



LIFE Segura-Riverlink: an implementation of a *green infrastructure* approach to recover the longitudinal connectivity in a highly fragmented river basin.

FJ Oliva-Paterna¹, M Torralva¹, D Verdiell-Cubedo¹, A Ruiz-Navarro¹, F Amat-Trigo¹, J Sánchez-Balibrea², FJ Sanz-Ronda³, J García⁴, R Olivo⁵, C Avilés⁶, E Lafuente⁶.

(1)Dpto. de Zoología y Antropología Física.
Universidad de Murcia.

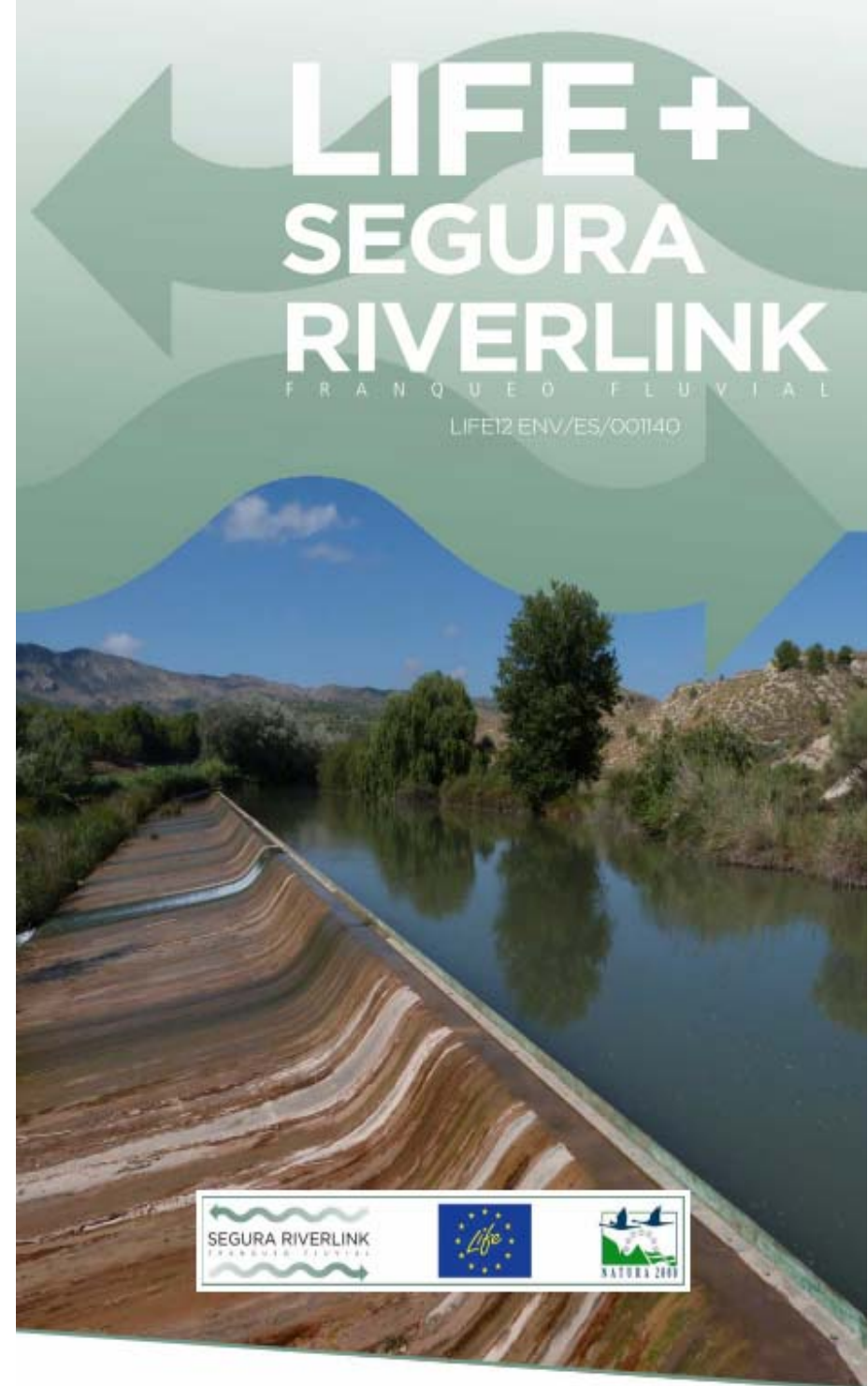
(2)ANSE. Asociación de Naturalistas del Sureste.

(3)ITAGRA.CT. Centro Tecnológico Agrario y Agroalimentario.

(4)Dirección General de Medio Ambiente.
Comunidad Autónoma de la Región de Murcia.

(5)Grupo TYPESA. Murcia.

(6)(Coord. Beneficiary) Confederación Hidrográfica del Segura.



