Making the Leap from Researcher to Planner: Lessons from Avian Conservation Planning in the Dominican Republic

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Abstract: *As research biologists move into conservation biology, especially in foreign countries, providing support for conservation planning efforts presents unique challenges. Published accounts of national, multidisciplinary planning efforts and priority setting for avian conservation are not common. I describe the process and results of a broad-based, grassroots-oriented avian conservation planning workshop held in the Dominican Republic in which we designed a coordinated strategy for avian conservation in the country. The planning process sought to (1) increase communication and cooperation among conservationists; (2) familiarize participants with resources pertinent to avian conservation; (3) encourage the transfer of information between researchers and managers; (4) promote the concepts of long-term avian monitoring, avian conservation plans, and species management plans; and (5) develop a common, multidisciplinary strategy to promote the conservation of birds in the Dominican Republic. The workshop highlighted group discussions among research biologists, managers, educators, and public policy specialists to assess avian conservation needs and priorities with respect to each discipline and has since galvanized a significant portion of the conservation community around several cooperative projects involving diverse segments of the community. Avian biologists can play a significant role in conservation efforts through a willingness to work with key players in diverse fields and to envision holistic, multidisciplinary approaches to conservation issues.*

Brincando de Investigador a Planeador: Lecciones de Planes de Conservación para la Conservación de Aves en la República Dominicana

Resumen: *Cuando los biologícos investigadores incursionan en la biología de la conservación enfrentan nuevos desafíos, especialmente en países extranjeros, al intentar prestar apoyo para esfuerzos de planificación de la conservación. Los informes publicados de esfuerzos de planificación nacional, multidisciplinaria y de establecimiento de prioridades para la conservación de aves no son comunes. Describo el proceso y los resultados de un taller nacional de planificación para conservación de aves en la República Dominicana que utilizaba un proceso fundamental de base amplia donde creamos una estrategia coordinada para la conservación de aves del país. El proceso de planeación buscaba (1) aumentar comunicación y cooperación entre conservacionistas, (2) familiarizar a los participantes con los recursos disponibles para la conservación de aves, (3) estimular la transferencia de información entre investigadores y manejadores, (4) promover los conceptos del monitoreo de aves a largo plazo, planes de conservación de especies y planes de manejo de especies y (5) desarrollar una estrategia multidisciplinaria común para promover la conservación de aves en la República Dominicana. El taller puso a relieve discusiones de grupo entre investigadores, manejadores, educadores y especialistas en política pública para evaluar las necesidaes y prioridades para la conservación de aves con respecto a cada disciplina, desde entonces se ha estimulado a una porción significativa de la comunidad conservacionista alrededor de proyectos de cooperación que involucran a diversos segmentos de la comunidad. Los ornitólogos pueden jugar un papel significativo en los esfuerzos de conservación mediante una buena disposición para trabajar con personas clave en diversas disciplinas y visualizar de una manera integral y multidisciplinaria las estrategias para abordar asuntos de conservación.*

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Introduction

As a multidisciplinary science, conservation biology often requires its practitioners to wear many hats. Research biologists moving into conservation biology may face unique challenges as they encounter disciplines in which they are not trained as specialists (Foster 1993; Grajal & Stenquist 1998). This may be particularly true of biologists working in foreign countries, where problems of communication and differences in training levels and cultures may be accentuated and where issues such as national sovereignty may arise. These challenges also present opportunities for multilateral learning, bridge-building between people and organizations, and protection of biological diversity.

