

A Western State Perspective on Monitoring and Managing Neotropical Migratory Birds

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Abstract — Neotropical migratory bird monitoring programs can contribute greatly to a more holistic and proactive management approach for state agencies. It is, however, imperative that these monitoring programs be scientifically designed and clearly communicated to managers. Information from monitoring programs can be used to develop multiple-species habitat management strategies, and declining populations can be detected before threatened and endangered species management is required.

State agency perspectives on wildlife values and management are evolving, and many are seeking to develop more holistic management plans. Such plans focus not only on traditional values and single species management, but also include emerging wildlife values and multiple-species management based on principles of community and ecosystems ecology. This is, in part, in response to public pressure for greater efforts at conservation; however, this is also because of changes in state agencies themselves.

Unfortunately, information on which to base holistic management decisions is scarce. And, few managers or administrators are willing to change management strategies without sufficient evidence of need. Monitoring and inventory of neotropical migratory birds, in combination with increased biological research on neotropical migrants, will provide managers and administrators with information needed to justify and guide more progressive management actions.

THE INFORMATION NEEDED

Agencies will benefit most from monitoring programs that provide sound and applicable information about population trends. Programs must be carried out in a scientific fashion, using principles of experimental design and statistical sampling. While most state programs will not include manipulative research, proper scientific protocol and design should, nonetheless, be incorporated.

It is vital that information collected through monitoring programs be applicable. Also, academic research designed to fill basic information gaps on life history and habitat requirements should compliment monitoring and inventory programs; such information is required before management decisions can be made. Inventory, monitoring, and research efforts should all be conducted with consideration for management, and results must be communicated in a form useful to managers. A well communicated and balanced monitoring program will allow state agencies to approach breeding bird management with more information and less apprehension than in the past.

BENEFITS

Ultimately, the state's goal is to manage neotropical migrants as part of an ecosystem. A neotropical migrant monitoring program provides a means to detect declining breeding bird populations and changes in their habitats. However, a monitoring program may be used as an end unto itself. In Utah, the information collected under the neotropical migrant monitoring program is used to inventory birds in riparian habitats. The program provides species diversity, relative abundance, and distribution information. And, population and vegetation data can be used to develop species/habitat associations.

By monitoring population trends, agencies will detect declines before populations become endangered or threatened. That is, trend information will allow states to be more proactive in their management. Frequently, by the time a species is recognized as threatened or endangered, management options are severely limited, not to mention politically sensitive. It is

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desirable to have a method of early detection which allows agencies manage before the "triage" approach of endangered species management is required.

Despite political baggage, threatened and endangered species do have legal protection. This is not the case with declining populations of neotropical migrants. Here again the need for scientifically sound, understandable information and effective communication becomes apparent. In order for state agencies to justify conservation actions aimed at preserving declining breeding bird populations, evidence must be scientifically sound and effectively communicated.

Information collected through monitoring programs can contribute to ongoing or anticipated state projects. In Utah, monitoring information is collected in a way that it can be incorporated into GAP analysis and electronic database projects. Coordinates are recorded with Global Positioning Devices for each monitoring point. Vegetation information from these points is used to ground truth coverages derived from Landsat imagery. And, breeding bird data in association with vegetation data can be used either to construct or validate potential species range models.

Monitoring data also gives information on species presence (inventory), species diversity, relative abundance, and distribution. This information becomes available before any trends can be determined. However, the quality of information grows with each additional year of monitoring.

HOW INFORMATION IS COLLECTED

Prior to our neotropical migratory bird initiative, almost all collection of breeding bird data in Utah can be attributed to a few dedicated individuals. Early academic works and a Utah latilong bird study contributed much to our knowledge of distribution and life history. However, monitoring of neotropical migrants was limited to the Breeding Bird Survey (BBS), and coverage of Utah was poor (13 routes from 1965-1979).

Coverage of Utah has increased to 61 routes with 8 new routes scheduled for 1993. While BBS does provide suitable information about several neotropical migrant species, coverage of many species is inadequate. Also, since no habitat data is collected on BBS routes, managers find the information hard to apply.

While addition of more BBS routes and habitat evaluation of these routes is a worthwhile endeavor, there are other problems with BBS in Utah. In addition to the problem of bias in road-side counts, many of Utah's important habitat features are roadless. Also, availability of qualified surveyors is a bottleneck in sparsely populated, rural states like Utah. Thus, addition of routes may be a moot gesture.

