

# Tools for integrating ecological restoration into land planning in the Region of Valencia (TERECOVA)



## Vision

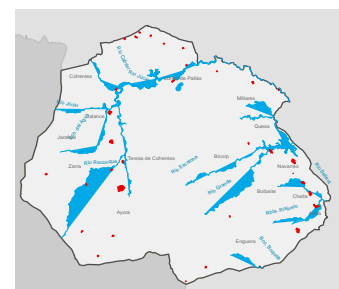
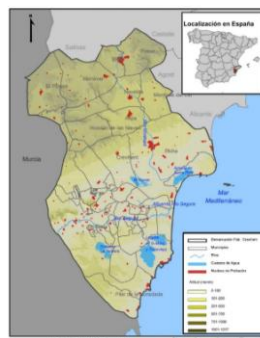
Ecological restoration aims at protecting biodiversity and increasing the integrated provision of ecosystem services, contributing to human welfare. In the Mediterranean basin, ecological restoration has contributed to expand forest cover, recover wetlands, protect coastal sand dunes or re-wild rivers. But these actions have often lacked coordination and public acceptance. Efficient ecological restoration must assess ecological and socio-economic costs and benefits of these actions, valorize and harmonize them, and define priorities to maximize their positive outcomes.

TERECOVA will create tools to prioritize restoration actions in heterogeneous Mediterranean landscapes by means of participative processes that integrate society visions and aspirations.

## Approach

### Working areas and zoning

We work in two large (ca. 250,000 ha) Mediterranean regions representing dry sub-humid conditions (Enguera Forest Demarcation, DFE Valencia, Spain) and semiarid conditions (Crevillent Forest Demarcation, DFC Alicante, Spain). In this way, we aim to facilitate the adoption of our protocols in other drylands. In each DF, we defined Homogeneous Landscape Units in terms of land use and plant cover.

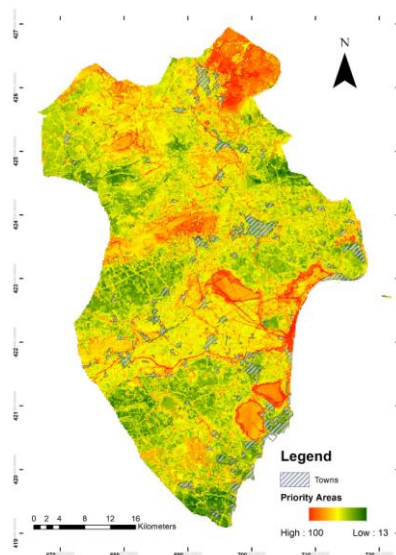


### Prioritization criteria

We established stakeholder platforms in each DF to integrate multiple ecological and socio-economic perspectives. Each platform was formed by farmers, hunters, miners, environmentalists, tourist operators, researchers, etc.

Platforms first identified prioritization criteria to be considered in each DF. Each stakeholder had his/her own opinion, and all inputs were taken into account. The elevated number of criteria identified by stakeholders in DFC (33) illustrates the diversity of their approaches. Then, all participants weighted the criteria.

It took us some time to find mapped information for all the criteria and indicators identified, but at the end, we could define priority areas for restoration taking stakeholder's weighting into account.



### Costs and benefits

Later, stakeholders identified the main services provided by ecosystems present in each area and weighted them. As before, we used mapped information of these services or their indicators and multi-criteria models to draw integrated maps of the current provision of ecosystem services.

By using expert knowledge and the integrated provision of ecosystem services, we estimated the difference in the provision of ecosystem services between current and potential (reference) conditions, i.e. the potential gain in ecosystem services that could be delivered by ecological restoration. We also estimated the monetary costs of ecological restoration and then, the cost:effectiveness of ecological restoration actions.

## Priority areas with lowest cost:effectiveness

By combining priority maps and cost:effectiveness analysis we identified areas where highest priority overlaps with highest increases in biodiversity and the provision of ecosystem services at the lowest cost, or in other words, where to invest in ecological restoration to fulfill society aspirations at the lowest cost.

## Decision-making and society engagement

Maps will be used to collectively discuss restoration options, and promote and drive future investments from the public and the private sectors, and private-public cooperation. The Regional Government (Generalitat Valenciana) has been involved in the project since its onset, and will adopt the tools and protocols derived from TEREKOVA.

