



# INVASIVE SPECIES



## INVASIVE SPECIES

An invasive species is defined as an organism (plant, animal, fungus, or bacterium) that is not native and has negative effects on our economy, our environment, or our health. Not all introduced species are invasive.



# INVASIVE SPECIES IN PORTUGAL PLANTS

# COMENIUS PROJECT BIODIVERSITY OF RIVERS



*Acacia dealbata*  
(Mimosa)



*Eichhornia crassipes*  
(Jacinto de água / water Hyacinth)



*Oxalis pes-caprae*  
(Trevo-azedo / Sour clover)



*Trandescancia fluminensis*  
(Erva da fortuna / Herb of Fortune)

# COMENIUS PROJECT BIODIVERSITY OF RIVERS



*Eucalyptus globulus*  
(Eucalipto / Eucalyptus)



*Carpobrotus edulis*  
(Chorão das praias / Weeping beaches)



*Hakea sericea*  
(Espinheiro bravo / Brave hawthorn)



*Ipomoea indica*  
(Bons dias / Good days)



# AQUATIC INVASIVE SPECIES IN PORTUGAL





*Gambusia holbrooki*  
(Gambúsia / Mosquito fish)



*Lepomis gibbosus*  
(Perca sol /Pumpkinseed)



*Cyprinus carpio*  
(Carpa-comum / Common carp)



*Carassius auratus*  
(Peixe-dourado / Goldfish)



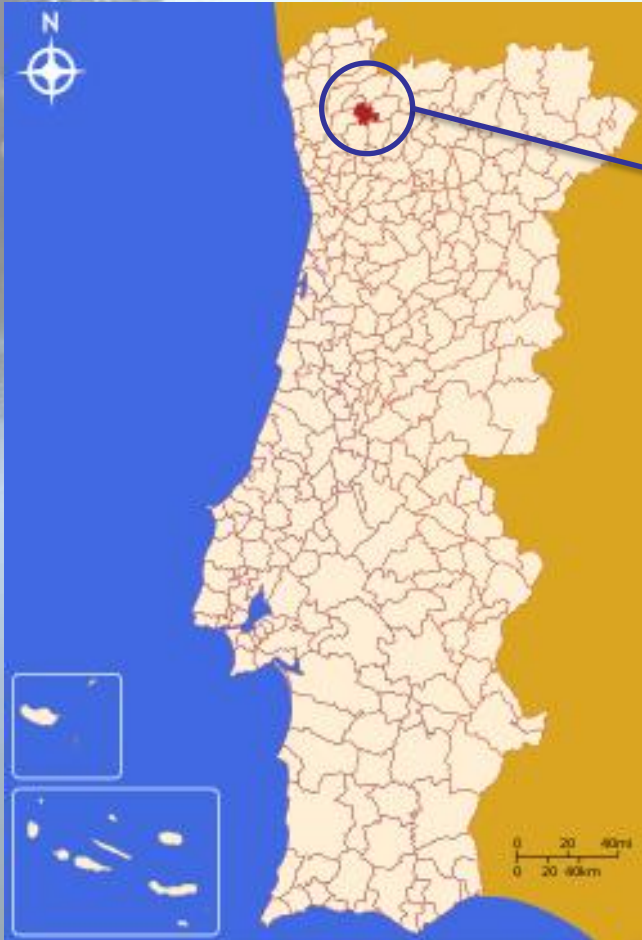
*Oncorhynchus mykiss*  
(Truta arco-íris / Rainbow trout)



*Procambarus clarkii*  
(Lagostim vermelho / Red crawfish)



