



CITES & LIVELIHOODS CASE STUDY 2019

Pirarucu harvesting and trade in Brazil

SPECIES, USE AND TRADE

The pirarucu is the largest scaled freshwater fish in the world (> 3m and > 220kg), found across the Amazon Basin. Its life history characteristics and high economic value have led to widespread overexploitation since the late 1960s, and a total ban under Brazilian law on exploitation in 1996.

It proved impossible for government agencies with limited capacity to enforce these restrictions over the vast areas involved, and from the late 1990s Brazil has adopted a pioneering approach to pirarucu management based on supporting community rights to establish access rules, to exclude other users from protected lakes, to monitor pirarucu populations, and to fish the species under government-approved quotas. Community monitoring by highly skilled local fishers underpins this approach – this is made possible by the fact that pirarucu need to surface to breathe. Monitoring and fishing takes place in the dry season, when floodplain lakes are formed. Communities establish floating guard

posts to ensure the protection of lakes from unauthorised use.

This approach has spread consistently and in 2018, a total of 33 indigenous areas, sustainable use protected areas, and areas under Fishing Agreements were granted authorizations to catch pirarucu.

While some meat is eaten locally, pirarucu skin (and some meat) products from community-managed wild sources are exported to international markets (see Fig 1). The skin is used for exotic leather products, including shoes, bags and clothing, and exported mainly to the United States. The tanning is carried out by specialized tanneries within Brazil.

Traditional knowledge and skills are fundamental to community-based management – particularly monitoring – backed up by scientific validation. Women do not fish, but they record biological data, and handle fish for cleaning and cooling.

LIVELIHOOD BENEFITS

Food security has improved due to establishment of the right to legal harvest, and increasing pirarucu populations. Much of the meat is consumed locally.

Pirarucu trade provides the main means of the communities to meet their non-food needs, such as medicine and school expenses. Most have no other cash income. In 2017, 5,010

fishermen from 3,165 families benefited from pirarucu harvest, earning from USD 700 to USD 1,350 per family (Int\$ 1,400 – Int\$ 2,700). This cash income enables community-level investments that would otherwise not be possible, such as infrastructure or purchase of expensive equipment. Pirarucu sales also generate emergency funds that save lives in the case of



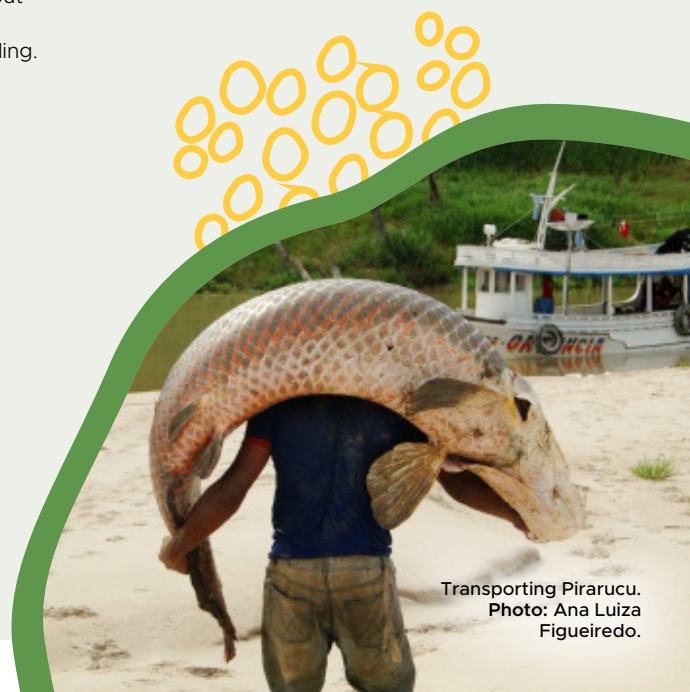
PIRARUCU
Arapaima gigas



APPENDIX II



DATA DEFICIENT



Transporting Pirarucu.
Photo: Ana Luiza Figueiredo.

serious illness or accidents, enabling people to travel and gain medical care at urban centres.

