Wetlands Working Group
The Wildlife Society

Newsletter, Volume 6, Issue 3
December 2016

In This Issue....

Celebrating 100 Years of Migratory Bird Conservation

Part 3: Mexico

December marks the end of 2016's year-long celebration of the 100th anniversary of the Migratory Bird Treaty. We hope you enjoy the 3rd part of our series featuring wetlands of international importance!

The Migratory Bird Treaty with Mexico was signed during 1936 to protect migratory birds and game mammals as a result of scientific investigations during the1920-1930s that emphasized the importance of Mexico's wetlands and other habitats to North America's waterfowl and other migratory bird species. Although the treaty with Mexico added only 10% of the North American landmass, we now know that an estimated 20% of the continent's waterfowl populations winter in Mexico.

The awareness that Mexico provided important habitats for many waterfowl species led to increased partnerships. During 1951, Mexico was included in the U.S. Fish and Wildlife Service (USFWS) Mid-winter Waterfowl Survey. These surveys continued through 2006 when security concerns prevented USFWS from flying in Mexico. Mexico faces many challenges to protect migratory birds and their habitats, but State and Federal agencies and non-profit organizations are working to build capacity to re-initiate the Mid-winter Waterfowl Surveys, advance wetland management, and increase wetland conservation efforts throughout Mexico.

So now, on the 80th anniversary of the treaty between the U.S. and Mexico, we are excited to provide a brief overview of Mexico's wetlands and the key role those habitats play in binding it to Canada and the U.S. via the populations of waterfowl and other birds shared by these three countries. We hope you enjoy the 3rd and final part in our series on migratory bird conservation. We wish everyone a fruitful New Year filled with conservation successes and welcome suggestions for our 2017 feature articles!

First signed by the United States and Great Britian (on behalf of Canada) during 1916, the Migratory Bird Treaty protects birds that migrate across international borders. Mexico signed the treaty during 1936.

Cover Photos: Ria de Celestun, Yucatan (top) and shallowly flooded wetlands at Laguna Mexicanos, Chihuahua (left). Photos by Adonia Henry.

Mexico's Wetlands and North America's Wintering Waterfowl

by Scott Yaich, Chief Scientist, Ducks Unlimited, and
Eduardo Carrera, Chief Executive Officer, Ducks Unlimited de Mexico

Waterfowl of Mexico – Thirty-five species of waterfowl spend at least part of their annual life cycle in Mexico. Some species, such as the Muscovy duck, are resident species. But, significant percentages of waterfowl species that breed, migrate through, and/or winter in Canada and the U.S. spend much time in Mexican wetland habitats. For example, up to the following estimated percentages of these species' continental populations can winter in Mexico: black brant, 85%; redheads, 35%; northern pintail, 20%; northern shoveler, 16%; and, green-winged teal, 11%. For many of us, the blue-winged teal is the first species to come to mind when thinking about Mexico's role in wintering North America's waterfowl, and over 80% of the species' population either winters in Mexico's wetlands, or passes through them on their way to points even farther south.

The breeding and migratory habitats for waterfowl that migrate to Mexico span North America (Figure 1), moving through all four flyways. Marked birds harvested in Mexico's wetland and other habitats have been banded as far away as the north slope of Alaska and the eastern portions of Nunavut, Canada and everywhere in between.

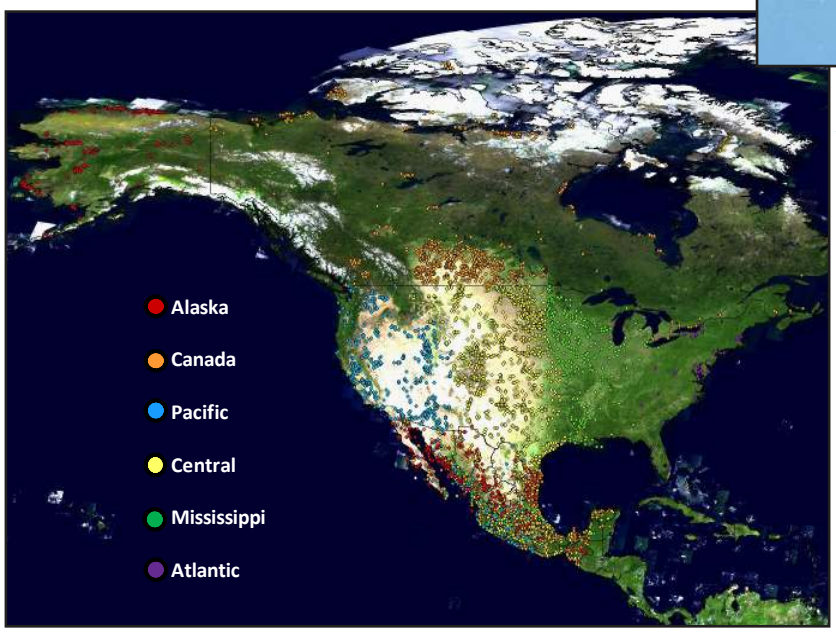


Figure 1. Derivation of band recoveries in Mexico during 1922-2009.

