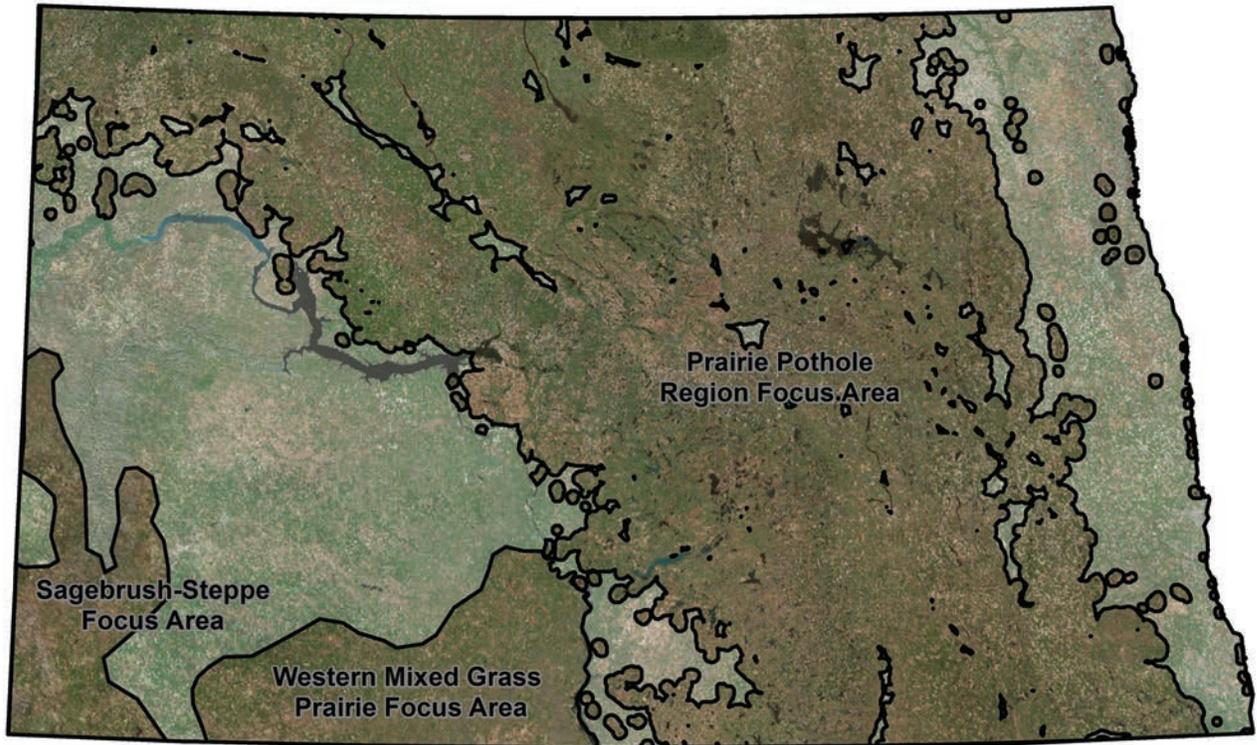


# North Dakota



North Dakota PFW program Focus Areas. USFWS map.

## Introduction and Overview

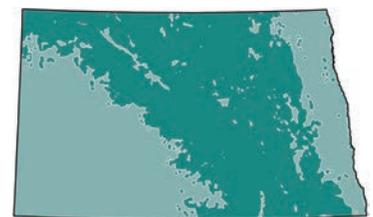
North Dakota is rich in diverse wildlife habitat. From sagebrush of the very southwestern part of the state to mixed-grass prairies of the rest of western North Dakota to the Prairie Pothole Region that lies north and east of the Missouri River. These habitats provide valuable nesting and migration habitat to many grassland and wetland birds and other wildlife. North Dakota PFW (ND PFW) program is designed to conserve, enhance and where needed restore these grassland, wetland and sagebrush habitats. Since the inception of the PFW program in 1987, ND PFW has completed more than 4,100 projects with private landowners across the entire state. In order to meet population objectives of migratory birds in a state where over 90% of the land is in private ownership,

it is important to identify areas of mutual interest between the Service and private landowners. For example, the most effective way to conserve grassland habitat on privately owned land is to support individual livestock production operations. We have a number of different conservation practices that are designed to be mutually beneficial to the livestock producer and grassland and wetland dependent wildlife.

As the name of our program suggests, partnerships are vital to the success of the ND PFW. Our most valuable partners are the private landowners that we work with. It is their vision and commitment to the conservation of wildlife and their habitats that provides the framework for much of our program. In addition to the private landowners, we have strong partnerships with other

federal, state, and local government entities as well as many diverse non-governmental organizations. The relationships that we have with these partners help us to more efficiently and effectively restore, enhance and establish wildlife habitat.

## Prairie Pothole Region Focus Area



The area that makes up the Prairie Pothole Region Focus Area is 25,201,556 acres, or 56% of the total North Dakota land area. The Prairie Pothole Region is well known for its continental importance to waterfowl and other



*Mallard hen and ducklings fulfilling the mission of the Service! Photo by Steve Fairbairn, USFWS.*

migratory birds. This Focus Area is the “best of the best” in terms of wetland density in the United States (up to 150 wetland basins per square mile). These wetland prairie complexes can support greater than 100 duck pairs per square mile. This focus area is comprised of those portions of the Prairie Pothole Region that are capable of supporting greater than 25 breeding pairs of five key waterfowl species (mallard, northern pintail, blue-winged teal, northern shoveler, and gadwall) as identified by the Predicted Duck Pair Accessibility Maps (Thunderstorm Maps) that were developed by the HAPET. The Prairie Pothole Region is currently the priority area for Service Realty acquisitions, as well as for DU, a major NGO partner. Portions of the Prairie Pothole Region, such as the Missouri Coteau, Devils Lake Basin, Glacial Lake Deltas and Turtle Mountains are also highlighted as focus areas in the North Dakota Game and Fish

Department’s North Dakota State Wildlife Action Plan.