Beneficiario coordinador



Socios



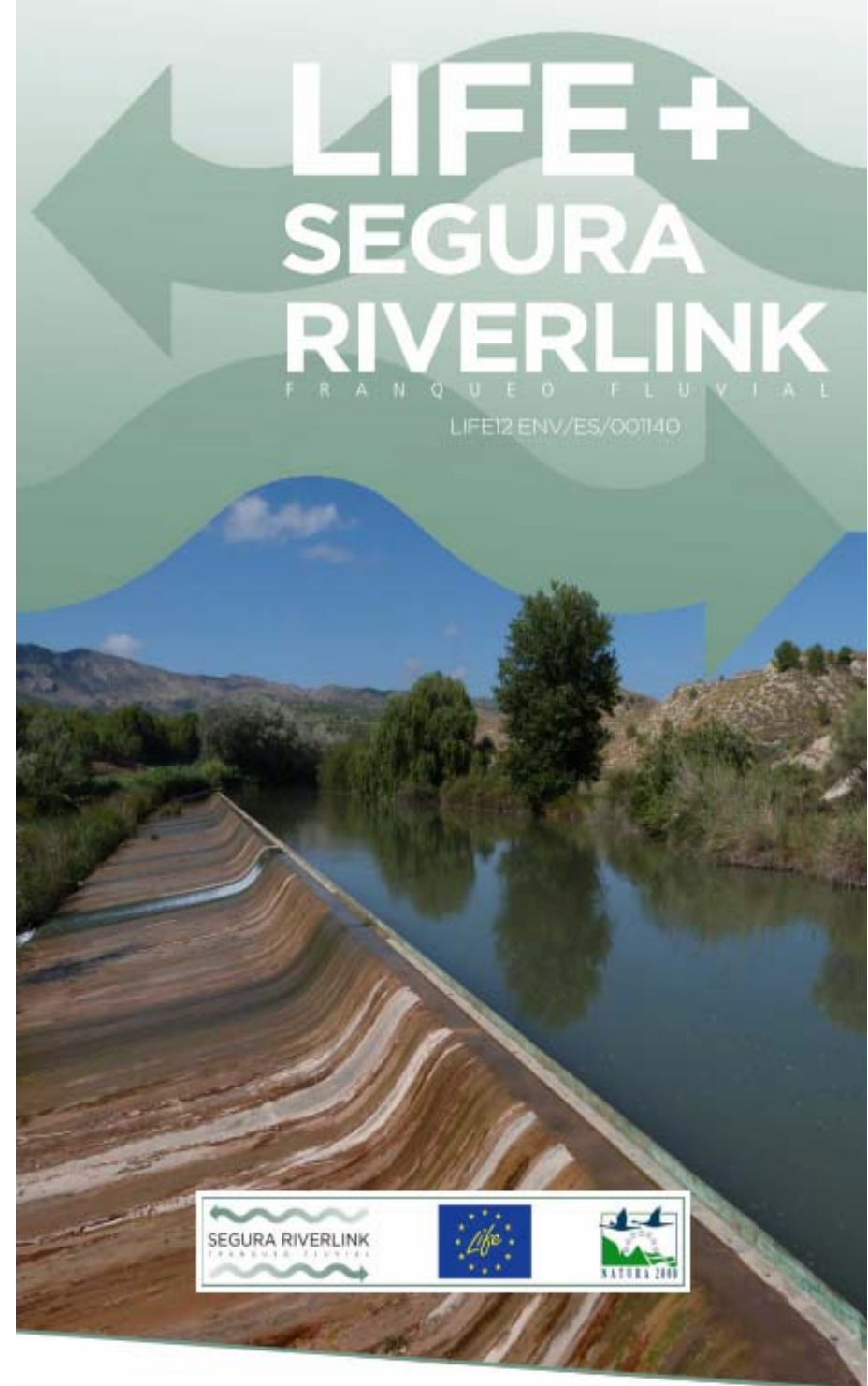


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Coordinating beneficiary



Associated

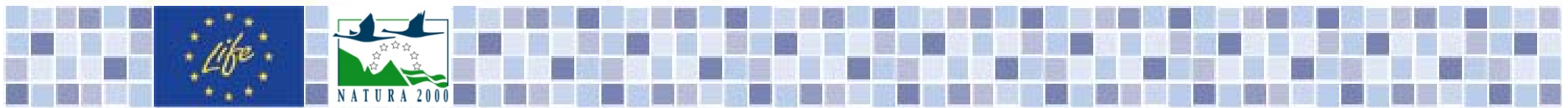


Beneficiario coordinador



Socios





LIFE + Environment Policy & Governance

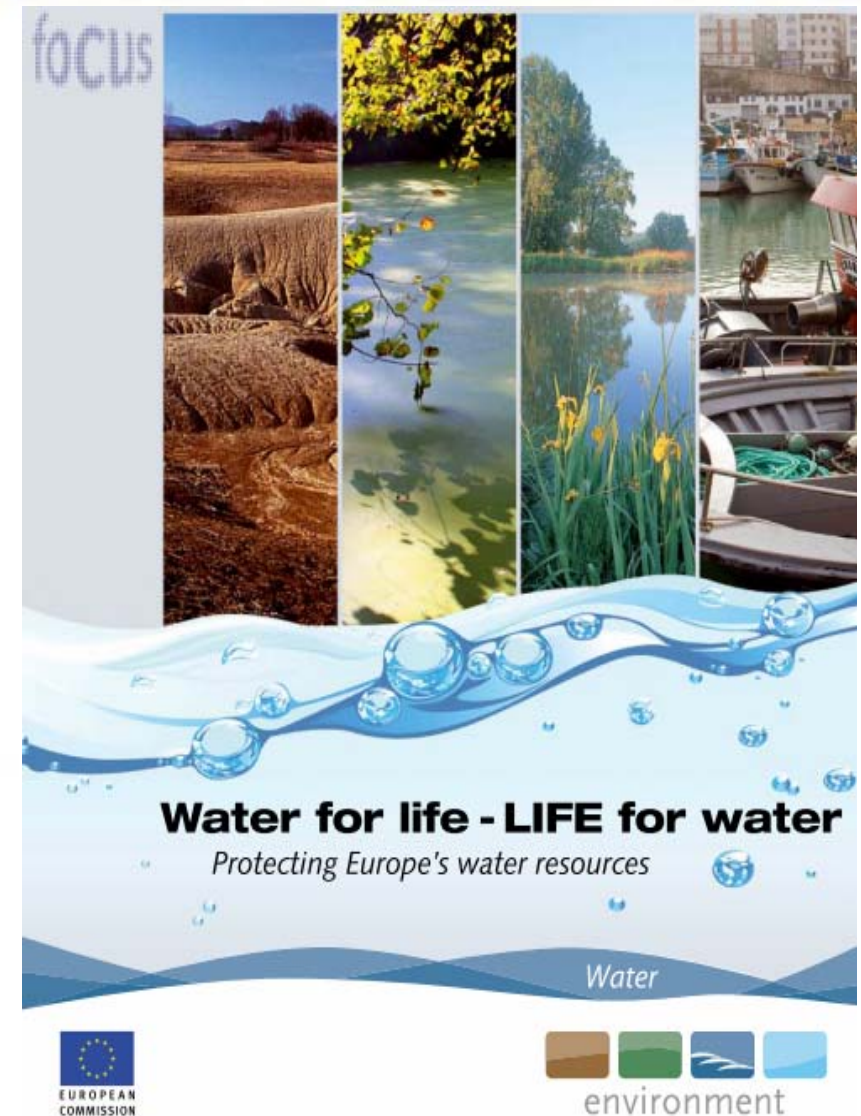
- ***Demonstration project*** that aims to promote and support the environmental recovery of the Segura River basin.

