

Protection of Neotropical Migrants as a Major Focus of Wildlife Management

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Abstract — Due to their funding source, wildlife management programs devoted most resources to game species management, and ignored large scale biodiversity initiatives, such as the protection of neotropical migrant land birds. Neotropical migrants are, however, a major focus of the new field of conservation biology, whose proponents consider the field more inclusive than wildlife management, and consider wildlife management a subdiscipline on the scale of forestry or range management. However, the relationship between conservation biology and wildlife management is evolving toward a partnership. Preserving biodiversity requires protection and management of public land, infrastructure of trained professionals in existing agencies, and the support of the wildlife management agency constituency. I suggest the relationship could be improved by 1) conservation biologists giving greater consideration to the value of traditional wildlife management techniques such as hunting; 2) coordinating regulatory protection of neotropical migrants in existing agencies, primarily fish and wildlife agencies; 3) developing and incorporating management of neotropical migrants into existing land and population management actions; and 4) developing stable funding for nongame wildlife programs.

Over the last decade protection of neotropical land birds has become a major conservation issue (Robbins et al. 1989, Askins et al. 1990). Concern for this large group of birds has grown within many national conservation groups such as The Nature Conservancy, National Audubon, and agencies such as U.S. Forest Service and U.S. Fish and Wildlife Service (Salwasser 1987, Thomas and Salwasser 1989). Issues relevant to the protection of neotropical migrant birds, such as fragmentation, have been important in the formation of the new field of conservation biology (Soule and Kohm 1989). But the field of wildlife management and many agencies employing wildlife management biologists have been slow to recognize the importance of neotropical migrant bird management and develop programs to meet the needs of this group of birds.

The slow response of wildlife management agencies in this important area of nongame wildlife protection is part of a more general reluctance to tackle most issues related to the protection of biodiversity. It has had a significant effect on protection of nongame species in general and contributed in some degree to

creation of an entirely new discipline of conservation biology and the growing network of state Nature Conservancy offices and Heritage Programs. What, then, is wildlife management? Is it just game management and endangered species protection, or does it embrace all wildlife?

Because it is relevant to a discussion of the role of wildlife management agencies in protection of neotropical migrants, I first develop a history of wildlife management with regard to conservation biology, highlighting their divergent backgrounds. I then offer a few reasons why separation is counterproductive and why it is crucial for wildlife management agencies to be involved in protection of neotropical migrants. I finish with a few recommendations for change.

Most state and federal wildlife agency people were trained in the science of wildlife management. For many the discipline began with publication of Aldo Leopold's *Principles of Wildlife Management* (Leopold 1937), and most wildlife managers recognize his working model for wildlife biologists that "to keep every cog and wheel is the first precaution of intelligent tinkering" (Leopold 1953).

With this code, a new generation of wildlife professionals set out to intelligently tinker. As a regional biologist with Georgia Fish and Game, I worked for one of these new

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biologists, Frank Parrish, who got a Master's degree under the G.I. Bill, a benefit of his time in Korea. At the time he came to Georgia Fish and Game, he and other biologists in the division were the only professionals protecting wildlife including nongame species. But the funding that supported these biologists, such as the Pittman-Robertson Act of 1937, required them to concentrate on resources that benefited people who were paying, namely hunters. Wildlife management inevitably became game management.

This is not to say that state agency biologist worked solely on game species. In many states, funds from game resources were used to protect habitats that benefited all species. In some states, game funds were used to sustain new programs to protect endangered and threatened species as well as the vast list of other species known as nongame.

These nongame programs were an initial attempt by wildlife management agencies to address a broader array of wildlife issues. Nongame programs grew in the 1970's largely from state income tax check-off programs and other donated monies. But without stable funding, state programs were left to operate with budgets that were erratic and rarely grew, making long-term planning difficult. Most state programs focused on the immediate challenge; species at or near the brink of extinction. In a necessary triage scheme the rest, including most neotropical migrants, were dealt with indirectly or not at all.