Published accounts of national efforts at multidisciplinary planning efforts and priority setting for avian conservation are not common, despite the fact that conservation plans for individual species are written routinely (i.e., Culbert & Blair 1989; Sorenson & Bradley 1998). Recent efforts toward more holistic avian conservation planning for a region (Noss 1993; Stotz et al. 1996) or a political unit (Tucker & Evans 1997; Safford & Jones 1998) tend to represent an individual's or group's interpretation of conservation priorities and generally focus narrowly on avian biology. Although the concept of integrating human and avian conservation needs through sustainable development is popular within international conservation circles (Dyer & Holland 1991; World Conservation Union et al. 1991), practical constraints have often limited local participation in conservation and development (Wells & Brandon 1993). A notable exception is the large Partners in Flight (PIF) bird conservation program in North America (Finch & Stangel 1993), but this plan has the advantage of being able to count on the participation of many well-paid federal and state employees whose duties include participation in PIF. I describe the process we employed in the Dominican Republic of organizing a broad-based, grassroots-oriented avian conservation planning workshop to design a coordinated strategy for avian conservation in the country. I then consider the results of this planning process and some of the lessons that we learned.

The Dominican Republic, on the island of Hispaniola, contains the highest biodiversity in the Caribbean (Secretaria de Estado de Agricultura/Departamento de Vida Silvestre 1990). More than 260 species of birds have been recorded in the country (A.R. Keith, J. Wiley, A. Ottenwalder, S.C. Latta, unpublished data), including 135 permanent residents and 24 endemics. The Dominican Republic is also a major wintering site for Neotropical migrants (Arendt 1992; Wunderle & Waide 1993). Despite this richness, the avifauna is perhaps the least studied in the Greater Antilles and is under increasing pressure from habitat alteration, hunting, trafficking of birds for the pet trade, pollution, and other effects of the human population (Anonymous 1995; Raffaele et al. 1998).

Although the Dominican Republic has set aside more than 10% of its territory in 40 protected areas for the benefit of wildlife, many of these sites are effectively unprotected, and only a few have written management plans. There are no management plans for individual threatened species or habitats. In January of 1995, Grupo Jaragua, with the World Wildlife Fund, other nongovernmental organizations (NGOs), and governmental departments, released a general strategy for the conservation of biodiversity in the Dominican Republic (Anonymous 1995). This report was an important step in conservation planning in the country and summarized needs for further inventories, monitoring, protection of species and habitats, training, and education. Specific measures for avian protection or the recovery of bird populations were lacking, however.

Preworkshop Planning

In March 1997, a small but diverse group of Dominican and North American biologists, environmental activists, and educators recognized the urgent need for a more in-depth analysis of the state of avian conservation in the Dominican Republic and met to discuss the possibility of a more comprehensive conservation strategy for birds. The initial impetus for this meeting was provided by an outside funding agency that saw a need to prioritize conservation needs in the country, but all present agreed that a common strategy would be valuable in supporting research, management, and education efforts. A planning committee was formed that would work on the broad outline of an avian conservation planning process, draft a funding proposal to support the envisioned planning workshop, and write a questionnaire that would be integral to the networking and planning process. Outreach to expand the committee was postponed until these tasks were completed, but there was consensus that the workshop should be conducted by and for Dominicans, although foreign experts interested in avian conservation in the country would be an important resource and should be invited.

The success of the avian conservation workshop depended on an extensive and thorough planning process in which we sought a grassroots orientation so as to involve potential participants early in the process. Our intention was to bring participants to a point where they felt vested in the process and the outcome of the workshop and thus dedicated to seeing that the results were honored as much as possible. Potential workshop participants were identified by personal contacts and networking and included representatives of NGOs, governmental bodies, academia, and the private sector. Organizations were asked to designate at least one participant and to suggest other individuals or organizations to invite.

Our initial contact with many participants was made

in November 1997 with a workshop announcement, a questionnaire that sought an assessment of avian conservation issues (Appendix 1), and an invitation to take part in planning-committee meetings. The questionnaire was an important organizing tool because through it we sought to begin the process of encouraging participants to think about the diversity of threats to birds and their habitats in the Dominican Republic, assess the relative importance of these threats, and prioritize conservation objectives. We expended considerable effort in the form of phone calls and personal contacts to encourage the return of questionnaires.

