

Workshop: Aquatic Invasive Species. Auditório da Escola Superior Agrária (Beja-Portugal)

LIFE + PROJECT: “Combating invasive species within the Tagus and Guadiana river basins in the Iberian Peninsula (INVASEP)”.



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Coordination Group of LIFE+ INVASEP Project



**Invasive Alien
Species (IAS):
The way forward!**

DO NOTHING? What shall we do?

- Whenever we want to combat any invasive species
- We must combine efforts between different entities at local/regional, national and international level
- We must to ANTICIPATE AND PREVENT ITS ARRIVAL!

But... How?

By RAISING SOCIAL AWARENESS, counting on the whole society.

COORDINATION and COLLABORATION between administrations and other entities



HOW DO IT?

WHAT'S A LIFE PROJECT?

LIFE + PROJECT



The LIFE program is a funding EU instrument aimed at conservation, environmental and climate change action projects.

LIFE's main objective is to contribute to the development, actualization and application of environmental and climate related policies under UE legislation through co-financing projects with a well-defined added value, with European repercussion.

This program facilitates the integration of environmental aspects into other policies generally contributing to a sustainable development.

The LIFE program began in 1992 and since four phases have been completed (LIFE I: 1992-1995, LIFE II: 1996-1999, LIFE III: 2000-2006 y LIFE +: 2007-2013). During such period 4.171 projects have been co-financed

LIFE+ INVASEP PROJECT:
**“Combating invasive species within the
Tagus and Guadiana river basins in the
Iberian Peninsula”**



OBJETIVES

Overall objective: halt the loss of biodiversity caused by invasive alien species in the Iberian Peninsula

- to identify invasive species are present and their status on these populations,
- to develop protocols and action tools to prevent the introduction of the AIS.
- to inform and change the perception of our societies on this serious problem
- to achieve effective cooperation between Spain and Portugal

Iberian Peninsula: ES/PT
1.400 alien species.
210 IAS.

PARNETS:

Beneficiary coordinator:

D.G. de Medio Ambiente. Gobierno de Extremadura

Beneficiary associate:

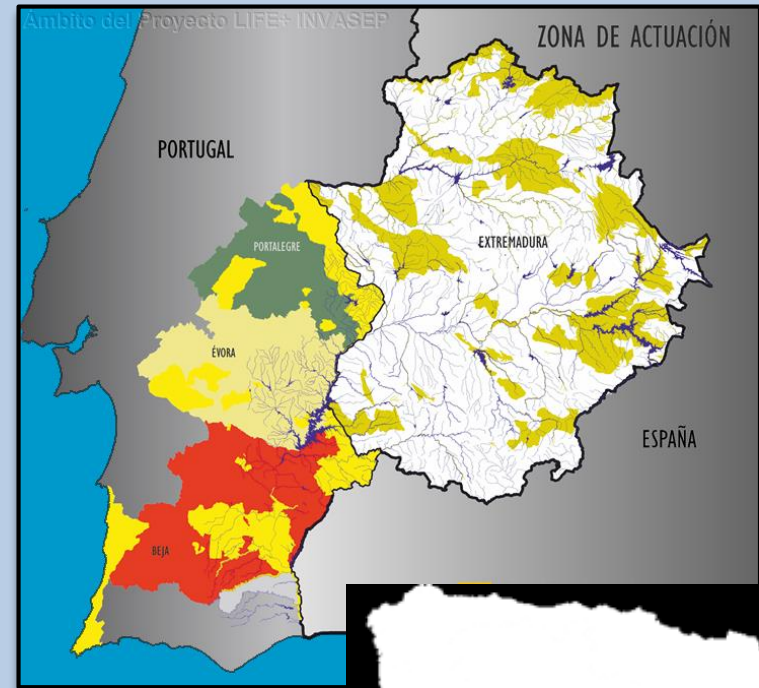
Confederación Hidrográfica del Guadiana
Empresa de Desenvolvimento e Infraestruturas de
Alqueva, S.A (EDIA)
CICYTEX
Confederación Hidrográfica del Tago
TRAGSATEC
GPEX
AGROFOREX

Co-financers:

Dirección General de Calidad y Evaluación Ambiental y
Medio Natural. (MAGRAMA)

Colaborators:

