



2011 North Dakota Floods

A Decade of Recovery, Renewal and Resilience

June 2021



FEMA

2011 North Dakota Floods: A Decade of Recovery, Renewal and Resilience was produced by
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Cover Photo: Erik Ramstad School and the surrounding neighborhood saw some of the most
extensive damage during the Souris River flood. Photo: FEMA

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Overview

Another wet spring meant that 2011 looked to be a third straight year of considerable flooding in North Dakota. The previous two years resulted in major disaster declarations covering much of the state, with eastern North Dakota most heavily impacted. In 2009, the flooding on the Sheyenne, James and Red Rivers was the worst since the record flooding of 1997.



Figure 1: The Garrison Dam Emergency Spillway was opened for the first time ever. Peak flow through the Dam was 180,000 cubic feet per second. Photo: Bob Kaufmann/FEMA

It was looking like a similar situation was setting up for 2011. FEMA was monitoring conditions in coordination with the North Dakota Department of Emergency Services. President Obama issued a federal emergency declaration for North Dakota (EM-3318) on April 7, providing federal resources to assist state and local flood response efforts.

Late spring continued to bring additional precipitation and the greatest threat gradually shifted to the west, with the focus being on the Missouri River system and the Souris (Mouse) River. By mid-May both Bismarck and Minot appeared under threat. Following record inflows into the Missouri River system, the U.S. Army Corps of Engineers opened emergency spillways at Garrison Dam for the first time ever, with peak flows reaching 150,000 cubic feet per second.

While management of the dams helped to prevent the widespread flooding that was commonplace prior to the 1950s, there was still substantial impact to the cities of Bismarck and Mandan, and to many homes, farms and ranches along the river. Emergency releases were in place from June 1 to August 17, resulting in a prolonged flood.

While the situation on the Missouri River was worsening, conditions in Minot appeared to be getting better. In late May it appeared a large-scale evacuation would be necessary, but the Souris River began a slow retreat and the community breathed a sigh of relief. The reprieve would be short-lived, as a massive rain event occurred in mid-June in the upper Souris basin, dropping as much as seven inches of rain over a wide area of southern Saskatchewan, Canada. The water was headed south

and by the afternoon of June 24 Minot's levees had been overtopped and the flooding had surpassed the record 1969 flood.