Response to our call to participate in the planning process was not overwhelming, but it did bring in participation from some important players, including the Wildlife Department, the National Parks, the National Zoo, and the Museum of Natural History. Although there was initial support for the project, enthusiasm was muted because it was perceived by some that we were taking the role of the Wildlife Department and that the planning process and workshop agenda were already fixed. Despite our realization that we needed to include key players early in the organizational process, we found we had violated our own expressed goal.

It was necessary to return to the beginning of the planning process and revise the goals, objectives, and agenda of an avian conservation workshop to reflect a new, larger committee. Those of us who had been involved for months in planning the workshop were initially frustrated with having to start this process over. By this time we had obtained funding for the meeting; so, we were concerned that reopening the agenda to discussion would lead to a vastly different product than that suggested in the funded proposal. Also, we realized that some local biologists, rather than sharing our euphoria at having funds for the meeting, were concerned about the prospect of undue influence caused by foreign financial support of a process that could determine national priorities.

After extensive discussion, however, our original proposal remained largely unchanged. We found that we developed a strong working relationship and a trust in each other and in the planning process that had not existed previously. Interorganizational ties were strengthened as planning-committee members sought to make the workshop reflect the vision of each of the organizing groups, and as the committee reached out to one another and to other entities for support. This strengthening of working relationships would be one of the more significant outcomes of the workshop.

Objectives

The proposal the planning committee developed contained five main objectives:

(1) *Increase communication and cooperation between all parties interested in avian conservation.* We hoped to bring together key players from a variety of disciplines, many of whom seldom communicated with one another but who also had a common interest in protecting birds and their habitats. We hoped to gather research biologists, wildlife managers, land managers, environmental educators, conservation activists, and government policy makers to formulate a common understanding of avian conservation needs in four broad areas: research, management, education, and public policy.

(2) *Familiarize participants with resources pertinent to avian conservation that are already available.* Many dispersed resources are available to interested parties but few people know where to find them. We hoped to locate and publish lists of these resources, including locations of libraries that include avian conservation literature, especially small libraries housed in NGOs and government departments; a bibliography of key documents specifically on Hispaniolan birds, habitat, and site assessments, with an emphasis on internal reports; sources of educational materials such as school curricula and special educational units or programs; and sources of topographical and geographic information system–based maps of physical and biological attributes.

(3) *Increase communication between researchers and managers, especially to encourage the transfer of information from foreign to Dominican biologists.* As in many developing countries, much ornithological research is conducted by foreign nationals, and it is a widely recognized problem that the results of much of this research never make it back to the host country (Foster 1993). Part of this problem can be attributed to language differences, but more often researchers fail to take responsibility for reporting their findings to host institutions, for interpreting their results in terms of management needs, or for collaborating with nationals (Medellin 1998). This is particularly frustrating for biologists who need to utilize the most recent data in making management decisions. We hoped to facilitate communication by bringing researchers and managers together, thereby encouraging the development of working relationships. We also sought to break down some of these informational barriers by publishing a book summarizing ornithological research in the Dominican Republic.

(4) *Promote the concepts of long-term avian monitoring, avian conservation plans, and species management plans.* Beyond writing a conservation strategy, we hoped to provide examples of how a nation might approach conservation planning and to provide an educational forum to introduce additional tools and goals for managers. We hoped to emphasize the value of long-term monitoring in evaluating population trends and to impress on participants the depth of knowledge of a species's biology which is needed to write an effective management plan.

(5) *Evaluate means by which ornithological research, environmental education, public policy, and land management can promote avian conservation and develop a strategy to promote the conservation of birds in the Dominican Republic.* We envisioned the heart of the workshop as a series of small-group discussions among research biologists, managers, educators, and public policy specialists to assess avian conservation needs and priorities with respect to their own disciplines.

