



# NORTH DAKOTA HAZARD MITIGATION PROGRESS REPORT 2021



• *Smart, Efficient Infrastructure* •

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**Dakota**  
Be Legendary.™

Emergency Services

*Jim Whittan  
2012*

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# MAIN STREET, HAZARD MITIGATION TEAM PARTNER FOR A RESILIENT NORTH DAKOTA



By Justin Messner,  
Disaster Recovery Chief  
North Dakota Department  
of Emergency Services

Shawn Kessel inspires North Dakota communities to envision a more resilient future.

As a former city administrator, Shawn guided the City of Wahpeton through the avoidance of catastrophic Red River of the North flooding to a safer future with a levee system that also serves as a major recreation feature. A few years later, he worked with Dickinson leaders to invest in infrastructure and partnerships when the community population grew by 50 percent in just a few short years.

Shawn brings the same high-level energy and commitment to his role as the Deputy Commissioner and Chief Operating Officer of the North Dakota Department of Commerce and team leader of Governor Burgum's Main Street Initiative. Additionally, he shares his community development and disaster experiences as a member of the Technical Advisory Committee of the State Hazard Mitigation Team (SHMT).

This annual report of the State of North Dakota Enhanced Mitigation Mission Area Operations Plan (Mitigation MAOP) focuses on one of the pillars of the Governor's Main Street Initiative: Smart, Efficient Infrastructure. We adopted the theme for this report because it underscores the efforts by all our SHMT partners to achieve resiliency through enactment of such projects as improved mapping, a unified oil reporting system, pursuit of dam integrity, floodwalls, pump and lift station protection, bank stabilization, storm shelters, safer highways for tribal nations, early warning sirens, intelligent transportation systems and generators for critical facilities.

Investments in mitigation and smart, efficient infrastructure help





communities achieve the other two pillars of the Main Street Initiative, Healthy, Vibrant Communities and a 21st Century Workforce. As Governor Doug Bur-gum stated in the article about the upcoming Main Street Summit, “Smart, efficient infrastructure is a key element in attracting a 21st century workforce that our communities need to thrive.” We can’t say it often enough – mitigation pays big dividends in North Dakota with a 6:1 return on investments, according to the National Institutes of Building Sciences. Based on that formula, the \$285,010,590.03 spent on hazard mitigation activities since 1997 translates into a billion-dollar savings for North Dakota.

#### **Building Resilient Communities**

When looking at the future of our communities, it’s important to think in terms of resiliency, much the same way Shawn did as the city administrator for Wahpeton. Shawn served a vital role in development of a levee system that could serve a dual function by protecting the community from flooding and by providing recreational opportunities. “We wanted to turn the river that threatened citizens and commerce every year into something that was appreciated and enjoyed,” Shawn said. The initiative shifted perceptions of a river that threatened to destroy homes to one where residents viewed the area as a place they could spend time outdoors enjoying the walking path, fishing and pursuing other recreational opportunities. “It started my venture down community development and the importance of community vibrancy,” Shawn said. Not surprisingly, Wahpeton was awarded the 2003 League of Cities (NDLC) City of the Year.

Shawn also spent eight years as the city administrator for his hometown, Dickinson, where he experienced another disaster, this time a 2009 tornado that

destroyed 40+ homes. “When communities experience a large-scale event, they have an opportunity to rebuild not only in a more resilient way but in a way that is more attractive and vibrant,” Shawn said. Dickinson rebuilt stronger with such improvements as replacing a 16-unit low-income apartment complex with more attractive and desirable townhomes.

Dickinson also experienced unprecedented growth as a result of “the energy extravaganza that is oil,” as Shawn aptly described the oil boom. Dickinson was the fourth fastest growing micropolitan in the US in 2011, third fastest in 2012 and second fastest in 2013 and 2014. A 50 percent jump in population required city leaders to pursue infrastructure, including new police and fire stations, miles of infrastructure and an indoor recreation center that inspired similar centers in Williston and Watford City. The city also collaborated with an oil production company and the City of South Heart on its wastewater treatment plant. The company constructed pipelines out to its refinery. Dickinson paid for upsizing the lines culverts and connected South Heart to its system. In turn, South Heart and the refinery paid Dickinson to treat water, generating additional revenue for the city.

The Minnesota State University—Moorhead and University of Mary graduate and his community achieved a milestone in 2013 when Livability named Dickinson its “Best Small Town in the US” and yet another milestone in 2017 when Money Magazine designated Dickinson as the “sixth Best City in America”

#### **A Look Down Main Street**

The Governor’s Main Street Initiative provides communities the perfect opportunity to look at risks and vulnerabilities, strengths and weaknesses, and to

reimagine their future.

An understanding of hazards and threats, as contained in local and tribal multi-hazard mitigation plans, provides insights on areas at risk and community vulnerabilities. Over time, these plans are containing more strategic mitigation actions designed to build resiliency to future disasters. We are hoping to see more Main Street communities factor mitigation planning and projects into their strategy for the future. As Shawn says, "Mitigation plans should be at the forefront of any community."

