



# LOUSADA GUARDA RIOS

## Active Citizenship in the Protection of Natural Resources

Daniela Barbosa

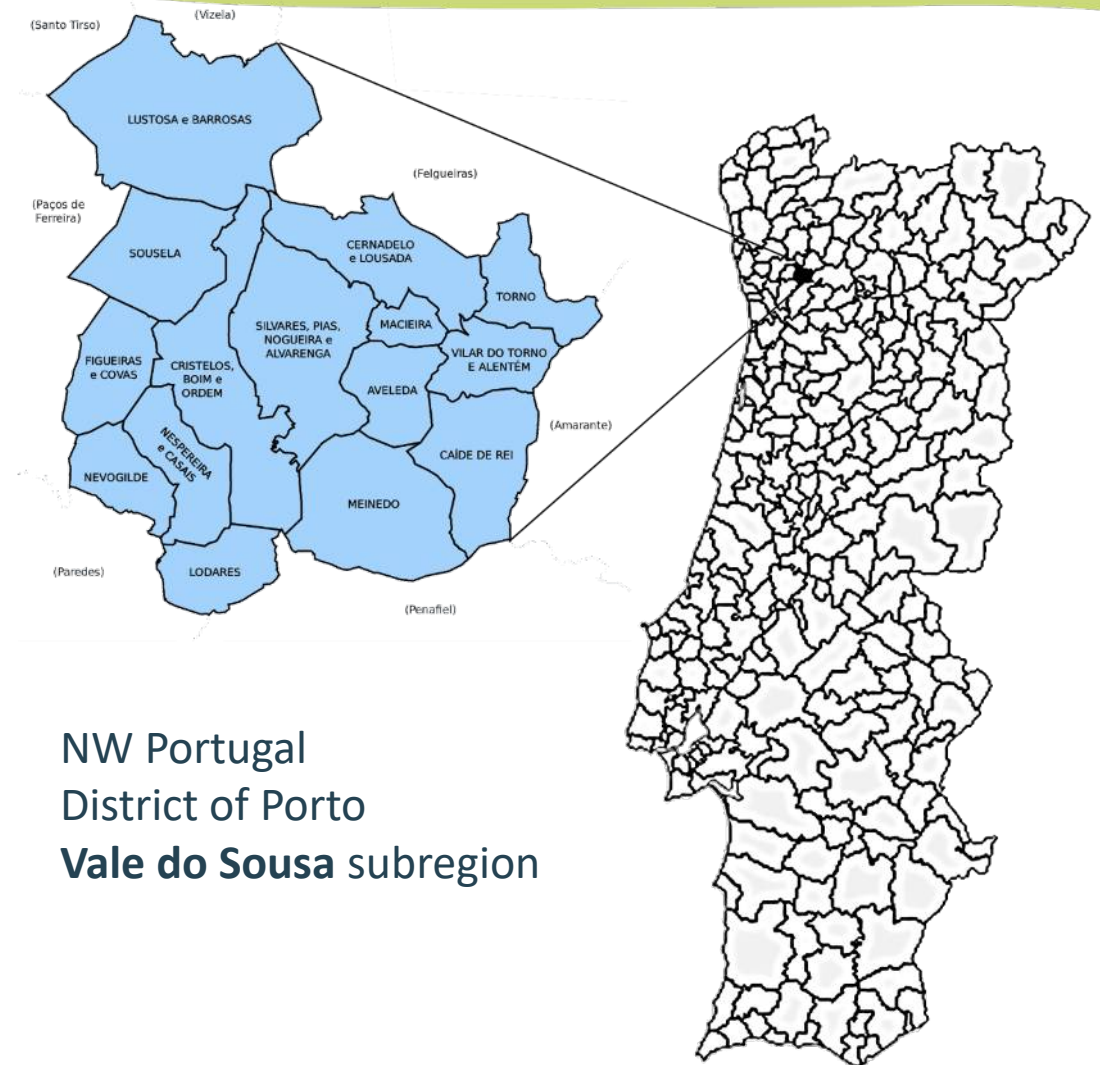


RIPA-1 : First International Conference on Riparian Ecosystems Science and Management