Once a vast region of mixed-grass prairie and small, shallow wetlands, the Prairie Pothole Region is now dominated by cropland. Changes in land use have, for the most part, been detrimental to the migratory birds that use the Prairie Pothole Region. Particularly in the eastern portion of the Prairie Pothole Region, many wetlands have been drained or degraded, and the loss of native prairie has been extensive. Despite these losses, millions of wetlands and large tracts of native prairie still remain. The Prairie Pothole Region is one of the most important migratory bird habitats in the Western Hemisphere. It is the backbone of North America’s “duck factory” and supplies critical habitat for many wetland and grassland dependent migratory birds.

**Prairie Pothole Region Focus Area Focal Species**

- Mallard
- Northern pintail
- Gadwall
- Blue-winged teal
- Canvasback
- Redhead
- Lesser scaup
- Piping plover (Threatened)
- Upland sandpiper
- Marbled godwit
- Wilson’s phalarope
- Black tern
- Baird’s sparrow
- Grasshopper sparrow
- Sprague’s pipit
- Chestnut-collared longspur
- Short-eared owl
- Nelson’s sparrow
- Lark bunting
- Western meadowlark
- Monarch butterfly
- Dakota skipper (Threatened)

Focal species	Applicable Plans	Conservation Actions
Mallard	NAWMP, PPJV, NGPJV	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Northern Pintail	ND2, NAWMP, PPJV, NGPJV	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Gadwall	PPJV	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Blue-winged Teal	PPJV	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Canvasback	ND2, NAWMP, PPJV	Wetland Restoration and Establishment
Redhead	NAWMP, PPJV	Wetland Restoration and Establishment
Lesser Scaup	ND2, NAWMP, PPJV	Wetland Restoration and Establishment
Piping Plover	T, ND2	Wetland Restoration and Establishment
Upland Sandpiper	ND2, PPJV, NGPJV	Grassland Restoration and Enhancement
Marbled Godwit	ND1, NAWMP, PPJV, NGPJV, USSCP	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Wilson’s Phalarope	ND1, PPJV, NGPJV	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Black Tern	ND1, NAWMP, PPJV, NAWCP	Wetland Restoration and Establishment
Baird’s Sparrow	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Grasshopper Sparrow	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Sprague’s Pipit	C, ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Chestnut-collared longspur	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Short-eared Owl	ND2, NAWMP, PIF	Grassland Restoration and Enhancement
Nelson’s Sparrow	ND1, NAWMP, PPJV, PIF	Wetland Restoration and Establishment, Grassland Restoration and Enhancement
Lark Bunting	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Western Meadowlark	ND2	Grassland Restoration and Enhancement
Monarch Butterfly		Grassland Restoration and Enhancement
Dakota Skipper	T	Grassland Restoration and Enhancement

NAWMP – North American Waterfowl Management Plan  
 PPJV – Prairie Pothole Joint Venture  
 NGPJV – Northern Great Plains Joint Venture  
 ND1 and ND2 – North Dakota Game and Fish Department Tier 1 and 2 Species of Conservation Priority

USSCP – United States Shorebird Conservation Plan  
 NAWCP – North American Waterbird Conservation Plan  
 PIF – Partners in Flight Landbird Conservation Plan  
 T – Federally listed as Threatened  
 C – Federally identified as a Candidate for listing as Threatened or Endangered