Wetlands of Mexico – Ducks Unlimited de Mexico is conducting a multi-year project to develop a national wetlands inventory for Mexico. Although not yet complete, this effort has already documented over 24 million acres of wetlands, several times the previous estimates of the extent of the nation's wetlands. About 43% are freshwater wetlands, with the remainder being saline and brackish wetlands distributed along Mexico's richly diverse and extensive coastlines.

Joint efforts of Mexican and USFWS waterfowl biologists have identified 28 key sites that represent the highest priority wetland habitats for wintering waterfowl in Mexico. These wetlands are located in three broad ecological regions – (1) the Baja and Mainland Pacific Coast, (2) the Gulf Coast, and (3) the Interior Highlands (Figure 2).

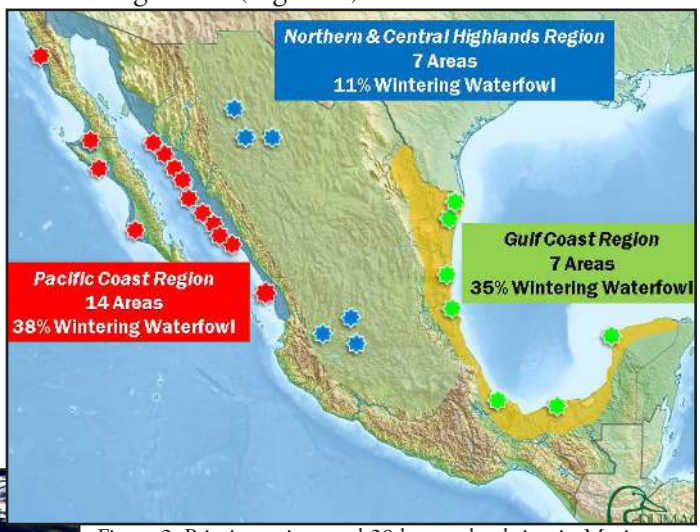


Figure 2. Priority regions and 28 key wetland sites in Mexico.

Baja and Mainland Pacific Coast – Fourteen of the highest priority wetlands are situated along Mexico's west coasts, and about 38% of Mexico's wintering waterfowl are found in this region (Figure 2). The most important habitats here are shallow bays along the west coast of Baja California, and the mainland states of Sonora, Sinaloa, and Nayarit. These bays, often bordered by mangrove wetlands, contain extensive beds of eelgrass which serve as the primary food resource for black brant. This long-distance migratory species breeds on the north slope of Alaska, with a high percentage in the Teshekpuk Lake region. Their distribution along the west coast of North

Mexico's Wetlands and Wintering Waterfowl (continued from page 2)

America during the non-breeding season closely matches the distribution of eelgrass, and about 85% of the continent's black brant winter in Mexico.

Black Brant. Photo by Guy Monty.

This region also provides wintering habitat for large numbers of the three species of teal, American wigeon, northern shovelers, and pintail. The significance of these habitats has been highlighted by the recent period of extreme drought in California. Anecdotal observations indicated that atypically large numbers of ducks, particularly pintails, have wintered in the wetland habitats along the mainland's west coast during this drought in the U.S. With the drastic reduction of available wetland habitats and flooded rice fields in California's Central Valley during recent winters, it is suspected that many birds continued flying south into Mexico to find suitable wintering habitats. Unfortunately, the rapid expansion of shrimp farming in this region has resulted in the ongoing loss of large areas of mangroves, with associated deleterious impacts to the habitats of the adjacent bays.

Eelgrass. Photo by John Carroll.

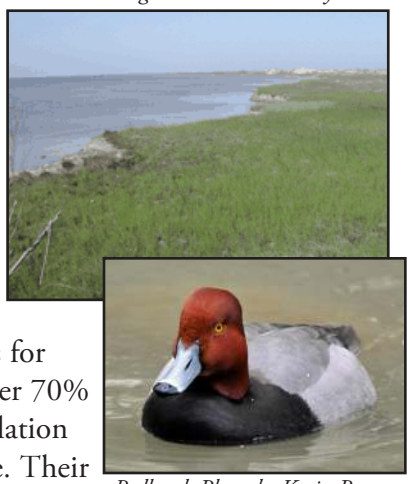
Interior Highlands – Moving eastward to the interior of the nation, seven of the priority wetlands are contained within the expansive Northern and Central Highlands regions in which approximately 11% of the Mexico's wintering waterfowl occur (Figure 2). Many of the natural wetlands in this region have been drained or significantly degraded, and the most important habitats here are often located in conjunction with its reservoirs and lakes, with Cuitzeo Lake being a notable example.

