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CONSERVATION

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IBERÁ MARSHLANDS STUDIES



The Esteros del Iberá (Iberá marshlands) is the second-largest wetland in the world and Argentina's largest protected area. It is home to hundreds of species of birds, iconic animals such as caiman and capybara, and important gamefish, including the golden dorado (*Salminus brasiliensis*) and surubí (*Pseudoplatystoma spp*). Historically, there have been very few studies exploring the biology and ecology of these fish—golden dorado, in particular. For that reason, in 2015 Nervous Waters financed the first long-term fishery studies in the marshlands.



Pirá Lodge's biologist team has now combined forces with the provincial government and local rangers to continue their research and to help implement conservation-minded management strategies for golden dorado in the region.

Recent actions have included:

1. Train fishing guides
2. Generate a Fisheries Information System (SIP)
3. Generate a Community Information System (SDC)



Stage 1 included gathering data about population health and fish growth through SIP. Guides captured this information in their field notebooks through the entire fishing season. The fishing effort (hours), catch per unit effort CPUE (fish per day), sizes and weights of golden dorado caught and released by fishermen between January and March 2015 and 2016 were measured.

Initial results showed that the CPUE was about 5 golden dorado per fishing day, an average size of 60 cm. In 2015 one in every two fish caught was larger than 60 cm, and one in every four fish was over 70 cm. Length-weight average of the golden dorado was also estimated: A specimen of 50 cm, for instance, weighs approximately 1.7 kg; a 60 cm weighs about 3 kg; and a 70 cm fish, 5.5 kg.

The biologists also traveled to nearby cities where they engaged with villagers and tourism professionals. These activities included presentations and conferences on fish conservation (SDC). Training was provided to locals interested in becoming fly-fishing guides, and instruction was given to rangers who will help with data collection.

In summary, the first data sets showed that:

- Quality fisheries information can be obtained at a very low cost through the implementation of simple catch records used by the guides of commercial operations (SIP).
- It would be highly desirable for the system presented here to expand to other fishing operations in the region, which would result in more robust data and greater coverage over time and space. This activity, combined with biological sampling, is key to establishing a scientific resource-based management plan.
- Implementation of an extended SIP helps make it possible to predict fish quality through cohort analysis.
- For this purpose, golden dorado otoliths (fish ear bones) must be obtained, and since the fish must be slaughtered for their extraction, it is considered that a reasonable alternative may be to obtain them in fish markets on the Parana River near Esquina.
- In this project it is assumed that although golden dorado can reproduce under certain conditions in the Iberá marshlands, the fishery is supported by fish from the Paraná that enter via the Corriente and Carambola rivers. Therefore, occurrences in these fisheries influence the quality of the study fishery.
- For commercial operations to meet the objectives of the Protected Area, fishing guides are essential to the data collection process and thereby obtaining a greater knowledge of the biology and ecology of fish in the region.
- The same reasoning can be applied to conventional guides and the general public.



- In this context, it would be important to extend training activities to educational establishments (schools) in the area.
- The preliminary catch analysis shows that the quality of fishing within each year is generally homogeneous, varying between seasons.

What's Next?

For the next stage (2017) we will work to determine where dorado spawning occurs and gather important information for calculating growth by age. The ultimate goal is to build measures that help us predict fishing quality. In the medium-term we're also planning a marking and tracking program to study dorado movements, as well as catch-and-release mortality.

More info?

<http://piraguazu.blogspot.com.ar/>



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