Workshop Format and Results

Nearly 100 individuals representing 25 organizations attended the 2-day workshop in April 1998. Conference diversity was ensured by the attendance of representatives from government agencies related to wildlife, parks, natural resources, and forestry; the cattleman's association; the Agricultural Bank; numerous NGOs; and academia. Invited presentations were given concerning the state of avian conservation in the Dominican Republic, avian conservation plans, species management plans, and avian monitoring methods. A speaker from the powerful sport hunting advocacy organization was added, prompting considerable discussion concerning the need for hunting controls and the role of sport hunters in conservation. This began a dialogue that promised to bridge a gulf between conservationists and hunters, with a common understanding being reached that illegal hunting needed to be curbed before controlled legal hunting could be permitted once again.

Following formal presentations, participants broke into groups to analyze avian conservation needs and priorities with respect to ornithological research, management, education, and public policy. Group members selected a moderator and then worked together to identify and then prioritize or rate needs within their field of expertise. Different groups approached this task with different strategies, but most used questionnaire results as a basis for discussion. Although the questionnaire was important in initiating discussions, group decisions did not always reflect questionnaire results. Following the identification and prioritization of needs within each group, action proposals were generated and strategies devised to implement the action proposals. Strategies for each action considered time lines, personnel, and resources available to address each proposed action.

Each working group presented its recommendations in a final plenary session in which considerable discussion and debate were entertained. The recommendations of each working group were open to revisions, which often took place, but we limited substantial changes in substance and agreed to present these differences as discussion items in the proceedings to be published following the workshop.

The initial goal of providing a common base of understanding among workshop participants regarding the state of avian conservation and the level of knowledge required to design conservation plans was hampered by the difficulty of gathering the dispersed information and by the largely volunteer nature of the organizing effort. Those results will be published with the workshop proceedings. We were able, however, to publish a book before the workshop summarizing ornithological research from the Dominican Republic (Latta 1998) and a map of protected areas with a description of their statutory level of protection. We also compiled and distributed to participants a list of the birds of the Dominican Republic with an assessment of their status and distribution. This entailed considerable discussion and consultation because there was no official list of threatened or endangered species available from the government. Most important, we were fortunate to enlist the help of some extremely qualified speakers for the plenary session and to provide a further basis for deliberations of conservation plans. Working groups made the following recommendations:

Research

Researchers concluded that sufficient data were unavailable to support species management or conservation plans, or many management decisions. They called for the following actions: (1) undertaking of additional field studies detailing the distribution, abundance, natural history, and habitat selection of all Hispaniolan birds; (2) immediate initiation of a national avian monitoring program utilizing a national system of point counts and a small network of intensive studies of nesting productivity in major habitats in protected areas (intensive monitoring would also facilitate demographic studies useful in determining population trends); (3) specific studies on the effects of deforestation, other types of environmental degradation, and introduced species on bird populations; and (4) prioritization of species and habitats requiring immediate attention. Because baseline data on population size, trends, and habitat loss do not exist, researchers primarily used personal experience and evaluations made by Birdlife International (Collar et al. 1992) in evaluating threatened species. The habitat requirements of these species and personal knowledge of the condition of habitats were considered in the selection of threatened habitats. Among birds, endangered endemic species demanded top priority. These included Ridgway's Hawk (*Buteo ridgwayi*), Bay-breasted Cuckoo (*Hyetornis rufigularis*), LaSelle's Thrush (*Turdus swalesi*), White-winged Warbler (*Xenoligea montana*), Eastern Chat Tanager (*Calyptophilus frugivorus*), Western Chat Tanager (*C. tertius*), and White-winged Crossbill (*Loxia leucoptera megaplaga*). Other species, both endemics and residents, considered threatened by the researchers included Black-

capped Petrel (*Pterodromo hasitata*), Wood Stork (*Mycteria americana*), West Indian Whistling Duck (*Dendrocygna arborea*), Scaly-naped Pigeon (*Columba squamosa*), White-crowned Pigeon (*C. leucocephala*), Plain Pigeon (*C. inornata*), Key West Quail-Dove (*Geotrygon chrysia*), Gray-headed Quail-Dove (*G. caniceps*), Ruddy Quail-Dove (*G. montana*), Hispaniolan Parakeet (*Aratinga chloroptera*), Hispaniolan Parrot (*Amazona ventralis*), Stygian Owl (*Asio stygius*), Least Poorwill (*Siphornis brewsteri*), and Northern Potoo (*Nyctibius jamaicensis*). High-elevation cloud forests and moist broadleaf forests were selected as priority habitats for conservation attention.