Instituto da Conservação da Natureza e das florestas
(ICNF)
Administração da Região Hidrográfica do Alentejo
(ARH)
Universidade de Évora (Portugal)



BUDGET: 2.895.267€

DURATION: 2012-2018

CO-FINANCING by EU at 48,55%



TARGET SPECIES



HEAVEN-TREE
Ailanthus altissima

ACACIA BERNIER
Acacia dealbata



MEXICAN WATER LILY
Nymphaea mexicana

AMERICAN VISON
Neovison vison



WATER FERN
Azolla filiculoides

**YELLOW-BELLIED,
SLIDER TURTLE, OR
TURTLE OF FLORIDA**
Trachemis scripta



ASIAN CLUB
Corbicula fluminea

ZEBRA MUSSEL
Dreissena polymorpha



A. Preparatory actions, elaboration of management plans and/or of action plans

C. Concrete conservation actions

D. Public awareness and dissemination of results

E. Overall project operation and monitoring

Research

Prevention and control
actions

Dissemination and
awareness

Problem management



LIFE+ INVASEP PROJECT:

**“Combating invasive species within the Tagus
and Guadiana river basins en the Iberian
Peninsula”**

A. Preparatory actions, elaboration of management plans and/or of action plans

Research

ACTION A.1: Inventory and cartography of invasive species *Acacia dealbata* and *Ailanthus altissima* in the Tajo River basin and Preparation of Prevention and Eradication Measures.

ACTION A.2: Inventory and cartography of the invasive exotic riparian plants in the Guadiana river basin and its impact on biodiversity.

ACTION A.3: Determination of risk areas for the zebra mussel (*Dreissena polymorpha*) in the Guadiana and Tagus basins and prevention measures.

ACTION A.4: Identification of the exotic species that occupy the habitats of *Chamaerops humilis* L. and *Sagittaria sagittifolia* L. and the causes of their extinction.

ACTION A.5: Assessment of the threat and control measures of the invasive species *Azolla foliculoides* in the Tajo basin.

ACTION A.6: Actions to monitor and evaluate invasive species in the Alqueva area (Alentejo _Portugal). (*Langostin bermelho*)

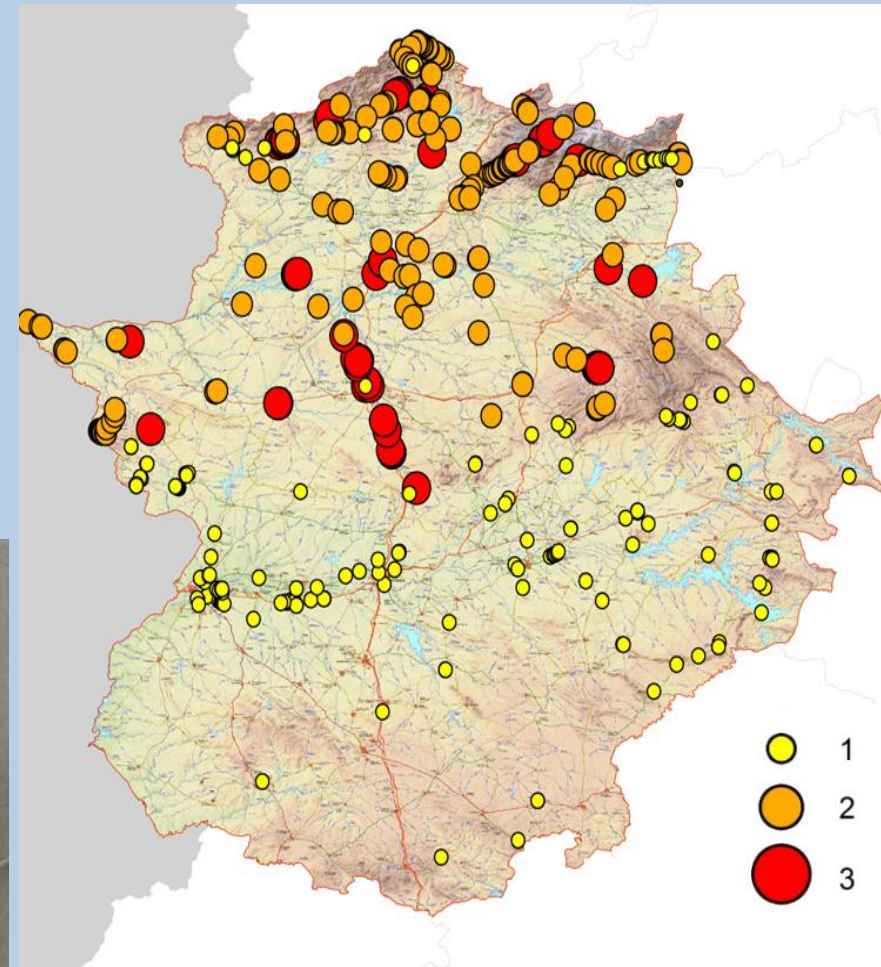
ACTION A.7: Management Protocol to prevent the trade and mascotism of invasive species.



