

North American Waterfowl Management Plan



SCIENCE SUPPORT TEAM

www.fws.gov/birdhabitat/NAWMP/NSST

Venturing Forward

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Final Issue

Summer 2010



North American Waterfowl Management Plan
Science Support Team

Venturing Forward

The NAWMP Science Support Team's newsletter, "*Venturing Forward*" is published semi-annually and distributed to all NAWMP partners interested in progress relative to the NAWMP's science foundations.

The NAWMP's Plan Committee, the NAWMP Science Support Team's (NSST) Executive Committee and the NSST Committee Chairs all contribute regular updates and news to this newsletter for the benefit of all NAWMP partners and stakeholders as we strive to "*Venture Forward*."

Contributors are invited to submit news items, photos, articles, comments, etc. to the editor of "*Venturing Forward*":

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- NSST Executive Committee
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- Joint Task Group Report Review Committee
(Jorge L. Coppen, Chair)
- JV Implementation and Evaluation Plan Review Committee
(Mike Brasher, Chair)
- Landscape Monitoring Committee
(Tim Jones, Chair)
- NWI Working Group
(Rex Johnson, Chair)
- Alternative Performance metrics Working Group
(Pat Devers, Chair)
- Regional Population Abundance Objective Committee
(Mark Petrie, Chair)

NSST Action Groups

- Pintail Action Group
(David Haukos, Chair)
- Scaup Action Team
(Bob Clark, Chair)

PHOTO CREDITS

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NSST NEWS

NSST Coordinator's Message

Welcome to the final issue of the NSST's newsletter. To keep a newsletter relevant requires active input by the primary authors. Regular contributions have become hard to come by and difficult to expect.

We leave you with one positive note: The NSST Executive Committee is putting the final touches on a draft five-year work plan to cover 2011-2015. In the draft work plan, we propose that the work of the NSST should culminate in a periodic (e.g., every 5 years) report on the state of waterfowl science to enhance conservation of North American waterfowl and their habitats. This report will replace the communication void left by the demise of this newsletter.

This will require each JV to develop models that relate limiting factors to focal waterfowl population demographics. The output of models should entail metrics that can be rolled up to a continental scale. The value of individual work plan elements may vary across JVs, but each JV should contribute to an ultimate goal that is valued equally by all JVs.

One final thought: Don't forget our upcoming 25th Birthday on May 14, 2011.

Jorge L. Coppen



BULLETIN BOARD

Meetings of Interest



**North American Waterfowl Management Plan Committee Meeting
Vancouver, CAN
August 31 –Sept. 1, 2010**



**NSST Meeting
Minneapolis, MN
October 7-8, 2010**





Mississippi Flyway Council Technical Section and Joint Venture Scientists Increase Interaction at Winter Flyway Meeting

Greg Soulliere, Upper Mississippi River and Great Lakes JV
John Tirpak, Lower Mississippi Valley JV
Mike Brasher, Gulf Coast JV

The North American Waterfowl Management Plan is presently undergoing revision, and agency administrators composing the Plan Committee have identified coherence and integration among habitat conservation, harvest management, and human dimensions (waterfowl stakeholder desires) as central tenets of the NAWMP Revision. The proposed purpose statement of the revised Plan is "... sustain abundant waterfowl populations in order to preserve the culture and traditions of wildfowling with benefits to biodiversity, ecosystem processes, and related recreational and economic values." The waterfowl conservation community as a whole recognizes that fulfilling this vision demands increased communication and collaboration among waterfowl population and habitat biologists. To that end, science coordinators from the Upper Mississippi River and Great Lakes Region Joint Venture (JV), the Lower Mississippi Valley JV, and the Gulf Coast JV were invited to participate at the February 2010 meeting of the Mississippi Flyway Council Technical Section held in Little Rock, Arkansas.

In addition to attending committee meetings ranging from harvest management for waterfowl and webless migratory birds to assessment of migration, quantification of human dimensions, and updates on emerging environmental issues, JV science coordinators were given the opportunity to provide presentations to the Habitat Committee of the Flyway Technical Section. Staff from the Upper Mississippi River and Great Lakes Region JV described how their JV Science Team developed population and habitat objectives for non-breeding diving ducks across upper Mississippi Flyway states. Because of limited biological information on this bird group and its habitats in the Upper Midwest, JV planning emphasized development of a scientific

process making use of available regional population data and information found in the literature. To date, no other JV has developed regional population and habitat objectives explicit to migrating and wintering diving ducks. Although the planning process included many assumptions, it was nevertheless deemed extremely valuable for establishing the foundation of an adaptive management strategy to target habitat conservation efforts for this often overlooked bird group.

Staff from the Lower Mississippi Valley JV delivered a presentation which outlined opportunities and challenges for linking winter waterfowl survival to winter habitat conditions at local, regional, and continental scales. Survival and subsequent reproductive success are considered the best measures for assessing biological benefits of wintering habitat quantity and quality; however, a research project to appraise the ability of winter landscapes to improve survival will be difficult and expensive considering the evaluation requires a thorough measure of food, refuge, harvest, waterfowl density, and the interaction of these across multiple spatial and temporal scales.