Management

Managers concluded that representative parcels of all major habitats were already protected by law, but they were unable to evaluate whether additional parcels of land required protection. Managers emphasized that basic data were lacking to make many management decisions and recommended that departments focus on small, achievable goals until additional data and funds become available for larger projects. Suggestions for specific projects used as examples were to regulate visitation by tourists to the flamingo colony at Lago Enriquillo and to improve support for the Botanical Garden and habitat restoration efforts.

Education and Public Policy

Educators sought a means to create a national culture that supports environmental protection. Toward this end they suggested interdisciplinary actions to (1) train community organizers in environmental education, focusing in particular on communities near protected areas and (2) design and introduce a national curriculum on environmental education in general, and on birds in particular, in the public schools. This is particularly feasible because public schools are organized on a national basis under the federal government.

The public policy group, citing the fragmentation of environmental responsibilities within the government, placed emphasis on creation of a comprehensive wildlife law and establishment of a Department of Environmental Impact Studies.

Follow-up Activities

The conservation planning process has already produced concrete results, and diverse coalitions, which evolved out of each of the working groups, are now making progress on several action proposals.

Research and Management. A plan has been developed for the initiation of a long-term avian monitoring effort (S.C. Latta, J. Faaborg, D. Mejía, N. López, F. Rivas, C. Rimmer, unpublished) based on the protocols of the North American Breeding Bird Survey (Ralph et al. 1995) and the Breeding Bird Biology Research and Monitoring Database (BBIRD; Martin & Geupel 1993). This plan involves the use of 40 point-count routes distributed nationally and run twice annually for both breeding and wintering birds, as well as intensive nest-monitoring efforts in four major habitats in a single national park. Nest monitoring would be expanded in subsequent years to as many as five parks. As a top priority of the researchers, the monitoring plan met with universal support except from funding agencies, that have appeared hesitant to involve themselves in monitoring or multi-year endeavors. Funds to implement this monitoring plan are still being sought. Yet, we believe that monitoring of populations is essential to determine if populations are stable, whereas nest monitoring will quickly show if local populations are suffering from parasitism from the recently arrived Shiny Cowbird (*Molothrus bonariensis*) or from high nest predation due to fragmentation.

Education. Fundación PROGRESSIO and The Nature Conservancy have obtained funding for the establishment of a national training center and development of a comprehensive training program in environmental education and avian monitoring techniques. A working group has also been meeting to begin the work of designing the environmental education curriculum.

Public policy. A working group met to begin to draft a new comprehensive wildlife law that would regulate everything associated with wildlife management and help ensure independence of the wildlife department. Political realities, however, suggested that they wait to see if the government follows through with plans to consolidate natural resource functions under one department.

Throughout this planning process we were impressed by the enthusiasm generated by diverse groups working together to solve difficult problems. The process galvanized a significant portion of the conservation community around a common goal (organizing the workshop itself) and has now focused considerable effort on several cooperative projects involving diverse segments of the community. Among the many things this experience has taught us (Appendix 2), we concur with James (1998), who argued that researchers entering the field of conservation biology require knowledge of the basic biology of birds, expertise in monitoring methods, and skill in working with policy makers and managers. We also add that conservation biologists require an ability to work with environmental educators and conservation advocates and a willingness to envision holistic, multidisciplinary approaches to avian conservation issues. These requirements are perhaps more important today, with the limited funding available for conservation efforts, and especially so in developing countries, where there is not yet an entrenched conservation ethic. By identifying

and reaching out across disciplines to key players, avian conservationists can create strategies for the long-term protection of birds and their habitats.

