

Spring 2009 Dakotas Flood Situation and Response Efforts

Mountain-Prairie Region



Jarrod Lee / FEMA

U.S. Fish and Wildlife Service airboats from national wildlife refuges in ND and SD, along with U.S. Coast Guard boats, prepare to deploy for flood response missions in the Fargo area.

Introduction

Significant late season rainfall in North and South Dakota saturated soils there and, when followed by heavy winter snowpack, created ideal conditions for severe flooding, especially in areas east of the mainstem Missouri River, including the Red, James, and Sheyenne River systems. Steadily rising

temperatures in March – interrupted only by several spring blizzards - triggered flood events on multiple river systems in the region. To date, thirty-eight counties in North Dakota have been declared a Federal Disaster Area. Within the disaster area, the U.S. Fish and Wildlife Service

(Service) administers 54 National Wildlife Refuges (NWR) and approximately 197,240 acres of Waterfowl Production Areas within 9 Wetland Management Districts (WMD) and 1 National Fish Hatchery (see attached map). The Service has a total of 2,202 assets within the disaster area, with a total replacement value of \$392,944,747.



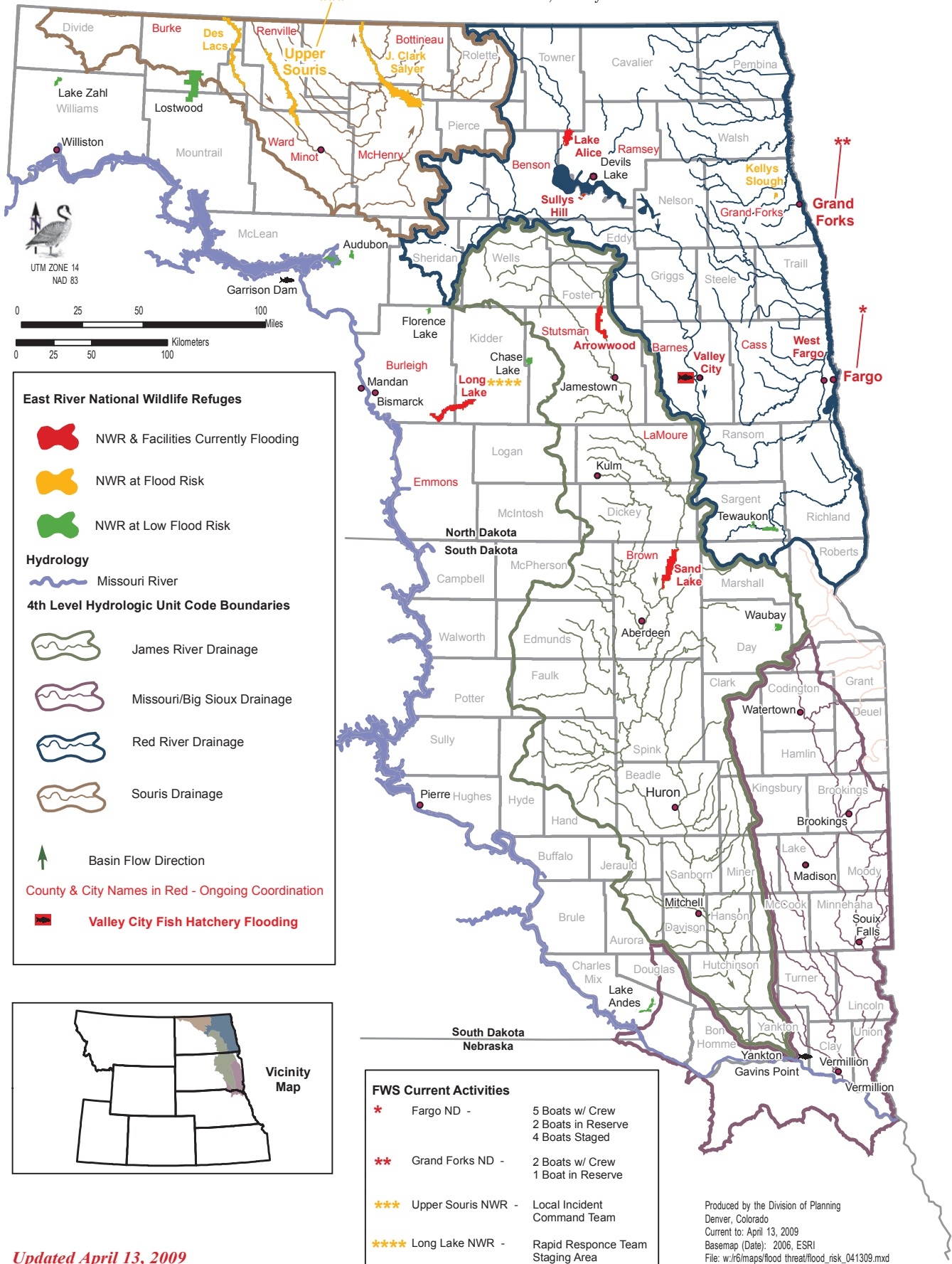
Andrea Booher / FEMA

Flooded farm near Fargo, North Dakota.

Severe flooding is likely to expand beyond the current declared boundaries of the Federal Disaster Area as reservoirs continue to rise due to inflows from rising rivers and tributaries and future precipitation. The Service anticipates additional damages will occur on Service lands outside the current disaster declaration. For example, flooding is not expected on the Upper Souris River in northwestern North Dakota for another 1-2 weeks, and this area is currently not included in the current Federal Disaster designation. The Service has 727 assets on the Souris Complex, with a total replacement value of \$381,851,372.