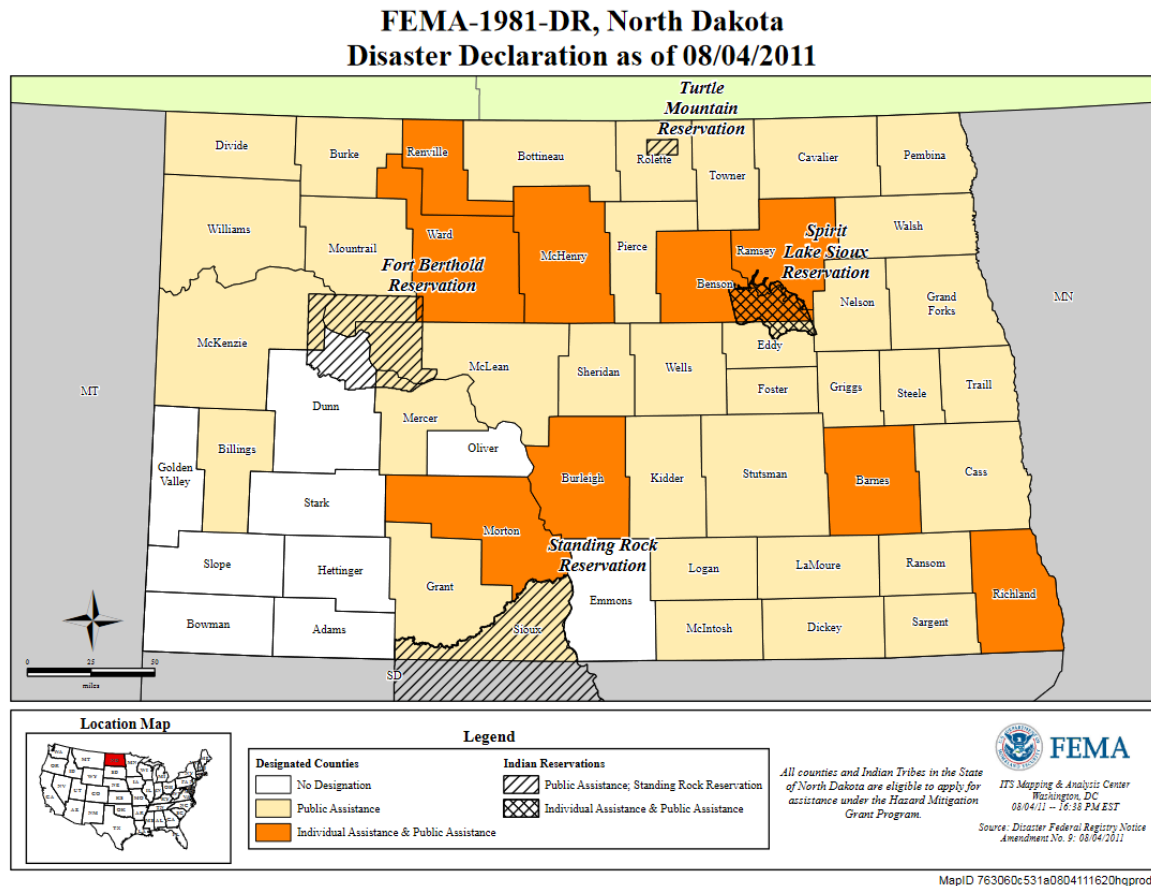


Figure 2: DR-1981, counties and tribal reservations included in the federal disaster declaration FEMA Graphic

President Obama issued a federal disaster on May 10 for 39 counties and three tribal reservations, making available assistance for damaged public infrastructure. As the situation worsened, five additional counties were added to the declaration, and assistance was made available to households in nine counties. The resulting federal response would ultimately last years.

Following the April Federal Emergency Declaration, FEMA established a joint field office in Bismarck to coordinate statewide response and recovery efforts in partnership with the North Dakota Department of Emergency Services and tribal and local officials. This operation greatly expanded as the situation worsened in June. Later as space became available, operations also were established on the ground in Minot, first at the state fairgrounds and later in a downtown facility. Additional staging areas and other temporary facilities were established at multiple locations around the state.

In addition to managing its own disaster assistance programs, FEMA serves as the coordinating agency for all federal resources. The table below shows the flood response and recovery resources provided by other agencies and funded by FEMA under what is called the mission assignment process, where FEMA identifies response capabilities based on requests for aid made by the state.

Table 1: Federal Mission Assignments for the 2011 North Dakota Flooding Response and Recovery Support

Agency	Task(s)	Total funding
DHS - Customs and Border Protections	Law enforcement support to local communities	\$654,283.72
US Army Corps of Engineers	<ul style="list-style-type: none"> ▪ Construction of temporary housing groups sites ▪ Manage debris removal operations ▪ Operations liaison support 	\$54,573,141.61
Dept. of Housing and Urban Development	Activation of HUD liaison for field operations	\$60,623.06
Environmental Protection Agency	Support for debris removal of hazardous materials	\$4,290,297.98
Federal Aviation Administration	Manage air space in support of response flight operations	\$40,768.55
Federal Protective Service	Provide security for operational facilities	\$2,500,959.21
General Services Administration	Provide fleet vehicles and real estate specialist	\$78,992.25
Dept. Health and Human Services	Deploy licensed environmental health specialist and Operations liaison to support recovery operations	\$108,910.29
Occupational Safety and Health Administration	Provide safety officers in support of recovery efforts	\$49,716.25
Tennessee Valley Authority	Technical support to FEMA Public Assistance operations	\$468,638.67
Department of Justice	Law enforcement support to local communities	\$367,860.10
Total		\$63,194,191.69

Assistance to Individuals

1. Immediate Response

The flooding in Minot resulted in a large-scale evacuation and thousands of homes that were unable to be occupied. While many residents were able to briefly stay with family and friends, there was still a sizable need for sheltering and mass care. The American Red Cross managed shelter operations, with the largest facility initially at the Minot Auditorium and then moving to the Cameron Indoor Tennis Center. Due to the severe housing shortage, worsened by the oil boom, the sheltering operation was a lengthy one, extending several months, finally concluding in October 2011.



Figure 3: Initial shelter for displaced individuals set up in Minot Auditorium Photo: FEMA

In addition to the shelters set up by voluntary organizations, FEMA also implemented its Transitional Sheltering Assistance (TSA) program, which allowed displaced persons to stay in hotels if other shelter is unavailable. The TSA program ended after nearly six months of operation at a total cost of \$3,196,962.94.

2. Financial Assistance

FEMA's Individual Assistance program was made available to residents of nine North Dakota counties and one tribal reservation. Statewide 10,286 individuals or households registered with FEMA for disaster aid. In total, more than \$95.5 million was provided; \$93.4 million for rental assistance or home repair, and \$2.1 million for other basic needs.

In the three Souris Valley counties (McHenry, Renville and Ward), there were 8,256 applications, with \$89 million for rental assistance or home repair and \$2 million for other needs assistance for a total of \$91 million.

