

CONTRIBUTIONS OF THE FEDERATION OF NEW YORK STATE BIRD CLUBS TO BIRD CONSERVATION IN NEW YORK STATE: THE PAST FIFTEEN YEARS

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With the initiation of its breeding bird atlas project in 1979, the Federation of New York State Bird Clubs began a long-term program to determine comprehensively the distributions and population status of the breeding birds of New York State. An important premise underlying the effort is that information about geographic distributions and population status (trend and/or relative abundance) of birds during the breeding season is absolutely essential in making decisions and setting management priorities to achieve conservation of birds (Smith 1991b). In addition, information required to understand better the conservation needs of birds must be based in science, not supposition (Smith *et al.* 1993). *The Atlas of Breeding Birds in New York State* (Andrle and Carroll 1988) provides the geographic distribution component of the program. In 1985, in cooperation with the New York State Department of Environmental Conservation (NYSDEC), we also began to summarize and evaluate information about population status of breeding birds, gained from the U.S. Fish and Wildlife Service's (USFWS) Breeding Bird Survey, to complement the distributional information provided by our breeding bird atlas (Smith 1989a).

The techniques we have found successful at the state level also are being applied at the local scale to assist the U.S. Forest Service with its monitoring and inventorying responsibilities on the Finger Lakes National Forest (Smith 1991a). Most recently, landscape imagery obtained through satellite remote sensing techniques is being integrated with our information about distributions and abundances of breeding birds to assess bird/habitat relationships at the landscape scale across New York State's 30 million acres (Smith 1989b, 1990). From the very beginning, the series of projects which make up our program in avian conservation and ecology for New York State have been based upon cooperation among a variety of different partners. Indeed, the success of these projects would not have been possible without such partnerships. It is the purpose of this paper to describe these projects, their interrelationships, and their role in contributing to science based conservation of New York State birds.

BREEDING BIRD SURVEYS

To provide the population status component of our bird conservation program, New York State has 112 Breeding Bird Survey (BBS) Routes, covered each summer by 80 or more volunteers, who contribute more than 500 total hours annually to the project (Fig. 1). The BBS was begun nationally in 1965 with the purpose of obtaining annual information useful in assessing the population status of North American breeding birds. A detailed account of the history and procedures employed by the BBS can be found in Robbins *et al.* (1986). Briefly stated, the BBS employs a modified transect sampling procedure along a specified 24.5 mile automobile route. Volunteer observers who are thoroughly familiar with the birds of their region travel assigned survey routes during the breeding season, beginning exactly one-half hour before local sunrise, stopping every one-half mile, observing for three minutes, and counting and recording everything they see or hear during each three minute period. The result is a representative sample of the breeding birds along the survey route, from which indices of abundance for breeding bird species can be derived.

Each volunteer observer is responsible for summarizing the observations for their assigned route and submitting the results to the USFWS. In New York an individual observer may be responsible for one to seven survey routes, depending upon their expertise and enthusiasm. Each survey route requires from 4 to 4.5 hours in the field, followed by 1 to 1.5 hours to complete written reports for submission to the USFWS.

When I became coordinator for the BBS in New York State at the end of 1985, participation in that project had reached its lowest point in 20 years. Unfortunately, my predecessor had failed to involve our leading state bird conservation organization, the Federation of New York State Bird Clubs, directly in the BBS. Since 1985, coverage of our BBS routes has climbed steadily from a low of nearly 50% to recent highs of 80% or better (Fig. 1). A key to this success has been full and explicit incorporation of the BBS into the research agenda of the Federation, with frequent personal contact and feedback to participants, both through verbal reports of progress at annual meetings of the FNYSBBC, and through an annual printed newsletter to volunteers now prepared and distributed by the BBS coordinators at the Patuxent Wildlife Research Center in Laurel, Maryland.

A summary of the BBS data collected from 1966 through 1985 (Smith

1989a) has been useful to NYSDEC, in combination with our breeding bird atlas data, in setting management goals and priorities for the breeding birds of the state. For example, in December 1993, breeding bird atlas information and BBS population status information figured prominently in a review and update of NYSDEC's list of species identified as endangered, threatened, or of special concern in New York State. Several Federation members, including myself, were invited to participate in that review process. At a larger scale, BBS data from New York State also have contributed to our understanding of the population status of breeding birds in the northeastern United States (Smith *et al.* 1993). And in October 1993, the Breeding Bird Survey was transferred administratively to the newly formed National Biological Survey, a bureau of the Department of the Interior, charged by Secretary of the Interior Bruce Babbitt with the responsibility for monitoring status and trends of biological indicators of environmental health throughout the United States.