**Prairie Pothole Region Focus Area Habitat Targets**

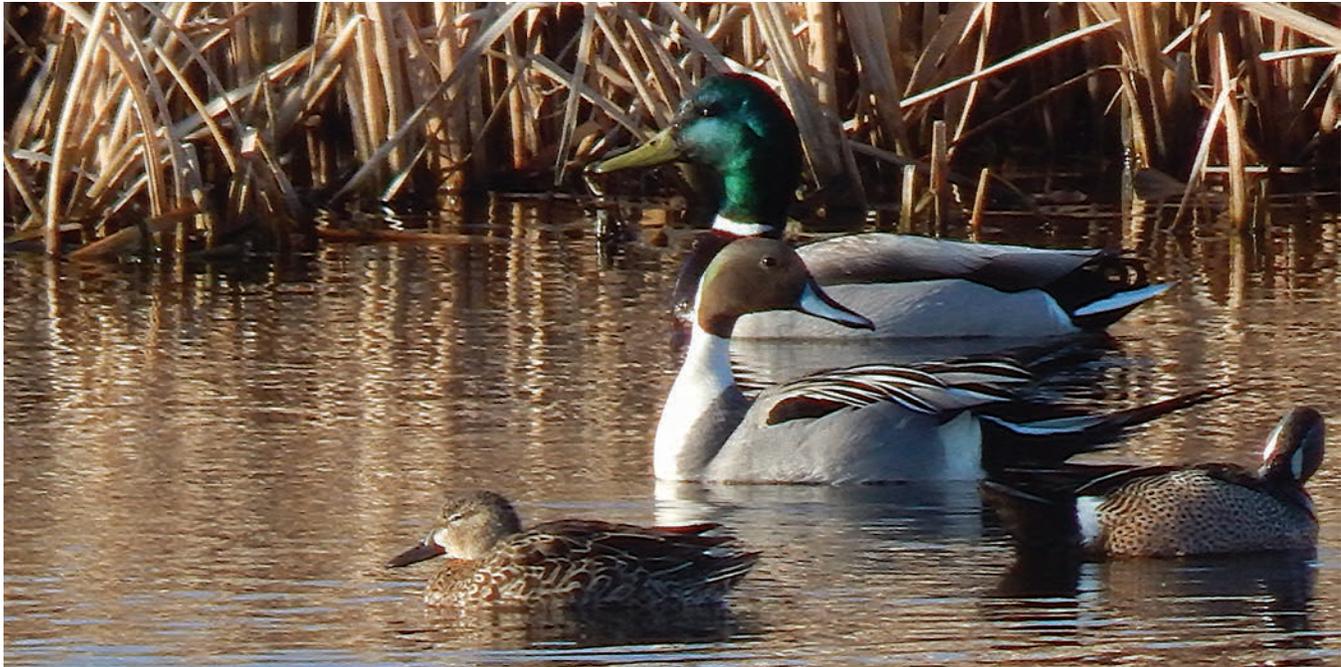
- Wetland Restoration: 625 acres
- Wetland Establishment: 60 acres
- Grassland Restoration: 6,250 acres
- Grassland Enhancement: 40,000 acres

**Prairie Pothole Region Focus Area Partnership Targets**

- Private Landowner Agreements: 360
- Partnerships: 900
- Percent of Leveraging
  - o 25% Service Funds
  - o 25% NAWCA Grant Funds
  - o 30% Landowner Cash and In-kind
  - o 20% Other Partner (NGO, NDGF)

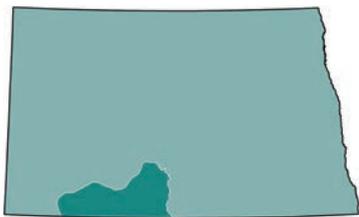


*Ranch family installing a water tank to implement a rotational grazing system. Photo by Dan Duchscherer, USFWS.*



Waterfowl diversity in the North Dakota Prairie Pothole Focus Area. Photo by Dan Duchscherer, USFWS.

### Western Mixed Grass Prairie Focus Area



The area that makes up the Western Mixed Grass Focus Area is 2,681,826 acres, or about 6%, of the total North Dakota land area. This focus area contains some of the largest tracts of grassland remaining in North Dakota and much of it is at risk of being converted to cropland. These grasslands are the most valuable habitat within this focus area and therefore our program philosophy here is to help landowners maintain and enhance their grassland based agriculture. Assisting in the implementation of rotational grazing systems, wetland establishments and grass restorations are the primary project types employed in this focus area.

The boundaries of this focus area were selected to include the majority of the large tracts of grassland remaining in western North Dakota. HAPET used blocks

of grassland that were at least 640 acres to identify Grassland Bird Conservation Areas (GBCA). The locations of these large grassland areas were used to delineate the boundaries of this focus area.



Native vegetation typical of the Western Mixed Grass Prairie Focus Area. USFWS photo.

### Western Mixed Grass Prairie Focus Area Focal Species

- American wigeon
- Mallard
- Northern pintail
- Upland sandpiper
- Marbled godwit
- Wilson's phalarope
- Baird's sparrow
- Grasshopper sparrow
- Sprague's pipit
- Chestnut-collared longspur
- Loggerhead shrike
- Ferruginous hawk
- Short-eared owl
- Burrowing owl
- Lark bunting
- Western meadowlark

### Western Mixed Grass Prairie Focus Area Habitat Targets

- Wetland Establishment: 150 acres
- Grassland Establishment: 150 acres
- Grassland Enhancement: 4,000 acres

### Western Mixed Grass Prairie Focus Area Partnership Targets

- Private Landowner Agreements: 35
- Partnerships: 90
- Percent of Leveraging
  - o 25% Service Funds
  - o 30% NAWCA Grant Funds
  - o 25% Landowner Cash and In-kind
  - o 20% Other Partner (NGO, NDGF)



*PFW wetland establishment and grassland enhancement projects in the Western Mixed Grass Prairie Focus Area. USFWS photo.*

Focal species	Applicable Plans	Conservation Actions
American Wigeon	NAWMP	Grassland Restoration and Enhancement, Wetland Establishment
Mallard	NAWMP, PPJV, NGPJV	Grassland Restoration and Enhancement, Wetland Establishment
Northern Pintail	ND2, NAWMP, PPJV, NGPJV	Grassland Restoration and Enhancement, Wetland Establishment
Upland Sandpiper	ND2, PPJV, NGPJV	Grassland Restoration and Enhancement
Marbled Godwit	ND1, NAWMP, PPJV, NGPJV, USSCP	Grassland Restoration and Enhancement, Wetland Establishment
Wilson’s Phalarope	ND1, PPJV, NGPJV	Grassland Restoration and Enhancement, Wetland Establishment
Baird’s Sparrow	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Grasshopper Sparrow	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Sprague’s Pipit	C, ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Chestnut-collared longspur	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Loggerhead Shrike	ND2, NGPJV	Grassland Restoration and Enhancement
Ferruginous Hawk	ND1, NGPJV	Grassland Restoration and Enhancement
Short-eared Owl	ND2, NAWMP, PIF	Grassland Restoration and Enhancement
Burrowing Owl	ND2, NGPJV	Grassland Restoration and Enhancement
Lark Bunting	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Western Meadowlark	ND2	Grassland Restoration and Enhancement