The U.S. Small Business Administration (SBA) approved \$257.2 million statewide in low-interest loans. \$213.7 million was approved for individuals and \$43.5 million for businesses. The majority of that total came from the Souris Valley, where SBA approved \$240.9 million in low-interest loans. \$198.1 million was approved for individuals and \$42.8 million for businesses.

Federal/State Disaster Recovery Centers were established in 11 communities across the state. These facilities provided a place where individuals could meet directly with disaster recovery specialists. Statewide individuals made a total of 14,921 visits to the centers, 12,477 of which were to six Souris Valley locations. SBA Business Recovery Centers in Minot and Bismarck received a total of 2,929 visits.



Figure 4: Disaster Recovery Centers provided a location where individuals could meet in person with disaster recovery specialist and discuss their individual situations. Photo: FEMA

Disaster Unemployment Assistance, which was funded by FEMA and administered by Job Service North Dakota, provided \$2.4 million to residents who were unemployed because of the flood disaster. Also, more than \$3.3 million was allocated for a state-managed crisis counseling program to help individuals and communities cope with after-effects of the disaster.

3. Temporary Housing

To address the severe housing shortage caused by the flood and worsened by the population influx to western North Dakota caused by the oil boom, FEMA brought in manufactured homes to provide temporary housing while people repaired or rebuilt their homes. This temporary housing mission would ultimately run for 27 months.

During that timeframe, more than 2,000 manufactured homes were occupied by Souris Valley residents. All families were placed into housing units by Christmas 2011 – a remarkable accomplishment considering the shortage of contractors available and the inhospitable weather that North Dakota can experience. From that point, residents returned to permanent housing at a rate of approximately 100 per month, with more in the summer months and fewer in the winter when construction slowed.

FEMA housing specialists worked closely with households to help identify permanent housing options, whether returning to their damaged home, identifying new rental housing or relocating elsewhere. The Minot Housing Authority was another critical partner in helping people find permanent housing.

3.1. Private Site Placements

FEMA placed more than 1,100 manufactured housing units on private property. This allowed owners to place a temporary home on their own property while making repairs to their damaged home. Additional benefits included allowing students to be closer to their schools and keeping neighborhood together when possible. The homes also could be hooked up to the owners existing utilities. This did pose a challenge in the winter, but FEMA conducted full winterization of the temporary homes, including insulation of water pipes and an addition of heat tape when necessary.



Figure 5: A FEMA manufactured home placed on private property. Photo: Bob Kaufmann/FEMA

3.2. FEMA Constructed Facilities and Local Manufactured Housing Parks

To address the housing needs of the Souris Valley, FEMA established three group housing complexes, encompassing more than 800 individual sites. Those sites were De Sour Valley Heights on the outskirts of Burlington, Recovery Village northeast of Minot and Virgil Workman Village on the east end of Minot.

In addition to building new sites, FEMA leased space and placed homes at the following commercial sites: Holiday Village, Gulli's, Burlington, Jefferson and Gold Nugget. FEMA also funded the removal of damaged and abandoned homes from these commercial parks and cleared additional space for the placement of FEMA manufactured homes. More than 200 households were able to reside in these manufactured housing communities



Figure 6: Virgil Workman Village was one of three sites constructed to provide temporary housing; it included space for up to 600 homes. Photo: Bob Kaufmann/FEMA

3.3. Sale and Donation of Manufacture Homes

One of the final pieces of the puzzle to complete the temporary housing mission was the approval of a sales program, allowing residents to purchase the manufactures home in which they had been temporarily residing. A requirement for this program was having a permanent location to place the unit upon completion of the purchase. This effort resulted in 265 units being sold to residents for permanent housing. The Bank of North Dakota provided low-interest loans to assist with these purchases.

Many of the homes that were sold were in the former Virgil Workman Village and are still located there today, with a portion of that site becoming a permanent manufactured housing community.

FEMA utilized staging areas at the State Fairgrounds and near Velva to store the manufactured homes before and after their utilization. Some of the manufactured homes were donated to tribal nations across the country, addressing housing needs or being used for other purposes, such as mobile office space. A breakdown of units provided to tribes follows:

- Sisseton Wahpeton Oyate – 16
- Spirit Lake Nation – 31
- Standing Rock Sioux Tribe – 40
- Three Affiliated Tribes – 43
- Trenton Indian Service Area – 9
- Turtle Mountain Band of Chippewa – 370
- Bad River Band of Lake Superior Chippewa – 10
- Big Valley Rancheria Band of Pomo Indians – 7
- Blackfeet Tribe – 10
- Cheyenne River Sioux Tribe – 15
- Crow Creek Sioux – 11
- Eastern Shoshone Tribe – 18
- Fort Belknap Indian Community – 15
- Fort Peck Assiniboine and Sioux Tribes – 5
- Lac Courte Oreilles Band of Lake Superior Chippewa – 6
- Maidu Indians – 5
- Northern Arapahoe Tribe – 6
- North Cheyenne Tribe - 15
- Oglala Sioux – 94
- Picayune Rancheria of the Chukchansi Indians – 6
- Port Gamble Indian Community – 6
- Red Cliff Band of Lake Superior Chippewa – 4
- Rosebud Sioux – 9
- Spokane Tribe – 7
- White Earth Band of Chippewa – 10
- Winnebago Tribe of Nebraska – 4
- Wiyot Indian Tribe – 7
- Yakama Nation – 22

