

Theme: Nature restoration actions to recover and improve the ecological coherence inside the rice agro ecosystem of the vercelli's plain – ecological corridors.

Actions: C.1.1, C.1.2, C.1.3, C.1.4

Along the Vercelli sector of Po river the continuity between alluvia and riparian woods is often interrupted by wide cultivations of colanl poplars, that fit well with the sandy soils. Surviving of habitat and species depending from this primary ecological corridor is strictly linked to the maintenance of its functionality. The ECORICE project (A. C.1.1) found some suitable areas for restoring of such ecological connections on a 16 hectares plot, buying the land and actively restoring the riparial vegetation, with the plantation of more than 8000 seedlings of indigenous plants belonging to the mixed riparian forest habitat (91F0) and related vegetation.

The Management Plan of SCI Palude di S. Genuario (IT 112007), fulfilled within the LIFE NAT/IT/007209 project , requires to gradually restore “hygrophile wood formations”. Forestal habitats, compared to the marshy one for which the Protected area is well known, occupy very limited areas, disconnected amongst wide, intensively farmed areas (ricefields). With action C.1.2 Ecorice Project bought 2 hectares of ricefields and marginal lands in order to restore different wood formations belonging to the habitat 9160. Some portions are meant to become full grown woods and are surrounded by an heliophile belt of woods and shrubs with ecotonal function. The aim is that of improving the ecological connections with the Bosco della Partecipanza (Eastward).

The Bosco delle Sorti della Partecipanza di Trino is the green lung of the lower Vercelli plain, with more than 500 hectares of oak-hornbeam and alluvial forests, exceptionally preserved during centuries of strict and wise forestal management. The surroundings are subject to the pressure of high input farming: ricefields, wood plantations and other arables land have limited the forest on its borders reducing the biodiversity of the ecotonal areas of the SCI/SPA. Action C.1.3 restored some of these habitats (9160 and 91E0*) by conversion of some ricefields and requalification of some wood plantation on the borders of the full grown woods.

On the Isolotto del Ritano, habitat and species of EU interest constantly depend on the river, dynamic and unstable. Notwithstanding some portions of full grown woods are still present with a high floristic richness, frequent floods shape the vegetation accelerating the appearance and disappearance of both high value and alien species. Action C.1.4 aims at the valorization of local biodiversity by improvement of xeric grasslands (Habitat 6210*) and riparial willows and by control of Alien invasive species (Heaven tree, Black locust) and requalification with wooded strips of local essences (habitat 91E0* and 9160).

Theme: requalification and creation of stepping stones within the vercelli rice agro-ecosystem.

Actions C.2.1, C.2.2, C.2.3, C.2.4

Within the Bosco delle Sorti della Partecipanza di Trino, in its northmost section rich with fountains and wells, the dense forest hosts little biotopes rich in biodiversity, the *fontanili*. Historically used to drain the marshy waters into the irrigations canals for ricefields, many of them are today almost abandoned and degraded. Action C.2.1 aimed at requalification of some of the most significant within the Bosco.

The Spa Paludi di San Genuario e San Silvestro protects at its core - a former fish-farm, abandoned in the early 90s – one of the widest and most important wetland habitat of the Piemonte plains. After many

interventions from the Management Body of the Site, several artificial pools request requalification. Action C.2.2 provided some additional 5 hectares of marshy habitats by reshaping some banks and lowering the ground level in order to allow permanent submersion: given the fast evolution of wetlands and the likely colonization from surrounding plots, this is enough to create the optimal conditions for natural restoration of reeds, suitable to host target species as bittern, red heron, marsh harrier and european pond turtle.

The SPA Risaie Verceslesi is the most representative of the vercelli agricultural landscape, ruled by wide ricefields almost without continuity solution. Compared with the past, the diversifying natural elements are almost all gone: *fontanili*, hedges, tree rows and little wooded patches have lost their traditional production functions and represent often a limitation for the big machinery. Action C.2.3 aims at restoring these elements. Realization of all the interventions (3) have been negotiated with private owners and carried out by themselves on their own land.

The “laghetti della Gugliemina”, located in the southmost area of Bosco della Partecipanza di Trino, are two little artificial ponds built for coarse fishing purposes. They are an important ecotone between the wood and the farmed land, where several conservation interest species have been observed as reproducing (*Emys orbicularis*, *Triturus carnifex* and *Lycaena dispar*). Action C.2.4 ecologically improved the shape of the ponds by removing artificial traits, smoothing the steepness of the banks and reshaping the bank-line in order to allow plant colonization and to give the pond a more natural looking.

Theme: forestal management for the conservation of herons reproductive habitats.

Actions C.3.1, C.3.2

Action C.3.1 aimed at evaluation of forestal management techniques with regard to maintenance of optimal conditions for herons nesting sites, within Palude di San Geuario and Bosco della Partecipanza di Trino (Montarolo heronry). For the first one it's necessary to control the natural evolution of reeds (nesting site for bittern, little bittern, marsh harrier and red heron) toward wood formations. For the Montarolo heronry, instead, through the gradual coppicing of the black locust woods the aim is to favour the renovation of young plant in the woodland, as they are preferred by the most sensitive species (night heron, little egret, squacco heron), ensuring the surviving of the colony in the long term. Cutting the coppicing, in fact, could lead to the affirmation of high trees with wide monoplanar crowns, less suitable to host nests, and to the tumbling down of older trees with possible damage to the underliving colonies.