NAWMP – North American Waterfowl Management Plan

PPJV – Prairie Pothole Joint Venture

NGPJV – Northern Great Plains Joint Venture

ND1 and ND2 – North Dakota Game and Fish Department Tier 1 and 2 Species of Conservation Priority

USSCP – United States Shorebird Conservation Plan

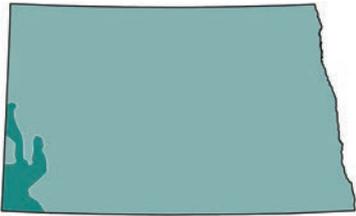
NAWCP – North American Waterbird Conservation Plan

PIF – Partners in Flight Landbird Conservation Plan

T – Federally listed as Threatened

C – Federally identified as a Candidate for listing as Threatened or Endangered

## Sagebrush-Steppe Focus Area



The area that makes up the Sagebrush-Steppe Focus Area is 1,824,380 acres, or 4% of the total North Dakota land area. This focus area was delineated based on several criteria. Primarily, this area is characterized by the range of greater sage-grouse and the extent of sagebrush in the extreme southwest corner of the state. This focus area was also drawn to include large blocks of remaining grassland habitat (>640 acres). These tracts of grassland were identified in the same way as those that were used to create the Western Mixed Grass Prairie Focus Area. A ND PFW program priority is to improve rangeland conditions by assisting in the implementation of rotational grazing systems. Grassland and sagebrush restoration projects are also important in this landscape.

## Sagebrush-Steppe Focus Area Focal Species

- Baird's sparrow
- Grasshopper sparrow
- Brewer's sparrow
- Sprague's pipit
- Chestnut-collared longspur
- McCown's longspur
- Loggerhead shrike
- Ferruginous hawk
- Short-eared owl
- Burrowing owl
- Greater sage-grouse
- Long-billed curlew
- Lark bunting
- Western meadowlark

## Sagebrush-Steppe Focus Area Habitat Targets

- Upland restoration: 200 acres
- Upland enhancement: 2,000 acres

## Sagebrush-Steppe Focus Area Partnership Targets

- Private Landowner Agreements: 11
- Partnerships: 25
- Percent of Leveraging
  - o 60% Service Funds
  - o 30% Landowner Cash and In-kind
  - o 10% Other Partner (NGO, NDGF)



*Greater sage-grouse in typical North Dakota sagebrush habitat. Photo by Steve Fairbairn, USFWS.*

Focal species	Applicable Plans	Conservation Actions
Baird's Sparrow	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Grasshopper Sparrow	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Brewer's Sparrow	NGPJV	Grassland and Sage Restoration and Enhancement
Sprague's Pipit	C, ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Chestnut-collared Longspur	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
McCown's Longspur	PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Loggerhead Shrike	ND2, NGPJV	Grassland Restoration and Enhancement
Ferruginous Hawk	ND1, NGPJV	Grassland Restoration and Enhancement
Short-eared Owl	ND2, NAWMP, PIF	Grassland Restoration and Enhancement
Burrowing Owl	ND2, NGPJV	Grassland Restoration and Enhancement
Greater Sage-Grouse	ND1, NGPJV, PIF	Grassland and Sage Restoration and Enhancement
Long-billed Curlew	ND1, NAWMP, NGPJV, USSCP	Grassland Restoration and Enhancement
Lark Bunting	ND1, PPJV, NGPJV, PIF	Grassland Restoration and Enhancement
Western Meadowlark	ND2	Grassland Restoration and Enhancement

NAWMP – North American Waterfowl Management Plan

PPJV – Prairie Pothole Joint Venture

NGPJV – Northern Great Plains Joint Venture

ND1 and ND2 – North Dakota Game and Fish Department Tier 1 and 2 Species of Conservation Priority

USSCP – United States Shorebird Conservation Plan  
NAWCP – North American Waterbird Conservation Plan

PIF – Partners in Flight Landbird Conservation Plan  
T – Federally listed as Threatened

C – Federally identified as a Candidate for listing as Threatened or Endangered



Greater sage-grouse. Photo by Tom Koerner, USFWS.

# North Dakota Statewide Goals



## Broaden and Strengthen Partnerships

Partnerships are the cornerstone of the ND PFW program. We could not accomplish anything without the trust and support of the private landowners throughout the state. In addition to the thousands of private landowner partners that we have worked with, there are also many local, state and federal agencies and NGO's that are valuable partners and important to the overall success of the ND PFW program. Many of these partners are integral in leveraging funds through the North American Waterfowl Conservation Act. They provide all of the non-federal match as well as substantial input into the planning process. We continually strive to foster existing partnerships as well as to develop new relationships with a wide variety of conservation and agricultural interests.