Community-managed harvest and trade have strengthened cultural values, community pride, the equitable distribution of benefits from fishing, and the use and transfer of traditional knowledge.

Livelihood benefits could be strengthened by scaling up to more communities, increasing the returns earned by fishers, and more government support and subsidies to enable communities to trade directly with the tanneries without middlemen.



Pirarucu (*Arapaima gigas*).
Photo: Thiago Santos.

CONSERVATION IMPACTS

Widespread and rapid recoveries of pirarucu have taken place in areas with community management in place (see Fig 2). At Mamirauá Biosphere, where this approach was pioneered, the population increased nine-fold in eight years. In the Juruá River, population sizes increased by over 200% in pirarucu management lakes. Monitoring and enforcement has improved and poaching and illegal trade has decreased. Giving communities a strong and recognized legal role in, and incentives for, pirarucu management and trade has been key to gaining their support and active involvement in conservation.

Conserving this top predator improves river ecosystem health and biodiversity, including other fish species important for community use.

LESSONS LEARNED AND DIRECTIONS

Community-based harvest and trade can be a very effective contribution to species conservation and the fight against illegal trade than relying on bans and law enforcement measures, even for a species seriously depleted by illegal harvest and trade. This is particularly important where government capacity to enforce regulations over vast areas is limited. Key success factors here include local leadership and experimentation, support from the relevant government agencies, existing community socio-political organisation, and integration of traditional knowledge.

Challenges remain, including barriers to reaching market hygiene standards for many remote communities, competition in the marketplace from illegally harvested and traded pirarucu, and potential competition from the emergence of commercial aquaculture for pirarucu.

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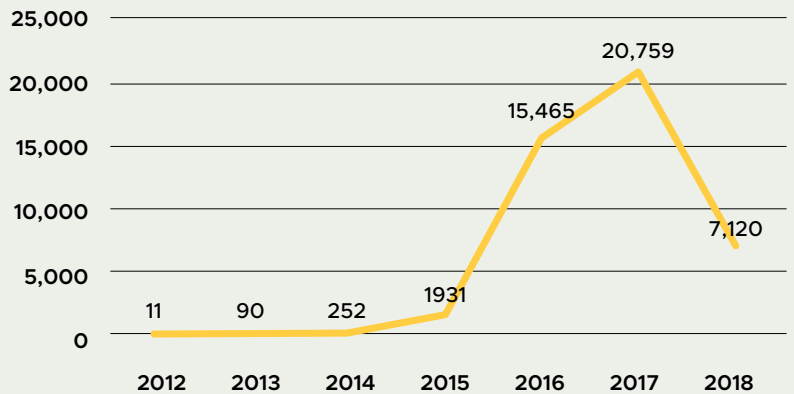


Fig 1. Export volumes of pirarucu leather bags and shoes 2012-2018. Source: IBAMA/2018 Brazilian Institute of Environment and Renewable Natural Resources.

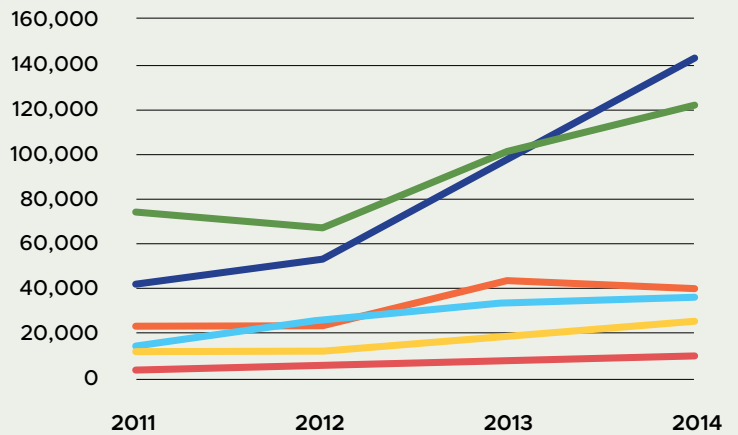


Fig 2. Pirarucu population size in six different community-managed areas of the Solimões River, 2011 to 2014.

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