A. Preparatory actions, elaboration of management plans and/or of action plans

Action A.1: Inventory of Invasive Species *Acacia dealbata* and *Ailanthus altissima* and Test of Measures of Prevention and Eradication

- ❑ Study of the distribution of mimosa and ailanthus in Extremadura region
- ❑ Degree of influence of mimosa and ailanthus on populations of native species threats
 - Distribution patterns
 - Risk analysis for threatened populations
 - Prospecting in high risk areas



Cartographic representation of the priority analysis of *Acacia dealbata* populations

❑ Testing of new techniques for the elimination of ailanthus and mimosa: THE USE OF SAPROPHYTES FUNGI.

Native species: *Ganoderma lucidum*, *Pleurotus ostreatus*, *Trametes versicolor*



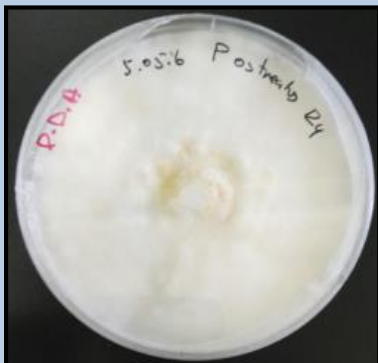
Phase I: Collecting carpophores

Phase II: Myelium insulation (protocol)

Phase III: Obtaining pure micelly (protocol)

Phase IV: Preparation of wooden dowel pins

Phase V: field trial



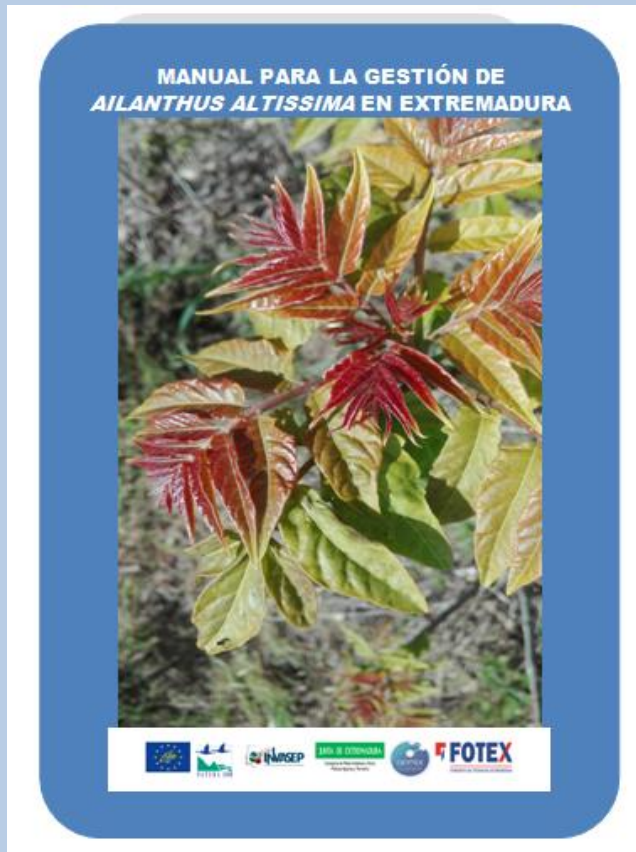
Greenhouse test with saprophytic fungi



Field test with saprophytic fungi



Preparation of management and eradication manuals for *Ailanthus altissima* and *Acacia dealbata*



ACTION A.2: Inventory and mapping of invasive riverbank exotic plants in the Guadiana river basin and its impact on biodiversity