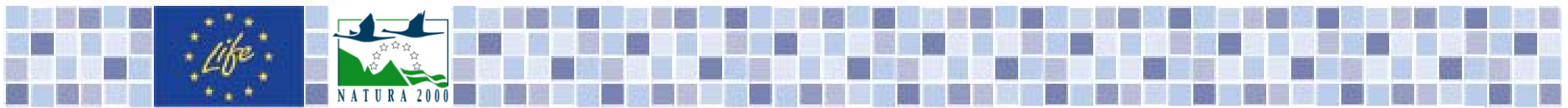
Period

- September 2013 – July 2017

Total project budget

- 3,424,250 € (49,8% EU)





LIFE + Environment Policy & Governance

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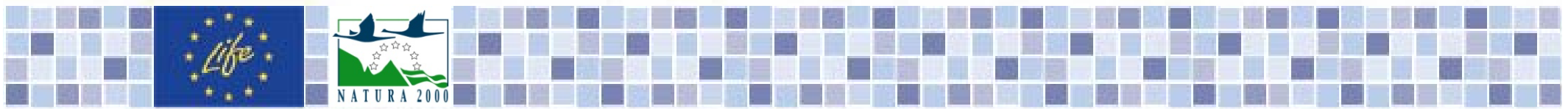


© European Union (2013)

Demonstration projects put into practice, evaluate and disseminate actions, methodologies or approaches that are new or unknown in the specific context of the project (geographical, ecological, socio-economic) and that could be applied elsewhere in similar circumstances.

[LIFE 2014-2020 Regulation (EC 1293/2013)]

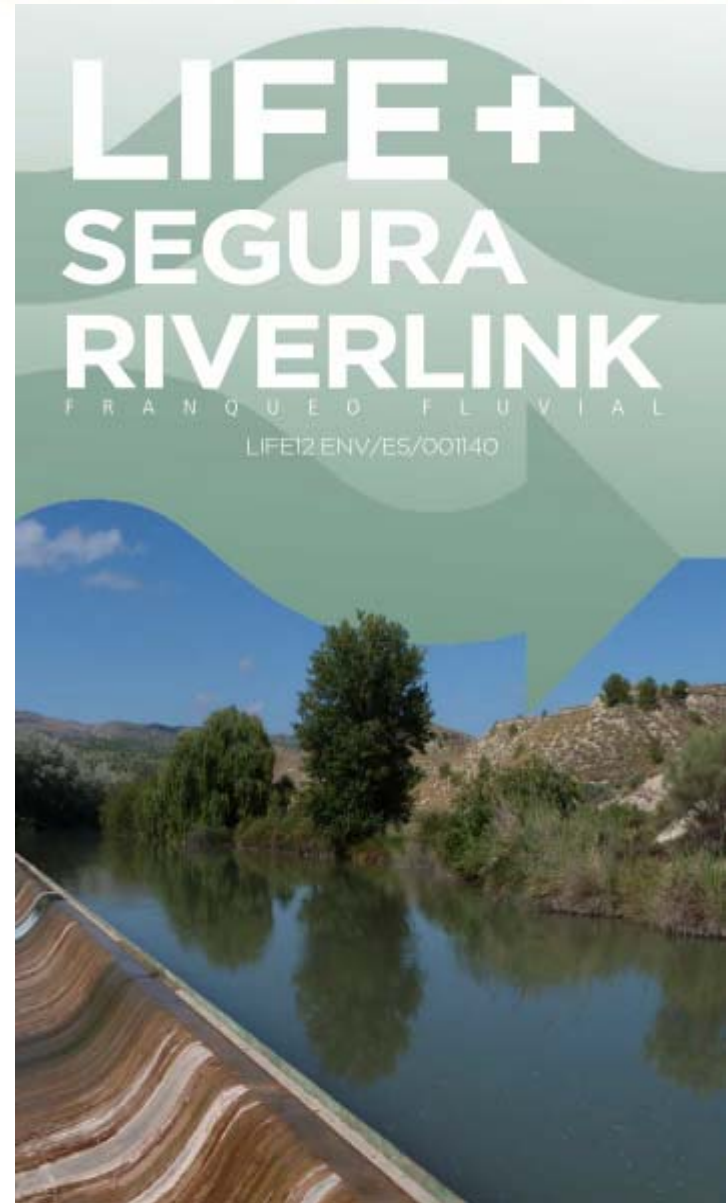


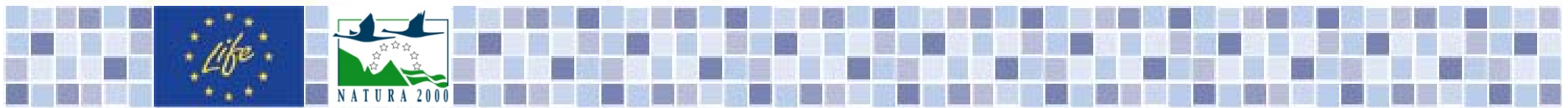


Aims

- To demonstrate and validate management measures for the development of a ***Green Infrastructure*** approach into the context of a Mediterranean river basin characterized by a high impact in its fluvial connectivity.

LIFE ENV/ES/001140
Water: River basin management



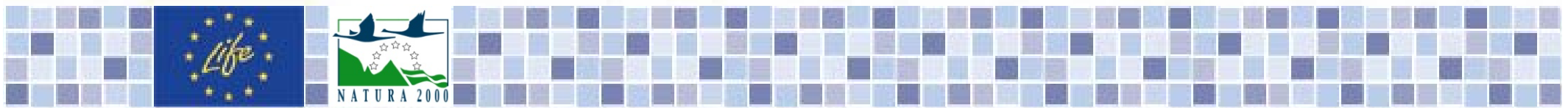


Aims

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State of the art and innovate