But the growing list of rare species and communities during the last decade required a more comprehensive approach. Without strong support from within wildlife agencies, the effort to protect our nation's wildlife diversity came from an entirely new discipline. The Society for Conservation Biology was formally established in 1987, but publication of the journal Conservation Biology was the first formal declaration of this conservation movement (Ehrenfeld 1987, Aplet et al. 1992). These biologists applied theories of population and community ecology to preserve biodiversity and envisioned their role much differently than did game management biologists. The conservation biologist was not so much a farmer of wildlife trying to provide a harvestable resource, but doctor of a natural organism that required care to prevent ecological catastrophe (Noss 1989). These scientists were not simply re-applying the basic principles of wildlife management as set by a generation of game biologists. Conservation biology covered a number of topics that deal directly with problems of small and fragmented populations of animals and strategies needed to preserve them.

For example, a topic of serious discussion centered on the character of a nature reserve. This so-called SLOSS controversy (Single Large Or Several Small), was an attempt to apply the theory of island biogeography to reserve design (Noss 1989). Although this discussion centered largely on tests of the theory's predictions, it implied that biodiversity must not only be protected from habitat destruction but from all uses including hunting (Grumbine 1990).

Exclusion of wildlife management or at least game management from the mainstream of conservation biology is apparent in much early literature. For example, in the opening

editorial of the first issue of Conservation Biology, conservation biology is described as a new discipline that relies on a variety of academic disciplines such as ecology, ethology, paleontology, climatology and oceanography, among others (Ehrenfeld 1987). The author also lists a group of "real world" resources such as federal and fundraisers. But nowhere does he acknowledge the academic discipline of wildlife management or state agencies that practice that discipline.

Literature about conservation biology creates the impression that conservation biology is the central discipline with wildlife management as a peripheral discipline along with forestry and range management (Soule 1985). Moreover, it implicitly denies any value to hunting, which threatens the core philosophy of many wildlife professionals and their livelihood. The impact of these impressions on many wildlife management professionals, whether justified or not, cannot be underestimated.

In a remarkably short time a transition has occurred that suggests the two disciplines may concentrate on common goals rather than on different ideological positions. One reason for this discussion is that we cannot protect biodiversity by relying on reserves managed exclusively protecting biodiversity (Waller 1988, Thomas and Salwasser 1989, Trauger and Hall 1992). Reserves account for a relatively small area of the continent, about five to ten percent, a proportion that is not likely to grow significantly (Salwasser 1987). Most public land, about 50% of the continental area, is managed for multiple use by professionals trained in wildlife management (Salwasser 1987).

A second reason for an improved discussion between wildlife management professionals and conservation biologists is that there are relatively few conservation biologists and their number is insufficient to effect changes necessary to protect biodiversity. Several authors argue the existing network of wildlife management professionals must be included in a long term strategy to protect biodiversity (Salwasser 1987, Thomas and Salwasser 1989, Aplet et al. 1992).

In the last year the ideological gap between the two disciplines has diminished. Aplet et al. (1992) argue in Conservation Biology that conservation biology is really a part of the discipline of wildlife management as it was originally envisioned by Leopold, Errington, and others. They argue that wildlife management is not game management but a larger discipline that aims, among other things, to protect our nation's biodiversity. As evidence of the growing union, The Wildlife Society is now developing a position on biodiversity and this year held a joint meeting with the Society for Conservation Biology.

The present conference on neotropical migrants promises an even better mix of wildlife management professionals and those who consider themselves conservation biologists. If the current trend persists it is likely that protection of biodiversity will become a major goal of wildlife management agencies and the science of conservation biology will become an equal and viable part of wildlife management.

Understanding the complimentary roles of conservation biology and start to defining the role of wildlife management in the protection of neotropical migrants. After all, the hundreds of species of neotropical migrants are a major part of the nation's vertebrate fauna that is currently in need of attention. Wildlife management agencies' strong support is needed for several reasons:

- 1) Neotropical migrants include a large group of species with diverse habitat needs spanning nearly all successional stages of most plant community types. Recent work on breeding neotropical migrant land birds highlights the role of habitat change in population regulation. For example, Litwin and Smith (1992) found that changes in species composition of passerine neotropical migrants were best explained by successional changes in the forest. Bollinger and Gavin (1992) pointed to intensive agriculture as the main factor in decline of the Bobolink (*Dolichonyx oryzivorus*) in the east. Management of forest succession and agricultural fields are important aspects of wildlife management.
- 2) Maintaining viable populations of many different neotropical migrants species will require some protection on most public lands, many under direct or indirect control of wildlife management organizations. A protection strategy that depends on newly acquired reserves dedicated to neotropical migrants will probably not cover a sufficient area to make much of a difference. An alternate protection strategy of drastically restricting resource use on currently owned public land will meet obstinate resistance from restricted user groups that will turn public opinion against the need for protection. A successful long-term strategy for protection must engage wildlife agencies currently managing public land in a partnership that will serve the long-term needs of neotropical migrants while still supporting resource use.
- 3) Neotropical migrants protection will not only require skills of conservation biologists and other concerned professionals, but also a great number of field professionals and technicians already in place and devoted to protection of wildlife resources. These professionals could provide the basis for a major action protecting neotropical migrants for several reasons.
 - a. Although few wildlife management professionals are trained in protection of neotropical migrant birds specifically, most are trained and experienced in issues surrounding their protection, such as predation, habitat destruction, and habitat degradation.
 - b. Many wildlife professionals have experience manipulating populations of many species such as deer, fox, and raccoon that have a great impact on many neotropical migrant breeding.