4. Voluntary Agency Support and Case Management

Much like the critical role they played in the initial response, voluntary agencies were vital in the long-term recovery process. FEMA voluntary agency liaisons played a pivotal role in forwarding referrals of individuals who had received assistance but still had unmet needs. Case managers would then help match volunteers and resources with specific needs.

Volunteers helped with mucking and cleaning of flooded homes. They also helped with construction and rebuilding, often using donated materials. Due to the short building season in North Dakota, the process of assisting all of those in need took several years.



**Figure 7: Volunteers provided support with cleanup and rebuilding efforts in the Souris Valley.
Photo: FEMA**

These are some of the agencies that were engaged in this massive volunteer effort.

- Lutheran Social Services of ND
- Lutheran Disaster Response
- Lutheran Church – Missouri Synod
- Evangelical Lutheran Church of America
- Presbyterian Disaster Assistance
- United Methodist Committee on Relief
- Catholic Charities
- Southern Baptist Disaster Relief
- Mennonite Disaster Service
- United Way of Minot
- Local community foundations
- American Red Cross
- The Salvation Army

Hope Village: Supporting the Volunteer Supporting the Recovery

Volunteers are often the lifeblood of a disaster recovery effort. Following the Souris River flooding, volunteers had already helped countless families return to their flood-damaged homes. But the same housing shortage that affected displaced residents limited the number of volunteers that could come to the area and help. Our Savior's Lutheran Church in south Minot hosted a unique solution to that problem in the form of Hope Village.

Hope Village was a temporary community that housed volunteers. It included trailers that provided sleeping quarters, bathroom and shower facilities, and a large dining tent that served three meals a day. It was the culmination of efforts from a coalition of local faith-based and community volunteer organizations. Much like Henry Ford's original assembly line, the different volunteer agencies divided up the tasks for managing the facility, playing to their strengths.

“Hope Village was born out of necessity and we now have a place to house and feed the teams that are coming in from the various agencies and churches,” said Bob Lower, a United Methodist volunteer coordinator and lay leader at Faith United Methodist Church in Minot. “There was nowhere for people that wanted to come and help to stay. With the oil boom, everything was tied up. As a part of the Hope Village mission, we took on the challenge of housing these people and feeding them.”

Hope Village did more than provide food and shelter for volunteers. It was a hub of activity, working closely with the Resources Agencies Flood Team to direct volunteers to pre-identified individuals and families who were in need of assistance.

The facility operated from April 2012 through November 2013 helping Souris Valley residents. FEMA's voluntary agency liaisons played a vital role in assisting with local coordination of the operation and providing referrals of families that had exhausted federal disaster assistance options and needed assistance from volunteers. More than 500 households received help from the more than 5,000 volunteers who served through Hope Village.

Assistance to Communities

FEMA's Public Assistance program provides funding assistance to assist with response and recovery costs incurred by governmental jurisdictions and certain private non-profit agencies that perform governmental functions. FEMA provided nearly \$225 million to North Dakota communities for response and recovery projects, with the table below showing the funding by county.

Table 2: FEMA Public Assistance Funding by County

County	Applicants	Projects	Funding Assistance
Barnes	14	191	\$6,947,702
Benson	8	114	\$1,983,741
Billings	4	7	\$182,037
Bottineau	8	83	\$2,114,091
Burke	4	43	\$453,382
Burleigh	7	190	\$23,503,620
Cass	19	178	\$9,813,161
Cavalier	8	66	\$519,950
Dickey	3	112	\$2,248,972
Divide	5	207	\$2,085,827
Eddy	2	26	\$746,813
Foster	4	45	\$505,050
Grand Forks	6	44	\$667,665
Grant	1	22	\$121,499
Griggs	2	34	\$651,749
Kidder	1	41	\$1,216,155
LaMoure	4	60	\$998,527
Logan	4	54	\$1,672,328
McHenry	12	157	\$4,933,746
McIntosh	4	40	\$701,432
McKenzie	1	4	\$55,434