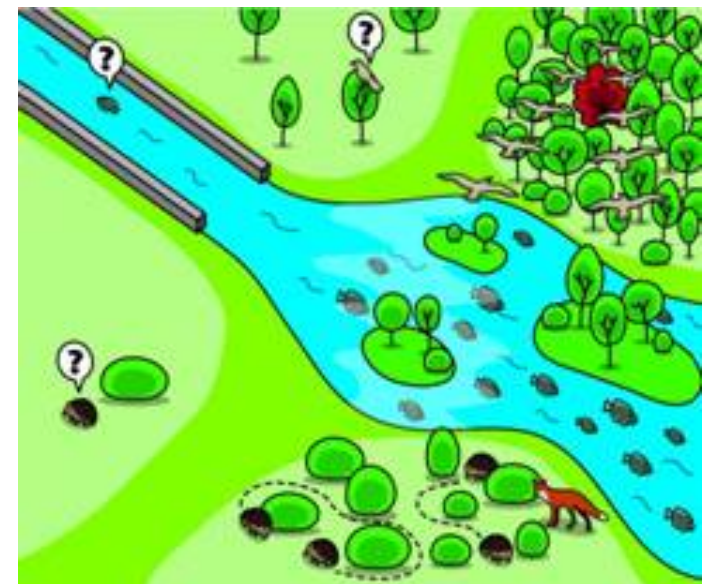
- ***Green Infrastructure (GI): a smart solution for today's needs...***

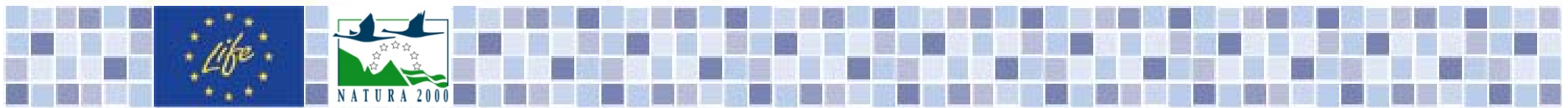
What is a GI?

- *A successfully tested tool for providing ecological, economic and social benefits through natural solutions.*
- *A strategically planned network of natural and non-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services.*

[Green infrastructures
COM(2013) 249final]

[\[ec.europa.eu/environment/life\]](http://ec.europa.eu/environment/life)



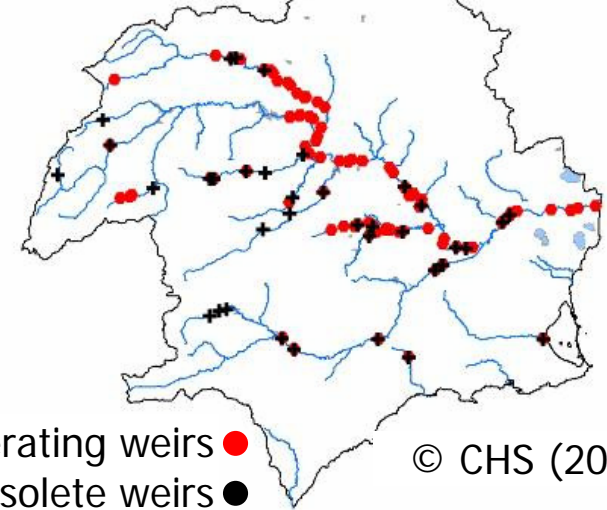


Action area

- Due to the historical pressures the Segura River is one of the most regulated rivers in Europe (more than 90 inventoried obstacles)

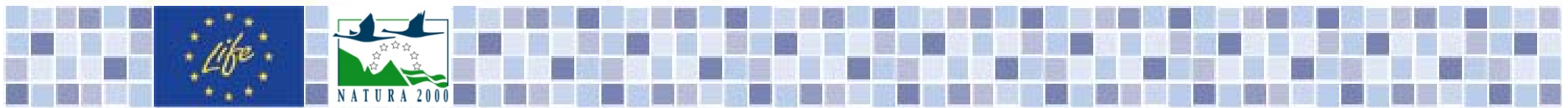


Segura River basin
SE Iberian Peninsula
18,870 Km²



Operating weirs ●
Obsolete weirs ●

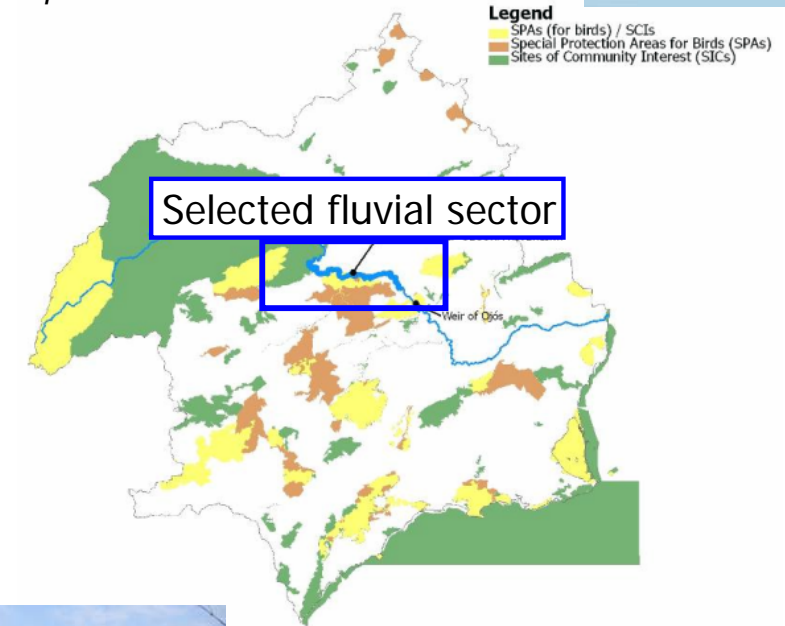
© CHS (2013)

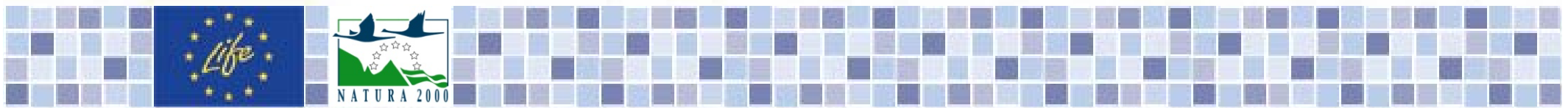


Action area

- The project will be implemented on selected sites over a 54 km.
- In the Nature 2000 Network areas or linking them.
- Including urban areas as a means of facilitating stakeholder engagement.

