



Pintail Action Group Newsletter

2010 Waterfowl Population Breeding and Habitat Survey

The just released results from the 2010 Waterfowl Population Breeding and Habitat Survey indicate similar counts for ducks as 2009 for the traditional survey area. The [report](#) estimates the



2010 northern pintail population at 3.5 million, which is statistically unchanged from the estimate of 3.2 million in 2009. However, this value remains 13% below the long-term average of 4.0 million and

37% below the 5.6 million goal of the North American Waterfowl Management Plan. Similar to 2009, the regions of the traditional surveyed area reporting the greatest number of pintails were the eastern Dakotas and Alaska.

Habitat conditions in the breeding grounds were characterized by average to below-average moisture, mild winter, and early arrival of spring. The total pond estimate for Canada and the United States was 6.7 million, which was similar to 2009 and 34% above the long-term average. The number of ponds in prairie Canada (3.7 million) was similar to 2009 and the long-

term average. Parts of Saskatchewan, Manitoba, and Alberta experience improved conditions relative to 2009, but an area of the Saskatchewan and Alberta border was drier than 2009.

Wetland conditions were fair to good in the eastern Dakotas, but condition in the western areas of the Dakotas and parts of Montana declined since 2009. However, the pond estimate (2.9 million) for the north-central United States was unchanged from 2009 and 87% above the long-term average. Both the boreal forest and bush country experienced an early spring arrival.

Long-time USGS Pintail Researcher, Mike Miller, Retires

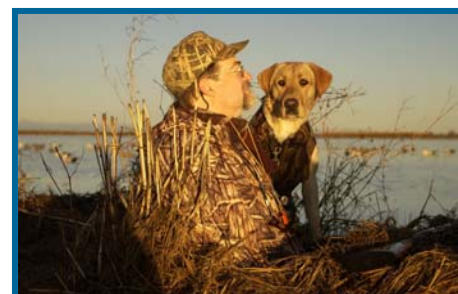
For nearly 4 decades, Mike Miller investigated nearly every aspect of wintering pintail ecology in the Pacific Flyway. His passion for pintails is unmatched and timeless.

His pioneering research study of wintering pintail molt, energetics, habitat use, and beneficial agricultural practices set standards of scientific excellence. Mike developed the techniques for use of satellite transmitters on ducks, overseeing an extensive study of pintail spring migration in western North America.

His efforts established the biological foundation for establishment of the Central Valley Joint Venture and Pintail Action Group. Although his outstanding publications will guide waterfowl managers well into the future, his greatest legacy will be the continued efforts of those biologists, administrators, and others that were fortunate to sit down and talk pintails with Mike. Much of the knowledge gained by those interactions is not found in any book or journal. From all of us fortunate to work with and learn from you, Mike, Thank You.

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Progress Report on Integrated Model for Northern Pintail in North America

The fundamental goals of this modeling project are to fully integrate information about movements, survival, harvest and reproductive rates of northern pintails in North America, and to 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) toward fulfilling 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 levels to recruitment and survival effects (status: technical workshop held April 2010 in Portland, Oregon; draft summary report: 19 pages).
- 3) Assemble all existing pintail vital rate estimates from past and ongoing pintail/waterfowl research in North America (ongoing).
- 4) Consult with JVs, Flyways, and other stakeholders.

In collaboration with the PMT, Brady Mattsson started work on the pintail modeling effort at USGS Patuxent in late October 2009, and is continuing progress toward objectives 1-4 in consultation with several members of the Task Team. Through this effort, the PMT has completed the first prototype of pintail population dynamics that includes three breeding areas (Alaska, Prairie Pothole, and Northern Unsurveyed) and two wintering areas (California and Gulf Coast). The initial prototype accounts for reproduction and distinguishes probabilities of seasonal survival, fall-winter harvest, and fall and spring migration routes for both males and females and for juveniles and adults. Reproduction 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 100-year population trajectories change when Prairie Pothole age ratios, Gulf Coast overwinter survival rates, and harvest rates were varied. A draft manuscript has been completed that describes fully the structure and function of the initial prototype model. community this summer/fall to receive feedback and to develop plans for the third prototype.