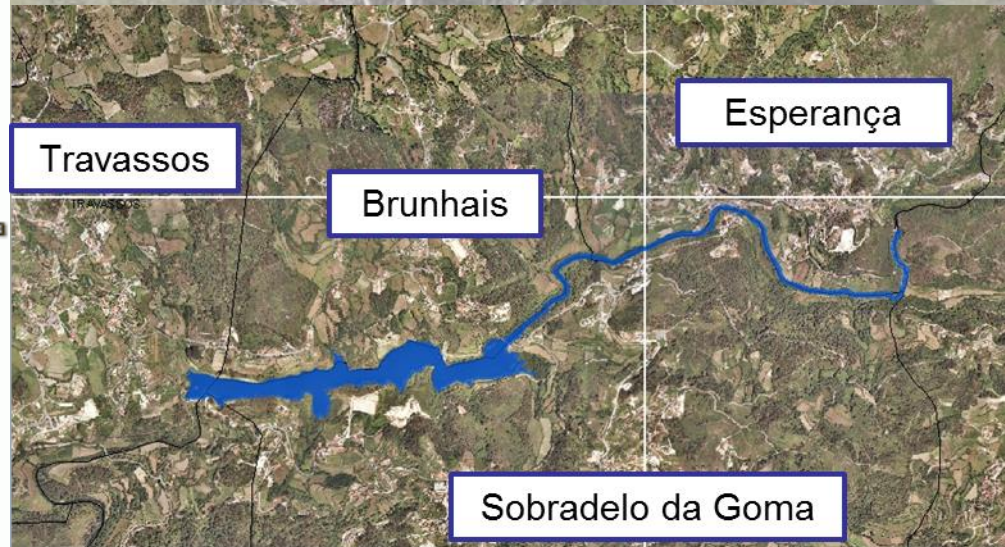
## INVASIVE SPECIES IN ... PÓVOA DE LANHOSO