Interaction among Flyway biologists and JV staff occurred during field trips and evening socials, facilitating discussion regarding the interface of habitat and harvest management. Meeting attendees seemed to generally agree the success of waterfowl conservation in the new century will depend on further strengthening of this core partnership between the habitat and harvest management aspects of the waterfowl conservation community. A renewed commitment to identifying similar venues to increase dialogue across these sometimes disconnected channels was embraced. Indeed, a presentation from the Gulf Coast JV describing efforts to estimate foraging values of coastal marsh and implications of coastal marsh loss on waterfowl carrying capacity of the Gulf Coast has been tentatively planned for the summer Mississippi Flyway meeting in Mobile, Alabama.





Next steps in the NAWMP Revision

By Jorge Coppen

Round 1 of the NAWMP Revision consultation workshops revealed a clear consensus amongst the workshop participants that NAWMP should focus on three fundamental objectives: 1) Maintain healthy waterfowl populations as part of the North American fauna; 2) Maintain landscapes capable of sustaining waterfowl populations in perpetuity; and 3) Perpetuating the tradition of waterfowling. Each fundamental objective would have explicit goals and metrics, but all will be managed in a coordinated fashion under a single integrated framework.

Many workshop participants suggested that the third objective (human dimensions) could be broadened to include non-consumptive uses of waterfowl. A NAWMP Revision Technical Team (Tech. Team) intends to evaluate whether meeting objectives for hunters would also satisfy other waterfowl enthusiasts. As such, harvest (population) and habitat management objectives represent the primary tools to address the three objectives simultaneously. For example, harvest managers would craft regulations that ensure sustainable harvest while considering social ramifications of regulations such as their effect on hunter participation. Habitat managers would conserve and manipulate landscapes to ensure adequate waterfowl survival and recruitment rates, providing hunters places to go and reasonable opportunities for people to view and harvest birds, while taking advantage of habitat conservation programs to provide other societal benefits of healthy landscapes.

Many might argue that these practices are commonplace today. We envision a system based on a greater level of transparency (explicitness), coordinated planning, and integrated monitoring and evaluation than currently occurs.

Managing via a complex, multiple objective decision framework entails assessment of consequences behind multiple alternative actions and the related tradeoffs to be made in maximizing efficiency and effectiveness in a coherent framework. To quantify the relative value of each objective under different circumstances, we need to develop measurable attributes for each. It follows that we need to consider the relative importance of each objective in the optimization of an overall management package. This weighting effort may be critical to maxi-

mizing utilities. We will also need to recognize key system changes (changes in social values) in relation to state variables (state of the resource). For example, when waterfowl abundance is high, adding additional birds to populations may have less relative value than adding the same number of birds when abundance is low. Similar utilities might be considered as in adding additional habitat or more hunters to the system.



North American Waterfowl Management Plan
Plan nord-américain de gestion de la sauvagine
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Ultimately, we must develop a predictive model that depicts how changing objective values under various scenarios affects population and habitat variables as we attempt to attain coherence (i.e., complementary objectives). Such a model, parameterized correctly, could provide an objective mechanism to evaluate tradeoffs as we consider all of our objectives concomitantly. Such an exercise should clarify the most effective management actions and elucidate the most efficient decision set (planning). To deliver coherent management in an adaptive framework we move from our decisions-making to implementing programs, and evaluating our performance in an iterative framework.

In mid-August 2010, the Tech. Team intends to elucidate measurable attributes for relevant fundamental objectives, describing functional relationships between those attributes and social values, and constructing an initial model framework. Those results, along with a process for assessing stakeholder values, examining consequences among multiple objectives and resultant trade-offs should frame the agenda for the second round of consultation workshops beginning this fall. Subsequent to that, we can refine our products to build improved consensus within the waterfowl management community, while providing a clear direction for coherent waterfowl management to be reflected in the NAWMP Revision. Keep yourself current on our progress by visiting <http://www.nawmprevision.org/updates> to review Round One workshop results and upcoming Round Two consultation Workshops.

Jorge L. Coppen is the National Coordinator of the NAWMP bird initiative and serves as the primary NSST representative to the Plan Committee. He currently chairs the Joint Task Group Report Review Committee.





Joint Venture Implementation Plan Review Committee Update - June 2010

By Mike Brasher

At their February 2010 meeting, the Plan Committee (PC) formally adopted a statement describing the process and connotations of PC Endorsement of Joint Ventures (JV). This process is described below in abbreviated fashion. The complete statement is contained as Appendix A in the NAWMP JV Progress Reporting and Implementation Plan Endorsement guidance document (http://www.fws.gov/birdhabitat/NAWMP/NSST/files/JV_Progress%20Reporting%20Guidance.pdf).

After a JV requests PC Endorsement, the NSST will conduct a technical review of the waterfowl component of its Implementation Plan and develop a recommendation on whether the PC should endorse the JV. In consideration of the NSST review and recommendation, the PC then has several options. The PC can endorse the JV, they can request the JV revise their organizational structure or Implementation Plan with specific recommendations, or they may decline to endorse the JV.