Steps have also been taken to obtain feedback from regional experts on the first prototype model and to 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 breakout 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 will account for demographic uncertainty, environmental stochasticity, and within-region heterogeneity in vital rates. These refinements will involve discussions this summer with a range of pintail experts. When the second prototype has been completed and evaluated, the PMT will begin to engage the waterfowl management

Pintail Modeling Team

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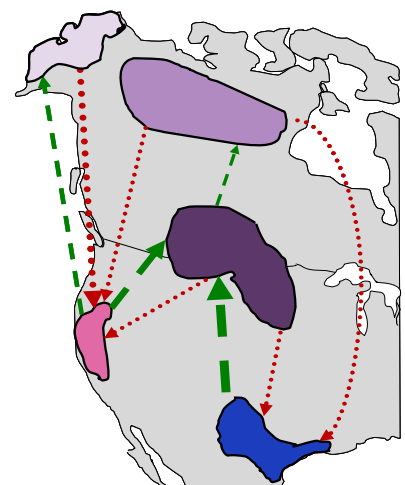
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Upcoming Research Project

In January, former Chair of the Pintail Action Group, Jim Devries (Ducks Unlimited Canada) enrolled as a PhD candidate with Dr. Bob Clark at the University of Saskatchewan. Jim will use data from long-term population surveys (1961-2009) and several prairie nesting studies (1993-2009) to test hypotheses concerning pintail habitat selection at breeding range, landscape, and nest site scales.

A growing body of evidence indicates that duck reproductive success varies at multiple scales (breeding range, landscape, nest habitats/sites) and pintails likely have evolved the ability to respond to this variability through habitat selection at each scale. Jim's work will link patterns of habitat selection and reproductive success in models that can be used to improve conservation planning and population management for pintails.

The NAWMP Science Support Team Summer 2010 newsletter is available at this link [Venturing Forward](#)

The Pintail Action Group Triennial Progress report to the NAWMP Plan Committee is scheduled for winter 2011 and 2014.

2009 Annual Meeting

The 2009 Pintail Action Group meeting was held in conjunction with the 5th North American Duck Symposium in Toronto, Canada. Attended by 35 people, this was likely the largest meeting for years. During the meeting, outgoing Chair Jim Devries was thanked for his years of service to PAG and the Chair position turned over to David Haukos. Bob Clark was installed as Vice-Chair, ascending to the Chair in 2011.

Much of the meeting was devoted to the proposed pintail demography modeling effort (see page 2) and developing a roadmap of goals and timeline to complete the ambitious effort. Related to the modeling project were updates of the overall work plan, model framework, updated review of available estimated vital rates from previous and ongoing pintail studies, and rollout of 2 conceptual models (Pintail Productivity Model and Grass-Wetness) for the Prairie Pothole Region.

A presentation on the final results of the analyses of continental pintail banding data was provided; the final report is available on the [Pintail Action Group Site](#) and the [Journal of Wildlife Management](#) has published



the results of a portion of the work. Updates of on-going pintail studies included those in the migratory stop-over site SONEC (Southern Oregon Northeast California; habitat use, food resources and body condition), body condition in California, nesting in southern Alberta, and prairie nesting ecology. A proposal for a

prairie duckling survival study was presented.

Additional efforts to increase involvement of the Pintail Action Group with other waterfowl conservation efforts were discussed. Members were encouraged to provide information on the Group's efforts when opportunities were available. Concerns were noted over the sustainability of long-term pintail data sources (e.g., surveys, banding) given potential responses to economic conditions. Members should remain aware of the status of these valuable data sources and inform the Group of any proposed changes or elimination of these efforts.

The Group expressed interest in participating in the revision of the North American Waterfowl Management Plan. [Minutes](#) from the meeting are available on the Pintail Action Group Website.

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- Thomas, D. R. 2009. Assessment of waterfowl body condition to evaluate the effectiveness of the Central Valley Joint Venture. M.S. Thesis. U.Calif. Davis.
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Upcoming Meetings

Demographic Model Technical Development workshop for the Gulf Coast, Playa, and Rainwater Basin Joint Venture regions. August 2 and 3, Texas Parks and Wildlife Department J.D. Murphree Wildlife Management Area, Port Arthur, Texas. For additional information contact Brady J. Mattsson (bmattsson@usgs.gov)



Pintail Action Group Annual Meeting. October 5, 2010, Carlson Room, Country Inn and Suites, Bloomington, MN. This is in conjunction with the fall NSST meeting. The primary meeting will be from 8-12, with the demographic modeling team meeting from 1-5, with input from the Group regarding model progress, NSST presentation on October 6, and, if necessary, revision of the work plan. Additional logistical details will be provided separately.