

WATERFOWL POPULATION SURVEYS

50 Years & Still Counting

“The strongest investment we can make to continue self-sustaining waterfowl populations for the use and enjoyment of future generations? Aerial surveys, hands down.”

*Ken Babcock,
Director of Operations,
Southeast Region,
Ducks Unlimited*



U.S. Fish & Wildlife Service
Division of Migratory Bird Management
4401 N. Fairfax Drive, MS 4107
Arlington, VA 22203
waterfowlsurveys@fws.gov
<http://waterfowlsurveys.fws.gov>



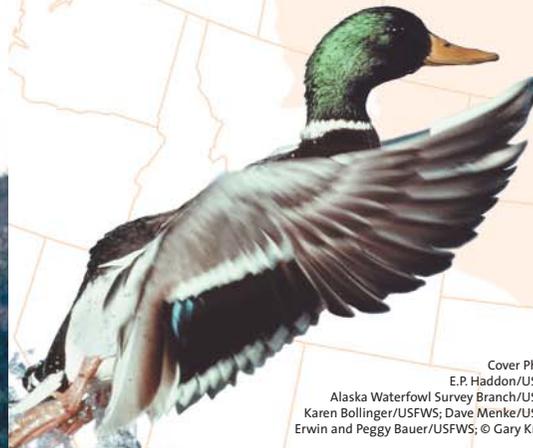
Environment Canada

Environnement Canada

Canadian Wildlife Service

Service canadien de la faune

Canadian Wildlife Service
Waterfowl Management Division
123 Main Street, Suite 150
Winnipeg, Manitoba R3C 4W2
<http://www.cws-scf.ec.gc.ca>



Environment Canada

Environnement Canada

Canadian Wildlife Service

Service canadien de la faune

Cover Photos:
E.P. Haddon/USFWS;
Alaska Waterfowl Survey Branch/USFWS;
Karen Bollinger/USFWS; Dave Menke/USFWS;
Erwin and Peggy Bauer/USFWS; © Gary Kramer

Every spring and summer teams of U.S. Fish and Wildlife Service pilot-biologists take to the skies to survey North America's waterfowl breeding grounds. Flying more than 80,000 miles a year, crisscrossing the country just above the treetops, they and observers on the ground record the number of ducks, geese, and swans and assess the quality and quantity of waterfowl breeding habitats. From the wide-open bays and wetlands of the eastern shores of North America to some of the most remote regions of Canada and Alaska, they are documenting an important part of our wild heritage.

The Waterfowl Population Survey Program has evolved into the largest and most reliable wildlife survey effort in the world. For more than 50 years cooperative waterfowl surveys have been performed by FWS, the Canadian Wildlife Service, state and provincial biologists, and non-governmental partners. Survey results determine the status of North America's waterfowl populations, play an important role in setting annual waterfowl hunting regulations, and help guide the decisions of waterfowl managers throughout North America.



Todd Hanless/USFWS

EYES IN THE SKY

Migratory birds are a major environmental, economic, recreational, and aesthetic resource. Through the Migratory Bird Treaty Act, a law implementing international treaties with Canada, Mexico, Japan, and Russia for the protection of migratory birds, waterfowl hunting seasons remain closed each year until the FWS verifies that waterfowl populations are healthy enough to sustain a regulated hunt. This verification is made each summer and is based on information collected in large part from aerial surveys.

Aerial surveys of waterfowl are standard practice today, but it wasn't always that way. In 1931, Frederick C. Lincoln, a biologist with the U.S. Bureau of Biological Survey, predecessor of today's FWS, saw the potential to use airplanes to count waterfowl. He persuaded the U.S. Army to take him and a photographer on a test flight over staging and wintering ducks on the Potomac River below Washington, DC. This test proved successful and for the next 20 years, increasingly more aerial surveys were conducted.

These surveys were pieced together through arrangements with the U.S. Coast Guard, Navy, and Army to carry observers, called flyway biologists, on routine flights to inventory wintering waterfowl in the United States. They were occasionally supplemented by chartered aircraft and private pilots for areas in Canada and Mexico.