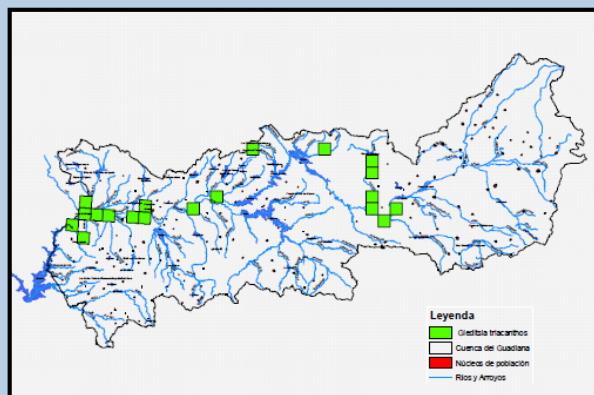
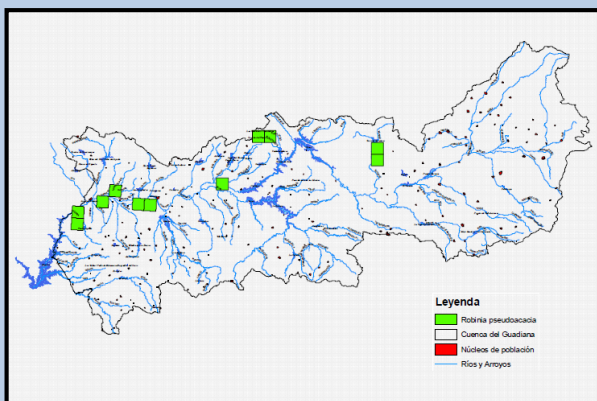
Nombre común	Nombre científico
Negundo	<i>Acer negundo</i> L.
Ailanto, Árbol del cielo	<i>Ailanthus altissima</i> (Miller) Swingle
Caña	<i>Arundo donax</i> L.
Azolla, Helecho del agua	<i>Azolla</i> spp.
Estramonio	<i>Datura stramonium</i> L.
Jacinto del Agua	<i>Eichhornia crassipes</i> (Mart.) Solms
Eucalipto rojo	<i>Eucalyptus camaldulensis</i>
Eucalipto azul	<i>Eucalyptus globulus</i>
Acacia de tres espinas	<i>Gleditsia triacanthos</i>
Nenúfar mexicano, Lirio amarillo	<i>Nymphaea mexicana</i> Zucc.
Fitolaca, Ombú	<i>Phytolacca americana</i> L.
Robinia, Falsa acacia	<i>Robinia pseudoacacia</i> L.
Bardana común	<i>Xanthium strumarium</i> L.



MANUAL DE ESPECIES EXÓTICAS INVASORAS EN LA CUENCA HIDROGRÁFICA DEL GUADIANA



getinsa-payma



ACTION A.6: Actions to monitor and evaluate invasive species in the Alqueva area (Alentejo-Portugal). (*Langostin bermelho*)



- Identification of all potentially invasive species and their distribution.
- Definition of control points and barrier zones for different species: *Lagostin bermelho*, *wather hyacinth* or *zebra mussel*
- Drafting a monitoring and control program.

CONTROL ACTIONS TO WATHER HYACINTH:

Installation of barriers



Control of affecct area



CONTROL ACTIONS TO ZEBRAL MUSSEL:



disinfection of boats



early detection
(control cape)

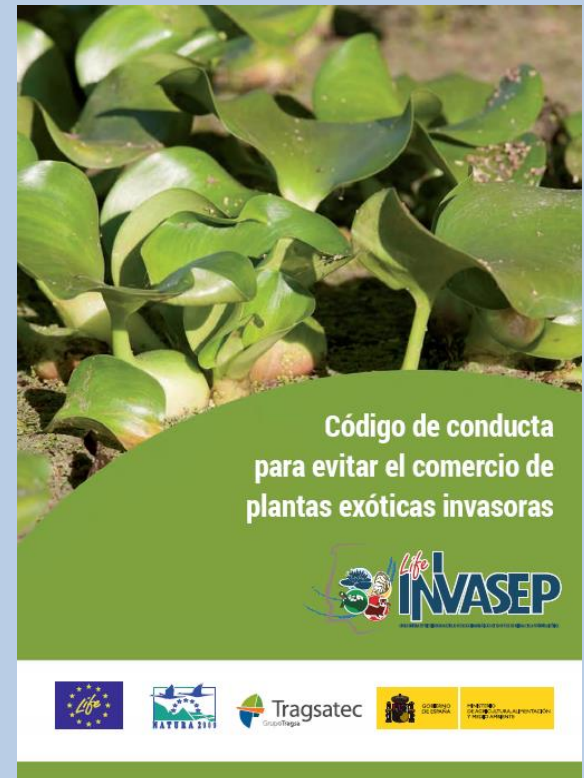
ACTION A.7: Management Protocol to prevent the trade and mascotism of invasive species.