# LOUSADA

## Municipality of Lousada

- 94,89 km<sup>2</sup>
- 15 parish councils
- 47.401 inhabitants (2021)
- **Humid temperate region**
- Economy: **agriculture, textile industry**
- **2 river basins (Mezio and Sousa)**

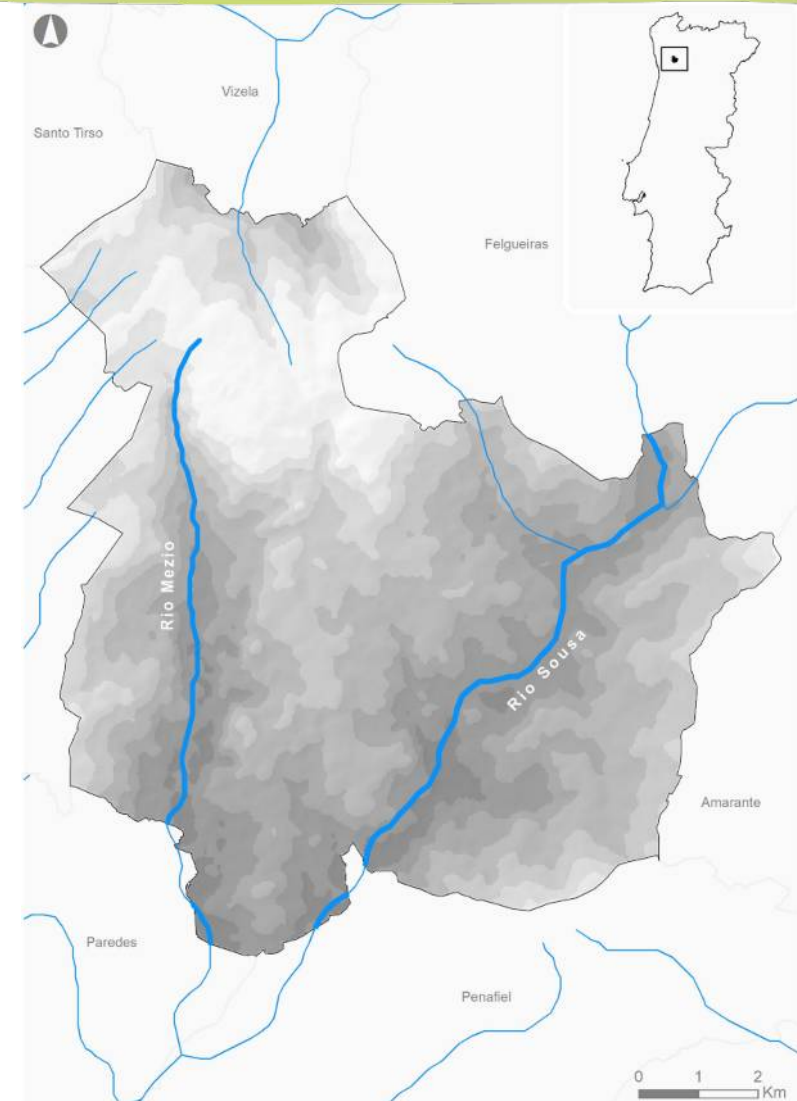





# LOUSADA

## Hydrographic Network

- **Sousa river**
  - SE of the municipality
  - Extent of 14.82 km
- **Mezio river**
  - Springs in Lousada
  - N-S orientation
  - Total of 28 Km (10,5 km in LSD)