### Five-year Statewide Targets

- 400 Technical Assistance Staff Days
- Percent of Leveraging
  - o 25% Service Funds
  - o 25% NAWCA Grant Funds
  - o 30% Landowner Cash and In-kind
  - o 20% Other Partner (NGO, NDGF)



*PFW staff reviewing a project with a cooperating landowner. USFWS photo.*

## Improve Information Sharing and Communication

Communication and outreach are integral to the success of the ND PFW program. The vast majority of our partnering landowners are farmers and ranchers. Therefore, the most effective way to improve information sharing and communication in

North Dakota is to attend and participate in local agriculturally based conservation meetings, field tours and workshops. Additionally, ND PFW staff members are regular participants in larger conservation efforts such as the ND chapter of The Wildlife Society, the ND Action Group, the Prairie Pothole Joint Venture, the Northern Great Plains Joint Venture, USDA State Technical Committee and the North Dakota Grazing Lands Coalition among others.

### Five-year Targets

- Conduct 10 Congressional outreach activities.
- Participate in 10 youth activities.
- Participate in 15 field tours.
- Regularly attend local Soil Conservation District meetings and events.



*Landowners installing a cross fence to be used to implement a rotational grazing system. Photo by Dan Duchscherer, USFWS.*

## Enhance Our Workforce

PFW program staff are some of the most dedicated and highly-motivated personnel in the Service. Their positions require that they have a general knowledge of many aspects of wildlife management, agriculture, contract negotiation and administration, as well as excellent skills in working with people, particularly landowners. Providing adequate training opportunities and maintaining high morale are integral to retaining a highly-skilled, highly-motivated PFW program workforce.



*PFW program native grass restoration project in progress. Photo by Mike Graue, USFWS.*

**Five-year Targets**

- Annually provide all ND PFW staff 40 hours of professional development and training.
- Annually recognize one ND PFW biologist for annual or career accomplishments.
- Maintain weekly call-in staff meetings.
- Continue at least one annual staff meeting to provide training and updates to staff.

- Enter spatial data into our PLGIS system for every PFW project.
- Enter information for all projects into HabITS database.

**Increase Accountability**

In conjunction with this Strategic Plan, we have also developed a Monitoring Plan that is specifically designed to improve and increase our accountability. This plan incorporates three levels of monitoring with respect to completed PFW projects across the state. In addition, the ND PFW program will utilize other tools, such as GIS, HabITS and an annual narrative to illustrate the ND PFW program’s strategic prioritization and delivery of wetland and grassland conservation.

**Five-year Targets**

- Each year an annual accomplishment report will be completed.
- 100% of projects will have completed implementation and compliance monitoring.



*Blue-winged teal ducklings adjacent to a PFW program grassland enhancement project in North Dakota. Photo by Scott McLeod, USFWS.*

## Monitoring Plan

### Background

Since 1987 the North Dakota PFW program (ND PFW) has completed over 3,300 projects that have restored, enhanced or created more than 287,000 acres of habitat for Federal Trust Species throughout the state. The foundation of the ND PFW program is engrained in the broader strategies and goals of the North American Waterfowl Management Plan (NAWMP 2012), Prairie Pothole Joint Venture Implementation Plan (PPJV 2005), National Partners in Flight Plan (Rich et al. 2004, Pashley et al. 2000), Northern Plains/Pothole portion of the U.S. Shorebird Conservation Plan (Skagen and Thompson 2001), Northern Great Plains Joint Venture Concept Plan (NGPJV 2001), Northern Great Plains Joint Venture Implementation Plan (Pool and Austin 2006) and the North American Waterbird Conservation Plan (Beyersbergen et al. 2004). Central to the successful implementation of all major bird conservation plans in the Northern Great Plains is strategically targeted landscape-scale conservation of wetland and grassland habitats. Therefore, the ND PFW program has prioritized wetland and grassland conservation on private lands since 1987 when the program was first established. For example, of the 2,327 ND PFW program projects initiated during the period 1999-2015, 95.8% were specifically implemented for grassland or wetland conservation. Furthermore, 100% of the ND PFW program wetland and grassland conservation effort was implemented via the reoccurring use of four primary conservation practices (grassland restorations, grassland enhancements, wetland restorations and wetland establishments). The ND PFW program’s strategic prioritization and delivery of wetland and grassland conservation was reaffirmed in both the 2007 and 2012 Region 6 PFW Strategic Plans (Service 2007, Service 2012) and the ND PFW program has identified three Focus Areas and associated priority bird species in the 2012 Region 6 PFW Strategic Plan.

Over the past six decades, many researchers have documented the benefits of wetland/grassland conservation to many grassland and wetland dependent bird species in the Northern Great Plains. Specific to PFW projects, the ND PFW program works closely with the Service Region 6 Habitat and

Population Evaluation Team (HAPET) to quantify biological outcomes for five key upland nesting duck species (mallard, blue-winged teal, gadwall, northern pintail and northern shoveler) in the ND PFW program Prairie Pothole Region Focus Area. In addition, the ND PFW program has worked closely with HAPET in recent years to evaluate specific ND PFW program conservation practices in the Western Mixed Grass Focus Area and the Sage Steppe Focus Area. The primary goal of the ND PFW program monitoring plan is to augment past and future monitoring efforts of ND PFW program habitat projects with a standardized strategy that incorporates a larger sample size.