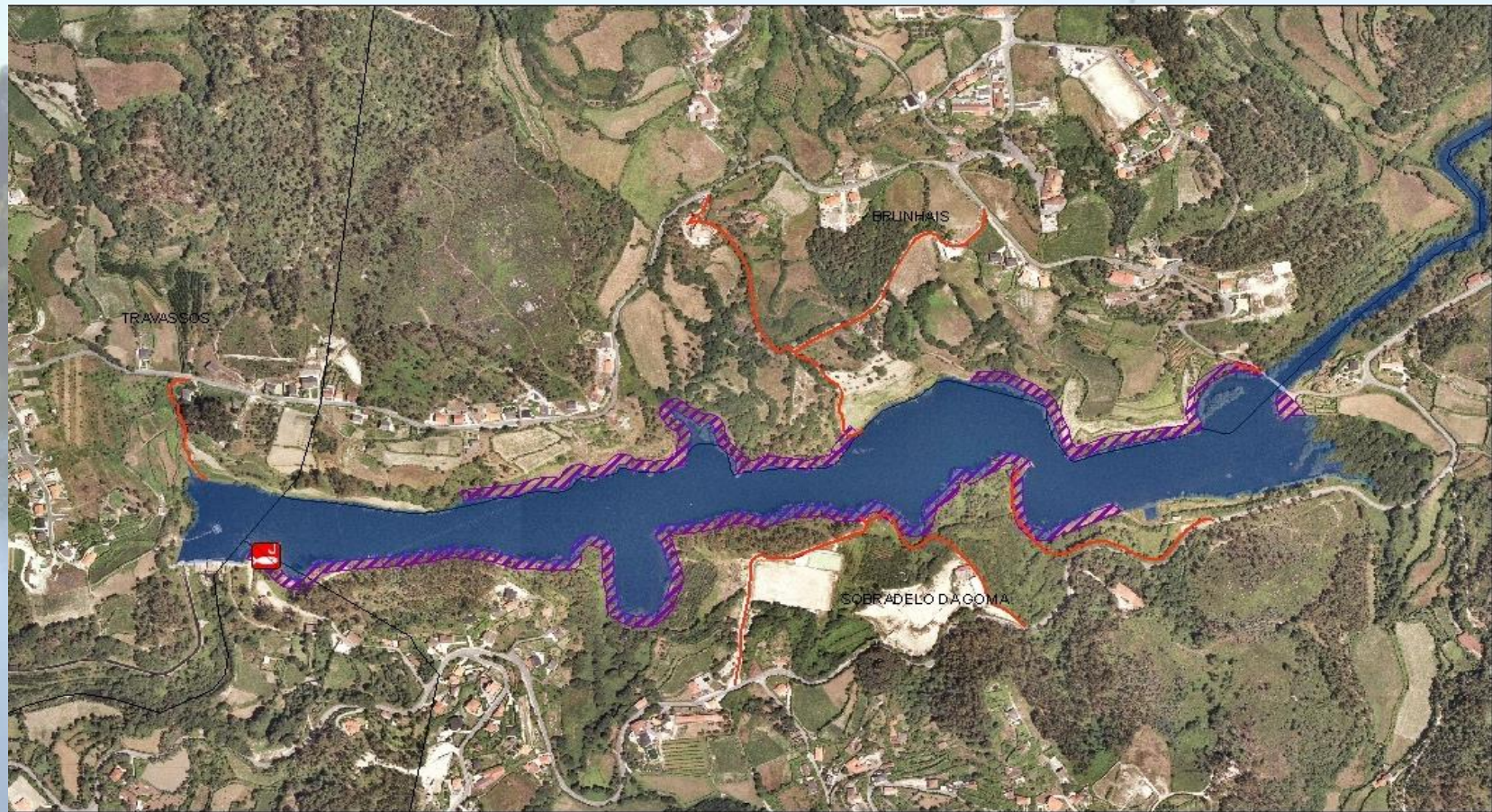




## COMENIUS PROJECT BIODIVERSITY OF RIVERS

# PÓVOA DE LANHOSO/ ALBUFEIRA DAS ANDORINHAS (Swallows Reservoir)





Câmara Municipal da Póvoa de Lanhoso / Gabinete Técnico Florestal			
 <b>Carta de Intervenções na Albufeira das Andorinhas</b>	Data: Jan. 2008	Clube de Caça de Brunhais/E speranza/Sobradelo da Goma – “Os Bravos”	Carta n.º  II
	Escala: 1:6.000		
	Técnicco(s):	<i>Sistema de Projeção UTM - Gauss Elipsóide Internacional - Datum Lisboa</i>	

**LEGENDA**

-  Beneficiação de Caminhos
-  Faixas de Intervenção
-  Sinalização Proibido Pescar
-  Limites de Freguesias


## ALBUFEIRA DAS ANDORINHAS



Albufeira das Andorinhas has a gravity type dam on the river Ave, surrounded by a beautiful landscape with oaks and chestnut trees.

The most common fish species are the trout, the escalo and the boga.

The reservoir is classified, however the practice of sports and leisure activities (motor boat, swimming, fishing, surfing) are allowed with restrictions.



## ALBUFEIRA DAS ANDORINHAS

Riparian forest / riparian gallery / riparian corridor:



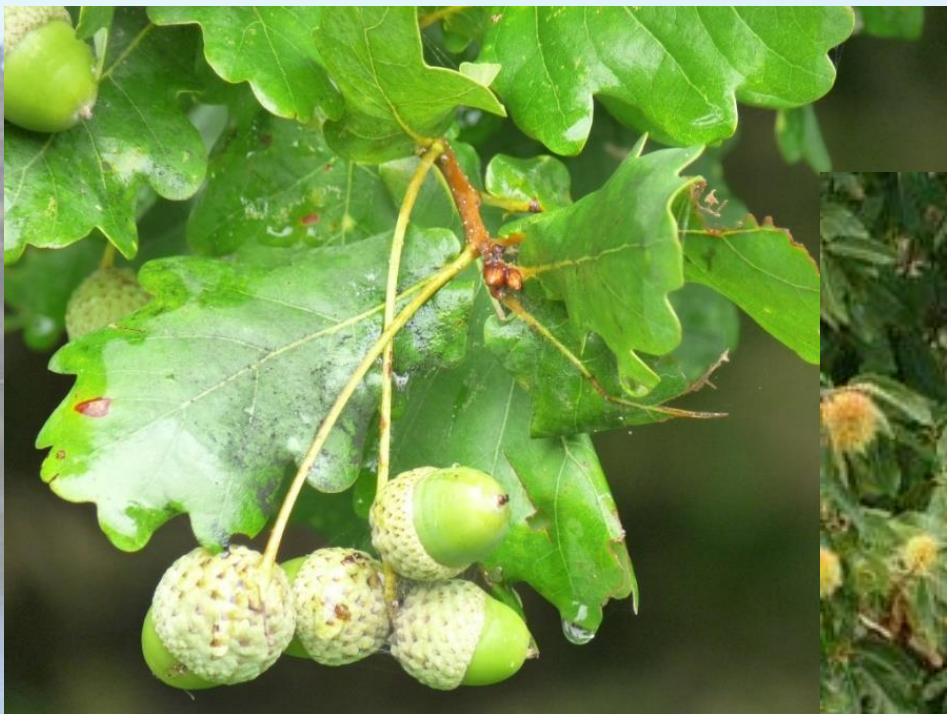
Formed by galleries of linear riparian vegetation that characterize the transition zone between the waterway and the surrounding terrestrial ecosystems.





