

Monitoring Waterbirds for Effective Management



Jeff Nadler

Dunlin

In the Atlantic and Mississippi Flyways

The Challenge

Sustaining healthy populations of waterbirds that migrate long distances (waterfowl, shorebirds, and wading birds) is a major challenge for land managers. How does a manager know which species to manage for at a specific site? How important is a single site in the big picture? How can many managers coordinate their actions across the landscape so that the birds have the right amount and quality of habitat, at the right time, in the right places? These questions are difficult to answer without understanding how all the pieces fit together.

Managers and scientists are working together in a new project to understand and optimally manage conservation lands along the Atlantic and Mississippi Flyways to support continental populations of waterbirds. They are using adaptive management and modeling in an innovative way that incorporates their management expertise as well as new conservation planning and modeling tools.

of managing for a single species or one guild of species. However, each species has specific habitat needs and managers must consider many factors when targeting management for one species or guild over another. These factors include the annual wetland hydrological cycle, species priorities, budget and staff resources, and physical constraints of the wetlands being managed. These factors often lead managers to adjust individual wetland objectives on an annual basis to take into consideration changing wetland conditions that present management opportunities or problems that must be addressed.

Management Decisions

To begin the process of developing an integrated management and monitoring program, managers at each spatial scale have identified the management decisions they make, the timing of those decisions, and the factors that influence those decisions.

Managers make decisions at three spatial scales: the flyway, the state or region, and locally. The managers identified key factors that should be considered when making decisions at each spatial scale; then they developed a conceptual model of how the scales are linked. Information collected at one scale informs decisions at other scales. A model will help guide management decisions.

What to Monitor

Resource management decisions should be based on the best available information. We are developing a monitoring program that will collect data to inform and improve management decisions at each spatial scale. Habitat and population monitoring protocols and databases will allow data to be linked



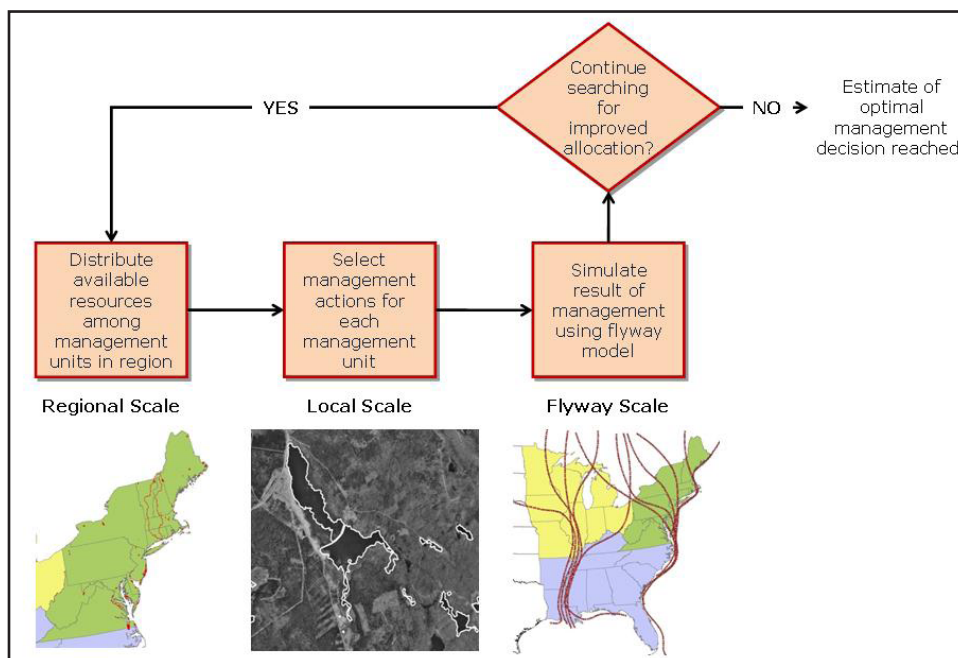
Bill Majors

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Great Egret

Focal Species

We are focusing on wetland-dependent migratory birds that use the Atlantic and Mississippi Flyways of North America during winter and migration. Most wetland managers don't have the luxury