Code of conduct for the pet trade.

Signed with the Spanish Association of Distributors of Products for Animals of Company, distributors, associations of veterinarians, etc.

Code of conduct for the plant trade.

Signed with Associations of Exporters of Flowers and Live Plants, Andalusian Association of nurserymen and flower growers, etc



C. Concrete conservation actions

Prevention and control actions

ACTION C.1: Control of the risk of transmission of *Neovison vison* diseases to native mustelids and their effect on protected micro-mammals.

ACTION C.2: Trials for the control and eradication of the Florida Tortoise (*Trachemys scripta elegans*).

ACTION C.3: Elimination of Asian clam populations in the Guadiana Basin.

ACTION C.4: Prevention to prevent the introduction of the zebra mussel (*Dreissena polymorpha*) in the Tagus and Guadiana basin (Spain-Portugal)

ACTION C.5.: Recovery of the natural habitat of *Chamaerops humilis* L. and elimination of exotic species that threaten its persistence.

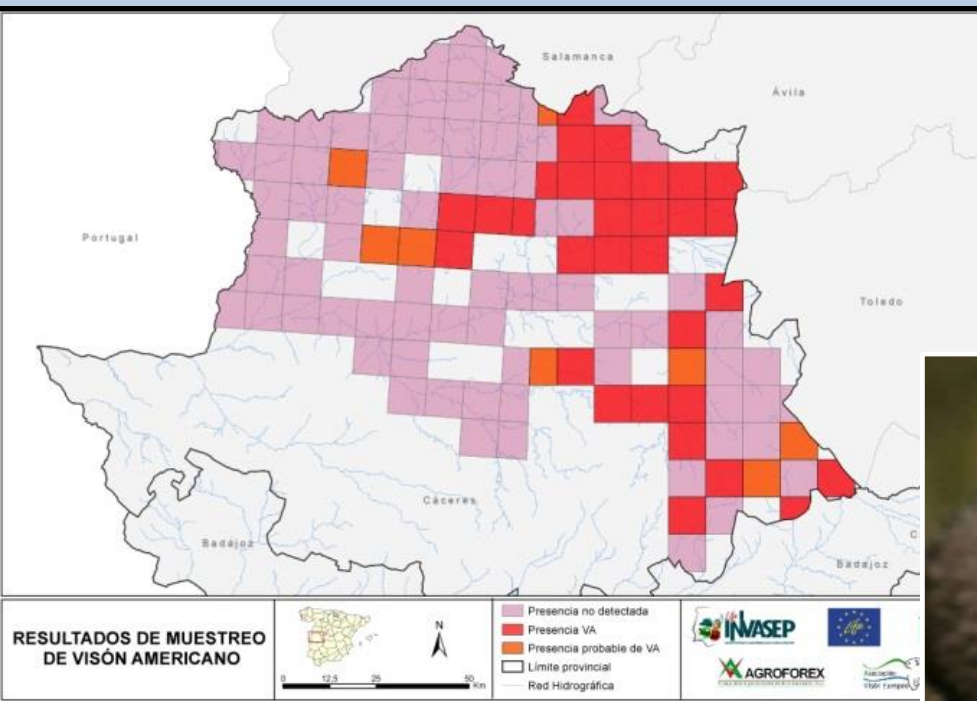
ACTION C.6 Reintroduction of the extinct species *Sagitaria sagittifolia* L. previous elimination of the invasive species causing its disappearance.

ACTION C.7: Techniques of prevention, control and eradication of the populations of *Azolla filiculoides* in the Tajo Basin.