County	Applicants	Projects	Funding Assistance
McLean	7	141	\$1,176,349
Mercer	6	22	\$260,230
Morton	2	90	\$7,514,554
Mountrail	3	86	\$1,406,594
Nelson	3	47	\$881,205
Pembina	6	45	\$1,006,055
Pierce	2	79	\$1,636,853
Ramsey	8	244	\$8,859,594
Ransom	7	97	\$1,460,631
Renville	5	52	\$847,695
Richland	10	102	\$1,801,339
Rolette	3	37	\$556,640
Sargent	6	66	\$696,365
Sheridan	2	38	\$680,837
Sioux	2	2	\$6,616
Steele	2	39	\$722,087
Stutsman	7	190	\$6,061,575
Towner	4	75	\$1,635,860
Traill	5	43	\$434,723
Walsh	5	44	\$1,200,846
Ward	26	812	\$83,430,820
Wells	4	103	\$2,003,229
Williams	8	78	\$911,440
Statewide*	35	299	\$37,037,744
Total	289	4549	\$224,352,762

*Statewide includes state agencies, tribal jurisdictions, other applicants not within a single county.

1. Minot Public Schools

Minot students benefitted from impressive teamwork when several groups collaborated to get them back in the classroom for the 2011-12 school year. FEMA, the Minot Public School District, and contractor partners worked together so that the school year started just a few days later than normal. FEMA's Public Assistance program, managed by the state, provided funding to repair or replace numerous school district facilities, as well as temporary quarters for unusable locations. FEMA approved 68 projects for more than \$57.5 million to Minot Public Schools, ensuring a bright future for students in the community.



**Figure 8: Ramstad Middle School temporary classrooms located outside the Minot Auditorium
Photo: Bob Kaufmann/FEMA**

A special task force was assembled to assess the needs of all flood-impacted schools and to quickly determine the level of damage and what types of repairs would be needed. The team methodically looked at each school, developing estimates for building repairs and replacement of lost equipment.

For two Minot schools – Ramstad Middle School and Lincoln Elementary School – FEMA determined that replacement would be more cost-effective than the extensive repairs that would be needed. Other facilities were repaired to pre-disaster condition in compliance with local building codes. The Ramstad school was the largest single FEMA Public Assistance project for the 2011 floods at more than \$24 million.

While getting damaged facilities reopened was the long-term goal, there also was the immediate challenge of finding students a home for the rapidly approaching start of classes. More than 1,200 students suddenly found themselves without schools following the flood. An estimated one-fourth of the district's staff and students were forced to evacuate in the wake of the disaster. The timing of the flood – during the early part of summer vacation – gave authorities sufficient time to respond

before the scheduled start of fall classes. Some schools used modular classrooms to replace flood-damaged classrooms, some relocated to nearby temporary facilities, and others were cleaned and repaired.

The most challenging aspect of getting physical facilities ready for the new school year was transporting the modular classrooms to Minot and assembling them on temporary sites. A contractor supplied 60,000 square feet of educational space comprising 10 modular units with 64 total classrooms.

The modular classrooms contained everything one would expect in a modern educational environment including smart boards, ceiling-mounted projectors and ample lighting. Each modular unit also had drinking fountains and restrooms. Prior to winter's arrival, the modules were outfitted with heating and insulation, as well as heat tape for the water pipes.

The temporary school buildings were eligible for funding under the Public Assistance Recovery Policy provision for Temporary Relocation of Facilities passed in December 2010.

PUBLIC ASSISTANCE PROGRAM HIGHLIGHTS FOR MINOT SCHOOL DISTRICT

Adult Learning Center – clean out building, main Building, replace school contents, lease modular classroom space (Jefferson Campus)

- Total Obligated \$ **1,347,457.39**

Central Campus Plus – clean out building, lease building (Souris River Campus), replace school contents

- Total Obligated \$ **1,083,102.47**

Erik Ramstad Middle School – replace building, lease modular classroom and building, clean out building, temporary dike, replace school contents, playground equipment, athletic field elements

- Total Obligated \$ **33,016,254.38**

Head Start – clean out building, lease modular classroom space (Jefferson Campus), playground equipment, replace school contents, main building

- Total Obligated \$ **5,557,788.36**

Lincoln Elementary – clean out building, lease building (1st Presbyterian Church), replace building, replace school contents, playground equipment, clear debris

- Total Obligated \$ **6,039,622.39**

Longfellow Elementary – lease modular classroom space, clean out building, playground equipment/fence, replace school contents,

- Total Obligated \$ **6,070,397.86**

McKinley Elementary – clean out building, main building, replace school contents

- Total Obligated \$ **180,563.48**

Perkett Elementary – clean out building, playground equipment/fence, asbestos abatement, pumping out piping tunnels, replace school contents, asphalt pathway/parking lot/sidewalk, storage sheds,