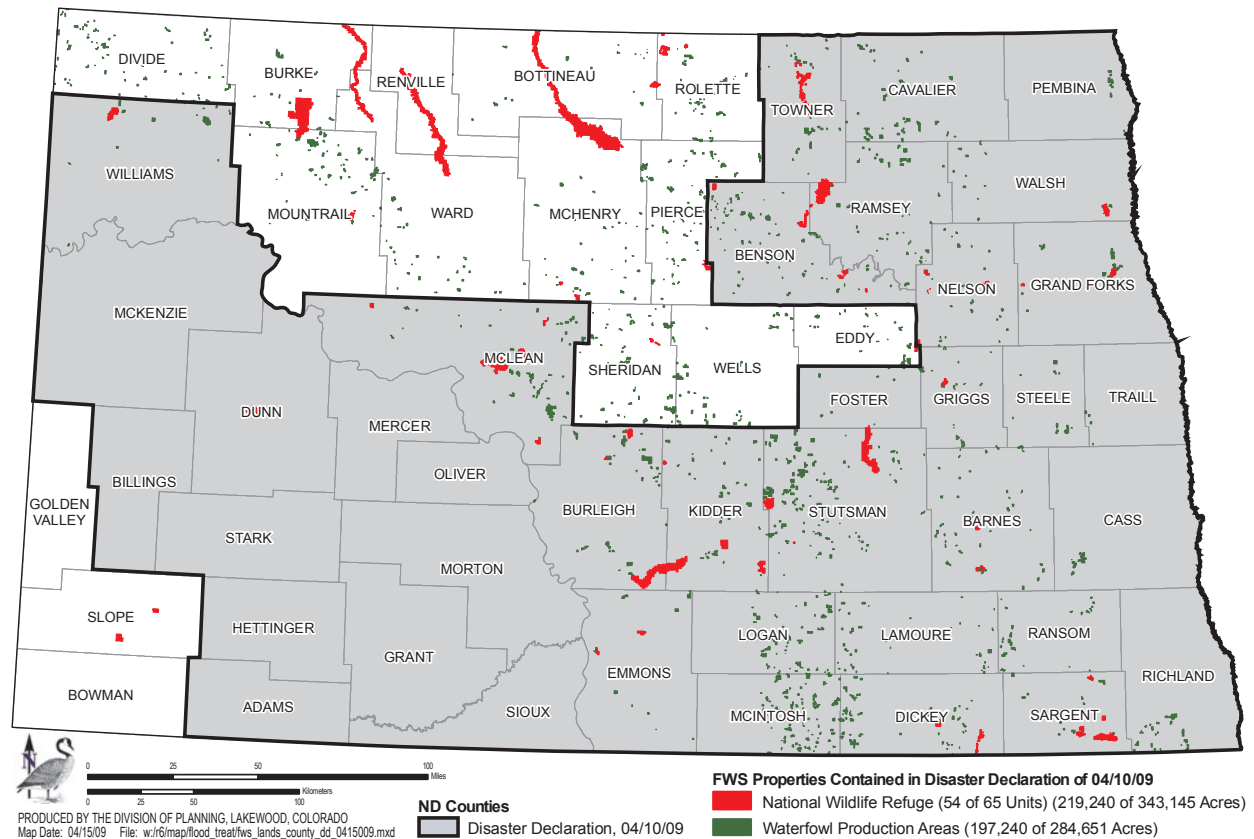
R6, Major Flood Risks and Activities

North Dakota & South Dakota, East of the Missouri River



Updated April 13, 2009

U.S. Fish & Wildlife Refuge Lands within North Dakota Disaster Declaration, 4/15/09



Natural Resource Damages

The Prairie Pothole Region (PPR) of the upper Midwest is a unique ecosystem and one of the most biologically productive areas in North America. The U.S. portion of the PPR covers only 7 percent of the principle breeding area for waterfowl in North America, yet produces about 20 percent of the continent's ducks. Fifty percent of the U.S. waterfowl production comes from the PPR of the Dakotas and Montana.

In recent decades, drainage and development of wetlands in this area has increased run-off to the Red River and Missouri River watersheds, which in turn has contributed to flooding in these river systems. However, significant wetland and grassland resources still remain in parts of the PPR and provide watershed protection and vital habitat for waterfowl and other wetland birds, for which the U.S. Fish and Wildlife Service has

trust responsibilities. Current precipitation and flood events in the PPR are significantly impacting these wetland resources due to excessive surface runoff, erosion, and subsequent deposition of sediments into wetland basins. This impact, which is occurring primarily in temporary and seasonal wetlands surrounded by cropland, reduces both the biological and hydrologic function of these prairie wetlands by further reducing their capacity to hold water, which then causes water to enter river drainage systems at an accelerated rate.

The Service protects approximately 394,857 acres in the flood impact area through fee title purchase. We anticipate that a large segment of these protected lands will be negatively impacted by the 2009 flood events and will require restoration efforts to recover full hydrologic function. Necessary habitat recovery efforts include