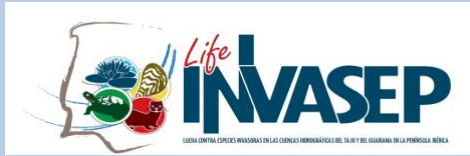


ACTION C.1: Control of the risk of transmission of *Neovison vison* diseases to native mustelids and their effect on protected micro-mammals

- Update of the distribution of the American mink in Extremadura region (118 squares – 238 points sampling)
- Elaboration of the Strategy for the control / eradication of the species in Extremadura region
- Threats of micro-mammals as Iberian desman, native fishes and birds.



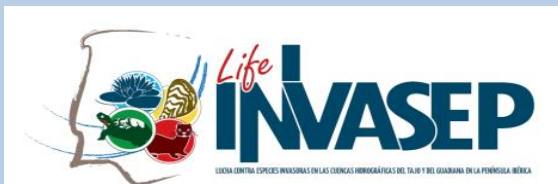
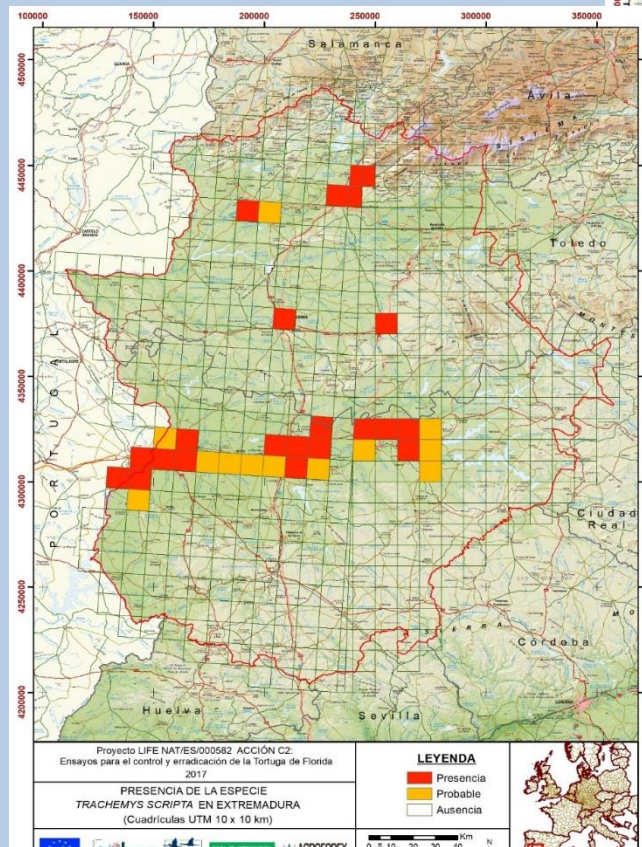
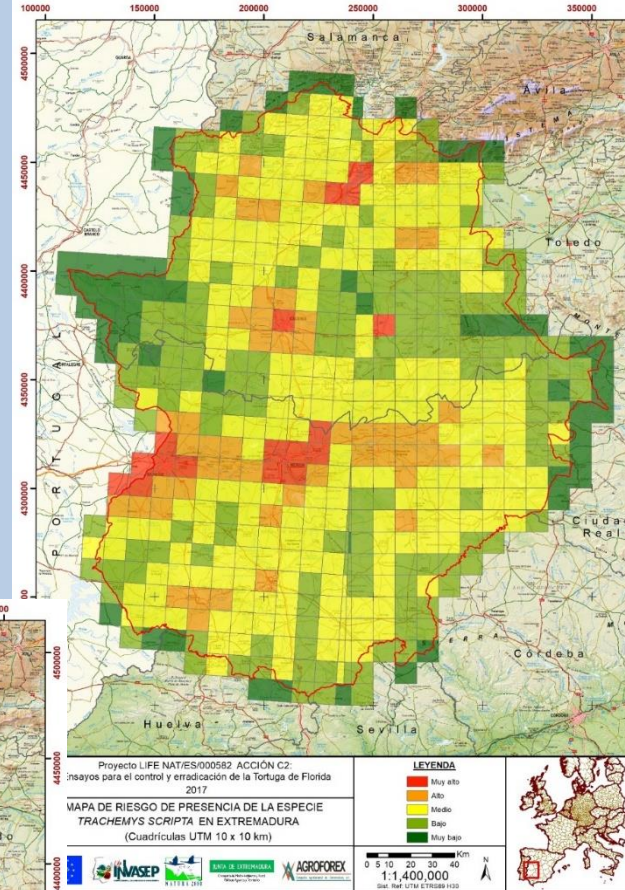
- Training course for agents
- Pilot test with floating platforms and acquisition of traps (180 units)
- Control works of the species. Campaign 2015, 2016 (38 captured specimens)