- Total Obligated \$ **1,347,910.54**

Sunnyside Elementary – clean out building, asbestos abatement, equipment repair, building repair

- Total Obligated \$ **152,736.16**

2. Minot Park District

Another segment of the Minot community that was hard hit was the park system. A number of facilities were along the normally peaceful river and sustained considerable damage. Among the hardest hit were Oak Park, Roosevelt Park and Corbett Field



Figure 9: Minot’s historic Corbett Field, which once hosted the legendary Satchel Paige, received funding to repair the grandstand and removed debris from the ballpark. Photo: Brian Hvinden/FEMA

The first key activity to be completed with most of the parks sites was to remove the sediment and debris that was covering open spaces and had intruded into structures, particularly at the Roosevelt Park Zoo. More than \$450,000 in assistance was provided for these efforts across 10 facilities.

Assistance also was provided to the Roosevelt Park Zoo for temporary relocation and shelter of the displaced animals. Zoo animals were sent to facilities around the country until their damaged homes could be repaired. Funding also was provided for the repairs to multiple buildings in the zoo complex. A major walking trail through Roosevelt Park also was repaired.

Just across the street, Corbett Field, a ballpark constructed in the 1930s by the Works Progress Administration, received funds for needed repairs. Assistance was provided to restore the grandstand, along with internal office spaces that had been damaged by the flooding. Following the repairs, the park once again hosts local high school, college and American Legion teams, and more recently a popular collegiate summer league team.

Oak Park, the heart of the neighborhood of the same name was another site where significant work was completed. Restoration of several areas, including the maintenance building and Girl Scouts building was completed, as were equipment repairs for the splash park and restroom facilities. Funding also was provided for repairs to several picnic shelters within the park. Oak Park is once again a hub of activity for the community.

3. Grade Raises on Inundated Roads

Inundated roads had been a challenge since North Dakota's prolonged wet cycle began in the early 1990s. Initially the issue was largely limited to the Devils Lake Basin, where numerous roads were washed out as the lake gradually expanded. By 2011, the issue became a concern throughout the state, a byproduct of the continued wet cycle and a young geology that accounts for the prairie pothole region. More than 1,000 newly inundated roads statewide were submitted for Public Assistance consideration for grade raise funding.

A variety of solutions were employed to address this challenge. The highest priority were roads that provided sole access to a residence. Such cases were eligible for an initial emergency grade raise, which consisted of making a temporary one lane access path to ensure continued accessibility. These roads also could be eligible for a permanent grade raise if applicable.

Permanent grade raises applied to roads that were not expected to come out of the water by winter. Applicants could choose to address these roads in multiple fashions. A road could be left in place and elevated, it could be relocated around the water source if this was a cost effective option, or it could be abandoned and funding toward a repair could be utilized on additional damaged roads within the same jurisdiction.

A final option was for roads that were expected to be out of the water by freeze up. In these cases, assistance could still be provided in the form of a "6 and 3" grade raise. The basic repair for inundated road consists of "6 inches of pit run material and 3 inches of surface gravel" (6 and 3) to repair damage to the road caused by prolonged inundation.



**Figure 10: Ward County Road 18 was one of the many inundated roads during the 2011 floods.
Photo: Jean Riendeau/FEMA**

Table 3: Top 5 counties with most grade raise projects following 2011 floods

County	Projects	Funding
Ramsey	109	\$1,982,935.01
Stutsman	108	\$4,976,872.43
Ward	79	\$2,316,421.11
Divide	68	\$1,424,936.38
Dickey	57	\$1,648,776.65

Building Resilience

1. Hazard Mitigation Grant Program Awards

FEMA’s Hazard Mitigation Grant Program provides financial assistance to the state following a major disaster declaration, with the funding based on total disaster program expenditures. For the 2011 North Dakota floods, the state received more than \$71 million for the program. The state works with communities to develop projects that can mitigate the impacts of future disasters. Projects were funded in communities across the state to deal with a variety of hazards.



Figure 11: August 2017 Ribbon cutting for the Minot Floodwall which received \$22 million in FEMA Hazard Mitigation Program funds. Photo: Brian Hvinden/FEMA

Table 4: List of DR-1981 Hazard Mitigation Grant Program Projects

Grant Recipient	Project Type	Funding
Barnes County	Property Acquisition	\$131,121
Barnes County	Property Acquisition	\$174,387
Barnes County	Mitigation Plan Development	\$31,500
Barnes Co. Water Resource Dist.	Drainage improvements	\$574,121.25
Burke County	Mitigation Plan Development	\$22,500
Cass County	Property Acquisition	\$10,955,130