Laguna Bustillos, Chihuahua. Photo by Adonia Henry.

The most common wintering waterfowl in this region's wetlands include snow, Ross's, and greater white-fronted geese, as well as northern pintails, canvasbacks, green-winged teal, and northern shovelers.

Gulf Coast – Approximately 35% of Mexico's wintering waterfowl are found in the Gulf Coast region, and seven of the 28 highest priority wetlands are located here (Figure 2). The region is large and very diverse, extending from the dry Rio Grande basin on the border with Texas to the semi-tropical portions of the Yucatan Peninsula.

Laguna Madre. Photo by NPS.



In the north, Mexico shares the hypersaline habitats of the Laguna Madre with Texas. This shallow lagoon contains extensive beds of shoalgrass which provide especially attractive food resources for redheads and scaup. Over 70% of the continental population of redheads winters here. Their principal food resources are the shoalgrass beds, but they are equally dependent upon the nearby, small, inland freshwater wetlands. Classed as geographically isolated, these wetlands provide critical habitats necessary for the redheads and scaup to obtain the freshwater needed to flush the salt load ingested while feeding in the hypersaline lagoon.

Redhead. Photo by Kevin Bercaw.

Farther south, about two-thirds of Mexico's highly productive mangrove swamps occur along the Gulf and Yucatan coastlines. These diverse habitats are most closely associated with blue-winged teal and pintail.

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Mangrove restoration near Celestun, Yucatan. Photo by Adonia Henry.

Wetlands Working Group News

Wetlands Working Group Booth

Our WWG both at the Conference Exhibit Room increased the awareness about the working group during the 2016 TWS conference. WWG board members and volunteers discussed working group objectives and answered questions asked by student and professional members of TWS.

Seven new members signed up for the WWG during the conference and several others are considering joining in the near future. We raised $130 from the sale of reusable Chico bags. Bags are still available if you did not get a chance to buy one at the conference (see below).

Adonia Henry, out-going chair, also attended the All Working Group Meeting and is looking forward to collaborating with other WGs during 2017 while serving as past-chair.

Lisa Webb and Adonia Henry discussing WWG activities with an interested student and Bruce Thompson, incoming TWS President. Photos by Nick Goodman.

Record Attendance at our 2016 Annual Meeting!

We were excited to see so many members, new members, and interested people take time from their busy conference schedules to attend the WWG annual meeting! We had a good discussion on future activities based on preliminary results of the member survey. The Board looks forward to working on those priorities during 2017. The annual meeting minutes are available on our website.

WWG Member Survey

At the request of some WWG members, we've extended the deadline for the member survey. If you haven't already completed the survey, we want to hear from you!!

https://www.surveymonkey.com/r/WF8WDK2

Please respond by January 20th so we can continue planning for 2017 and beyond!

Reusable Chico Bags still available!

Support the WWG with your purchase of a reusable Chico bag, only $10

(plus $1 shipping)

Contact Adonia at adoniarhenry@gmail.com to get yours today!

Wetlands in the News

Frog Feeding Frenzy High water flows on the Murray River inundate floodplain habitats.

$2 Billion Authorized for Everglades through Water Infrastructure Improvements for the Nation Act of 2016 that will help restore water flow.

Invisible Oil Spills threaten the Gulf of Mexico.

North Bering Sea designation protects natural and cultural resources.

Excess nutrients and other contaminants widespread in 30-40% of lakes nationwide.

Tri-state Water Wars on the Apalachicola-Chattahoochee-Flint river system.

Coastal Wetlands reduce propety damage by more than 10-30%.

Oyster Reef Restoration in the Tred Avon River Sanctuary.

Fish Evolving to live in polluted estuaries.

Seasonal Wetlands face uncertain future.

New Publication Agricultural intensification and drought frequency may have landscape level consequences for ephemeral systems Global Change Biology 10.1111/gcb.13549.

Click on the light blue hyperlinked text above for links to the original articles.

Mexico's Wetlands and Wintering Waterfowl (continued from page 3)

Figure 3. Pintail harvest sites and banding locations, 1914-2014. Colored lines represent different time periods.