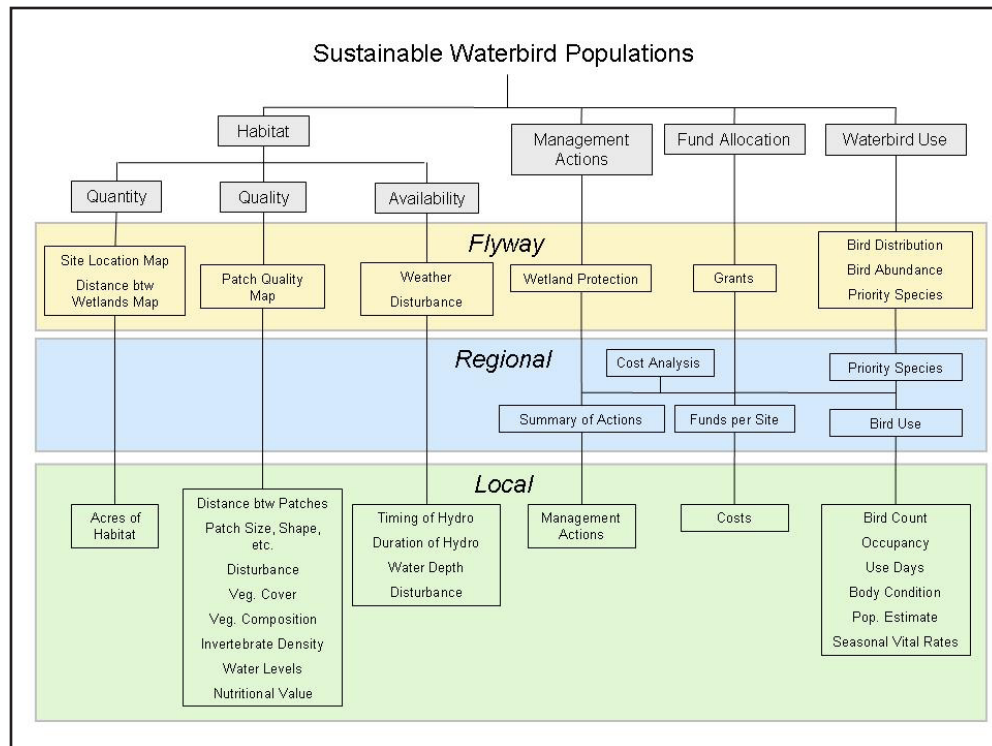
A model will link and optimize management decisions at three spatial scales to provide the right habitat, at the right time, in the right places.

across spatial scales, promote the use of adaptive management, and help rank management actions.

At the flyway scale, waterbird species, population objectives and the locations of priority stop-over and wintering habitats are identified. Biologists with agencies and organizations that are part of the Flyway Councils and Joint Ventures develop models and decision support tools to identify critical migration stop-over and wintering sites for each species guild. This information is used to determine the relative importance of a management site to a waterbird guild, alter management to meet changing needs, and guide the development of management plan objectives.

At the regional scale, each regional office or state program reviews the priority sites identified by the flyway scale model and determines optimum allocation of resources (funds and staff) to meet flyway waterbird population and habitat objectives.

At the local scale, land managers record the species, their relative abundances, and the timing of birds using the managed wetlands. These managers use adaptive management to improve habitat quality and optimize waterbird use at each site. They monitor waterbird responses to changes in habitat quality and quantity.



Hierarchy of management decisions, and monitoring needs to inform decisions, at each landscape scale.

Need For Assistance

The U.S. Fish & Wildlife Service Offices of Migratory Birds and Refuges, the States, the Lincoln Park Zoo, and other partners are leading the project. Teams are working on monitoring metrics, protocols, and sampling designs. A diversity of knowledge, skills, and energy will be needed to make the project a success. We invite anyone with an interest in learning about or helping with the project to contact us.

For additional information or questions contact:

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More information
Project Website:
http://www.acjv.org/waterbird_project.htm

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Pintail

Bill Majoros

