

Biodiversity and tourism: nature conservation in private protected areas in Italy

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Introduction

Italy has a rich biodiversity worth conserving. It has more native higher plant species than any other European nation except Spain. One out of ten animal species, and 13% of its plant species, are endemic. It also has several populations of rare bird and mammal species. As in most of Europe, Italy has a long history of human civilisation and land use, with a mosaic of land managed for a variety of purposes. Almost 20% of Italy, around 60,000 km² in total, has some form of conservation status. Less than 500 km² of this, about 0.8% of total conservation areas or 0.16% of the nation's area, is privately owned, but these private reserves contribute to conservation of a number of significant plant and animal species listed in the EU Habitats and Birds Directives. The European Union has nine biogeographical regions, each with its own characteristic blend of vegetation, climate and geology. For each biogeographical region the Commission adopts a list of Sites of Community Importance (SCI) which then become part of the network ("Habitats Directive" 1992/43/EC) to conserve natural habitats and wild fauna and flora. Moreover, the Special Protection Area (SPA) have been designated under the European Union Directive on the Conservation of Wild Birds ("Birds Directive" 2009/147/EC) to safeguard the habitats of migratory birds and certain particularly threatened birds.

Methods

To assess the contribution of private protected areas to conservation of biodiversity in Italy, we compiled species lists for all the reserves owned or managed by the country's three largest environmental NGOs. These are: WWF, the Worldwide Fund for Nature; LIPU, Lega Italiana Protezione Uccelli or Italian Association for Bird Protection; and Legambiente. Over 90% of these reserves have statutory protection under the EU SCI/SPA schemes. For these, species lists are available from the Italian Ministry for Environment (2012) and EU Natura 2000 (2012). For the reserves without statutory protection, data are available directly from the websites of the three NGOs.

Results

WWF, LIPU and Legambiente manage a total of 172 private protected areas (PPAs) in Italy, with an aggregate area of ~450 km², i.e. ~0.75% of the total area nationwide with some form of conservation status. Of these 172 PPAs, ~75% (106) are operated by WWF, ~15% by Legambiente and ~10% by LIPU. Overall, ~50% of Italian PPAs are in the Mediterranean biogeographic region, ~44% in the Continental, and ~6% in the Alpine region. Despite the small total area, the reserves operated by WWF, LIPU and Legambiente jointly help to conserve ~30% of species listed

under the EU Birds and Habitats Directives. Birds are best represented, with 76.5% of EU-listed species occurring in these PPAs, as compared to 37.4% for mammals, 56.9% for amphibia, 38.7% for fishes, 31.5% for reptiles, 18.2% for invertebrates and 7.0% for plants (Figure 1).

A total of 324 EU-listed species, across all taxonomic groups, occur in PPAs managed by WWF, 156 in those operated by LIPU, and 60 in those run by Legambiente. For migratory bird species, the corresponding figures are 149 EU-listed species in PPAs run by WWF and 90 in those run by LIPU. WWF PPAs make the largest contribution to conservation of invertebrates and amphibia, with 44 and 36 EU listed species respectively. PPAs run by LIPU and Legambiente, however, support more EU-listed mammals, 21 and 12 species respectively. The numbers of EU-listed plant species recorded from these PPAs are somewhat smaller: 16 in WWF areas, 7 in LIPU areas and only one in Legambiente areas.

Conclusions

Private landholders and non-government organizations can make significant contributions to conserving biodiversity (Chapela 2000). In particular, government investment in conservation via financial support for NGOs, and information and financial incentives for landholders which utilize existing social institutions and networks may provide an economically efficient complement to public protected areas (Sorice et al. 2011). In Italy as in other nations, tourism is one tool used to generate revenue for private protected areas, and WWF, LIPU and Legambiente all promote tourism in at least some of their reserves. Currently, it appears that they use tourism principally as a public education tool. It would be valuable, however, to examine the economic and employment contributions derived from tourism in private lands in Italy.

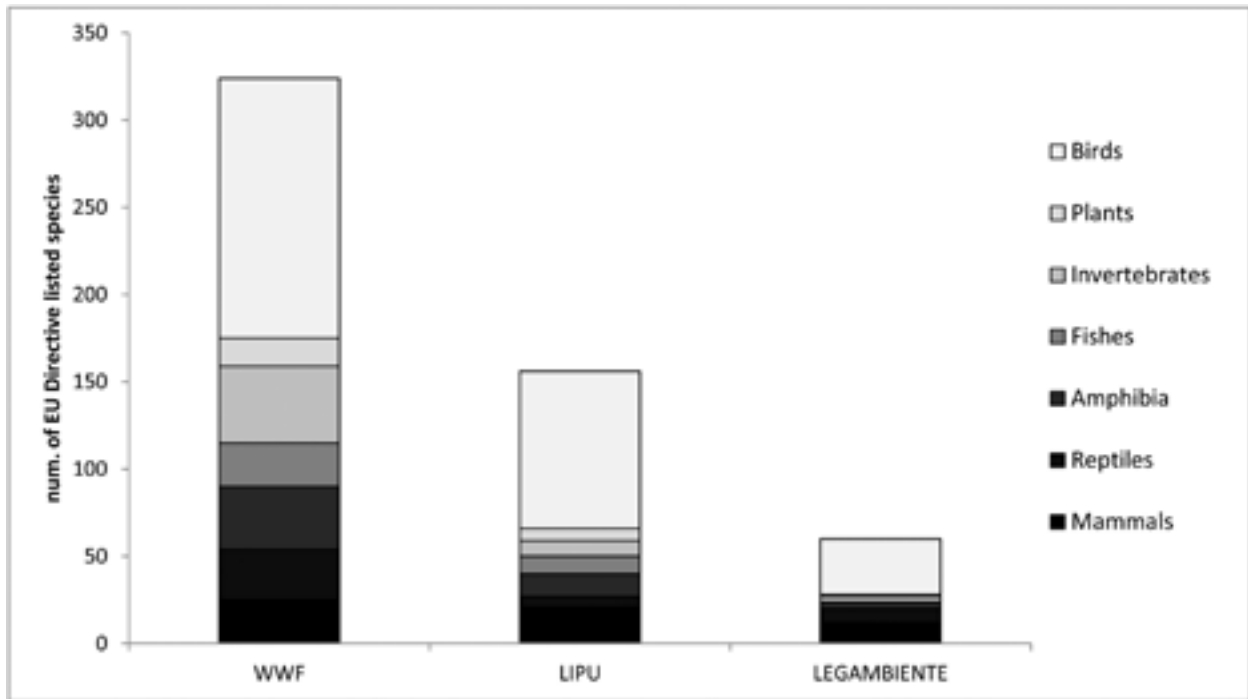


Figure 1. Priority species listed in EU Habitats and Birds Directives conserved in Italy by WWF, LIPU and Legambiente protected areas.

Chapela I, 2000. Global bodies won't save the environment: it needs grass-roots efforts. *Nature* 403: 129.

EU Natura 2000, 2012. <http://natura2000.eea.europa.eu/>, accessed 20 June 2012.

Italian Ministry for Environment, 2012. http://www.minambiente.it/home_it/menu.html?mp=/menu/menu_attivita/&m=Rete_Natura_2000.html&lang=it, accessed 20 June 2012.

Sorice MG, Haider W, Conner JR, Ditton RB, 2011. Incentive structure of and private landowner participation in an endangered species conservation program. *Conservation Biology* 25 (3): 587–596.