Segura River basin
SE Iberian Peninsula
18,870 Km²





Action area

A long-term view

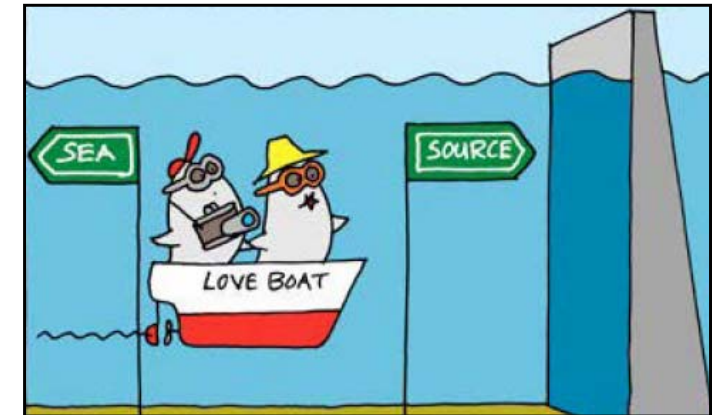
- *Fish home in good status in...*
- *The green highway of the Segura River will be free of obstacles in...*
- *Hydraulic infrastructures renovation.*
- *No future deterioration in fish migration.*
- *Achieve the maximum ecological potential in heavily modified waters.*

River Basin Management Plan
(CHS)

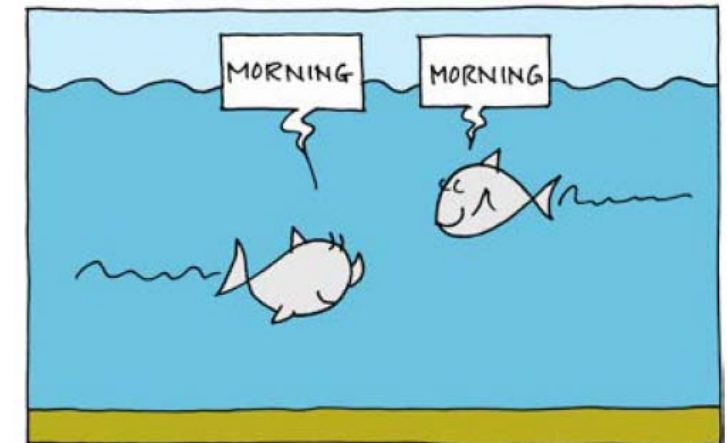


FROM SEA TO SOURCE

International guidance for the restoration of fish migration highways

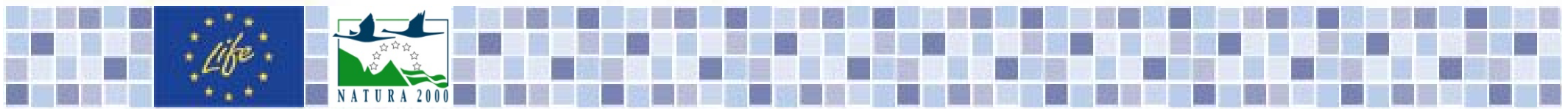


THE IDEAL SOLUTION, NO OBSTACLES



[www.fromtheseatosource.com]





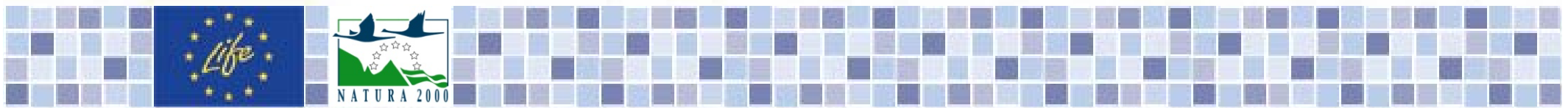
Main actions

Increase river connectivity

- Removal of an unuseful weir.
- Construction of 8 fish passages.
- Restoration of riverine vegetation at weir sections.

(January 2014) Moratalla stream





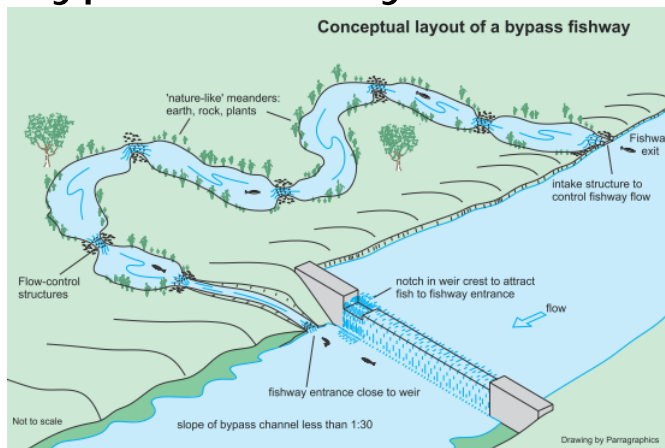
Main actions

Increase river connectivity

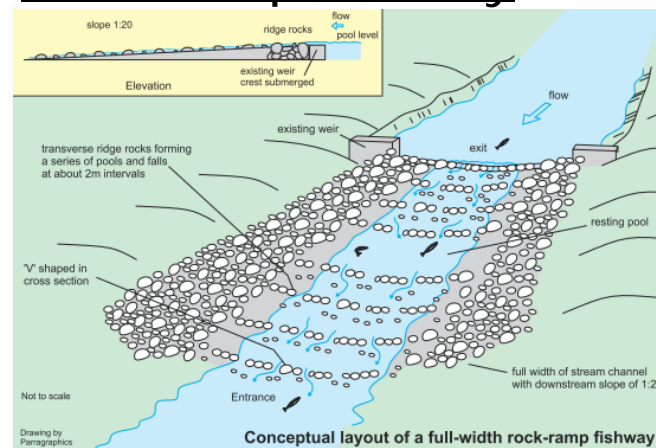
- Three fish passage systems have been selected according to their suitability for each study site.