BREEDING BIRD ATLAS

The New York State Breeding Bird Atlas was initiated in 1979 by the Federation of New York State Bird Clubs (FNYSBC) in cooperation with the New York State Department of Environmental Conservation (NYSDEC). The New York atlas project was modeled after the very successful British breeding bird atlas, published in 1976 (Sharrock 1976), and recently repeated a second time (Gibbons *et al.* 1993). Originally conceived as a ten year project, our Breeding Bird Atlas concluded in 1988, with publication of *The Atlas of Breeding Birds in New York State* (Andrle and Carroll 1988). With the careful leadership of Gordon M. Meade, Richard Sloss, Robert Andrle, Janet Carroll, and a management team of additional Federation members, the project concluded six months ahead of schedule and approximately \$5,000 under budget.

For our breeding bird atlas, funding was provided primarily by NYSDEC's Return A Gift To Wildlife Program, with Federation members providing the volunteer work force needed to do the job. Nearly 4,000 volunteers contributed some 200,000 hours of field work toward completion of the New York State Breeding Bird Atlas. The value of those in kind services from our volunteers was nearly \$1.5

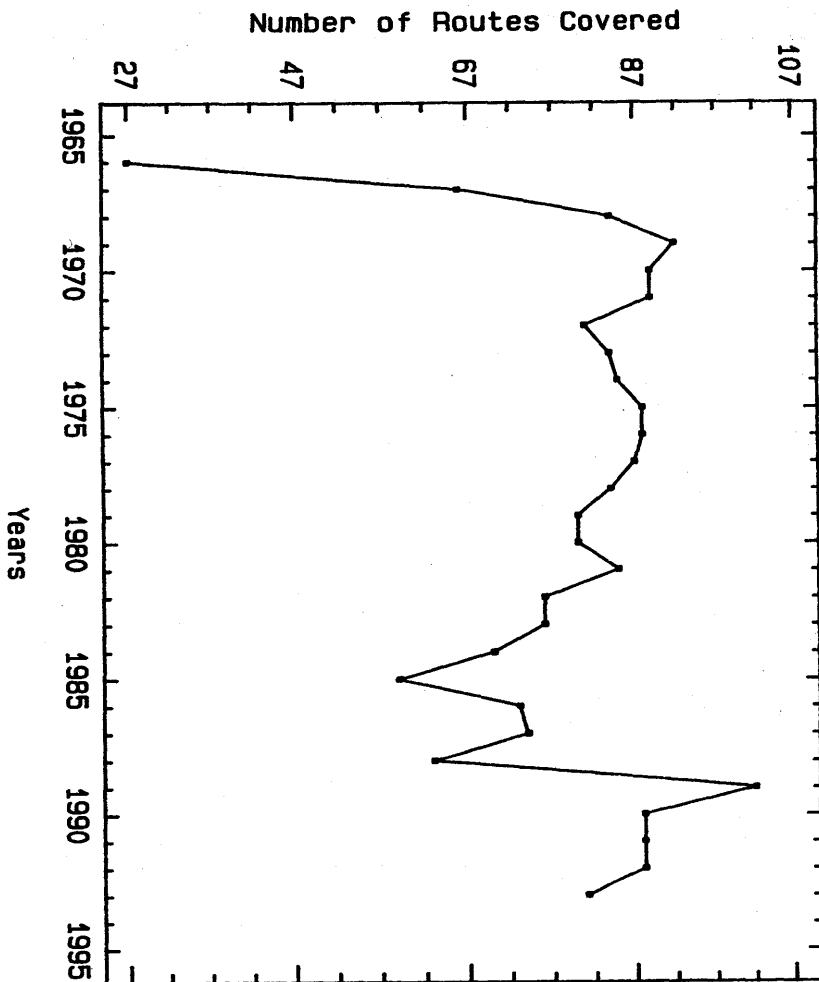


Figure 1. Numbers of New York State Breeding Bird Survey (BBS) Routes completed annually from 1966 through 1993. Counts of birds from BBS Routes provide information about breeding bird species abundances across New York State. Such information is essential for determining population status and trends of species and helping to set priorities for conservation. The author became State BBS Coordinator after the 1985 field season.

million, with NYSDEC receiving returns of almost \$20 worth of volunteer services for each dollar it invested in the project. The success of the project was due, in large part, to frequent personal contact and direct training of volunteers, coordinated with production of a newsletter distributed to volunteers three times a year to report the project's progress. Production of the published atlas required the services of two full-time editors, four artists, and 19 contributing authors.

