



## P.A.R.C. Project

Petromyzon And River Continuity

life parc

Habitat Directive

water habitats

improving biodiversity

renaturalisation

preservation  
techniques

management tools

## PROJECT DESCRIPTION

The P.A.R.C. project was aimed at **improving the conservation status of the fish species** Sea lamprey (*Petromyzon marinus*), Twaite shad (*Alosa fallax*), Western vairone (*Leuciscus souffia*), South European roach (*Rutilus rubilio*) and Italian barbel (*Barbus plebejus*) in the distributional areas of the Magra and Vara rivers within the Regional Park Montemarcello-Magra. There were some artificial obstructions in the two watercourses in the Province of La Spezia that made it difficult for these species to move for finding suitable reproduction sites, what affected adversely the size of these fish populations.

The project area was the Magra-Vara Park, a Site of Community Interest (SCI IT1343502) which extends for over 2.500 hectares in the Province of La Spezia crossing 15 municipalities and coincides, for most, with the territory of the Regional Natural Park of Montemarcello-Magra. This is a highly vulnerable territory, subject to strong anthropic pressure but with great potential for environmental restoration and is the only Italian site where the reproduction of the Sea lamprey has been ascertained. The Magra river is also the only ecological corridor between the Mediterranean and continental biogeographical regions, thus playing an essential role in preserving biodiversity in Northern Italy.



## OBJECTIVES

The three specific project objectives were as follows: the **restoration of the fluvial and ecological continuity** of the two rivers; **raising the awareness** of the local population and involvement of the fishing associations in the surveillance activities; and raising the awareness of the local administrations which can generate direct or indirect impacts on the river ecosystem.

The initiative envisaged concrete actions aimed at maintaining and increasing fish species, in particular the **Sea lamprey**, an animal at risk of extinction throughout Italy. Efforts have been made to improve river habitats, and the fluvial and ecological connectivity of the Magra and Vara rivers has been restored creating specific fish-passages. Target species have been constantly monitored throughout the project lifetime. P.A.R.C. had also the purpose of favoring the **educational and recreational fruition of the rivers**, protecting the landscape and the river resources.

**Communication actions** aimed at raising awareness about conservation issues related to the project's target species, the nature reserve and the Natura 2000 Network have been of great importance.

## PROJECT PHASES

The project envisaged an initial phase of preparatory actions and the drafting of executive projects aimed at restoring the ecological continuity of the Magra and Vara rivers, while the monitoring of the species has been carried out throughout the whole



project duration by recording both *ante* and *post operam* data. The specific project actions were the following:

- **executive planning** for the realization of **fish-passages** along nine critical obstructions hindering upstream migratory movements of the fish fauna; and implementation of **environmental diversification actions** introducing elements to restore the river's sinuousness and to diversify the texture of the river bed in order to recreate a suitable habitat for the target species' reproduction;
- **creation of river observation areas** in Battifollo, Piana Battolla, Beverino Plans, Ramello, Cà di Vara, Arsina, S. Remigio for raising population's awareness and for the monitoring and surveillance operations;
- **monitoring of the target species** with intensification of the **surveillance operations and of activities to tackle poaching** of fish and lamprey ammocoetes (larvae) and other harmful human activities such as destruction, alteration or unauthorized collection of sand buildups within the river bed;
- interventions aimed at **raising awareness** of the local population and public administrations, with a focus on nature paths; among them: a dissemination campaign entitled "Living the Park" to inform citizens about the environmental issues of each municipality in the area, and the **publication** of the "Good practices for the protection of the landscape and river resources - Biodiversity Management", in order to let public bodies know about the virtuous experiences of watercourses management in the Natura 2000 Network and the Protected Areas.

## PROJECT RESULTS

The most significant and innovative outcome of the project was the restoration of the longitudinal continuity of the Magra and Vara rivers' basin in the area of La Spezia, thus recreating the optimal reproductive conditions of the target species.

The results were:

- creation of **4 river observation areas** equipped for the awareness raising of local populations as well as for monitoring and surveillance operations for a total of 4.400 sqm and 1.870 km;
- restoration of the hydraulic and biological continuity of the Magra and Vara rivers through the realization of **8 fish-passages** and the adjustment of the barrier located in Madrignano (VR05), for a total practicability of about 50 km of watercourse;
- expansion of the **distribution area** of the Twaite shad;
- increase of the number of **breeding sites** of the Sea lamprey;
- reduction of evidences about habitat alteration;
- prevention of poaching and alteration of habitats;
- publication of the [Good practices for the protection of the landscape and river resources - Biodiversity Management](#) delivered to the public administration bodies of the Liguria Region, involved in the governance of the territory and the river;

As a proof of the "new" biological practicability of the basin it is now possible to observe the firm **expansion of the distribution area** of the Twaite shad that in just three years has been able to exploit again a 19 km stretch of the river, situated up of the double-barrier near Madrignano which was a insurmountable barrier for the species until 2010. As far as the Sea lamprey there was a **significant increase of reproduction** events and of the number of breeding sites despite the negative effects of floods resulting in a reduction of the number of old exemplars of Sea lamprey.

The 4 river observation areas were provided with illustrative panels and furniture to allow the area's educational and informative fruition, but also to support the monitoring and surveillance of the territory. Another dissemination activity worth mentioning was the realization of an **environmental education module** addressed to any kind and grade of schools which has been presented to 1.219 students.



**Acronym**

P.A.R.C.

**Number of reference**

LIFE07 NAT/IT/000413

**Reference Programme**

[LIFE](#)

**Beneficiary Coordinator**

Ente Parco di Montemarcello-Magra

**Contacts**

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**EU contribution**

400.000,00

**Call Year**

2007

**Start Year**

2009

**End Year**

2012

**Beneficiary headquarters**

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**Region**

Liguria

**Description**

Parco della Magra-Vara