Grant Recipient	Project Type	Funding
Cass County	Property Acquisition	\$951,068
Cass County	Bridge Replacement	\$1,790,454
Cavalier	Property Acquisition	\$101,211
Cavalier	Slope stabilization	\$1,163,766
Central Power Electric Cooperative	Utility Relocation	\$1,168,868
Central Power Electric Cooperative	Utility Relocation	\$425,457
Dakota Valley Electric Cooperative	Utility Line Burial	\$148,679
Dakota Valley Electric Cooperative	Utility Line Burial	\$264,761
Dickey County	Mitigation Plan Development	\$27,000
Fargo	Water Treatment Plant Levee	\$17,047,806.75
Fargo	Lift Station Replacement	\$1,627,352
Fargo	Drainage improvements	\$269,383
Fargo	Lift Station Improvements	\$2,822,788
Foster County	Mitigation Plan Development	\$21,000
Grand Forks	Emergency Generators	\$326,044
Grand Forks County	Warning Sirens	\$29,000
Grand Forks County	Mitigation Plan Development	\$35,725
Griggs County	Mitigation Plan Development	\$26,434
Kidder County	Mitigation Plan Development	\$29,606
Kulm	Emergency Generators	\$41,307
Kulm	Emergency Generators	\$72,168
LaMoure County	Emergency Generators	\$44,778
LaMoure County	Emergency Generators	\$146,580
LaMoure County	Mitigation Plan Development	\$26,513
Mapleton	Warning Sirens	\$29,528
Mayville	Property Acquisition	\$179,131
McKenzie County	Mitigation Plan Development	\$36,432

Grant Recipient	Project Type	Funding
McLean Electric Cooperative	Utility Line Burial	\$42,419
Minot	Minot Library Floodproofing	\$235,040
Minot	Water Treatment Plant Protective Measures	\$22,250,559
Minot	Warning Sirens	\$1,432,003
Minot	Emergency Generators	\$427,373
Morton County	Mitigation Plan Development	\$33,750
Mountrail County	Mitigation Plan Development	\$46,048
North Dakota DES	GIS Mapping Development	\$750,000
North Dakota DES	Program Management Costs	\$2,531,050
North Dakota DES	Mitigation Plan Development	\$69,516
Northern Plains Electric Coop.	Emergency Generators	\$53,550
Northern Plains Electric Coop.	Utility Line Burial	\$286,071
Northern Plains Electric Coop.	Utility Line Burial	\$231,123
Pekin	Warning Sirens	\$18,092
Ramsey County	Property Acquisition	\$685,799
Sargent County	Mitigation Plan Development	\$32,709
Stutsman County	Mitigation Plan Development	\$27,750
Valley City	Property Acquisition	\$82,455
Verendrye Electric Cooperative	Drainage improvements	\$173,873
Verona	Emergency Generators	\$166,205
Ward County	Property Acquisition	\$856,044
Ward County	Drainage improvements	\$170,585
Ward County	Warning Sirens	\$171,151
Ward County	Mitigation Plan Development	\$34,973
Grand Total		\$71,549,737

2. Long-Term Recovery

As part of the state and federal recovery support efforts, a Long-Term Recovery Team was activated to help the impacted communities in the Souris Valley envision what their post-flood future would be. The team included experts in community planning and a variety of specialties like housing, economic recovery, and public infrastructure.

FEMA's Long-Term Community Recovery team assisted Minot, Burlington and unincorporated Ward County in defining a community vision for recovery. After obtaining public input at a series of meetings, the branch presented the "Souris Basin Regional Recovery Strategy," reflecting the comments and ideas that emerged at the meetings. The recovery strategy helped inform post-flood projects and grant submissions the communities have completed in the past decade.



Figure 12: Community meetings allowed residents an opportunity to voice their priorities for a post-flood Souris Valley. Photo: Bob Kaufmann/FEMA

To assist with long-term recovery issues, the federal disaster recovery coordinator later managed the ongoing federal support after the federal/state field office downsized at the end of 2011. At this point the primary areas of concern were the ongoing temporary housing effort and working with applicants to the FEMA Public Assistance program with complex projects, particularly Minot Public Schools. This support continued through the completion of the temporary housing operation in September 2013.

Summary

Recovery from major disasters is a lengthy process, and the 2011 North Dakota floods were no different. The events of that year had an impact on nearly every resident of the state in some way or another. Those not directly impacted by the flooding may have been hosting displaced friends or family, or donated time or money to the response and recovery effort.

This event was a clear example of the concept of whole community recovery. This means the collaboration of all levels of government, in partnership with the private sector and non-profit organizations. Government funding is a critical component to the recovery but marrying those dollars with local resources can have an exponential benefit and greatly expand the capabilities to build back better, strong and safer.

