

Project update: July 2025

Monitoring the seahorse population in the Formoso River Estuary, Pernambuco, Brazil

We have been conducting monthly monitoring of the seahorse population in the Formoso River Estuary over the past ten months (October 2024 – July 2025). During this period, we surveyed eight critical sites within the estuary, selected based on the participatory mapping carried out with local fishers during our previous project. At each site, we collected environmental data (e.g., salinity, water temperature, depth) as well as biological data from the seahorses recorded (including sex, size, reproductive stage, coloration, behavior, and microhabitat use). We still have two months remaining to complete a full year of monitoring, after which we will analyze the data to assess population status and fluctuations over time. However, preliminary findings already raise concern. At one of the sites – where seahorses were previously recorded consistently in our earlier project and in historical monitoring by our research group since 2002 – we have not observed any individuals during this monitoring period. This absence is extremely worrying, and we will conduct further analyses to understand the possible causes.

Educational materials and awareness efforts

We carried out a campaign to raise awareness about seahorses in the Guadalupe Environmental Protection Area, focusing on promoting appropriate behaviors towards these animals. As part of this campaign, we distributed educational materials to tourists and local workers. These materials consisted of a conduct guide developed through participatory workshops held in 2021 with stakeholders such as fishers and boat operators.

Additionally, we participated in a training activity with the local shellfish gatherers' association. These women have developed a community-based tourism initiative focused on the mangrove ecosystem and traditional fishing practices. We contributed by providing information about local biodiversity, including seahorses, which they will incorporate into their tourism activities, strengthening their initiative while promoting the conservation of local biodiversity.

Next Steps

The next steps for the project include analyzing the data collected to assess the current situation of the seahorse population in the estuary. In August and September, we will conduct workshops with local stakeholders to discuss the results from this project and the previous one, and to collaboratively develop a Theory of Change to guide future conservation actions. Furthermore, we will continue promoting the project's activities on social media and sharing educational materials to raise awareness about seahorse conservation.

Recent publication

We also published an article resulting from our previous project funded by the Rufford Foundation (1st Small Grant). The paper, titled *Integrating local ecological knowledge and ecological niche models to support seahorse conservation in Brazil*, was published in *Conservation Biology* and is available here:

<https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.70027>







Figures 1, 2, 3, 4, and 5. Seahorses (*Hippocampus reidi*) sampled during project field activities to monitor the seahorse population in the Rio Formoso Estuary, Pernambuco, Brazil.





Figures 6, 7, and 8. Project field activities to monitor the seahorse population in the Rio Formoso Estuary, Pernambuco, Brazil.





Figures 9, 10, and 11. Photos from the training event with the shellfish gatherers, where we shared information about local biodiversity and seahorses to support their community-based tourism initiative.