AQUARISTS CAN PROMOTE CONSERVATION

There are many threats to species around the world, and the aquarium hobby is often listed as one. But the hobby has the power to provide a lot of benefit, and there are a number of ways that we can promote conservation and even save species from extinction.

CAPTIVE BREEDING

The vast majority of freshwater fish and an increasing number of marine fish are being primarily sourced through captive breeding initiatives.

IN SITU CONSERVATION

Multiple organizations worldwide are working with local communities to develop sustainable ornamental fisheries and promote the conservation of natural habitats.

CORAL REEF RESTORATION

One method of fighting reef loss is through the cultivation and replanting of corals. A portion of the corals grown can be sold to hobbyists to raise funds for these operations.

OVER 90%

of freshwater fish available in the hobby come from captive bred sources. From large scale fish farms to small scale breeding operations to individual hobbyists, freshwater ornamental fish are being raised around the world. If you see it in a store or in an aquarium, the odds are that it was bred in captivity.

Due to their more complex life cycle, a relatively small proportion of marine fish have been successfully bred, but this number is continually rising as researchers unlock the secrets to success. Currently, **OVER 10%** of fish in the marine aquarium trade are available from captive bred sources, including popular favorites such as clownfish, dottybacks, blennies, and even certain angelfish species.

Rising Tide Conservation is leading the way in supporting researchers as they learn how to successfully breed marine fish and then sharing that information so that others can build upon it, making these captive bred species available to the public. The first ever captive bred Yellow Tangs *(Zebrasoma flavescens)* were made available to the hobby in March of 2016 after success by The Oceanic Institute at Hawaii Pacific University (another successful batch was announced August of 2016 as well), and the first ever captive bred Blue Tangs (*Paracanthurus hepatus*) were announced in July 2016 by the University of Florida's Tropical Aquaculture Lab.

While captive breeding fish is a great way to reduce pressure from overfishing, it does not solve most species' biggest threat: habitat degradation. However, we as a hobby can help support efforts to preserve these habitats. A number of organizations around the world are working to support ornamental fisheries and reduce environmental impacts.

PROJECT PIABA

Rio Negro River

BARCELOS

Project PIABA "Buy a Fish, Save a Tree!"

Buy A Fish, Save A Tree

The goal of Project Piaba is to support and strengthen the Amazonian fisheries of the Rio Negro in order to keep the ornamental fisheries viable. These sustainable fisheries are able to bring income to remote areas of the Amazon and discourage them from turning to other, more destructive, industries such as mining or logging.[1]

projectpiaba.org

25 YEARS Project Piaba has been studying the impact of the Rio Negro fisheries

46 THOUSAND Number of Square Miles of forest preserved within the Project Piaba study area. This is roughly the size of Pennsylvania

20-40 MILLION Number of Aquarium Fish bound for Exporters in Brazil

245 Fish species are on Brazil's export list and have been observed by scientists in the Rio Negro

60 PERCENT of the income of Barcelos, Brazil comes directly from the ornamental fish trade

BILLIONS Number of fish doomed to die inland in drying pools during the dry season. Extraordinary numbers of fish hatch each year to compensate and replenish these numbers. Many of the ornamental fish that would otherwise be trapped inland are targeted for collection, saving them from certain death.

LINI

LINI

Improving Life. Preserving Nature.

Indonesia

A hotspot of marine ornamental fish collection for the global market for at least 30 years. While the trade provides an important source of income for thousands of coastal communities.

LINI is the first and only NGO working on development of sustainable marine ornamental fisheries in Indonesia. It aims to support the conservation and management of marine ornamental fisheries throughout Indonesia. LINI does this by empowering coastal communities, providing training in practical skills, promoting fairer trade and more sustainable practices of marine resource use.[2]

CORAL REEFS

are one of the foundational building blocks of aquatic marine life. It is estimated that there are millions of species that live in or around reefs. Unfortunately, there are many places where the health of coral reefs are declining. Many people are looking into ways to reverse this trend, but one of the best methods we have to directly help replenish reefs is through growing and planting cultured corals. This is an expensive process, and there are few groups willing to fund them. In order to keep these projects going, there are several organizations such as the Coral Restoration Foundation who make a portion of their cultured available for sale into the hobby, using that income to help fund their work.

CORAL RESTORATION FOUNDATION

Saving the planet by saving the reefs.

Coral Restoration Foundation is a nonprofit ocean conservation organization working to restore coral reefs. The organization is doing that by educating others on the importance of the oceans, along with using science to further research and monitoring techniques. Coral Restoration is dedicated to creating offshore nurseries and restoration programs for threatened coral species.[3]

CORAL RESTORATION FOUNDATION

www.coralrestoration.org

Coral Tree Nursery

Staghorn (*Acropora cervicornis*) and **Elkhorn** (*Acropora palmata*) coral frags are attached to a PVC pipe framework where they can grow and reproduce in ocean water. After six to nine months, the coral frags have grown large enough they can then be removed and attached directly to the reef.