### Level I – Status Review

The ND PFW program will conduct Level I Status Reviews at two temporal scales. Field visits by ND PFW program field biologists will be conducted directly following completion of all new projects. Additionally, a mid-term status review will be conducted on a sub-set of older projects. These status reviews will be completed remotely via a combination of Region 6 PLGIS data and imagery from the National Agricultural Imagery Program (NAIP). Beginning in FY2016, ND PFW program staff will complete a standardized Region 6 PFW Site Visit Report (SVR) form for each newly finished PFW project. ND PFW program staff will physically review each newly completed project to ensure that prescribed conservation practices were installed in accordance with provisions of the Private Landowner Agreement (PLA). The site visit and SVR form will be completed before the payment process is initiated and the SVR form will be submitted to the Bismarck PFW office as part of the payment initiation request. Completed SVR forms will be incorporated into the official PLA file in the Bismarck PFW office and copies will also be retained in the PLA file in the local field office. It is estimated that over 75 ND PFW program projects will undergo status reviews each field season. In addition, beginning in FY2017, during January and February of each year, ND PFW program staff will utilize a combination of Region 6 PLGIS data and NAIP imagery to remotely conduct mid-term status reviews of a sub-set of older Wildlife Extension Agreements (WEAs) and newer PLAs. The combination of PLGIS polygons and the most current NAIP imagery will provide a means to remotely review the basic status of the four most common ND PFW program

Table 1: Schedule of Work for Remote Level 1 Status Reviews

Year Status Review to be Completed	Year of PFW Agreements	Sample Size	Year of NAIP Imagery
2017	2012	95	2016
2018	2013	72	2016
2019	2014	67	2018
2020	2015	88	2018
2021	2016	100	2020

Table 2. Core Biological and Habitat Monitoring Metrics			
ND PFW program Conservation Practice	Key Habitat Attributes (Presence or Absence)	Trust Species* (Presence or Absence Only)	Trust Species** (Survey-Count)
Grassland Enhancement	Perennial Cover (Y/N) Native Grass Species (Y/N) Native Forb Species (Y/N) Milkweed (Y/N)	Grassland Songbirds (Y/N) Shorebirds (Y/N) T&E Species (Y/N) Monarch Butterfly (Y/N)	N/A
Grassland Restoration	Perennial Cover (Y/N) Native Grass Species (Y/N) Native Forb Species (Y/N) Grass/Forb Sp. Representative of Seed Mixture (Y/N) Milkweed (Y/N)	Grassland Songbirds (Y/N) Shorebirds (Y/N) T&E Species (Y/N) Monarch Butterfly (Y/N)	N/A
Wetland Establishment	Hydrology (Y/N) Hydrophytes (Y/N) Mudflats (Y/N)	N/A	Number of Breeding Waterfowl Pairs Utilizing the Project  Number of Shorebirds, T&E Species and Waterbirds Utilizing the Project
Wetland Restoration	Hydrology (Y/N) – if Y, then % wet Hydrophytes (Y/N) Mudflats (Y/N)	N/A	Number Breeding Waterfowl Pairs Utilizing the Project  Number of Shorebirds, T&E Species & Waterbirds Utilizing the Project

\*One centrally located fixed width belt transect (200 meters x 100 meters) will be surveyed in each grassland tract for the presence/absence of grassland passerines. Standardized field techniques and survey parameters will be used (Salo 2003, Baker and Higgins 2009). Additionally, the presence/absence of shorebirds, T&E species and Monarch butterflies will also be recorded during the same survey.

\*\*Standard HAPET 4-Square Mile survey techniques and data cards will be used to assess breeding waterfowl pairs. In addition, all shorebirds, waterbirds and T&E species observed on the sampled wetlands will also be recorded during the same survey.

conservation practices (grassland enhancements, grassland restorations, wetland establishments and wetland restorations). The following framework and schedule (Table 1) will serve as a guide to strategically implement the remote status review protocol for approximately 422 projects.

**Level II – Site Specific Biological Monitoring**  
 ND PFW program staff will complete a combination of presence/absence surveys and counts of key Federal Trust Species and associated habitat attributes on a stratified random sample of 10% of ND PFW program projects. The random sample will be stratified by the four primary ND PFW program

### Level III Landscape Scale Biological Monitoring Flowchart

**Step 1:** Coordinate closely with HAPET to develop biological outcome estimates for the primary conservation practices completed in the ND PFW program Prairie Pothole Region Focus Area (FY 2017-2021).

**Estimated Waterfowl Breeding Pair and Recruitment Benefits for USFWS Partners for Fish and Wildlife Wetland and Grassland Projects in North Dakota focus areas for 2017-2021. (May 2016)**

State	Focus Area	Project Type	Class	Target Acres	Term (Yrs)	Annual Pairs <sup>1</sup>	Cumulative Pairs <sup>2</sup>	Annual Productivity <sup>3</sup>	Cumulative Productivity <sup>4</sup>
North Dakota	> 25 Breeding Duck Pairs East River								
		Wetland Restoration							
			Temporary	31	10	36	363	57	566
			Temporary	94	99	109	10,809	170	16,832
			Seasonal	47	10	58	582	84	840
			Seasonal	141	99	175	17,331	252	24,995
			Semipermanent	78	10	58	581	59	593
			Semipermanent	235	99	175	17,286	178	17,651
			<b>Totals</b>	<b>625</b>		<b>611</b>	<b>46,952</b>	<b>801</b>	<b>61,476</b>
		Wetland Creation	Semipermanent	60	30	45	1,340	155	4,650
			<b>Totals</b>	<b>60</b>		<b>45</b>	<b>1,340</b>	<b>155</b>	<b>4,650</b>
		Grassland Restoration <sup>5</sup>	New	3,750	10			813	8,130
				2,500	99			542	53,658
			<b>Totals</b>	<b>6,250</b>				<b>1,355</b>	<b>61,788</b>
		Grassland Enhancement <sup>6</sup>	Maintenance	40,000	10			8,672	86,720
			<b>Totals</b>	<b>40,000</b>				<b>8,672</b>	<b>86,720</b>
		<b>Grand Totals</b>							
					1st 10 Years	6,562		109,826	
					10-30 Years	894		3,100	
					Remaining Years	40,838		101,708	
					<b>Cumulative</b>		<b>48,293</b>		<b>214,634</b>

<sup>1</sup> Duck breeding pair values per acre of wetland were estimated for each focus area by summing the number of total pairs for the focus area by wetland class, and dividing by the total acres of wetland for the respective class.