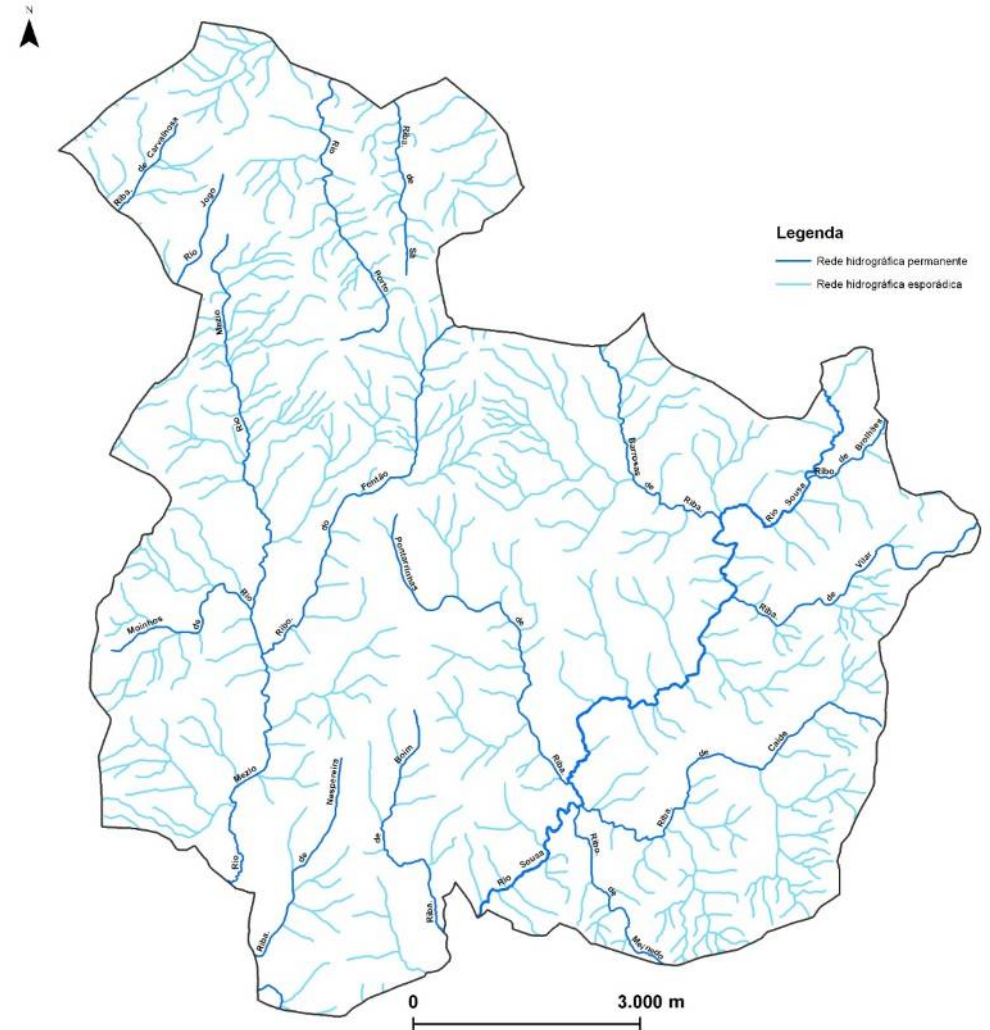


# IDENTIFIED THREATS

- 
- An aerial photograph of a flooded landscape. A wide river or floodplain dominates the foreground and middle ground, with water reflecting the overcast sky. On the left, a dense line of trees borders the water. In the background, several houses are visible on a hillside. The water appears to have inundated fields and some structures. The overall tone is somber due to the greyish-blue water and overcast sky.
- i) Local points of water pollution;
  - ii) Destruction of the riparian vegetation;
  - iii) Erosion of banks;
  - iv) Invasive species.

# AIMS AND GOALS

- Conservation and monitoring of the ecological status of fluvial ecosystems;
- Environmental improvement of river ecosystems;
- Environmental awareness and public participation of local communities.