The New York State Breeding Bird Atlas achieved a 99.8% coverage of the land area of the state (30 million acres) using 5,335 survey blocks, each nine square miles in area. To date, New York State is the largest land area in the world covered with the thoroughness and detail achieved in our breeding bird atlas. Today, our atlas data are a significant component of the New York State Gap Analysis Project of the National Biological Survey (Scott *et al.* 1991), and planning already is underway for the second New York State Breeding Bird Atlas, scheduled to begin in 1999. As the British have demonstrated quite clearly, repetition of the breeding bird atlas at approximately twenty year intervals provides valuable information about the changing distributions of the breeding birds of a region (Gibbons *et al.* 1993).

STATE PARKS CHECKLISTS

In 1987 the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) formed a Birdlife Advisory Committee, composed largely of Federation members, to advise parks staff and administrators in conservation of birds on state parks and historic sites. A major initiative under the direction of the Birdlife Advisory Committee has been the State Parks Checklist Project. To date, bird checklists have been produced for 13 state parks and historic sites (Table 1). Local member clubs of the Federation have been instrumental in collecting and documenting information for production of state parks checklists.

In managing any land area for conservation of birds, an inventory of the species occurring within that area is essential. Without such an inventory, neither the species content of the managed area, nor its context in the larger assemblages of species making up the surrounding region, can be assessed accurately. So far, the state parks checklists provide documented occurrences for at least 353 species of birds, approximately 80% of the total species reported for New York State, on lands managed by OPRHP (Table 1). Among those 353 species reported from the state parks and historic sites listed in Table 1, there are 26 species of birds listed as endangered, threatened, or of management concern by the NYSDEC in 1993 (Cobb 1993). As more checklists are

created and published, a clearer picture than ever before will emerge of the contribution of state parks to maintaining the bird species richness of New York State. Information about kinds of birds and where they are found is essential to parks planners and their staff in determining the extent of their stewardship responsibilities. Such information gives a better idea of the contribution of local state parks or historic sites to maintaining local and regional bird species diversity, since state parks and historic sites are among the most protected of public land areas in New York. These checklists of birds found in our state parks and historic sites also serve an important function through informing the public and increasing the awareness of citizens and elected representatives of the variety of birds found in such protected areas.

Park or Historic Site	Total Species	Park Size (acres)	Percent of NYS Total
Allegheny State Park	245	63,000	55.6
Bear Mountain/Harriman State Parks	253	51,000	57.4
Caleb Smith State Park Preserve	153	543	34.7
Clay Pit Ponds State Park Preserve	173	250	39.2
Connetquot River State Park Preserve	193	3473	43.8
Crown Point State Historic Site	180	360	40.8
Hamlin Beach State Park	272	1200	61.7
Heckscher State Park	281	1657	63.7
Jones Beach State Park	329	2400	74.6
Letchworth State Park	225	14,350	51.1
Saratoga Spa State Park	156	2200	35.4
Sunken Meadow State Park	214	1200	48.5
Thousand Islands State Park	266	15,046	60.3

Table 1. The variety of species reported on state parks checklists completed as of April 1994. As of 5 February 1994, 441 species of birds have been reported from New York State by the Federation of New York State Bird Clubs. Species numbers and acreages for state parks are from state parks checklists. So far, the state parks checklists provide documented occurrences for at least 353 species of birds, approximately 80% of the total species reported for New York State, on lands managed by OPRHP. In some cases, parks with fewer species of birds might not have been studied as intensively by birdwatchers as those with more species, so that there may be sampling biases of an unknown nature in some of the species counts.

FINGER LAKES NATIONAL FOREST STUDY

Lessons learned from our large scale survey projects in New York are being applied to a comprehensive model program of monitoring and inventorying breeding birds at a local scale for a smaller area (14,000 acres), the Finger Lakes National Forest (FLNF). The key partners in this effort are the U.S. Forest Service, FNYSCB, and the Department of Natural Resources at Cornell University. In 1992, we were joined by the U.S. Fish and Wildlife Service through the New York Cooperative Fish and Wildlife Research Unit at Cornell. At FLNF, we have used breeding bird atlas and habitat specific point count methodologies to determine distributions and relative abundances for 120 species of breeding birds, 50% of the breeding bird species recorded from New York State (Andrle and Carroll 1988) on a land area only 0.05% of the total land area of New York State. Volunteers have contributed significantly to our breeding bird atlas for FLNF, and undergraduate interns from Cornell's Department of Natural Resources have participated in summer research at FLNF since the project began in 1989 (Smith 1991a).