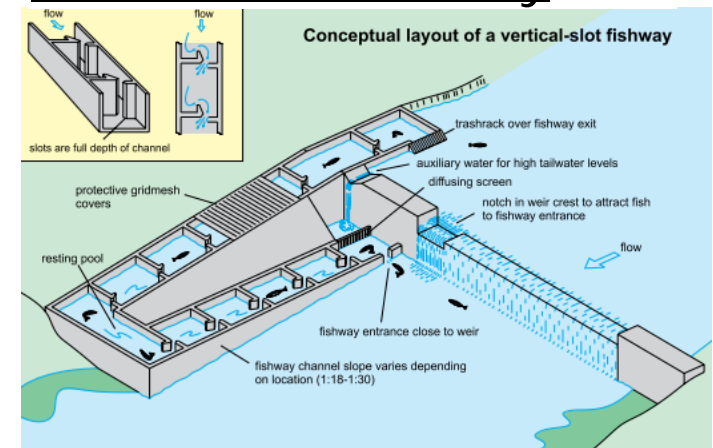
Bypass fishway

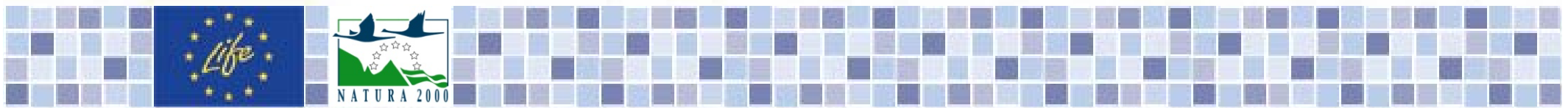


Rock-ramp fishway



Vertical-slot fishway





Main actions

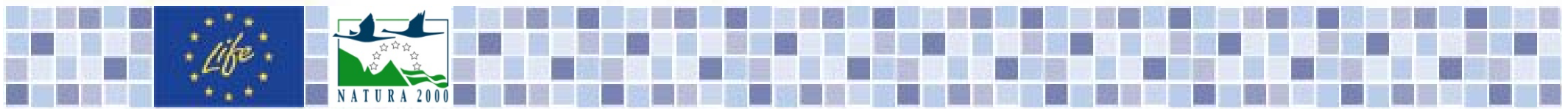
Social involvement and awareness

- Land custody network (=fluvial stewardship) to involve stakeholders on the river management.
- Education and volunteering programmes.



Land stewardship stakeholder model
[\[www.landstewardship.eu\]](http://www.landstewardship.eu)



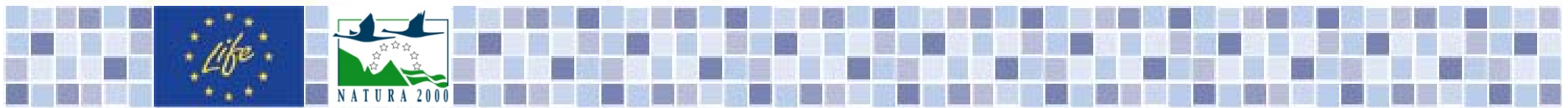


Main actions

Monitoring and socio-economic assessment

- Operative indicators at fish passage systems.
- Fish community and populations.
- Bird community and river-bank associated fauna.
- Vegetation communities.
- Water and sediments.
- Socio-economic assessment.





Main actions

Monitoring (fish-species)

Indicators

- (1) Community metrics.
- (2) Population metrics of sentinel-indicator species.

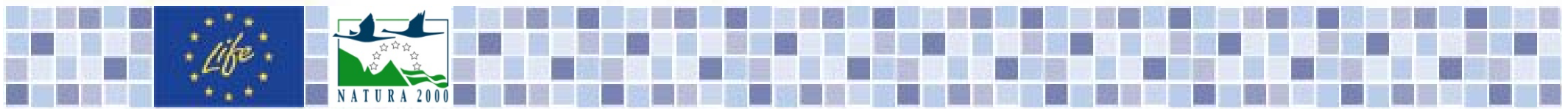
Level of actions

- (1) Regional – *at the river sector.*
- (2) Local - *at river stretches next to the obstacle.*

Assessors

Dr. Carlos Fernández Delgado
 Dr. Pedro M. Leunda Urretabizkaia
 Dr. Lluís Zamora Hernández





Main actions

Monitoring (species)

Sentinel-fishes

Luciobarbus sclateri

(Southern Iberian barbel)

Gobio lozanoi

(Pyrenean gudgeon)

Pseudochondrostoma polylepis

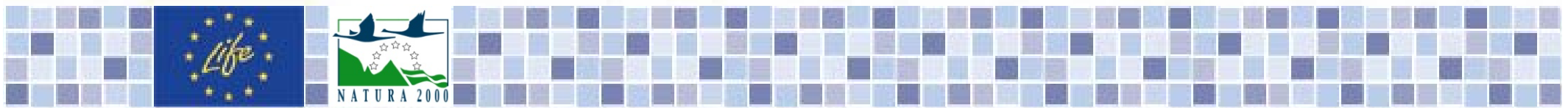
(Iberian nase)

Alburnus alburnus

(Bleak)



Cyprinids native to the Iberian Peninsula (except bleak)
Target species (reproductive seasonal movements)