- c. Given the appropriate background data, many wildlife professionals can provide a good interface between neotropical migrants' protection needs and resource managers such as foresters.

- 4) Lastly, neotropical migrants constitute an enormously popular group of species for birders, as well as for an even larger group of outdoor users including hunters and fishermen. The 1985 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (USDI 1989) shows there were nearly 61 million birders in the U.S. (Wiedner and Kerlinger 1990). But Kellert (1985) found only 3% of this number are committed to birding. The rest include birding as one of many outdoor activities and probably includes many of the estimated 16.7 million hunters and 46.6 million fishermen who consider presence of birds an essential part of the outdoor experience. Although these hunters and fishermen don't consider themselves birders, they value their knowledge of birds. This potentially large group is the constituency of wildlife agencies and could provide another strong and vocal force for protection of neotropical migrants.

Drawing the wildlife management profession into a program for the protection of neotropical migrants should be a high priority. It is important to wildlife management professionals because it helps reinstate a broader perspective to the discipline. It is important to neotropical migrants because of substantial resources wildlife professionals bring to the job.

The purpose of the papers in this section is to give some specific examples of the role of wildlife management in the protection of neotropical migrants. I offer a few general directions:

- 1) We should recognize hunting as a viable method of managing deer, waterfowl and other wildlife species. Professionally done, hunting not only provides a resource, it controls species that may have a serious impact on habitats of neotropical migrant birds. Just as importantly, it paves the way for a cooperative relationship with wildlife management agencies essential to long-term protection of neotropical migrants.
- 2) Wildlife management agencies must become involved in protection of neotropical migrants. Several possible methods are:
 - a. In some states, wildlife agencies could incorporate neotropical migrants into state regulatory review programs.
 - b. Agency administrators could allow regional game biologists to spend some portion of their time on neotropical migrant protection plans.
 - c. State agencies should establish state-level working groups to provide a method of coordinating actions at the state level with regional and national protection, and to provide non-governmental groups access to the regulatory

and management authority that most wildlife agencies command within state governments. This includes regulatory protection of important habitats, habitat management procedures on state lands, and establishing a research agenda amongst several agencies within the state or among states.

- 3) We must concentrate on integrating protective measures for neotropical migrants into existing schemes for utilizing forest and game resources and protection of endangered and nongame species populations. Papers in this section and in Land Management are a good start in that direction. We need win/win programs that provide for needs of neotropical migrants while requiring minimal change in resources provided to existing users. If serious change is necessary it must be done with willing cooperation of user groups. We must further empower state agency endangered and nongame programs. Their experience with the wide variety of rare species makes them an able resource for conducting most monitoring and management programs for neotropical migrants.
- 4) Last, we must develop a stable funding source for agency work on these species. Lack of stable funding is a major cause of poor agency involvement in this area. It is a major impediment to long term protection plans within states. Current funding through the federal government or programs such as Partners in Flight is inadequate. It does not provide enough funds for agencies to increase staff, so existing staff must squeeze neotropical migrants into an already heavy burden. Moreover, relying on funds generated by other programs such as Pittman-Robertson, Endangered Species Section Six, or state tax check-offs is ludicrous in light of massive public support for protection of neotropical migrants.

I believe the plight of neotropical migrants and concurrent growing public awareness is analogous to the threat to waterfowl in the beginning of this century that led to the Pittman-Robertson Act. I strongly recommend that the International Association of Fish and Wildlife Agencies' "Diversity Initiative" (Duda 1991) should form the basis for a new state-federal partnership aimed at protecting neotropical migrants.

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