Endorsement of a JV by the PC engenders a commitment by the PC to communicate to the Plan's primary stakeholders their concur-

rence that the JV:

- ◆ Has provided an adequate framework for their efforts to help achieve NAWMP population and habitat goals and objectives.
- ◆ Affirmed that they embrace and will use an adaptive process of planning, implementation, and evaluation to guide their waterfowl habitat conservation activities as advocated in the 1998 and 2004 Updates.
- ◆ Will be responsive to guidance provided by the PC and NSST regarding waterfowl conservation priorities and needs on a continental scale.
- ◆ Will continue to develop and strengthen their relationships with relevant partners and key institutional components of the NAWMP to help achieve NAWMP goals and objectives.



- ◆ Upon receiving full or conditional endorsement, the JV will be incorporated into the schedule of PC-endorsed JV quadrennial progress reporting to the PC.

Mike Brasher, a Ducks Unlimited employee, is the Gulf Coast Joint Venture's Science Coordinator and is stationed at Lafayette, Louisiana.





Pintail Action Group Update

By David Haukos

Progress Report on Integrated Model for Northern Pintail in North America Pintail Action Group

1 June 2010



The primary focus of the Pintail Action Group continues to be development of the integrated model for northern pintails. Our fundamental goal is to fully integrate information on movements, survival, harvest and reproductive rates of pintails in North America into a continental demographic model. Further, we will inform pintail harvest and habitat management communities by providing a unified framework for decision-making. Significant progress has been made by the Pintail Modeling Team (PMT): B.J. Mattsson, M.C. Runge, J.H. Devries, G.S. Boomer, J.M. Eadie, and R.J. Clark toward fulfilling four specific objectives described in “Integrating Habitat and Harvest Management for Northern Pintails: Work Plan” including: 1) Construct a model framework consisting of distinct breeding ($n=3$) and wintering ($n=2$) areas with associated habitat-linked recruitment and survival parameters; 2) Develop submodels that link habitat actions at regional or Joint Venture (JV) levels to recruitment and survival; 3) Assemble all existing pintail vital rate estimates from past and ongoing pintail/waterfowl research in North America; and 4) Consult with JVs, Flyways, and other stakeholders. In collaboration with the PMT, Brady Mattsson initiated the pintail modeling effort in October 2009 and is continuing progress toward objectives 1-4.

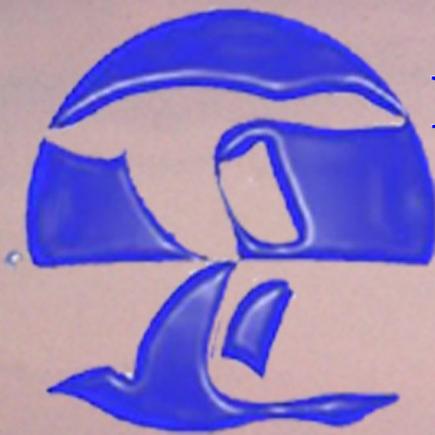
Through this effort, the first prototype of pintail population dynamics that includes three breeding areas (Alaska, Prairie Pothole, and Northern Unsur-

veyed Areas) and two wintering areas (California and Gulf Coast) has been completed. The initial prototype accounts for recruitment and distinguishes probabilities of seasonal survival, fall-winter harvest, and migration routes for males and females and juveniles and adults. Recruitment and overwinter survival are considered to be a function of population size, as well as environmental and management conditions. The initial prototype was coded as a deterministic, discrete population model in program R and allows us to investigate how population dynamics change when Prairie Pothole age ratios, Gulf Coast overwinter survival rates, and harvest rates are varied. A draft manuscript has been completed that describes fully the structure and function of the initial prototype model.

Steps have also been taken to obtain feedback from regional experts on the first prototype model and build regional submodels. During the April 2010 Northern Pintail Modeling Meeting in Portland, Oregon, results of a perturbation analysis using the initial prototype model were presented and break-out groups then developed a foundation for refining breeding and wintering submodels. One important insight from this meeting was that regional density dependence is likely an emergent property of spatial heterogeneity in habitat quantity and quality within regions. Next, the PMT will develop the second prototype, a process that will include consultations with regional biologists and managers to refine input values to better represent known estimates and account for demographic uncertainty, environmental stochasticity, and within-region heterogeneity in vital rates. When the second prototype has been completed and evaluated, the PMT will begin to engage the waterfowl management community this summer/fall to receive feedback and to develop plans for the third prototype.

David Haukos is a USFWS Regional Migratory Bird Management Specialist at Texas Tech University in Lubbock, TX. He currently serves as Chair, Pintail Action Group.





North American Waterfowl Management Plan

Science Support Team



The NAWMP Science Support Team's mission:
To help strengthen the biological foundations of the North American Waterfowl Management Plan and facilitate continuous improvement of Plan conservation programs.