

American Association of Port Authorities

AAPA - 2022

Environmental Improvement Awards Application

HIPPOCAMPUS PROJECT - SUAPE

Award Category:

Mitigation

1 – Summary

The Hippocampus project developed by the Industrial and Port Complex of Suape is a project focused on monitoring the quality of the estuarine environment through the analysis of the bio indicator: seahorses.

This project arose to demonstrate that the estuarine environment was re-established with quality, as well as, to mitigate the notion by the coastal community that the negative impacts of the Port are still perpetuated.

Not only does the project bring data regarding the quality of the estuarine environment, through the analysis of the seahorse monitoring, but it also works on environmental education, mainly of the fishing communities, in order to produce good practices for the conservation of this environment.

2 - Goals and Objectives

- Objective

In its area of direct influence resulting from the port activities developed by Suape, perform the monitoring of the quality of the estuarine environment, through an environmentally sensitive species, working as an indicator. At the same time, develop and implement environmental education activities with the communities, through the direct involvement of fishermen in the activities.

- Goal

The goals of the proposed project are integrated, and are as follows:

Goal 1 - Monitoring the Estuarine Environment: monitoring the quality of the estuarine environment for a period of 12 months, with the presentation of six bi-monthly reports of activities developed and three consolidating 2 four-monthly reports, which attest to the results of the collection activities carried out in the period in order to subsidize Suape with a qualitative record that covers the entire year. They include the results of monitoring dives and data collected from bycatch.

Goal 2 - Environmental Education: Capacity-building events for the surrounding fishing communities, where the characteristics of the species and its susceptibility are presented, notably in relation to non-selective fishing by trawling and capture for sale to aquarists and souvenirs.

Goal 3 - Contribution to Public Policies: interaction with environmental control institutions at the municipal, state, and federal levels and holding an Awareness Seminar and Workshop where the results gathered during the execution of the project and the proposition of conservation strategies will be presented, having as target audience the technical staff of Suape, IBAMA, CPRH, SEMAS/PE, the technical scientific community, representatives of fishing communities from the Pernambuco coast, and the media.

3- Discussion

Background

With the implementation of the Port of Suape and all the necessary intervention works, naturally, the estuarine environment had negative impacts that affected in the short and medium term various ecosystems that depended more directly on the quality of this environment, affecting from the fishermen who felt a reduction in fish to the water quality itself.

However, with the passage of time and the establishment of a new dynamic of the estuarine environment helped this environment to reach satisfactory quality standards and, therefore, the ecosystems previously affected could gradually function again, even considering the presence of the Port as a local reality.

However, the perception of the population tended not to be altered due to the environmental improvements, which is also an advantage of the Hippocampus project, in that through the monitoring of a bio-indicator (the seahorse) it is possible to make a parallel in relation to the quality of the estuarine environment and act in educating people to demonstrate the re-establishment of good quality standards.

Objectives and methodology

The Hippocampus Project is a project that provides Suape with the monitoring of the quality of the estuarine environment under the direct influence of the port activities developed by SUAPE, through a sensitive species such as the seahorse, which functions as a bio-indicator.

At the same time, this project aims to develop and implement environmental education activities with the communities through the direct involvement of fishermen in the activities.

Thus, to achieve the intended goals, the methodology includes monitoring diving activities and bycatch analysis. These are the data that feed any project, program, or action that aims to contribute to a better quality of the estuarine environment.

These data also subsidize the environmental education activities, once it is possible to demonstrate and elucidate the fishing communities and, through the demonstration and interpretation of the problem, the fishermen become agents of change in the persuasion of a better estuarine environment.

How the project meets the criteria:

1. Level and nature of benefits to environmental quality, beautification or community involvement

To understand the life history of these sensitive animals in their environment and to be able to assess, what will be the most appropriate management actions. This initiative placed this threatened species under the direct protection of the Suape company.

An inventory and the elaboration of a history with the records of occurrences on seahorses were developed. To understand the life of the seahorses, an endangered species, a bio-ecological study was developed at the mouth of the Tatuoca, Massangana, Ipojuca, Merepe Rivers and the adjacent sea.

There was also the monitoring of fishing in the estuarine area, in order to observe whether there is the incidental capture of seahorses, a common practice in trawling.

For wide dissemination and environmental education, schools, universities, and tourists were received at the visitation center of the Hippocampus Institute, where the direct contact with the seahorses and the information about the species make communities and visitors more aware of the conservation cause. A meeting was also held with fishermen from the region to raise awareness about the preservation of this species.

A results workshop was also held to integrate the knowledge obtained into public policies. This meeting was virtual and included as target audience the technical staff of Suape, IBAMA, CPRH, SEMAS/PE, technical scientific community and representatives of fishing communities of the Pernambuco coast.

2. Level of independent involvement and effort by the port

The fishing communities were the target of environmental education activities aimed at the conservation of the estuarine environment, where many of the commercially valuable species essential to their activity reproduce. With regard to seahorses, awareness was raised about the threats posed by both capture for sale and non-selective fishing with trawls.

3. The creativity of the solution or program

From the perspective of economic development, and with the concept of a Port that in its essence generates impacts on its installation, Suape managed to have social and environmental practices integrated into the Port's growth, building with all stakeholders (companies, control

bodies, and civil society) this vision of sustainability starting from a collective and integrated experience happening in practice in the territory.

4. Whether the project results are apparent (the project must be complete through some beneficial increment)

Of the five sites proposed for research and monitoring: Merepe, Ipojuca, Tatuoca and Massangana rivers and the Muro Alto reefs, only seahorses were found in the estuaries of the Tatuoca and Massangana rivers and their mouths, as a diagnosis of the project.

During the year 2021, a little more than 34,000 fingerlings of *H. reidi* were reproduced in the laboratory and released in the estuaries of the Massangana and Tatuoca rivers (Suape area) and Maracaípe, promoting the growth of the species.

We monitored 76 trawl launches in the sea in front of Barra de Sirinhaém, PE, and no seahorses were caught. The fishery was directed at shrimp and other fish for human consumption, but took many other animals from the sea because it was not selective. Monitoring after environmental education action.

5. The cost effectiveness of the activity or the program

The Hippocampus Project - biology, culture, and conservation of seahorses - increased the knowledge about the species *Hippocampus reidi*, through scientific research with practical and applicable results to support environmental public policies. Environmental education completed the picture, taking scientific information to society in an informal and simple way. It is necessary to know in order to protect the species.

Newborn seahorses were also released in the fishermen's communities where the monitoring work is carried out, making it possible for the natives to get to know this phase of the seahorses' life that is never seen by them, awakening the feeling of care and affection for marine life, besides helping in the repopulation of this species.

6. The transferability of the technology or idea to the port industry

Considering the importance of this agenda, Suape has published in its GRI - Global Reporting Initiative this action, among others of socio-environmental responsibility. In Brasil Exporting, as a member of the ESG - Environmental, Social and Corporate Governance Council, it publicizes these actions as good practices to be implemented.