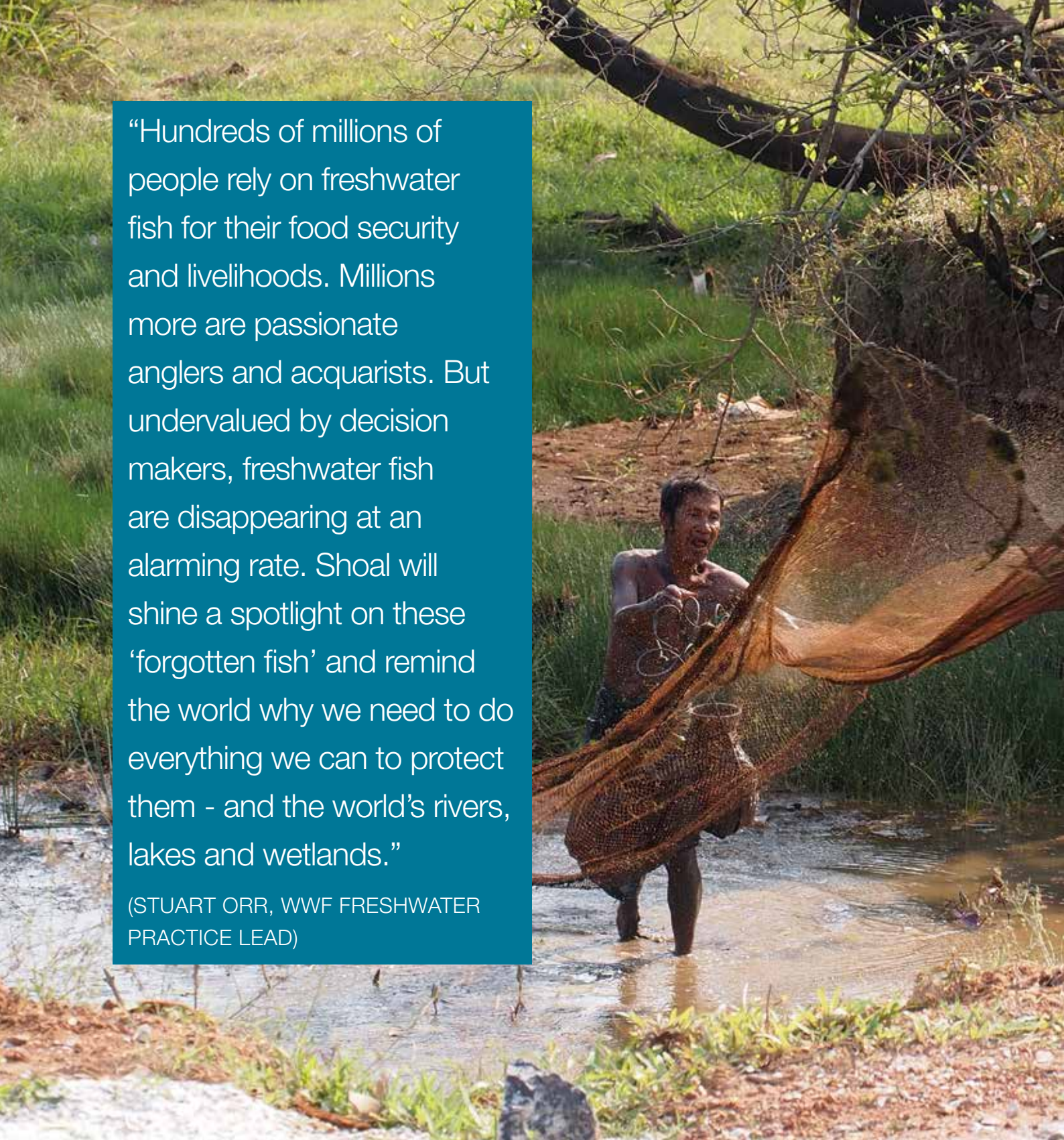
“Freshwater fish conservation is often invisible, and ignored on the global conservation agenda. Conserving the world’s freshwater fish species requires a pro-active strategy and a combination of approaches from public awareness, to scientific research, and on-ground conservation practice. There is still time to conserve and sustainably manage the earth’s freshwater biodiversity but we should act now”

DR. RAJEEV RAGHAVAN,  
KERALA UNIVERSITY OF FISHERIES  
AND OCEAN STUDIES,  
INDIA & SOUTH ASIA COORDINATOR,  
IUCN SSC/WI FRESHWATER FISH  
SPECIALIST GROUP (FFSG)

The co-operative method suggested by Shoal is a new and inspired way to tackle environmental destruction.

We can be the pioneers of a revolutionary, practical and effective way of working that could be a major step in helping to save, not just freshwater species, but biodiversity everywhere – and ultimately, man himself.



A photograph of a man standing in a shallow river, holding a large, brown, mesh fishing net. He is smiling and looking towards the camera. The river is surrounded by lush green vegetation and trees. The background shows a dirt bank and more greenery.

“Hundreds of millions of people rely on freshwater fish for their food security and livelihoods. Millions more are passionate anglers and aquarists. But undervalued by decision makers, freshwater fish are disappearing at an alarming rate. Shoal will shine a spotlight on these ‘forgotten fish’ and remind the world why we need to do everything we can to protect them - and the world’s rivers, lakes and wetlands.”

(STUART ORR, WWF FRESHWATER PRACTICE LEAD)

Shoal is a programme hosted by Synchronicity Earth



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