Within the SCI/SPA Bosco della Partecipanza di Trino, criticalities connected to alien invasive species were still little known and managed. Even though the wooded area is still wide and somehow preserved from the agricultural pressures, the introduction of alien flora and the high rates of coppicing are favouring the spreading of alien species as Black locust and Northern red oak. About the latter, action C.3.2 set out a detailed mapping of the distribution and a management plan for its control and eradication in the long term.

Theme: scientific and social monitoring

Actions E.1, E.2.1, E.2.2

Trends of heron populations in the sites of intervention (forestal management) have been monitored through action E.1. Within Bosco della Partecipanza di Trino the Montarolo heronry have been monitored. During the winter Seasons censuses of the nests have been conducted; during the summer Seasons,

instead, the proportions of nesting species have been calculated, measuring the reproductive success too. During 2011, a study about the flight directions has been realized, from the colony to the feeding sites. Action E.1 have conducted also studies about the colonies of little bittern, bittern red heron and western marsh harrier within the SCI Palude di San Genuario. In the dense reedbeds periodic surveys provided the number of breeding couples and their locations, analyzing their status and criticalities.

In the ECORICE intervention sites related to core areas and stepping stones census have been conducted about butterflies, dragonflies, amphibians and reptiles and birds, with periodic surveys before, during after the restoring works.

ECORICE project aims at building active social networks between different management bodies, users and policy-makers; networks able to of coordinated actions in order to achieve the conservation of the rice agro-environment. All the information actions have been pursuing these objectives and their results have been monitored. This is necessary to understand and manage the social fallouts of the project and to tune the AFTER LIFE and following projects.

With this aim – to observe and study the trend of participative processes and evaluate the the awareness about the project topics, questionnaires and analytical tools have been used for the involved stakeholders.

Theme: Information and sensibilization activities

Actions D.1, D.2, D.3,D.4, D.5, D.6, D.7.1,D.7.2, D.7.3, D.7.4, D.8, D.9

LIFE+ ECORICE came after a multiannual and multi-level experience-process focused on the importance of the social networking of local stakeholders for the restoration and conservation of the ecological network in the long run.

The Vercelli Ricefield agro-ecosystem, in facts, spread mostly over private land, not subject to environmental prescriptions or constraints (for instance the SPA Risaie Vercellesi): the surviving of the natural elements and of the species connected, is often depending on the landowners' decisions.

To stimulate and increase the awareness of the environmental, social, cultural and economic value of such a peculiar ecosystem has a primary role for its conservation, making it easier to identify the values and the sites to preserve with the collaboration of every actor.

Thus, ECORICE project devolves high energies to the information actions, simultaneously to the technical interventions.

The following activities were carried out:

LIFE Ecological network Office: provides informations about the ECORICE project, events, progress and involved subjects. It is possible to ask for technical material and speak with technician about many aspects of building and keeping a fit ecological network. Open from September 2011 c/o Provincia di Vercelli - Settore Tutela Ambientale, on appointment (pagano@provincia.vercelli.it, info@ecorice.it).

Publications: in order to increase the knowledge about the project and its efficacy several publications have been printed, both in hard copies or digital, some of them in two languages (IT, EN). The Publications have been distributed during the project events and at the Ecological Network Office. These are the Layman's report, ECORICE depliant, the technical newsletter and a brochure, all available for download at www.ecorice.it), in hard copy at the Office or can be requested by email at info@ecorice.it.

Workshops and seminars: Workshops were focused on different publics. Two workshops (Action D.7.1) focused on the ECORICE project, one at the start and one at the end. Information about what the project has been, actions and the results achieved has been provided to all participants. Two seminars have

focused on strategic actors from the local community and aimed at providing the coordinates for the building of a local ecological network within the Natura 2000 framework. The target of such seminars have been the farmers for the first one and policy makers and professional of land planning for the second one. A national workshop has been carried out with the collaboration of the National Rurale Network to enquiry, through the use of focus groups, how to increase the biodiversity value in a ricefield context. 4 groups discussed separately about Agriculture, Governance, Rural development and Scientific research: each one of them looked out for solution to increase local biodiversity. The results of the discussions were presented for comments to policy makers (EC DG ENVI, MIPAAF, Regione Piemonte, Farmers associations). Furthermore, a very interesting action was carried out about international networking (IRFEN) of the EU ricefields and their relationship with biodiversity and Natura 2000. Provincia di Vercelli and the University of Pavia led a process of involvement and consultation about such subjects from representatives from 5 countries (Bulgaria, France, Greece, Portugal and Spain). The result has been the draft of a baseline for future common action in areas of common interests regarding the biodiversity conservation in rice agro-ecosystems.

Interactive tools: ECORICE has a dedicated website through which anyone can find information about the project . From this website it is even possible to access an open source geographic application (WGRE) to view and download information about the local ecological network (Natura 2000, naturalistic data, project data, planning data) of the lower Vercelli province.

A team of experts have been working with students and teacher of local school to design and deliver an electronic game about local biodiversity based on the project activities (Action D.9). The game has been distributed to schools from 2013 and it has been conceived as a complementary tool with open air activities for didactical purposes.

On the intervention sites billboards explaining the site characteristics, and the project activities carried out in each one of them (Action D.4). The main objective has been to inform the public about the natural value of the sites, the role of Natura 2000 network, the project activities and the support of the EU.