## ALBUFEIRA DAS ANDORINHAS INDIGENOUS SPECIES PLANTS

# COMENIUS PROJECT BIODIVERSITY OF RIVERS



*Quercus robur*  
(Carvalho-alvarinho / Sessile oak)



*Castanea sativa*  
(Castanheiro / Chestnut)



*Alnus glutinosa*  
(Amieiro / Alder)



*Salix alba*  
(Salgueiro branco / White willow)



# COMENIUS PROJECT BIODIVERSITY OF RIVERS



*Pinus pinaster*  
(Pinheiro bravo / Brave pine)



*Ruscus aculeatus*  
(Gilbardeira / butcher's broom)

# COMENIUS PROJECT BIODIVERSITY OF RIVERS



*Iris pseudacorus*  
(Lírio amarelo dos pântanos /  
Yellow lily swamps)



*Carex distans*  
(Juncos/ Reeds)



*Mentha suaveolens*  
(Hortelã / Mint)



*Plantago lanceolata*  
(Língua de ovelha / Tongue sheep)



## ALBUFEIRA DAS ANDORINHAS INVASIVE SPECIES PLANTS



*Eucalyptus globulus*  
(Eucalipto / Eucalyptus)

**Origin:** Southeast Australia and Tasmania.

**Reasons for the introduction:**  
For forest production.

**Features that facilitate the invasion:**  
Species of very fast growth; it reproduces by vegetative way, forming vigorous shoots of sprouts. Reducing the biodiversity and the water in the ecosystems.





*Acacia dealbata*  
(Mimosa)

**Origin:** Southeast Australia and Tasmania.

**Reasons for the introduction:**

Ornamental purposes and to fix the ground.

**Features that facilitate the invasion:**

Forms dense and impenetrable bosquets, reducing native species, decreasing the available water and facilitates the erosion.



*Hakea sericea*  
(Espinheiro bravo / Brave hawthorn)

**Origin:** South Australia.

**Reasons for the introduction:**

Ornamental purposes and to form protection hedges.

**Features that facilitate the invasion:**

Forms dense and impenetrable bosquets, reducing native species; decreasing the water available.



## ALBUFEIRA DAS ANDORINHAS INDIGENOUS SPECIES FISH



It is a Portuguese  
endemic species,  
which means that it  
only exists in  
Portugal!

*Chondrostoma polylepis duriense*  
(Boga)



Only exists in  
Portugal!

*Squalius carolitertii*  
(Escalos)



*Salmo trutta*  
(Truta fário / brown trout)



## ALBUFEIRA DAS ANDORINHAS INVASIVE FISH SPECIES



## ALBUFEIRA DAS ANDORINHAS



*Sander lucioperca*  
(Lúcio-perca)

- \***Origin:**  
Eastern Europe.
- \*The entry in Portugal took place through rivers (Douro, Tejo)
- \***Predatory species** of the trout, the carp, ...





## ALBUFEIRA DAS ANDORINHAS



*Micropterus salmoides*  
(Achigã)

Introduced in Portugal in the mid-twentieth century to limit the gambúsias populations (*Gambusia holbrokii*).



## ALBUFEIRA DAS ANDORINHAS



*Cyprinus Carpio*  
(Carpa /Carp)

\*Is originally from eastern Europe and western Asia.

\*Introduced in Europe in the twelfth century.

\*Can be considered an invasive species because eats many kinds of organisms in the river Ave.



## ALBUFEIRA DAS ANDORINHAS

### Control of invasive species

- ✓ When species are already widely scattered, the way to solve the problem is to establish priorities (which species and priority areas) for later application of control methodologies.
- ✓ These methodologies can undergo physical, chemical or biological monitoring.



## ALBUFEIRA DAS ANDORINHAS

Forms of prevention for invasive species

- ✓ Not contribute to the introduction of new species!
- ✓ Never acquire “new” invasive species!





## ALBUFEIRA DAS ANDORINHAS

Parque de lazer do Pontão/Leisure park of Pontão





# MOVIE