



## CREATION

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## SOCIAL-ECOLOGICAL FRAMEWORK

The development of an industrial chemical complex (for ammonium sulphate, nitric acid, ammonium nitrate, synthetic resins) has caused extensive pollution of the environment of the Ria d'Aveiro for half a century.

## DISRUPTING EVENT

Implementation of improved practices by the industry, from the 1990s.

## KEY TOPICS

- Ecotoxicology
- Dynamics of pollutants, remediation and resilience
- Environment, health and population dynamics
- Lagunar ecosystem and industrial activity
- Social perception of risks related to industrial activity



## TERRITORY

The study area is the Estarreja municipality located at Central Region of Portugal, at the north coast of Aveiro District. This region was affected by an intense industrial pollution since the early 50's, because it hosts the second major Portuguese complex of chemical industries, producing mainly ammonium sulphate, nitric acid and ammonium nitrate, but also synthetic resins (PVC). The industrial area is located next to the largest brackish water estuary of Portugal (Ria de Aveiro), which extend their channels to the area where is the Chemical Complex of Estarreja. The Ria de Aveiro is an ecologically rich environment, and the natural habitat of numerous species of waterfowl and terrestrial.

This industrial activity has, until 1986, produced a large volume of toxic waste solids which were disposed in areas without properly preparation for this purpose. Furthermore, until 1975, liquid waste effluents, with potential toxic elements to the ecosystems and human health, were rejected in several sewage outlets.



## SOCIAL-ECOLOGICAL ISSUES

During the 90's, the technologic progresses made in this sector allowed a significant reduction of the pollution from the local chemical industries. Also during this decade, several rehabilitation interventions resulted in an important reduction of the environmental legacy (solid waste and liquid effluents). Despite the major advances, there are still gaps of knowledge which justify the development of multidisciplinary research studies, using innovative approaches. The OHMi Estarreja aims to study the effects of industrial activity human-environment relationship, taking into account the temporal dimension, marked by a significant change in industrial technological processes, as well as in the social structure and life habits of the population. The perception and incorporation of the local populations is very relevant to this Observatory.



## CONTACTS

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