contaminant mitigation and direct removal of sedimentation on affected wetlands on national wildlife refuge and waterfowl production areas.

In addition, the Service has purchased protective easements on approximately 1.4 million wetland acres in the PPR from cooperating landowners who participate in conservation programs. Many of these wetlands will also be negatively impacted by sediment, farm chemical contamination, erosion, and invasive plants due to the flood events. The only practical way to restore the hydrologic and biological functions of these wetlands is to remove excessive sediment. The Service's Partners for Fish and Wildlife (private lands) program has the technical skills and capacity to work with private contractors to deliver this conservation treatment in the affected area and restore impacted lands in the PPR to full productivity.

Flood Impacts to Service Assets in North and South Dakota

The ongoing floods in North and South Dakota have impacted numerous Service assets.

Anticipated flooding in the days and weeks ahead will likely impact additional assets. The majority of Service assets impacted to date are on units of the National Wildlife Refuge System. The following is a summary of impacts to Service assets.

North Dakota

Arrowwood National Wildlife Refuge Complex, Pingree, ND

Currently, multiple assets ranging from dikes and water control structures to waterfowl nesting islands are submerged by flood waters and will require various degrees of rehabilitation and repair. In addition, many other assets at Arrowwood – including buildings essential to operation of the refuge such as the maintenance shop, hazardous materials storage facility, and administrative buildings - are at high risk if temporary dikes erected in response to the flood should fail.



Kim Hanson / USFWS

Rising lake levels threaten structures at Arrowwood NWR Complex, Pingree, ND.