OVER 22,000

Coral outplanted to reefs in 2015

FISH EXTINCT IN THE WILD BUT PRESENT IN CAPTIVITY

- *Copadichromis ilesi*
- *Copadichromis sp. 'firecrest mloto'*
- *Enterochromis sp. 'red back scraper'*
- *Harpagochromis sp. 'orange rock hunter'*
- *Hoplotilapia retrodens*
- *Labrochromis ishmaeli*
- *Lipochromis parvidens*
- *Lipochromis sp. 'matumbi hunter'*
- *Lipochromis sp. 'two stripe white lip'*
- *Mylochromis obtusus*
- *Mylochromis sp. 'torpedo elongate'*
- *Nyassachromis breviceps*
- *Platytaeniodus degeni*
- *Prognathochromis perrieri*
- *Tramitichromis variabilis*
- *Trematocranus labifer*
- *Tropheus moorii*
- *Yssichromis sp. 'blue tipped'*
- *Tanichthys albonubes*
- *Cyprinodon alvarezi*
- *Cyprinodon longidorsalis*
- *Megupsilon aporus*
- *Allotoca zacapuensis*
- *Xiphophorus couchianus*
- *Xiphophorus meyeri*
- *Zoogoneticus purhepechus*

According to the CARES Preservation Program Priority List Released 02/03/2016, the above fish species are only known to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. If not maintained in captivity these species would be globally extinct.

A LOOK AT LAKE VICTORIA

Africa's Lake Victoria, the largest tropical lake in the world, was once home to a large number of unique species including over 350 of haplochromine cichlids. A number of issues have created pressure on the native species of Lake Victoria. Invasive species such as the Nile Perch, which was intentionally introduced to grow a food fishery, and pollution has devastated the biodiversity of the lake, leaving only a handful of native species to struggle for survival.

A number of plans for saving as many Victorian species as possible have been implemented by both scientific and hobbyist groups, and sometimes there is even overlap between conservation methods. The hobbyist CARES Preservation Program encourages breeding efforts by hobbyists, and AZA Species Survival Plans are in effect for a number of different species. Some of these species, such as ***Prognathochromis perrieri***, have even been supplied to AZA facilities by hobbyist sources.

5 SPECIES SAVED FROM GLOBAL EXTINCTION

Redtail Shark
Epalzeorhynchos bicolor

Native to Thailand, the Redtail Shark had been thought to be completely extinct in the wild until the discovery of a single population was announced in 2014. While some sources claim that collection for the aquarium trade has played a large part, habitat degradation has been the most significant factor in their loss as dams and the draining of wetlands have both changed the waterways where they live. Pollution from agriculture has also been a factor in their demise. However, they have remained to be one of the more common aquarium species due to huge numbers of them being farm raised.

Axolotl
Ambystoma mexicanum

Even though it's an amphibian and not a fish, Axolotls are fully aquatic and can be included in discussions of the aquarium trade. Axolotls are native to only two lakes in Mexico. Lake Chalco has been fully drained and no longer exists. Lake Xochimilco has been reduced to mere canals and are heavily polluted. As such, Axolotl populations have drastically declined. They are currently listed as Critically Endangered, although a 2013 expedition was unable to find any. They are commonly bred in the US and can be easily found in a number of different color forms.

Banggai Cardinalfish
Pterapogon kauderni

The aquarium trade has been a double edged sword for the Banggai Cardinal. Their native range is extremely small, only one small area around the Banggai Islands of Indonesia, and for many years they were heavily collected for the aquarium trade. This led to their numbers falling dramatically. However, they have since become regularly bred, with the vast majority available now coming from captive sources. Additionally, robust populations have been found outside of their native range, adding some security to their wild survival.

White Cloud
Tanichthys albonubes

The story of the White Cloud is very similar to that of the Redtail Shark. White Clouds are native to China, where their populations have plummeted due to pollution and tourism. They were declared extinct in the wild in 1980, but were upgraded to critically endangered after a population was discovered in the early 2000's. They are readily captive bred in large numbers and are very common in the aquarium trade.

Topaz Cichlid
Amatitlania myrnae

Native to the Rio Sixaola Basin of Panama and Costa Rica, populations of the Topaz Cichlid have been devastated by habitat loss as the result of expansions in the commercial banana industry. While it is not officially evaluated by the IUCN, its populations are low enough to qualify as being endangered. Topaz Cichlids are not as popular or easy to find, but there are dedicated hobbyists working to keep viable populations going.

Presented by

Segrest Farms

www.SegrestFarms.com

Follow Us On Social Media

@SegrestFarms

1. "Mission and Objectives." Project Piaba. N.p., n.d. Web. 17 Aug. 2016.
2. "About." The Indonesian Nature Foundation Improving Life Preserving Nature. N.p., n.d. Web. 17 Aug. 2016.
3. "Coral Restoration Foundation | Restoring & Protecting Reefs." Coral Restoration Foundation. N.p., n.d. Web. 17 Aug. 2016.