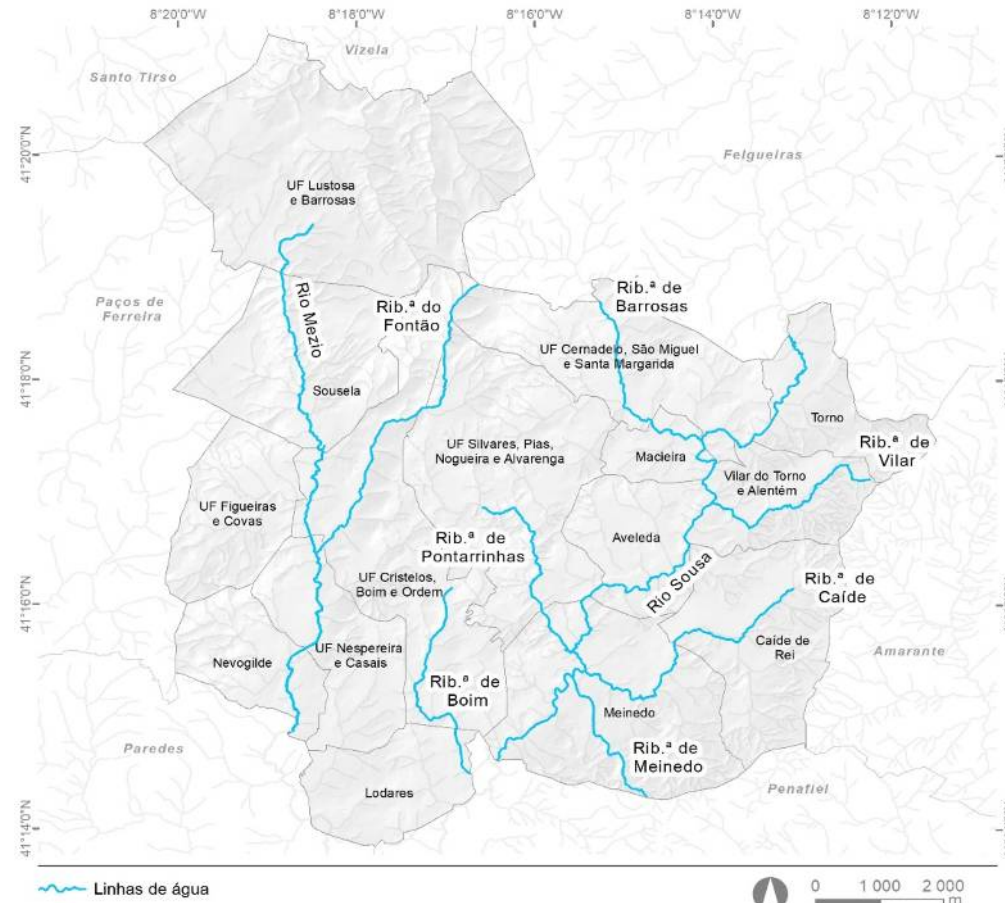




# METHODS

## 1) Mapping and characterization of the main watercourses in the municipality;

- 9 water courses;
- 42 km;
- 166 characterized sections of 250 m each.



# METHODS



## 1) Mapping and characterization of the main watercourses in the municipality;

- **Stream bed characteristics:** depth, width, bottom type, water velocity, water transparency, aquatic vegetation;
- **Bank characteristics:** type of substrate, slope, structure, vegetation present, pollution;
- **Characteristics of the surrounding area:** buildings in the surrounding area, registration of invasive species, flora and fauna.

# METHODS

## 2) Social engagement

### DISSEMINATION SESSIONS



1. Explanation of the project
2. Registration of volunteers

### TRAINING OF PATROLS



- Theoretical and practical training of “Guarda Rios” Patrols

### VOLUNTEERING ACTIONS



1. Adoption of river sections
2. Environmental improvement actions



# METHODS

## Guarda Rios *Kit*

- Transport and identification bag
- Reflective vest
- Guarda-Rios manual
  - Field miniguide
  - Safety rules
  - Good environmental practices
- Characterization sheet of the river section

**FICHA DE CARACTERIZAÇÃO | TROÇO DE RIO/RIBEIRA**

**IDENTIFICAÇÃO DO TROÇO**

Local: \_\_\_\_\_  
Nome do ribeirão: \_\_\_\_\_  
Barragem: (se aplicável) \_\_\_\_\_ (O preenchimento é obrigatório para todos os rios e barragens)