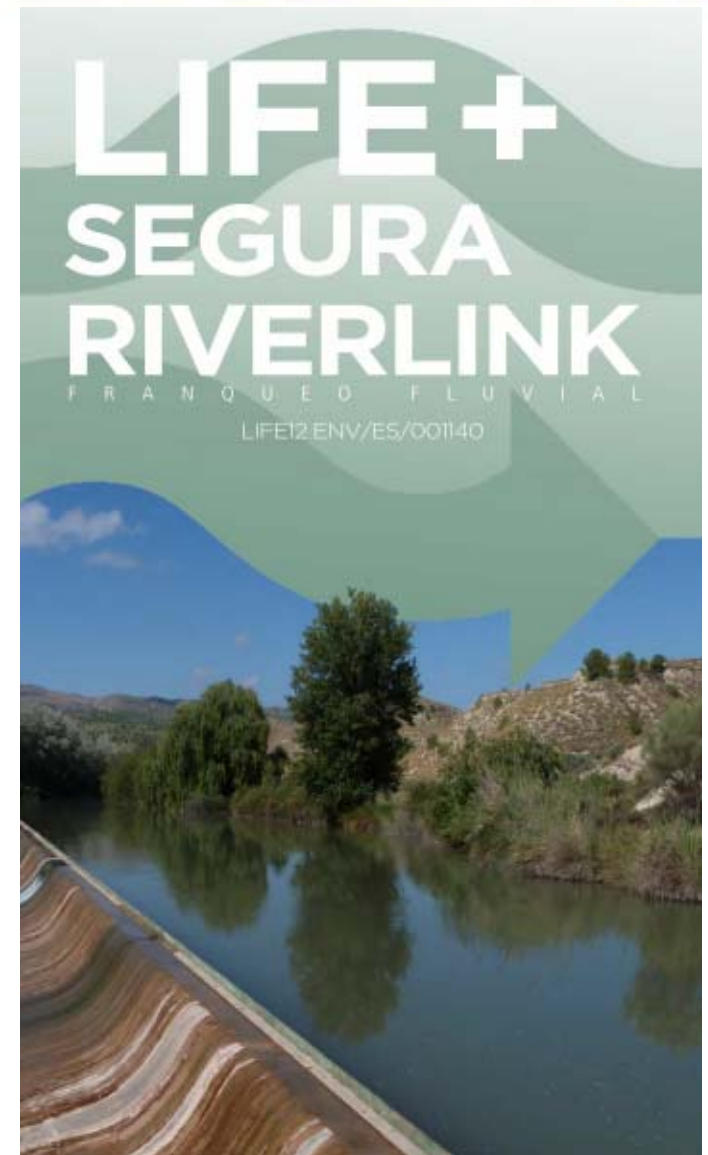


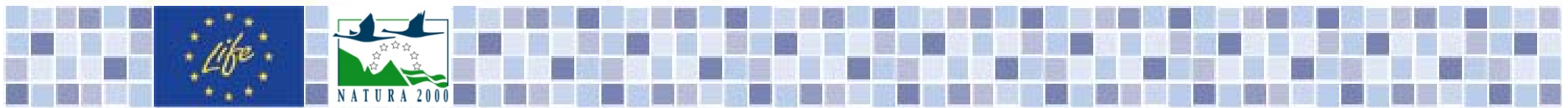
Added value of the project

Outcomes

The project will...

- Protect local and riverine habitats.
- Allow fish migration along an important fluvial sector.
- Build a cadre of scientific and social knowledge to improve river management quality and to comply with EU Water Framework Directive and EU Biodiversity Strategy to 2020.



