Biocultural conservation in Cape Horn: the Magellanic woodpecker as a charismatic species

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Interdisciplinarity is often looked to for producing insights of practical use to policy makers in the public and private sectors. Yet there are many challenges facing interdisciplinary approaches: difficulties in integrating different disciplinary perspectives, scales, and methods; differences in vocabularies; and timelines for research that often do not match well with the exigencies of practical affairs. Transdisciplinary approaches—in which academic research is integrated with non-academic concerns—are often fruitful in linking interdisciplinary research with societal (or what we prefer to call biocultural) needs.

At the southernmost tip of the Americas, the Cape Horn Biosphere Reserve (CHBR) encompasses one of the world's most pristine remaining wilderness areas and is home to the indigenous Yaghan (or Yamana) community, which featured so prominently in Charles Darwin's *Voyage of the Beagle*. Its remoteness and uniqueness, however, are threatened by the introduction of exotic species such as the North American beaver and American mink, increasing development pressures from new connectivity, resource exploitation, and the development of tourism. To implement the biosphere reserve and conserve its natural and cultural richness requires the active participation of the community, as well as linkages and integration between various disciplines and institutions. In an effort to achieve the goal of transdisciplinary integration, we used the strategy of identifying a charismatic species, since doing so serves to motivate people towards biodiversity conservation, to communicate ecological concepts, and to integrate both the ecological and social dimensions of sustainability. This study was developed together with the population of Puerto Williams, a town with 2200 inhabitants located on Navarino Island, and the largest human settlement within the CHBR.

Based on structured interviews, we found that the largest woodpecker in South America, *Campephilus magellanicus* or the Magellanic woodpecker, was the favorite bird of people who inhabit the reserve, especially for members of ethnic Yamana group and long-term residents (Arango *et al.* 2007). Through a process of socialization in which the local population was involved, together with governmental and military authorities and people from different disciplines and skills, from 2005–07 we developed a program for the implementation of the Magellanic woodpecker as a charismatic species of the Cape Horn Biosphere Reserve.

A strategic plan was then designed covering both the dissemination of the program and the natural history of the woodpecker and including educational and recreational activities with the community at local and regional levels. The objective of this campaign was to consolidate the previous empathy felt toward this species and increase its charismatic appeal in social–cultural groups less familiar with the avifauna of the biosphere reserve. This program of research, environmental education, and biocultural conservation was run by the Masters of Science Program of the University of Magallanes Campus in Puerto Williams in conjunction with the Institute of Ecology and Biodiversity (IEB) and the Omora Foundation. The program was based on the Dietz *et al.* (1994) model and followed a systematic process in seven stages: Stage 1, identification of priority problems; Stage 2, identification and evaluation of the target population, available resources and the scenery; Stage 3, development of positive interaction between the participants; Step 4, selection and methods analysis; Stage 5, activities implementation; Stage 6, evaluation, and Stage 7, reiteration.

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The woodpecker program was focused on disseminating knowledge about the natural history of *C. magellanicus* to all parts of the local population. From the beginning a group of researchers from the CHBR Scientific Advisory Council and Omora Park Program worked with several local leaders (including the provincial governor, commanders of Beagle Naval District, the mayor of Puerto Williams, members of local tourism groups, and the director of the only school in the city) and public entities (the Municipality of Cape Horn County, the Chilean Antarctic Province, the Chilean navy, the National Forestry Corporation, the Puerto Williams school, and other community groups) to encourage their interest in this species both as a matter of local pride and in terms of potential economic benefits from the development of tourism. Together, this group selected, planned, and executed linked activities (e.g. a permanent environmental working group to participate in the Scientific Regional School Congress Meeting, environmental workshops, lectures, field trips, celebrations, drawing competitions, environmental campaigns, exhibitions, and distribution of souvenirs) focused mainly on schoolchildren (about 20% of the population are preschool and school-age students). This strategy made it possible to reach an important segment of adults within the city—about 250 families have their children studying at the local school.

The media also played an important role at local and regional levels by disseminating the program and the importance of conserving this species. The Magellanic woodpecker became the symbol of the campaign. As with the case of the municipality, members of the Chilean navy—a group that had originally chosen the Andean condor as its favorite bird in their responses—expressed interest in using the woodpecker as a symbol of their own environmental campaign to contribute to the reduction of plastic bags in the biosphere reserve.

Implementing the Magellanic woodpecker as a charismatic species has been a useful tool for biocultural diversity conservation in the CHBR. The woodpecker program has disseminated accounts of the natural history of *C. magellanicus* and increased its valuation at local, regional, national, and international levels. The construction of public awareness of and support for this bird is a contribution to the conservation of the species and sub-Antarctic Magellanic forests that simultaneously opens up opportunities for local economic development for the community of this biosphere reserve—a success that could only have been achieved through interdisciplinary and transdisciplinary collaborations.

References

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