**IDENTIFICAÇÃO DA PATRULHA**

Nome da patrulha: \_\_\_\_\_  
Contactos de responsáveis (nome, e-mail, telefone): \_\_\_\_\_

**VISITA**

1. Data: \_\_\_\_/\_\_\_\_/\_\_\_\_

2. Estado do tempo: \_\_\_\_\_

Tempo	Céu limpo	Nuvens	Chuva	Chuva forte	Outro tipo?
Tempo					
Outro tipo?					

**CARACTERÍSTICAS DO LEITO**

3. Profundidade média: \_\_\_\_\_  
Até 10 cm ☐ 10 a 30 cm ☐ 30 a 50 cm ☐ 50 a 100 cm ☐ Mais do que 100 cm ☐ Não sei ☐

4. Largura média (m): \_\_\_\_\_

5. Tipo de fundo: \_\_\_\_\_  
(Indicar se há pedras, cascalho, areia, lama, etc.)

Cascalho	Areia	Lama	Outro tipo?

6. Velocidade da água: \_\_\_\_\_

Muito rápida (uma folha não flutua) ☐ Rápida (uma folha flutua com dificuldade) ☐ Média (uma folha flutua facilmente) ☐ Lenta (uma folha flutua com facilidade) ☐

Não há fluxo ☐ Fluxo muito lento ☐ Fluxo muito rápido ☐





# METHODS

## Guarda Rios Kit





# METHODS

## Guarda Rios Patrols





# METHODS

## Guarda Rios Patrols





# METHODS

## Guarda Rios Patrols





# ENVIRONMENTAL IMPROVMENT ACTIONS



Removing river trash