ACTION C.2: Trials for the control and eradication of the Florida Tortoise (*Trachemys scripta elegans*).



Map of potential area



Map of real distribution

Several tests with different capture and detection methods (cylindrical bottom tramp, floating sun trap, longline, sunny platform, anguilere traps/fishing traps).

Different Habitats: Rivers, ponds, reservoirs.

**Palangre (spanish)/
Longline (english)**



Floating sun trap



**Fishing /anguilere tramp
3 meters**



Main results:

Nº captures (2013-2016): 605 individuals

Best art: anguilere traps of 3 m.

More specific art: the longline

Drafting of control and eradication protocol.

Detection of reproduction areas

Protocol for the detection of females and nests



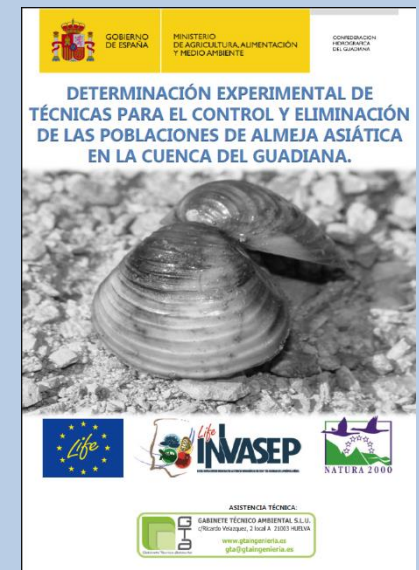
ACTION C.3: Elimination of Asian clam populations in the Guadiana Basin (*Corbicula fluminea*).

❑ NATURAL ENVIRONMENT (LÁCARA RIVER AND LOS CANCHALES RESERVOIR)

- Benthic blankets (high density PVC)
- Raked



❑ ARTIFICIAL MEDIA (irrigation infrastructures): physical and chemical methods (hydrogen peroxide)



ACTION C.4: Prevention to prevent the introduction of the zebra mussel (*Dreissena polymorpha*) in the Tagus and Guadiana basin (Spain-Portugal)

- ❑ Placement of 58 informative posters about zebra mussels.
- ❑ Acquisition of 6 mobile and 4 mixed disinfection stations.
- ❑ Placement of witnesses for detection of the species.



D. Public awareness and dissemination of results

Dissemination and awareness



ACTION D.1: Preparation and installation of information panels about the project.

ACTION D.2: Design of a WEB.

ACTION D.3: Measures of communication to the media (press, radio, television) to avoid the introduction of exotic species.

ACTION D.4: Material for dissemination and awareness

ACTION D.5: Educational workshops for schoolchildren (avoid mascots).

ACTION D.6: Technical diffusion and attendance to seminars and congresses for the dissemination of the project.

ACTION D.7: International conference on the loss of biodiversity due to invasive species.

ACTION D.8: Informative report LAYMAN.

ACTION D.9: Change in the behavior of the sectors related to the entry routes of invasive alien species.

PUBLIC AWARENESS

- ☐ Social Media (Press, journals, radio and TV)
- ☐ Newsletters
- ☐ Social Network Sites
- ☐ Website (www.invasep.eu/)



Spot TV



Preparatory and preventive actions

- ❑ Website design and implementation:

www.invasep.eu

- ## ✓ EARLY WARNING NETWORK

- ✓ **Online educational games for kids**



LIFE 10 NATIEN000002

Luchamos por las especies invasoras en las cuencas hidrográficas de los ríos Tago y Guadiana en la Península Ibérica

EDUCATIONAL & PROMOTIONAL MATERIAL

- ☐ Leaflets
- ☐ Information panels
- ☐ T-shirts
- ☐ Stickers
- ☐ Itinerant exhibition
- ☐ Educational material: ECO bus
- ☐ IAS identification guide for law enforcement officers