The greatest expansion came with the end of World War II when military-trained pilots with prior experience in wildlife management joined the ranks of flyway biologists. The combination of skilled pilot-biologists and an availability of surplus military aircraft enabled survey pioneers to experiment with spring counts on waterfowl breeding grounds in the north-central U.S. and Canada. Counting the birds on their breeding grounds provided a better assessment of status and trends than those conducted on widely dispersed migration and wintering areas throughout the continent. In the spring of 1955, the FWS and its cooperators launched the first coordinated waterfowl survey on the breeding grounds. From then on, this survey effort and its results have been instrumental in guiding the North American waterfowl management program.



Julie St. Louis/USFWS



courtesy J. Lynch Family



Julie St. Louis/USFWS



Rex Gary Schmidt/
USFWS

THE WATERFOWL SURVEY PROGRAM IN THE CONTINENTAL U.S.

The Waterfowl Survey Program in the continental United States, administered by the FWS Division of Migratory Bird Management, now includes 12 pilot-biologists and 12 aircraft stationed at key locations within the four waterfowl flyways. During spring waterfowl population surveys, aerial crews are supplemented by ground crews who inventory waterfowl on portions of the same aerial survey routes, providing a visual correction factor that helps to estimate the breeding population properly. Ground crews in Canada are led by the Canadian Wildlife Service and provide further data on habitat conditions that may impact breeding success. An additional staff of waterfowl biologists and statisticians supports the survey program by analyzing and interpreting the large quantities of data gathered year-round.



Todd Harless/USFWS



Dave Menke/USFWS



James P. Mattsson/USFWS

Primary duties of the cadre of pilot-biologists consist of the May waterfowl breeding and July waterfowl production surveys in the north-central U.S. and Canada; annual waterfowl surveys in Mexico; and spring, fall, and mid-winter counts of such varied species as swans, sandhill cranes, and eagles. In addition to flying migratory bird surveys, approximately one-third of the pilot-biologist's time is spent supporting other programs within the FWS as well as other international, Federal, State, and private agencies and partners. Pilot-biologists coordinate and operate waterfowl banding camps; provide technical guidance for habitat and joint venture initiatives; fly land easement evaluations; conduct aerial photography missions; support radio-telemetry projects for such diverse species as fish, waterfowl, and wolverines; conduct flights for Congressional staff and other officials reviewing wetland and oil lease impact areas; assist with FWS Law Enforcement missions; and assist other Federal agencies in emergency situations, such as assessing damage from oil spills, forest fires, and hurricanes, or search-and-rescue operations for humans and wildlife.



Dave Menke/USFWS

THE WATERFOWL SURVEY PROGRAM IN ALASKA

The Alaska Waterfowl Management Branch traces its origins to David L. Spencer, who moved to Alaska in 1948 after working on early continental waterfowl surveys. Henry A. (Hank) Hansen was hired in 1955 as the first pilot-biologist and supervisor of a new Waterfowl Investigations project. In 1957, he flew the first official Continental Breeding Pair Survey in Alaska. Since then, the program expanded dramatically as the utility of aerial surveys for documenting numbers and distribution of waterfowl and other large waterbirds became widely recognized.

Now, the branch has four aircraft and a staff of 15 biologists based at offices in Juneau, Anchorage, Fairbanks, and Soldotna. It functions as a fully self-contained waterfowl survey program that designs and conducts aerial surveys in Alaska, Canada, Mexico, and Russia and provides expertise on waterbird populations and distribution to a wide array of agency and private users throughout Alaska and beyond.

In addition to substantial annual contributions to the sport and subsistence harvest regulations processes for migratory birds, the branch provides bird management support for Alaska's national wildlife refuges, national parks, national forests, the Bureau of Land Management, and State parks and game reserves. Staff collaborate extensively with FWS biologists to ensure that petroleum, mining, logging, and other development activities have as little impact as possible on migratory bird resources. Private consulting firms and conservation agencies have also come to rely on the branch as a source of credible bird distribution and population data in the preparation and analysis of resource development plans, conservation plans, and environmental impact statements.