Maintenance of watercourses and flood management



# ENVIRONMENTAL IMPROVMENT ACTIONS



**Invasive species control**



**Renaturalization of riverbanks**



**Plantation of riparian trees**



# ENVIRONMENTAL IMPROVMENT ACTIONS

## *Arundo donax* control





# ENVIRONMENTAL IMPROVMENT ACTIONS

## *Arundo donax* control





# ENVIRONMENTAL IMPROVMENT ACTIONS

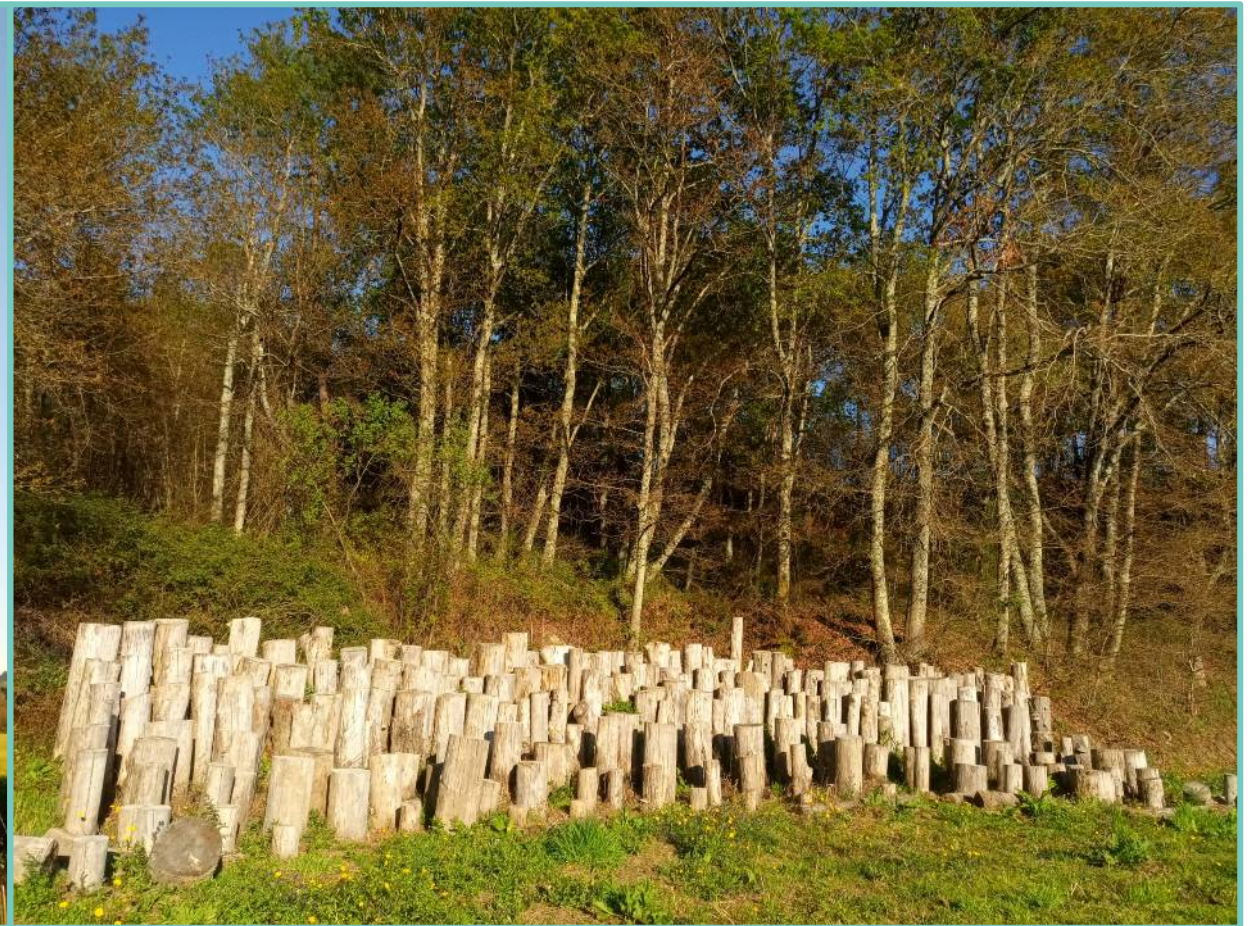
## Renaturalization of riverbanks





# ENVIRONMENTAL IMPROVMENT ACTIONS

## Renaturalization of riverbanks





# ENVIRONMENTAL IMPROVMENT ACTIONS





# METHODS

## 3) Formal Inspection Actions



Discharge of livestock effluents



Solid waste disposal



# METHODS

## 3) Formal Inspection Actions



Cutting of riparian vegetation



Water pollution



# DEVELOPED MATERIALS

## Municipal Environmental Reading Plan

- 24000 students



2015



2020



# DEVELOPED MATERIALS

## Guarda-Rios manual





# DEVELOPED MATERIALS

## Guarda-Rios manual



Guide of good cleaning practices