<sup>2</sup> The estimated cumulative value of wetland related private lands projects for breeding pairs is PAIRS = ((Acres of Wetland) \* (Pair Value) \* (Agreement Duration)).

<sup>3</sup> Recruits related to the acres of wetland restored or created by private lands projects are calculated using the estimated number of pairs benefiting from wetland projects and subsequent recruitment derived from Four Square Mile Breeding Waterfowl data. Recruits related to the acres of grassland restored or protected from loss by implementing grazing systems (i.e., enhanced) were derived from scenarios of grassland change using the mallard model for areas in central North and South Dakota and subsequent changes in duck recruitment.

<sup>4</sup> The estimated cumulative recruitment value of wetland and grassland related private lands projects for ducks is WETLAND PROJECT BASED RECRUITS = ((Number of Breeding Duck pairs) \* (Recruitment Value) \* (Agreement Duration) - (# of PAIRS because there are no 1st year benefits)); GRASSLAND PROJECT BASED RECRUITS = ((Acres of Grassland) \* (Recruitment Value) \* (Agreement Duration)).

<sup>5</sup> Recruits associated with grassland restoration are considered new recruits to the population.

<sup>6</sup> Recruits associated with grassland enhancement (i.e., grazing systems) are considered existing recruits protected for the duration of the agreement.

**Step 2:** Annually summarize HabITS derived accomplishment data for ND PFW program projects completed in the Prairie Pothole Region Focus Area. Accomplishments are then prorated according to HAPET estimates of projected pairs and recruits to generate biological outcome estimates. Projected sample size during the period 2017-2021 is 360 new ND PFW program projects representing approximately 46,935 grassland and wetland acres.

**Step 3:** Annually summarize biological outcomes from the ND PFW program Prairie Pothole Region Focus area and compare actual biological outcomes to projected outcomes.

Year	Actual Cumulative # of Breeding Pairs Benefited	Projected Goal for Cumulative # of Breeding Pairs Benefited	Actual Cumulative # of Recruits Benefitted	Projected Goal for Cumulative # of Recruits Benefitted
2017		9,658		42,927
2018		9,658		42,927
2019		9,658		42,927
2020		9,658		42,927
2021		9,658		42,927

conservation practices (grassland restorations, grassland enhancements, wetland restorations and wetland establishments). The annual sample universe will consist of ND PFW program projects found in HabITS and completed two years prior to the current fiscal year. The two-year interval will provide a suitable amount of time for the vegetation and hydrology components of most projects to become fully established. For example, in FY2017 the stratified random sample would consist of 10% of the ND PFW program projects completed in FY 2015. Habitat and focal species data will both be collected during the same site visit. A standardized grassland status review form will be developed by the ND PFW program and will be used to collect data on each grassland site in the sample. The ND PFW program staff will use standard HAPET 4-square mile data cards to collect data on sample wetland sites. Completed ND PFW program grassland status review forms and HAPET 4-square mile data cards will be incorporated into the official PLA file at the Bismarck PFW office and copies will also be retained in the PLA file at the field level. During the period 2017–2021, the ND PFW program sampling universe for Level II biological monitoring is estimated to be 450 sites, with a corresponding sample size of 45. The following core biological and habitat metrics (Table 2) will be assessed for the four most common ND PFW program conservation practices.

**Level III – Landscape Scale Biological Monitoring**

The ND PFW program will continue to work closely with the Region 6 HAPET office to quantify biological outcomes for five key upland nesting duck species (mallard, blue-winged teal, gadwall, northern pintail and northern shoveler) in the ND PFW program Prairie Pothole Region Focus Area. Specifically, ND PFW program will continue to

collaborate with HAPET to assess breeding pair and recruitment benefits associated with new PLAs in the Prairie Pothole Region Focus Area. Specific ND PFW program conservation practices to be evaluated include wetland restorations, wetland establishments, grassland restorations and grassland enhancements. Close coordination with HAPET on Level III monitoring will help assure that the habitat work of the ND PFW program is fully integrated at the landscape-scale with the PPJV Implementation Plan and that our activities are fully supported by current peer-reviewed literature. For example, a growing body of evidence indicates that nest success and breeding survival are the primary demographic factors influencing populations of mid-continent mallards. Thus, the most effective conservation action for mallards (and all other upland nesting ducks) is to conserve those landscape features that enhance nest success and breeding survival. The ND PFW program strives to do this by restoring and enhancing grassland/wetland complexes in high wetland density landscapes to improve recruitment rates for priority waterfowl species. These actions also have a high likelihood of benefitting additional Federal Trust Species, most notably neotropical and temperate migrant songbirds. Conserving large, intact tracts of upland nesting habitat provides benefits to priority upland nesting ducks as well as many grassland songbirds and shorebirds and working closely with landowners is widely recognized as one of the most effective tools for protecting and enhancing the largest remaining grassland/wetland complexes (Higgins et al. 2002). The Level III Landscape Scale Biological Monitoring protocol will involve three distinct steps (Flowchart):

1. Coordinate with HAPET to generate projected biological outcome estimates;
2. Annually pro-rate biological outcomes by actual ND PFW program accomplishments;
3. Annually summarize actual ND PFW program biological outcomes and compare to projected outcomes.