Since much of Utah cannot be accessed by road, Utah Division of Wildlife Resources (UDWR) and the U. S. Fish and Wildlife Service initiated an off-road program to monitor

neotropical migrant populations in key habitat types, beginning with riparian areas. The program includes extensive monitoring in over 30 riparian sites and intensive monitoring and constant effort mist netting at 8 sites statewide. Riparian habitats were chosen because of their high relative importance and because various factors continue to threaten their existence in the West.

MAKING USE OF THE INFORMATION

How can managers best use information provided by monitoring programs? First, inventories provided by monitoring programs are of immediate use to managers in evaluating species presence. Monitoring programs also provide basic information on species richness, breeding bird distributions, and habitat associations. This information is important to those struggling with management-for-biodiversity issues.

Perhaps the most important information provided by monitoring programs is on population trends of breeding birds and their habitats. This can serve as an early indicator of species and/or habitat instability. By using this information, managers can be proactive in their decisions. Also, managers can use species/habitat correlations developed through monitoring and research to direct management actions.

MAKING INFORMATION USEFUL

To date, much of the information available is insufficient to address most management problems. Most monitoring programs resulting from Partners in Flight are too new to provide any current trend information, and even well established programs like the BBS do not provide adequate information on many species. And, as mentioned above, no habitat data is collected in association with the BBS.

The perception of monitoring information as unscientific is a serious problem. For example, criticisms of the BBS have been so widespread that recognition of its biases seem to overshadow recognition of its usefulness. While it is necessary to point out shortcomings of data collected under various monitoring methods, it is also crucial to understand and point out where the data are strongest and most applicable. And, it is equally important to improve methods to address biases, if possible, or augment them with other methods.

Since no one monitoring technique provides sufficient information for all breeding bird species, combinations of monitoring techniques are required. Some techniques may need to be developed for single species which, because of unique habits or habitats, are not addressed by any standardized methods. Research into habitat requirements and life history prerequisites may also be needed for some species

or guilds. States will need to tailor their monitoring programs to provide information required to develop sound management strategies.

Communication of available information is crucial. Development of communication links and a central clearinghouse would be of great use to state agencies. Many such links have already been established through Partners in Flight.

THE FUTURE

The future of neotropical migratory bird monitoring programs in state agencies like Utah's is bright but hazy. The desire of state agencies to monitor neotropical migrants is real; however, funding and training are two formidable obstacles faced by states. While challenge grants and cooperative matching-fund programs allow states to gather more information per dollar, states often cannot afford to match federal money even at a 1:1 ratio. Also, several states are cutting non-game wildlife programs and/or requiring traditional consumptive users to foot the bill for all wildlife programs. Non-game checkoffs are facing increased competition on tax forms and few politicians are willing to consider an increase in sales or income tax. However, efforts to identify other sources of money have met with some success. Conservation stamps, lottery of wildlife viewing opportunities and other non-consumptive-user contributions have been discussed. Private partners are another source of funding. However, private partners must be chosen carefully, because while they can be a good source of money, they can also be a source of political problems. The UDWR was fortunate to have solicited a good private sponsor for its neotropical migrant/riparian monitoring project.

Most state personnel are not currently trained in bird identification or monitoring techniques. While training workshops are available in out-of-state locations, out-of-state travel is severely limited in most state agencies. Permanent state employees cannot dedicate all their time to monitoring programs, so frequently seasonal or temporary employees need to be hired for most monitoring programs. Since trained seasonal personnel are difficult to find, states need to organize their own training sessions on an annual basis. But to do this, states will need to import experts in neotropical migrant identification and monitoring techniques, at least initially.

Monitoring neotropical migrants presents unprecedented need for interagency cooperation. Coordination of state and federal wildlife and land management agencies, universities and interest groups will be required. This will be no small feat, but Partners in Flight has already brought many key players together. Maintaining these ties, especially at the state level, will be a key to the success of Partners in Flight.

Much coordination of agencies and management of neotropical migrants will depend on state agencies. The states' developing interest in holistic and proactive management strategies could be well served by neotropical migratory bird monitoring programs but is threatened by training and funding shortages. States can tailor programs to their individual needs, but should do so while adhering, when possible, to standardized techniques. Standardized techniques are being developed so information can be compared across state and national lines--an important consideration for management of migratory birds. The techniques being developed must, in turn, provide information that is scientifically sound and suitable for on-the-ground application by wildlife managers.