

Implementing a Regional Shorebird and Waterfowl Survey and Monitoring Database

John D. Stanton, *U.S. Fish and Wildlife Service, Manteo Migratory Bird Field Office, Manteo, NC 27954*

Robin Hunnewell, *Manomet Center for Conservation Sciences, 81 Stage Point Road, Manomet, MA 02345*

Abstract: The South Atlantic Migratory Bird Initiative (SAMBI) has integrated planning efforts among several major continental bird conservation plans in the United States, seeking common goals and objectives for habitat conservation to sustain, maintain, and increase populations of migratory birds and resident birds which utilize the Atlantic Flyway. One objective common to all these bird conservation plans is the need for surveys and monitoring of bird populations. Inherent to all surveys and monitoring protocols is the requirement of data storage and management. An attempt to address this need resulted in the development of a web-based data storage and management website called the SAMBI Waterfowl and Shorebird Bird Data Page. The website provides remote data entry and region-wide display of waterfowl and shorebird survey data. Currently, waterfowl and shorebird surveys are underway on a network of wildlife management areas and National Wildlife Refuges from Virginia to Florida. In addition, Manomet Center for Conservation Sciences is helping to initiate temperate, non-breeding surveys for shorebirds at new locations in this region. Following the International Shorebird Surveys (ISS) protocols, surveys at selected shorebird stop-over sites from Virginia to Florida on non-refuge and private lands will serve to expand shorebird monitoring in the region. This collaborative effort between SAMBI and the ISS is intended to meet sampling aims of the Program for Regional and International Shorebird Monitoring (PRISM). PRISM, a blueprint for surveying shorebirds in North America, is designed to meet the monitoring goals of the U.S. and Canadian Shorebird Conservation plans. Data from cooperators are posted to a website so that managers of wetlands across the region can coordinate the management of their habitat with peak shorebird movements. This network of migration stop-over sites can track suitable habitat seasonally along the entire South Atlantic Coast. As the implementation of major bird conservation plans proceeds, so does the importance of national and/or regional survey databases that provide reliable information on the distribution, abundance and population trends of birds in North America.

Key words: Waterfowl, shorebirds, surveys, monitoring, website, database

Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 59:389–393

The South Atlantic Migratory Bird Initiative (SAMBI) has integrated planning efforts among several major continental bird conservation plans in the United States, seeking common goals and objectives for habitat conservation to sustain, maintain, and increase populations of migratory birds and resident birds which utilize the At-

lantic Flyway (Watson and McWilliams 2005). Under the umbrella of the Atlantic Coast Joint Venture, the SAMBI Implementation Plan outlines monitoring needs for various bird groups. For a regional approach to monitoring for waterfowl and shorebirds, the SAMBI website was developed in 1999. The purpose of SAMBI waterfowl and shorebird website was for monitoring short and long term population numbers and distribution of waterfowl and shorebirds seasonally, and to monitor habitat management goals as established in the Southeastern Coastal Plains-Caribbean Regional Shorebird Plan (Hunter et al. 2002).

This paper provides an overview of a regional waterfowl and shorebird survey and monitoring website, how it supports the monitoring component of various bird conservation plans, and concludes with a discussion of broadening its application to the entire eastern region of the United States.

SAMBI Website Design and Use

The U.S Fish and Wildlife Service Migratory Bird Field Office in Manteo, North Carolina and Ecological Services Field Office in Raleigh, North Carolina developed and administer the website. The website has both a public site (samigbird.fws.gov) and a secure site (shorebird.ncusfws.org). The public site allows the public access to view waterfowl and shorebird numbers seasonally for a given location in the southeastern United States. The secure site requires a user ID and password to enter data. Participation is on a voluntary basis. The data entered into the website are as follows: refuge/site name, date of survey, aerial or ground survey, name of observer, and number of each species observed. All data are to be collected within three days of a set target date and entered into the website within three days of the survey completion. There is an option to enter survey data for an individual survey area within a refuge or site. Data can be viewed in simple graphical form or downloaded as an ASCII-text delimited format for further analyses.

The program currently provides the following information and uses: 1) distribution and trends of wintering waterfowl along the south Atlantic coast throughout the winter, 2) shorebird migration timing and trends along the entire coast, 3) occurrence of rare or high priority species, 4) viewing “real-time” buildup and declines of shorebirds in managed properties to the south enabling managers to the north to fine tune dates of managed drawdowns to match the current migration season, 5) providing a better network for monitoring of color-banded shorebirds through the migration period, 6) public access to data which, in turn, will mean less demands on office staff for information on waterfowl/shorebird numbers, and 7) improved management decisions on how to allocate managed habitat acres to meet the needs of both waterfowl and shorebirds.

To obtain a username and password for the data entry/edit website, contact John Stanton at the Manteo Migratory Bird Field Office (252-473-6983 or John_Stanton@fws.gov).

SAMBI Waterfowl Monitoring

Waterfowl surveys grew out of a need identified by refuge biologists in eastern North Carolina and coastal South Carolina to coordinate surveys thereby not duplicating efforts and to make comparisons of waterfowl movements and distributions during a given time. In addition, a coordinated approach permitted the use of a flyway pilot/biologist stationed in Maryland at the U.S. Fish and Wildlife Service, Office of Bird Management, Division of Populations and Surveys to conduct the aerial flights for refuge personnel. These surveys are completed mainly on federal refuges and state management areas twice a month during the wintering period (i.e., October–March).