EDUCATIONAL ACTIVITIES



- ☐ Invasive species workshop for students
- ☐ Lectures at Nature interpretation Centres and Social or Cultural Centers
- ☐ Invasive species workshop for teachers and parents



EDUCATION, TRAINING AND AWARENESS-RAISING (for all of the sectors involved)

- ☐ Pet business
- ☐ Farming sector
- ☐ Fisheries sector
- ☐ Forestry sector
- ☐ Hunting sector
- ☐ Associative sector
- ☐ Productive sector
- ☐ Leisure, sport and tourism sector
- ☐ Scientific sector
- ☐ Administrative sector
- ☐ Education sector
- ☐ Health sector



✓ Informative visits to pet shops
✓ Training course for veterinarians

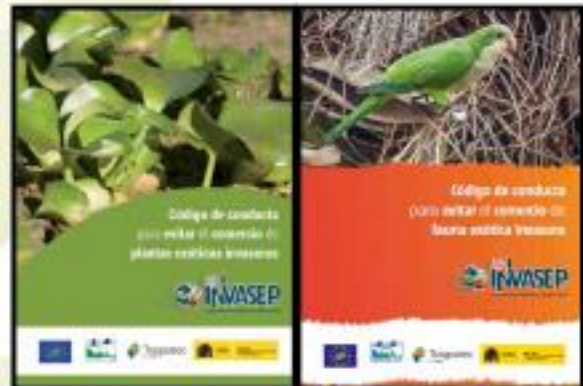
Informative visits to nurseries and garden centers

Animal welfare groups

Meetings with municipal and provincial authorities

Training course aimed at Public Health staff

Training course for Rangers



Problem management

EARLY WARNING NETWORK

- ✓ Social alert network
- ✓ Institutional early detection network

ELABORATION OF PROTOCOLS OF ACTION

- ✓ Protocol of action against IAS (fauna and flora)
- ✓ Protocol of action against american mink, Asian hornet, zebra mussel, ect

DIRECT COLLABORATION

- ✓ Police
- ✓ Agents of the environment
- ✓ Security forces

INTERACTION WITH OTHER PROJECTS AND WORKING GROUPS



Si descubres una especie invasora...

Rede de Alerta !!

¡Colabora connosco e avisa se detetares qualquer espécie invasora no meio natural!

A REDE DE ALERTA PRÉVIA é uma rede onde participam um grande número de entidades públicas e privadas e pessoas de distintos âmbitos da sociedade estremenha, que nos permite conhecer com rapidez a presença de espécies invasoras no meio natural, podendo assim actuar com a máxima celeridade na sua erradicação.

[»»» Quais são as espécies invasoras sobre as quais posso enviar informação?](#)



Nome:	<input type="text"/>	Apellidos:	<input type="text"/>
Email:	<input type="text"/>	Telefone de contato:	<input type="text"/>
Dados do avistamento:			
Municipio:	<input type="text"/>	Local:	<input type="text"/>
Coordenadas UTM: Coord X:	<input type="text"/>	Especie observada:	<input type="text" value="Agrio, vinagrera (Oxalis pes-caprae)"/>
	Coord Y: <input type="text"/>		
(Puede usar el SIGPAC para ayudarse en la localización de las coordenadas UTM)			
Observações:	<input type="text"/>		
<input type="button" value="Borrar"/>		<input type="button" value="Enviar"/>	
Si quieres tambien puedes contactar por email en : invasep@gmail.com o invasep@qobex.es			

GOBIERNO DE EXTREMADURA

Consejería de Agricultura,
Desarrollo Rural, Medio Ambiente y Energía

YOU CAN HELP!!!

ALIEN PETS?

☐ HEALTH PROBLEMS

☐ AGGRESSIVE BEHAVIOR: IAS ARE NOT DOMESTICATED PETS

☐ SOLUTION TO THE ALIEN PETS PROBLEM: Releasing exotic animals into the wild? **NO WAY!!!** Deliver them to the law enforcement officer

☐ ADOPT DOMESTIC ANIMALS: CATS & DOGS



CHANGE IS IN YOUR HANDS!!!

¡¡ THANK YOU!!

www.invasep.eu

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