Valley City National Fish Hatchery and Wetland Management District, Valley City, ND

Valley City NFH/WMD is currently at severe risk of flooding and is actively improving its dike and taking other measures to protect the facility and its assets. Dike failure would result in total loss of NFH and WMD assets at the facility.

Devil's Lake Wetland Management District, Devil's Lake, ND

Current flood impacts at Devil's Lake WMD include damage to infrastructure at Sully's Hill National Game Preserve – one of the oldest units of the National Wildlife Refuge System - such as the bunkhouse, the historic entrance road to the station, and trailer pads. In addition, 11 different Waterfowl Production Areas administered by the Devil's Lake WMD are impacted by rising waters; when these areas drain and dry, they will be infested with harmful weeds, requiring total restoration of these sites. Finally, depending on future conditions, Devil's Lake could flood further and inundate additional Service assets, including other components of the WMD including Lake Alice National Wildlife Refuge and other WPAs.



Chad Zorn / USFWS

Flood impacts at Valley City NFH and WMD Headquarters, Valley City, ND.



Chad Zorn / USFWS

Flood impacts at Valley City NFH and WMD Headquarters, Valley City, ND

Chase Lake National Wildlife Refuge and Chase Lake Prairie Project, Woodworth, ND
 Current flooding threatens the following assets at Chase Lake: all levees and dikes, the auto tour route and other roads and parking facilities, bunkhouse, warehouse and other buildings, and more than one million linear feet of fencing.

Audubon National Wildlife Refuge, Coleharbor, ND
 Current flooding has impacted a variety of assets at Audubon ranging from fencing to nesting islands to the auto tour route and rip rap.

Tewaukon National Wildlife Refuge, Cayuga, ND
 Current flooding has impacted Tewaukon's fencing, much of which will require repair and replacement once flood waters recede.

Long Lake National Wildlife Refuge, Moffit, ND
 Current flooding has inundated historic (Civilian Conservation Corps-era) structures and many of the refuge's roads, trails and parking lots. Major water control structures on the refuge failed or were damaged and must be replaced or repaired. Many fences on the refuge were also destroyed and must be replaced.

South Dakota

Sand Lake National Wildlife Refuge, Columbia, SD
 Current flooding has submerged all refuge assets except buildings. All dikes, water control structures, roads, culverts, and the majority of fences and other infrastructure are under water.

Huron Wetland Management District, Huron, SD
 Current flooding has submerged virtually all of Huron's fencing, which will require significant repair and replacement when water drops. Huron's dikes are also currently submerged and will likely require repair and replacement.



FWS personnel work to strengthen dikes at Valley City NFH and WMD Headquarters, Valley City, ND
 Chad Zorn / USFWS

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Emergency Response

Throughout the ongoing flood disaster in North Dakota, the U.S. Fish and Wildlife Service (Service) has provided both mutual aid to local law enforcement authorities and direct assistance to the State of North Dakota via a Federal Emergency Management Agency (FEMA) mission assignment.

The Service is the largest federal entity within North Dakota and has many specialized and valuable resources stationed in and around the state, including airboats, which we have deployed to great effect for search and rescue operations in areas flooded with water, ice, and snow. This capability has allowed the Service to play a key role in assisting state, local and federal emergency response personnel during this historic flood disaster.

Beginning in late March, 2009, the Service received numerous mutual aid requests, primarily from Burleigh and Cass Counties in North

Dakota. Local Service personnel quickly responded to these requests. Currently, the Service is providing water search and rescue services under an Emergency Support Function (ESF) 9 of the National Response Framework. These activities will likely continue through April 25, 2009.

Service emergency response efforts include ongoing search and rescue operations, sandbagging, and assistance with the demolition of ice jams on the Missouri River. To date, the total cost of our emergency response efforts is \$828,891, with a daily "burn rate" of approximately \$54,400 per day. We anticipate that we will spend approximately \$1.4 million in emergency response and recovery by April 25, 2009. Of this, all overtime and hazardous duty pay, travel costs, and fuel associated with search and rescue operations (~\$300,000) will be recovered under FEMA ESFs.



Michael Rieger / FEMA

U.S. Fish and Wildlife Service employees conduct flood response operations north of Fargo, North Dakota.