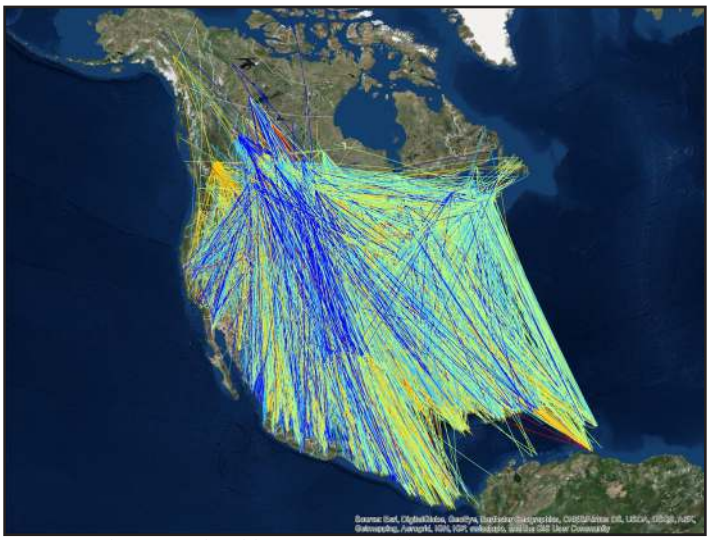


Figure 4. Blue-winged teal harvest sites and banding locations, 1922-2014. Colored lines represent different time periods.

On the breeding grounds, pintails are a prairie species but they are also common migrants to more northern habitats, particularly when they find the prairies unsuitable when migrating north in the spring (Figure 3). But for most North Americans, the most iconic of the waterfowl species that Canada and the U.S. share with Mexico is the blue-winged teal. Bluewings are closely tied to the equally iconic grass and wetland habitats of the prairie pothole region as their primary breeding habitat. Maps of the banding and harvest locations of blue-winged teal (Figure 4), as well as those for northern pintails (Figure 3), illustrate well how these waterfowl species, like many of the other migratory birds of North America, weave together the wetland fabric of our vast continent.

Laguna Mexicanos, Chihuahua. Photo by Adonia Henry.

STUDENT AWARD ANNOUNCED

Photos courtesy of Julia Guyton

Julia Guyton is the recipient of this year's student award which reimbursed a student member of the WWG for early registration costs to attend the 2016 TWS conference. Julia is currently a graduate student at the University of Missouri, Missouri Cooperative Wildlife Research Unit where she is developing a rapid assessment protocol for monitoring fish and amphibian populations in Missouri wetlands. Julia earned her Bachelor of Arts at Birmingham-Southern University in Urban Environmental Studies. She has always enjoyed tromping through wetlands and is excited to pursue a career that conserves wetland-dependent species and the habitats in which they live.

$33 Million to Improve Water Quality in High Priority Watersheds by USDA

More than $33 million for 197 high-priority watersheds across the country was announced by the USDA in early December to help landowners improve water quality through the Natural Resources Conservation Service's (NRCS) National Water Quality Initiative (NWQI). The NWQI helps farmers and ranchers implement voluntary conservation practices, such as nutrient management, cover crops, conservation cropping systems, filter strips, terraces and buffers, which protect and improve water quality where it is needed most. Conservation practices enhance agricultural productivity and profitability while also improving water quality by enhancing soil health and optimizing the use of agricultural inputs.

This year, NRCS added 42 new watersheds to the NWQI and selected 21 watersheds for new assessment projects. These assessment watershed projects span 17 states and include a variety of land uses and water quality issues. NRCS will provide resources for these assessment projects to leverage existing plans, data, and information, and fill gaps needed to complete watershed assessments and develop outreach plans. Click here for the full news release.

Working Lands for Wildlife Adds 11 New Projects

by USDA

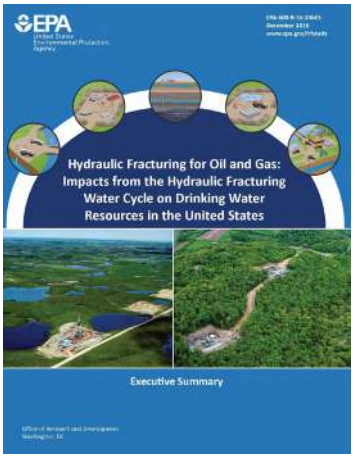
USDA's NRCS is adding 11 new projects to Working Lands for Wildlife (WLFW), the agency's targeted, science-based effort to help producers restore and protect habitat for declining species on farms, ranches and working forests. Projects focus on declining species that have needs compatible with agricultural practices and rural land management and that can benefit from conservation on private lands. Some of the new projects focus on one target species; others focus on a group of species. Click here for the full news release and project list.