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Appendix 1

Abridged format of the questionnaire on avian conservation issues in the Dominican Republic circulated to potential workshop participants*.

(1) Prioritize the following items in terms of importance for scientific research.
Determine the impact of introduced animals.
Determine the impact of introduced birds.
Determine the current abundance of species.
Determine the current distribution of species.
Determine population trends of species.
Determine habitat selection of species.
Know the ecology of particular species.
Determine the effects of deforestation and fragmentation of natural systems on birds.
Determine the effects of other types of environmental degradation on birds.
(2) For which species do we have sufficient information to design monitoring, management, and conservation plans?
(3) Are endemic birds, migratory birds, or native residents most threatened?
(4) Which avian taxa are most threatened?
(5) How important do you consider each item below in terms of environmental education?
Educational programs for elementary and secondary school students.
Education of national park guards and forest guards.
Education of members of the military and the police.
Mass media campaigns in environmental education.
Ornithological training for biologists.
Development of a master's degree program in ornithology.
Environmental education in communities on the periphery of protected areas.
Higher-level education of technicians and professionals.
(6) How important do you consider each item below in terms of development of public policy?
Control of water pollution.
Control of pesticide use.
Control of garbage and solid wastes.
Control of air pollution.
Land-use issues.
Issues of land ownership and control.
Control of immigration.
Control of deforestation.
Control of fires.
Hunting controls.
Degradation of mangroves, lagoons, and wetlands.
Environmental legislation.
(7) How important do you consider each item below in terms of wildlife management?
Directing agricultural practices toward conservation compatibility.
Designation of more protected areas.
Hiring of more park guards.
Developing more maps of current land uses.
(8) Which avian habitats are not currently represented in protected areas?
(9) What habitats are most threatened by environmental degradation?
(10) What is the area of specialization of you and/or your organization?
(11) Who else would you recommend be invited to this workshop?
(12) What resources (library materials, maps, computer programs, unpublished studies, etc.) are available at your institution that relate to Dominican birds and avian conservation?

**Questions were designed to reveal respondents' views on the state of avian scientific research, species and habitat management, environmental education, and public policy regarding conservation. Some questions that were given various choices as response items have been condensed and re-formatted. Most items requested a numerical ranking or prioritization of responses.*

Appendix 2

Ten recommendations for comprehensive avian conservation planning based on experience gained in organizing a grassroots-oriented planning workshop to design a coordinated strategy for avian conservation in the Dominican Republic.

(1) Plan on much lead time for organizational aspects and for collection and dissemination of preparatory materials. Remember that this project will not be everyone's top priority even if they are supportive.
(2) Begin with as broad a coalition as possible early in planning efforts. Be aware of key players, especially those who may have ownership issues related to avian management and conservation, and include them early in the planning process.
(3) Make sure that the planning committee is not made up solely of biologists and managers. Educators, activists, and policy makers are as important to the success of the planning process and may be outside the organizer's sphere of contacts. Invite to the workshop sectors of the natural-resource community that may not be traditionally thought of as conservationists (i.e., hunters) because they often need to be part of the solution.
(4) Define goals and objectives as a group before seeking funding. Discuss any possible implications of accepting funding from that source.
(5) Questionnaires can be a useful organizing tool, but they require extensive follow-up.
(6) Allow each participating organization to contribute in a way and in a form with which they feel most comfortable. Take advantage of skills and services available through your network. This reduces costs and helps ensure broader ownership of the planning process.
(7) Although nationals should be central to the planning process, a special effort should be made to include foreign researchers with experience in the country because they may be a source of important data.
(8) Discussion and debate surrounding the distribution and status of bird species in advance of the workshop is a time consuming but useful exercise if official lists are unavailable.
(9) Inadequate scientific knowledge must be recognized but not allowed to freeze progress.
(10) Prioritization of conservation needs does not guarantee funding.