Alaska Waterfowl Survey Branch/USFWS



Heather Wilson/USFWS



Karen Bollinger/USFWS



50 YEARS AND STILL COUNTING

Since 1955, pilot-biologists have been the eyes in the sky for North America's waterfowl managers. Safely flying nearly four million miles spanning a half century, they document the habitats and life cycles of our waterfowl resources. From Alaska to southern Mexico, over an area two-thirds the size of the continental United States, the annual journey of the pilot-biologist has become one of the fundamental elements of the FWS mission, deeply rooted in the agency's core stewardship responsibility for migratory birds. The performance of these conservation heroes, past and present, is vital to the wise and continued use of our magnificent waterfowl resource.



Todd Harless/USFWS



WPS/USFWS

“Aerial surveys for waterfowl are one of the strongest investments we can make to continue self-sustaining waterfowl populations for the enjoyment of people and future generations.”

*Rollin Sparrowe, Director (retired),
Wildlife Management Institute*

“Aerial surveys of waterfowl make up an invaluable biodiversity data heritage that has become the standard indicator for managing ducks, geese, swans, and their habitats for the benefit of people today and in the future.”

*Steve Wendt, Acting Director,
Migratory Birds Branch,
Canadian Wildlife Service*



© Denis Faucher



**WATERFOWL
POPULATION
SURVEYS**

50 Years & Still Counting



Environment
Canada

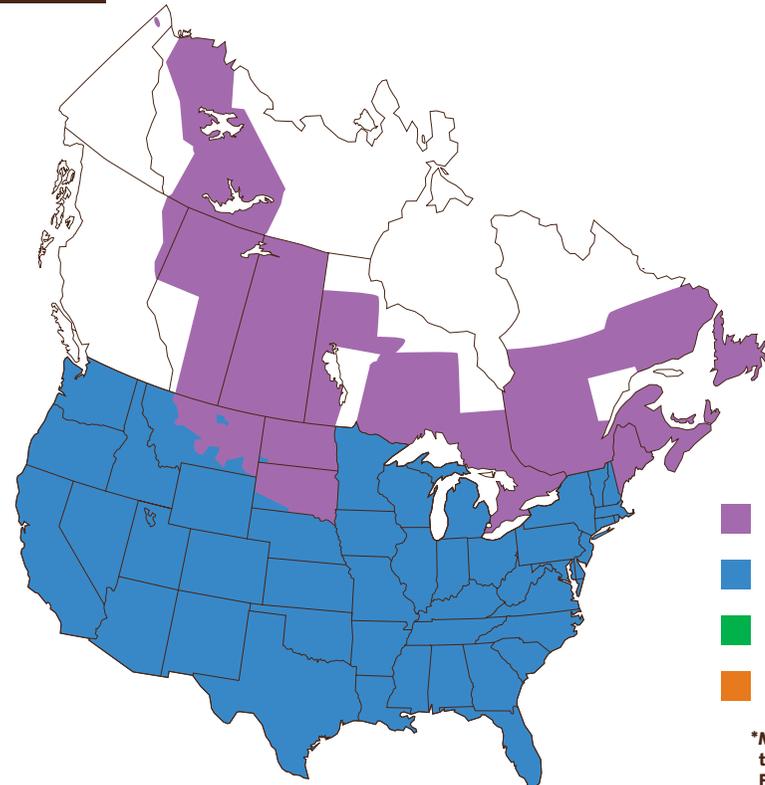
Canadian Wildlife
Service

Environnement
Canada

Service canadien
de la faune

WATERFOWL POPULATION SURVEY AREAS

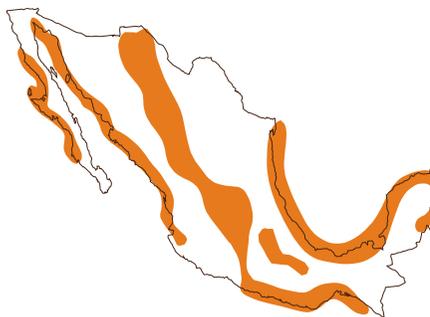
NORTH AMERICA



- Spring Breeding Population Survey
- Midwinter Survey*
- Alaska Special Waterfowl Surveys
- Mexico Waterfowl Survey

*Midwinter surveys are conducted annually throughout the entire U.S. in cooperation with Flyway Councils and state agencies and conservation partners.

MEXICO



ALASKA