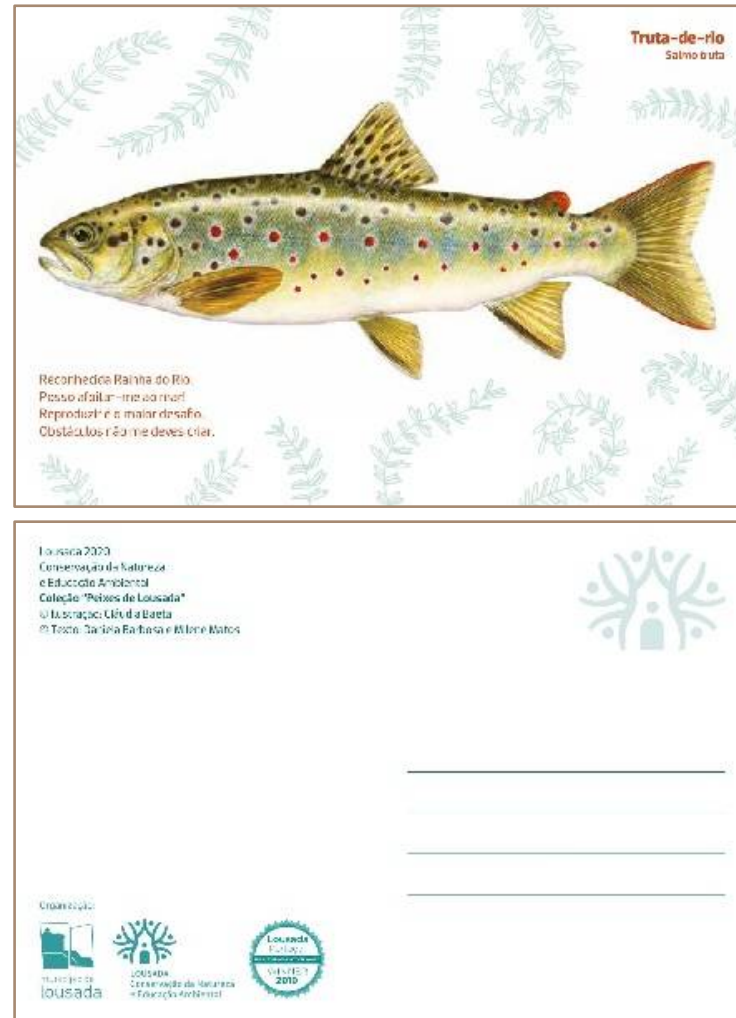


Field guide



# DEVELOPED MATERIALS

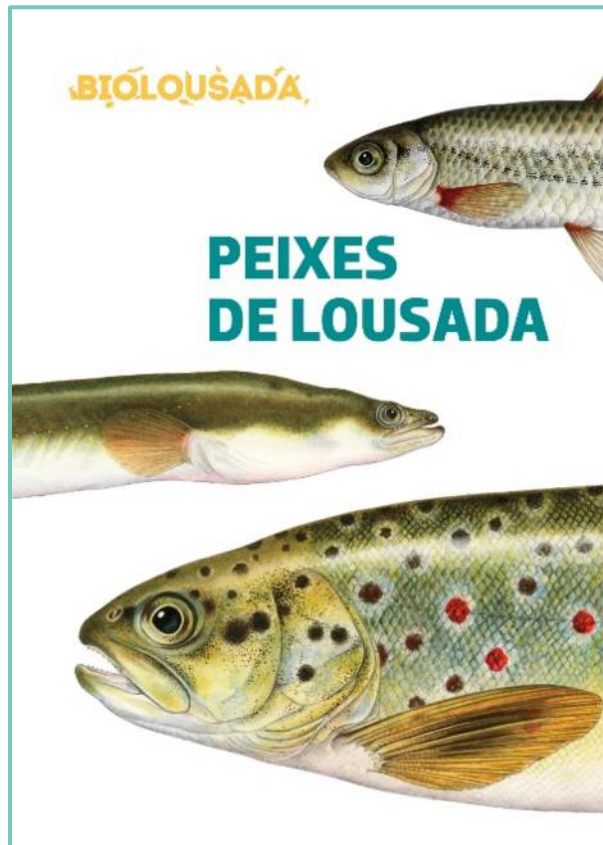
## Fish Postcards





# DEVELOPED MATERIALS

## Fish Miniguides





ecoMezio Volunteer Camp  
- 20 participants

LOUSADA  
Ambiente

ecoRivers Volunteer Camp  
- 20 participants

166 characterized  
river sections

+ 75 river  
sections adopted

300 supervised  
infractions

+2000  
planted trees

+4 tons of garbage  
collected

+150  
environmental  
improvement actions

1500 volunteers  
+700 trained



# MEDIA

## Lousada promove formações para quem queira ser guarda rios

*Durante este mês, serão seis as formações disponíveis nas juntas de freguesia. Inscrições são gratuitas*

Por **Verdadeiro Olhar** · Out 2, 2019 · 10



Com maior ou menor frequência, percorrem as margens de troços dos rios que adotaram em ações de monitorização ou à procura de poluição.



# THANK YOU!





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