The breeding bird atlas for FLNF is the first in North America to be conducted on a relatively small land area, and the first to be completed for any forest in the National Forest System. In 1992, the FNYSCB held its first annual Summer Field Foray at Finger Lakes National Forest, with the objective of collecting additional information about the kinds, distributions, and abundances of the breeding birds of FLNF, the only national forest in New York State. Volunteers conducted BBS miniroutes, assisted with nest searches, point counts, and additional breeding bird inventory work during 1992. Another important result of this effort has been increased awareness, understanding, and sensitivity among volunteer participants for the work done by the Forest Service and other resource management agencies. Habitat specific surveys of breeding birds are continuing on FLNF as part of a national program of monitoring and assessing productivities of breeding birds, the Breeding Bird Biology Information and Research Database (BBIRD) of the National Biological Survey.

Information collected at FLNF already has provided managers with information needed to assure conservation of rare grassland bird species such as Grasshopper Sparrow and Henslow's Sparrow, which occur on public pasturelands at FLNF (Smith 1992, Smith and Smith 1992). In addition, our research team in the Department of Natural Resources is using landscape imagery from FLNF, in conjunction with breeding bird atlas data collected by Federation volunteers, to assess the relationships of breeding birds to habitat types that can be identified by sensors on satellites in space. Such information will be useful to managers by helping them determine what kinds of habitats, in what kinds of configurations, for a given area, contribute most to local breeding bird species variety.

CONCLUSIONS AND FUTURE PROSPECTS

From our experiences in New York State, it is clear that partnerships with management agencies are essential to achieving the monitoring and inventory work necessary in planning and setting priorities for bird conservation. Success with volunteers depends upon personal contact and frequent tangible feedback through verbal presentations, training sessions, and printed materials. Efforts must be goal oriented, produce tangible products, and be coordinated by competent, articulate professionals, well-known and respected by volunteers.

The scale at which our efforts have been mounted and their success could not have been possible without the existence of a strong, well managed, project oriented, all volunteer, state organization, the Federation of New York State Bird Clubs. Our projects have been undertaken with the goal of finding out more about the birds of our state in order to provide better for their conservation through meeting the information needs of state and federal resource management agencies. Fund raising, increasing membership, and fostering support for the Federation of New York State Bird Clubs have been by-products of that effort, but never its primary goal, a lesson to which other nongovernmental organizations might pay careful attention. We in New York State now are fortunate to have a wealth of information about the birds of our state. That information is of increasing value for developing comprehensive wildlife conservation and management strategies and has resulted from successful cooperation among a variety of partners, including state and federal agencies, nongovernmental organizations, and academic researchers and educators—a pattern of cooperation demonstrated clearly by the very successful New York State Breeding Bird Atlas Project.

It is indeed an exciting and challenging time to be working for conservation of birds in New York State. Like so many other challenges in the conservation of biological resources, long term conservation of birds depends upon communication and cooperation, not conflict and competition, with a shared, multidisciplinary vision of the needs of the resource foremost in the minds of the various partners. At its September 1991 Annual Meeting, the Federation of New York State Bird Clubs, representing some 20,000 members, adopted a resolution of recognition and support for the leadership demonstrated by the National Fish and Wildlife Foundation in initiating the Neotropical Migratory Bird Conservation Program ("Partners in Flight—Aves de las Americas"). During 1993, a state Partners in Flight Working Group was formed, under the leadership of NYSDEC, with many representatives from the Federation making up its membership. Partners in the Neotropical Migratory Bird Conservation Program and similar initiatives continually have to be mindful that our goal is the conservation of the resource,

migratory birds, rather than perpetuation of a specific agency perspective or promotion of membership in any particular nongovernmental organization. Achieving objectives to reach that conservation goal must be undertaken in the context of a modern, comprehensive approach to wildlife conservation, embracing a wide range of wildlife values and species, while creatively identifying a diversity of funding sources to support wildlife conservation and management.

ACKNOWLEDGMENTS

In addition to the extensive contributions made by volunteers, our program in New York State could not have been possible without funding support from the New York State Department of Environmental Conservation, U.S. Fish and Wildlife Service, and U.S. Forest Service. Recent research into applications of remote sensing to assess bird/habitat relationships has been funded by the U.S. Department of Agriculture (Hatch Project No. NYC-147406) and U.S. Environmental Protection Agency. C. K. Melin carefully reviewed the manuscript and made several suggestions for its improvement.

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