Working Lands for Wildlife project locations. Map from NRCS.

News from the Environmental Protection Agency

New Website: The U.S. Environmental Protection Agency (EPA) is beta-testing a new website on approved jurisdictional determinations (JDs) and is soliciting user feedback. The new website presents information on approved JDs made by the U.S. Army Corps of Engineers (Corps) and the EPA under the Clean Water Act since August 28, 2015. Users are able to search, sort, map, view, and download approved JDs from both agencies using different search parameters (e.g., by year, State, watershed). Corps approved JD forms can be found on the Corps JD public interface.

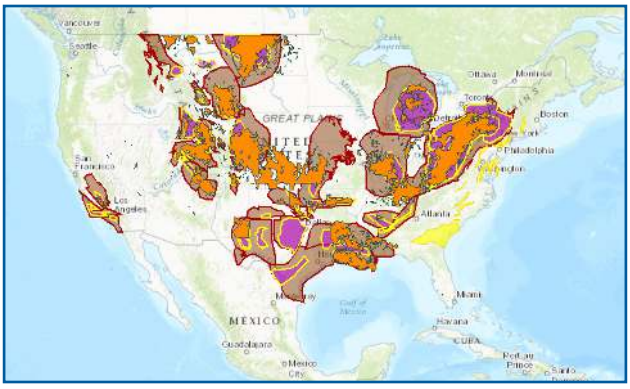
See EPA Connect, the official blog of the EPA leadership, or Frequently Asked Questions for more information.



Fracking and Drinking Water: The EPA released their final scientific report on the potential impacts of hydraulic fracturing activities, commonly referred to as 'fracking,' on drinking water resources in the U.S. The following conclusions from "Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources" were presented in a public webinar presentation during December 2016:

- Hydraulic fracturing can impact drinking water resources under some circumstances;
- Examples of impacts were identified for all stages of the hydraulic fracturing water cycle;
- Impacts can range in frequency and severity, depending on the combination of hydraulic fracturing activities and local- or regional-scale factors; and
- Significant data gaps and uncertainties prevent quantifying the number or frequency of impacts across the country.

Click here for the executive summary, full assessment report, fact sheet, and link to EPA Science Advisor's blog.



Generalized oil and gas wells (orange), shale basins (brown), shale playas (purple), and East Coast Mesozoic basins (yellow). Map from FracTracker Alliance, 2014.

Training Opportunities & Upcoming Conferences

Association of State Wetland Managers
Calendar of Events for webinars, trainings, & special events

Society of Wetland Scientists Annual Meeting
5-8 June 2017, Puerto Rico
Celebrating Wetland Diversity across the Landscape: Mountains to Mangroves

Joint Meeting of Ichthyologists and Herpetologists
12-16 July 2017, Austin, TX

American Fisheries Society Annual Meeting
20-24 August 2017, Tampa, FL

7th World Congress on Ecological Restoration
27 Aug. - 1 Sept. 2017, Foz do Iguassu, Brazil

The Wildlife Society Annual Conference
23-27 September 2017, Albuquerque, NM

Proposed Symposium:
Water, Wetlands, & Wildlife

Interested in helping WWG organize a symposium on water, wetlands, and wildlife for the 2017 TWS conference?
Water use, availability, and quality are increasing challenges faced by those conserving and managing wetlands.
Deadline for proposal submission is March 10th.
Contact Adonia (adoniarhenry@gmail.com) if interested.

2018 Arid Wetlands Symposium

The Wildlife Section of the Society of Wetland Scientist (SWS) is planning an Arid Wetlands Symposium at the 2018 SWS meeting in Denver, Colorado. The goal is to bring together scientists and managers from arid wetlands across North America and Asia to address the unique challenges posed in managing and conserving arid wetlands and their species.

If you are interested in being part of the symposium contact Sammy King (SKing@agcenter.lsu.edu) or Auriel Fournier (aurielfournier@gmail.com).

Professional Development Training Workshop, Chihuahua. Photo by A. Henry.

Questions?
Interested in sharing your wetland experiences and contributing to the Newsletter?

Contact Us!
wwg.tws@gmail.com

2017 Board Members

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Adonia Henry, Past Chair
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How to Join WWG

When you renew your TWS membership, sign up for the Wetlands Working Group!

If you're already a member of TWS, you can add membership in the Wetlands Working Group at any time by logging into your account at http://wildlife.org/.

Membership dues are only $5 annually, which helps support activities at meetings and outreach events.

Mangrove Restoration Area at Ria Celestun Biosphere Reserve. Photo by Adonia Henry.

Newsletter formatted and edited by Adonia Henry.