SAMBI Shorebird Monitoring

The program for regional and international shorebird monitoring (PRISM) is a blueprint for surveying shorebirds in North America, designed to meet the monitoring goals of the U.S. and Canadian Shorebird Conservation Plans (Donaldson 2000, Brown 2001). Both plans have identified the need for reliable information on the distribution, abundance and population trends of shorebirds in North America. The survey component is intended to standardize data collection and storage among existing initiatives including the International Shorebird Surveys (ISS), Canadian Maritime Shorebird Survey, Western Shorebird Survey, and the South Atlantic Migratory Bird Initiative. Following ISS protocols, PRISM compatible surveys in the Southeastern United States will fall under the online data collection and storage capacities of the SAMBI shorebird monitoring website. Shorebird surveys in this region are underway in a network of wildlife management areas and refuges in Virginia, North Carolina, South Carolina, Georgia, and Florida. Currently, the International Shorebird Survey (ISS) is working to expand survey coverage in this region and contribute additional sites to the SAMBI network. The ISS will initiate surveys on non-refuge and private lands, which SAMBI is poised to include, but that have not traditionally been part of the network. Surveys at approximately 27 PRISM sites in the Southeast are being conducted following ISS protocols, adding to the existing network of SAMBI and ISS and restoring coverage at many former ISS sites.

Supporting Bird Conservation Plans

Many national bird conservation plans have incorporated population estimates and objectives. To evaluate these population estimates and objectives, standardized monitoring and the reporting of survey data are needed. The SAMBI waterfowl and shorebird website can serve this function as a database to evaluate waterfowl and shorebird population estimates and objectives for the eastern region of the United States through a coordinated effort.

For example, the U.S. Shorebird Conservation Plan (Brown et al. 2001) addresses 50 species that regularly breed or occur in the U.S., including those that

require specific conservation attention, and clearly identifies mechanisms for monitoring and tracking success. The North American Waterfowl Plan Implementation Framework provides monitoring needs that support North American waterfowl conservation (NAWMP 2004). Six general monitoring needs have been identified in support of the plan: 1) abundance, 2) vital rates and harvest rates, 3) coordinated environmental monitoring, 4) cross-scale integration, 5) data management and accessibility, 6) new technologies. Use of the SAMBI waterfowl and shorebird survey website for survey data storage and management would allow us to meet the following identified monitoring needs of the NAWMP Implementation Framework: abundance, cross-scale integration, and data management and accessibility.

Expanding The Coverage and Increasing Participation

The goal of the U.S. North American Bird Conservation Initiative (NABCI) Committee is “to deliver the full spectrum of bird conservation through regionally based, biologically driven, landscape-oriented partnerships” (NABCI 2000). To this end, a subcommittee on monitoring was created to provide technical support to the U.S. NABCI Committee, to foster Federal, state, NGO, and international cooperation for effective monitoring of bird populations and pertinent environmental conditions and to develop methods to fully integrate monitoring into conservation and management decisions. Since 1999, the SAMBI survey and monitoring website has been fostering regional cooperation to effectively monitor waterfowl and shorebird populations. Two planned developments for the future are to fully incorporate waterbird and marsh bird monitoring at the regional level and flyway (Atlantic Flyway) scale; to fully engage federal, state, NGOs, and private interests in monitoring waterfowl, shorebirds, waterbird and marsh birds throughout the entire Atlantic Flyway, focusing on continued participation in the Southeast and new participation from the Mid-Atlantic and North Atlantic states.

Acknowledgments

Our thanks to Doug Newcomb, Information Technology Specialist with the U.S. Fish and Wildlife Service in Raleigh, North Carolina for serving as the website troubleshooter and webmaster. Thanks also goes to various refuge biologists, volunteers and other cooperators who have utilized the website and provided valuable feedback that enabled us to make improvements to the website.

Literature Cited

- Brown, S., C. Hickey, B. Harrington, R. Gill, editors. 2001. U.S. Shorebird Conservation Plan. Manomet Center for Conservation Science, Manomet, Massachusetts.
- Donaldson, G.M., C. Hyslop, R.I.G. Morrison, H.L. Dickson and I. Davidson. 2000. Canadian Shorebird Conservation Plan. Canadian Wildlife Service, Environment Canada, Ottawa.
- Hunter, W.C., J. Collazo, B. Noffsinger, B. Winn, D. Allen, B. Harrington, M. Epstein, and

- J. Saliva. 2002. Southeastern Coastal Plains-Caribbean Region Report, U.S. Shorebird Conservation Plan. U.S. Fish and Wildlife Service, Atlanta, Georgia. 47pp.
- North American Waterfowl Management Plan (NAWMP) Plan Committee. 2004. North American Waterfowl Management Plan 2004. Implementation framework: strengthening the biological foundation. Canadian Wildlife Service, U.S. Fish and Wildlife Service, Secretaria de Medio Ambiente y Recursos Naturales.
- U.S. North American Bird Conservation Initiative (NABCI) Committee. 2000. North American Bird Conservation Initiative: Bird Conservation Region Descriptions. U.S. Fish and Wildlife Service, Arlington, Virginia.
- Watson, C. and K. McWilliams, 2005. The South Atlantic Migratory Bird Initiative: Implementation Plan, U.S. Fish and Wildlife Service, Charleston, South Carolina.