# Attachment 1 ND PFW Level I Monitoring Form



## SITE VISIT REPORT

Landowner Agreement # \_\_\_\_\_

Prism FA Award # \_\_\_\_\_

### Final or Interim Select One

### Scope of Work

(Describe the restoration activities ex. fence and/or livestock watering facilities were installed to facilitate proper grazing management, grassland enhancement and migratory bird conservation).

### Project Status

(To be used for an interim report ie...what's been done up to the 1 year mark)  
(Example Language)-About 2 paragraphs

### Species Benefited

\_\_\_\_\_. (You can reference conservation plans as/if you deem necessary)

*Optional/ Literature Cited: (Example)*

U.S. Fish and Wildlife Service [USFWS]. 2012. Partners for Fish and Wildlife Program Mountain-Prairie Strategic Plan, 2012–2016. U.S. Fish and Wildlife Service, Lakewood, Colorado.

### Payment Method

Describe selection of the payment method (Ex. SF-270, this is a private landowner who chose to be waived from the ASAP system)

As the PFW biologist managing this project I certify that Landowner Agreement # \_\_\_\_ (project type ex. Wetland enhancement) has been completed (or for interim...is in the process of being completed) in accordance with all provisions of the agreement.

\_\_\_\_\_  
PFW Biologist

\_\_\_\_\_  
Date

\_\_\_\_\_  
Landowner / Cooperator

\_\_\_\_\_  
Date



**Attachment 2**

**ND PFW Grassland Transect Survey Form**



Transects are 200m long by 100m (50m each side of center) wide and located in a representative portion of the tract

Observer \_\_\_\_\_ Date \_\_\_\_\_ County \_\_\_\_\_

LA# \_\_\_\_\_ Conservation Practice (grazing system or seeding) \_\_\_\_\_

Wind Speed \_\_\_\_\_ Temperature \_\_\_\_\_ Start Time \_\_\_\_\_ End Time \_\_\_\_\_

Primary Habitat Attributes

	YES	NO
Perennial Nesting Cover Present		
Native Grass Species Present		
Native Forb Species Present		
Milkweed Present		

Primary Trust Species

	YES	NO
Grassland Passerines Present		
Shorebirds Present		
Threatened & Endangered Species Present		
Monarch Butterflies Present		
Waterfowl Present		

Trust Species Positively Identified in the Transect

List All Species:



## Attachment 4

# North Dakota Ongoing Monitoring Efforts Listed by Focus Area

### Prairie Pothole Region

- A. Four Square Mile Breeding Waterfowl Survey
  - i. Annual survey of the five most common breeding waterfowl species in North Dakota.
  - ii. Surveys are conducted on randomly selected wetlands within four square mile blocks of habitat and have been conducted for the past 25 years.
  - iii. Survey coordinated by the Service Habitat and Population Evaluation Team (HAPET) and conducted by the Service.
- B. North American Breeding Waterfowl Survey
  - i. Annual breeding waterfowl survey of over 80,000 miles of waterfowl habitat and is conducted from the air and ground.
  - ii. Survey has been conducted for the past 50 years and is believed to be the most extensive, comprehensive, long-term annual wildlife survey in the world.
  - iii. Survey conducted by the Service.
- C. Breeding Shorebird Survey
  - i. Annual survey of six breeding shorebird species.
  - ii. Surveys are conducted on 25 mile routes with survey points every half mile.
  - iii. Surveys are conducted twice a year with the first period being the last week of April through the first 10 days of May and the second period being from the last week of May to the first week of June.
  - iv. Survey coordinated by the HAPET and conducted by the Service.

### Sagebrush-Steppe

- A. Greater Sage-Grouse Monitoring
  - i. Annual lek counts that have been ongoing since 1951.
  - ii. The number of males on all known active leks is counted.
  - iii. Survey is conducted by the North Dakota Game and Fish Department (NDGF) and the Bureau of Land Management (BLM).
- B. Breeding Bird Survey
  - i. Nationwide survey that has been done since 1966.
  - ii. Survey conducted on 24.5 mile routes with survey points every half mile.
  - iii. Survey is coordinated by U.S. Geological Survey (USGS).
- C. Demography study of Baird's and Grasshopper sparrows
  - i. Study to determine nest success and adult and juvenile survival rates.
  - ii. Study conducted by Rocky Mountain Bird Observatory (RMBO)

### Western Mixed-Grass Prairie

- A. Integrated Monitoring for Bird Conservation Regions (IMBCR)
  - i. Annual survey of that was started in 2008.
  - ii. Approximately 200 transects (1500 point counts) are surveyed each year.
  - iii. Survey is conducted by the RMBO.
- B. Pheasant Brood Survey
  - i. Annual pheasant brood survey conducted on 106 brood routes.
  - ii. Surveys are conducted during July and August each year.
  - iii. Survey is conducted by the NDGF.
- C. Prairie Grouse Survey
  - i. Annual spring lek counts.
  - ii. Survey has been conducted since the 1940s.
  - iii. Survey is conducted by the NDGF.