The federal response to the 2011 floods included nearly \$700 million in assistance funded by FEMA and SBA, hundreds of staff members, and nearly three years of continued presence on the ground in the state, with ongoing engagement continuing to the present. These efforts have continued North Dakota's decade of recovery, renewal and resilience.



Figure 13: Hollywood star and Minot native Josh Duhamel recorded public announcements in September 2011 to support the Souris Valley flood recovery effort. Photo: FEMA

Remembering Virgil Workman



Figure 14: Virgil Workman Photo: FEMA

Virgil Workman Village

The FEMA group housing complex formerly located off 55th St. was named in memory of Virgil Workman, a longtime FEMA employee and nationally recognized disaster housing expert.

A U.S. Army veteran and retired coal miner, Workman began his FEMA career in his home state of West Virginia and logged 29 total deployments from coast to coast. He made a significant positive impact on FEMA and many of the local agencies and individuals he worked with over the years.

Virgil was known for his work ethic, kindness and hysterical colloquialisms. “My momma done raised one fool, and that’s my brother,” was one of his favorites. “Ya gotta start workin’ before you can stop workin’” was another.

He also earned a reputation for nicknaming both his family members and FEMA co-workers. His youngest children were called “Peanut” and “Punkin” and many of the names he bestowed upon co-workers stuck long after their assignment with Virgil was over.

Virgil Workman passed away Aug. 19, 2011. He was part of the dedicated housing team helping area residents recover from the devastating 2011 Souris River Flood. That team had been working on the development of the housing community that would ultimately bear his name. He will forever remain in the memories of his FEMA colleagues and friends.

Appendix A: By The Numbers

Table 5: 2011 North Dakota Floods – By The Numbers

Number	Fact
1	Ranking of 2011 flood (in terms of measured river height) in Minot in recorded history
2	Number of Minot schools replaced (Ramstad Middle School, Lincoln Elementary)
3	Souris Valley Counties receiving FEMA Individual Assistance (McHenry, Renville, Ward)
4	Souris Valley Counties included in disaster declaration (Bottineau, McHenry, Renville, Ward)
6	Long-term Recovery Open House Meetings Conducted by FEMA in Minot and Burlington
28	Response/Recovery support missions assigned by FEMA to other Federal Agencies
44	Number of Public Assistance program applicants from the four Souris Valley Counties
488	National Flood Insurance Program claims paid in the Souris Valley
850	Lots constructed at three group housing sites (Virgil Workman Village, De Sour Valley Heights, and Recovery Village)
1,561.6	Peak Souris River level reading at Minot Broadway Bridge* *(measured in feet above sea level)
1,958	Peak number of FEMA housing units occupied at one time
2,168	SBA disaster loans approved for Souris Valley residents and businesses
4568	Total FEMA Public Assistance Project funded in North Dakota
12,477	Visits to Disaster Recovery locations in six Souris Valley communities
27,500	Estimated Peak flow of Souris River through Minot (in cubic feet per second)* *would fill an Olympic-size swimming pool in less than 4 seconds
150,000	Peak release from Garrison Dam (in cubic feet per second)
\$59.3 M	National Flood Insurance Program payout for policies in the Souris Valley
\$63.2 M	Costs paid by FEMA for work assigned to other federal agencies
\$71.5 M	Hazard Mitigation Grant Funding for projects statewide
\$95.5 M	FEMA Individual Assistance funds provided to North Dakota households
\$224.3 M	FEMA funding for Infrastructure projects in North Dakota
\$240.9 M	Value of SBA disaster loans approved for Souris Valley residents and businesses

Appendix B: Responder Support Camp

One of the unique challenges of the North Dakota flood response, especially in the Souris Valley, was the lack of lodging available for disaster responders. The few hotel rooms that were available needed to be left free for displaced residents, so federal responders commuted from other areas, including many traveling from the primary operational office in Bismarck.

To ease that commute time and get recovery team members centrally located in Minot, the decision was made to construct a responder support camp. While this had been done previously a few times in the southern United States following major hurricanes, the Minot facility was the first such deployment in a northern climate. The site housed staff from federal agencies as well as American Red Cross volunteers assisting the community.



Figure 15: The responder support camp provided barracks style living arrangements for staff supporting the North Dakota recovery effort. Photo: Bob Kaufmann/FEMA

The facility was opened in late July 2011 and operated through September, closing when additional accommodations became available and before the harsh North Dakota winter set in. Doing their best to make the camp feel like home, staff conducted activities like barbecues and campfires to bond and improve morale. They also constructed a “MASH”-style hometown pole, a reminder that support for North Dakota came from around the country.



Figure 16: Responders came from around the county to support the North Dakota recovery. This “MASH”-style pole was assembled by staff in the responder camp located just outside of Minot. Photo: Bob Kaufmann/FEMA