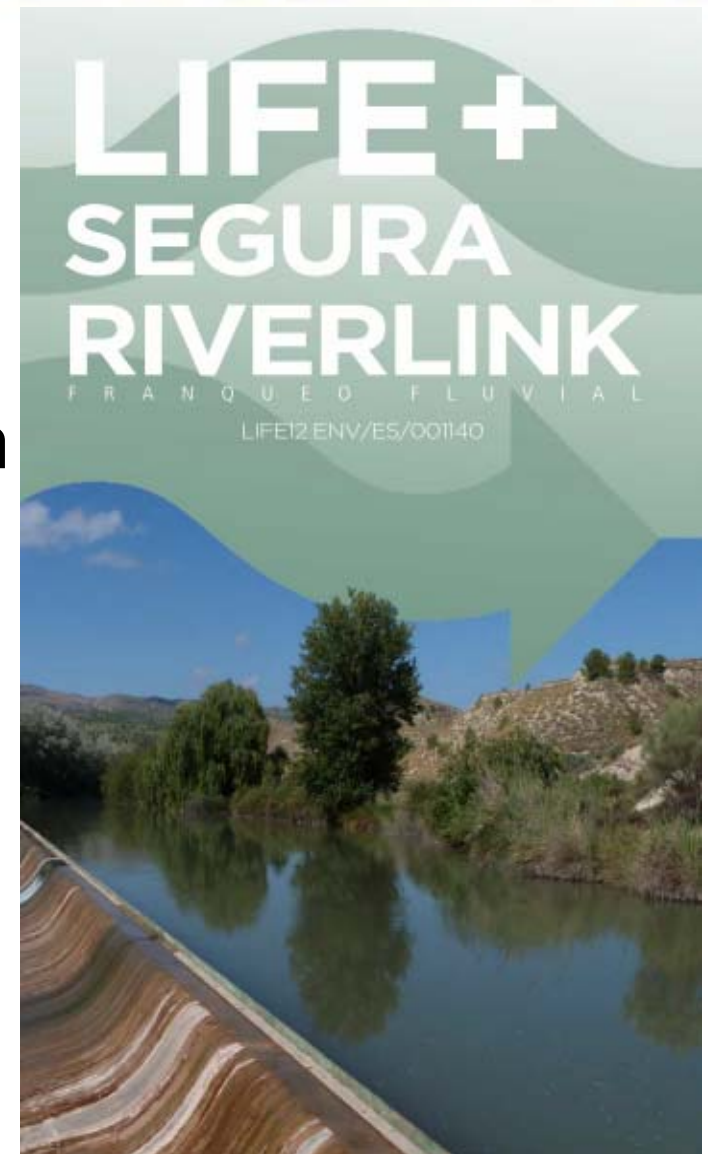


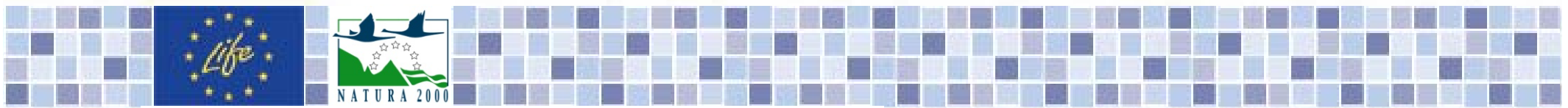
Added value of the project

Outcomes

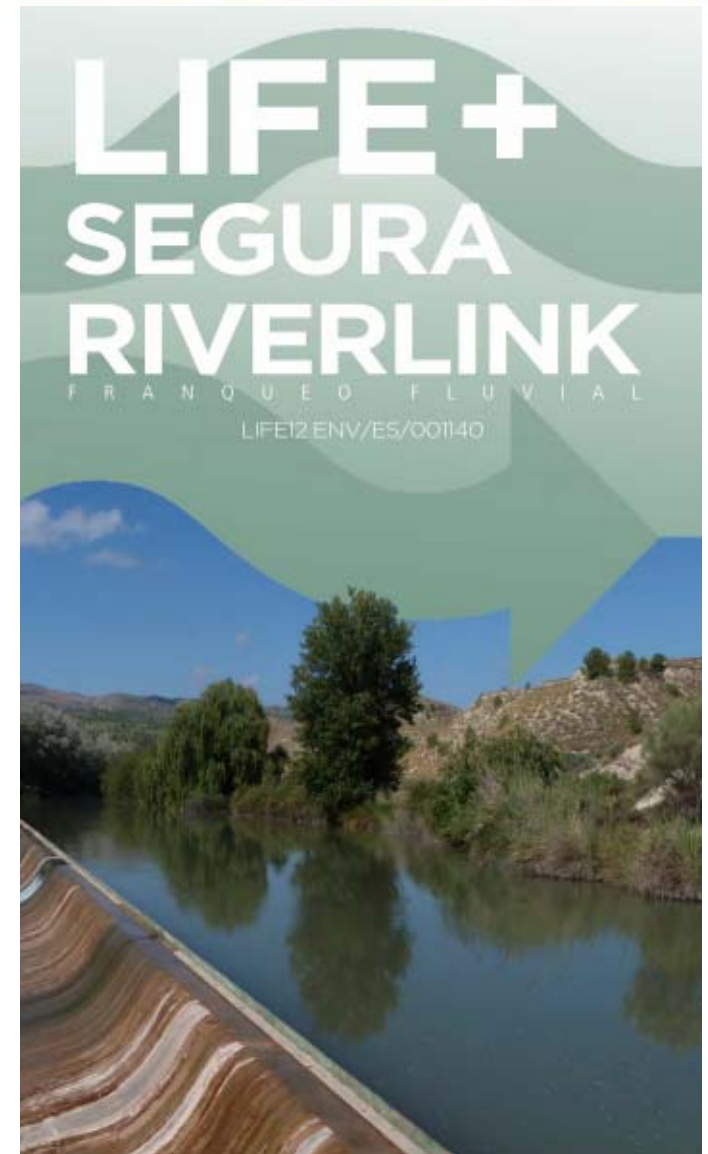
The project will...

- Put into practice and evaluate the ***Green Infrastructure*** (GI) approach into the context of a Mediterranean river basin management.





*Why not looking for linking
the multifunctionality approach
of **GI** and **fish conservation**?*



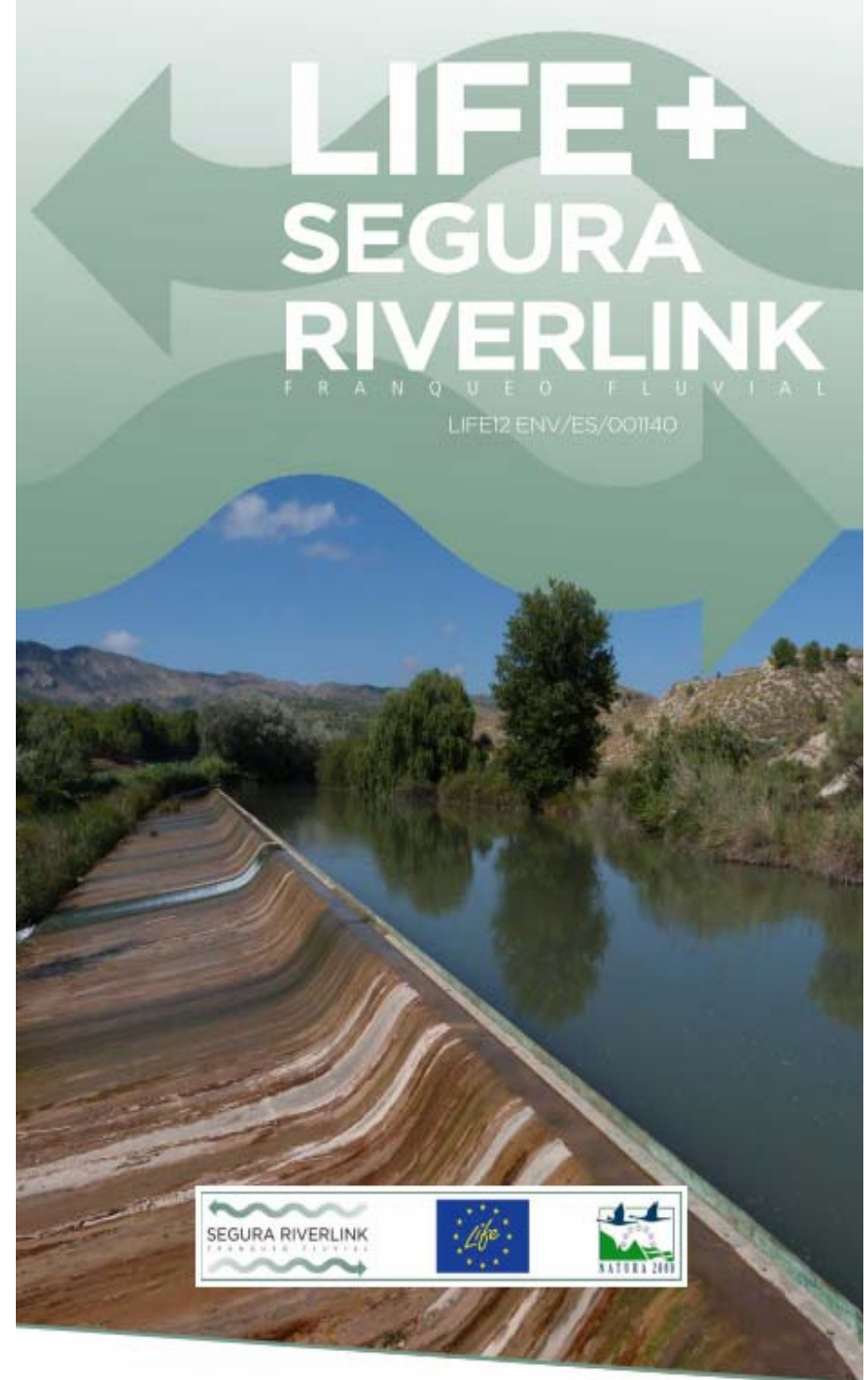


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Thanks for your attention

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Beneficiario coordinador



Socios