Economics also factors prominently on Main Street. How does a community use its existing infrastructure to accommodate future growth, retain a 21st century workforce and ensure its continued vibrance? The NDDoC helps communities understand the resources required to build a community and retain businesses, a perspective Shawn knows as an owner of three businesses. Surprising to some, property taxes received from residential only developments do not generate enough revenue to cover the expenses required to service them. "More infrastructure in the ground increases expense profiles. You need commercial and industrial development to balance the books," Shawn said. "The Main Street Initiative is about understanding the total cost of development inclusive of initial construction and the ongoing maintenance over the lifetime of the infrastructure and the revenue generation that occurs from the investment...so you can make good choices. How will the investments you make effect residents not only today but tomorrow?"

"Many communities say one of the things that makes them unique is 'North Dakota nice' but it doesn't make you unique if everyone is saying the same thing. Every community has something special."

Communities are often challenged when asked to reflect on what makes them unique and then to build on the distinguishing characteristics of their communities. "Many communities say one of the things that makes them unique is "North Dakota nice" but it doesn't make you unique if everyone is saying the same thing. Every community has something special. We try to polish the stone and make it a little brighter so everyone can see that uniqueness," Shawn said.

NDDoC partners with several public and private stakeholders to identify resources

to help communities achieve their vision, such as the Hazard Mitigation Assistance Program administered by the North Dakota Department of Emergency Services. Several SHMT partners promote their resources during the Main Street Summit, the largest networking event in the state. This year, the Main

Shawn Kessel,  
Deputy Commissioner  
North Dakota Department  
of Commerce



Street Summit, slated for October 12, with a pre-summit on October 11, promises to attract 400 virtually and 600 on-site at The Lights in West Fargo.

#### The Keys to Success

Planning and collaboration are integral to success. We see the great results when public and private partners collaborate on development and then enactment of mitigation strategies. Main Street communities are also benefiting from the Partners in Planning Grant Program, which allows communities to pro-actively plan their future. "We are big advocates of planning," Shawn said. "We like the idea of community conversations with the right people – artists, youth, business leaders, education leaders and other community leaders. When that group engages, you can get a good plan."

The most consistent concerns shared by communities include workforce, housing and daycare shortages, as well as apathy born of frustration. Collaboration with a broad-cross section of stakeholders keeps enthusiasm alive and interest in how they can ensure the health and vitality of neighborhoods.

"The value of partnerships is tremendous," said Shawn, who helped diametrically opposed interests in Dickinson come together with the creation of the Dickinson Downtown Association. The diversity of businesses and residents that drive vibrancy in downtowns can create issues. For example, how to provide adequate parking for businesses and residents. But through the collaboration that took place, the diverse group pulled together for a common vision for downtown. A broad base of stakeholders in Dickinson also worked in unison for the development of a three-mile walking path around Patterson Lake that featured strength training pods and recreational areas for children.

Planning takes resolve and a commitment to the long game. As Shawn advised, "Try to look at the big picture, not just the current situation but what a community could become."

The SHMT members can be resources for achieving a more resilient future. See the "Resources for Building Resilient Communities" article for a comprehensive look at available mitigation programs.



# MAIN STREET ND

SUMMIT 2021

## 2021 Main Street ND Summit to Focus on Infrastructure, Serve as One of the Top Annual Networking Events in the State

The 2021 Main Street ND Summit scheduled for October 12, and pre-summit event on October 11, will provide an in-depth and interactive learning experience centered around infrastructure. While also providing a one-of-a-kind networking opportunity for those attending.

This year's theme, "Smart, Efficient Infrastructure," will provide insight into both the physical elements of infrastructure and the critical need to grow a next-generation community with economic development, workforce and leadership development.

"Smart, efficient infrastructure is a key element in attracting a 21<sup>st</sup> century workforce that our communities need to thrive," Gov. Doug Burgum said. "This year's speakers will provide first-hand knowledge and insight on ways we can continue to build vibrant communities."

The event being held in West Fargo will offer both virtual and in-person attendance options. While the virtual option will provide the same learning experience, those interested in attending are highly encouraged to take advantage of the summit's annual in person networking opportunity.

"The summit brings together a variety of residents who share the common goal of creating healthy, vibrant communities," Commerce Chief Operating Of-

ficer and Deputy Commissioner Shawn Kessel said. "No matter the role in your community, from students to leaders, this event serves as a platform to share and learn innovative solutions for our communities."

Attendees also have the opportunity to engage with other attendees, speakers, and community leaders at the pre-summit event from 4-6:30 p.m. on October 11. The pre-summit will begin with opening remarks and check in at The Lights located at 3150 Sheyenne St. West Fargo, followed by a bus tour of West Fargo infrastructure. For those wishing to attend, please note that capacity is limited for bus tour attendees. Guests are then invited for appetizers at Bar Down to conclude the evening.

## Keynote speakers include:

**Charles Marohn**, known as one of the 10 Most Influential Urbanists of All Time, is the founder and president of Strong Towns. As a professional engineer with decades of experience, Marohn has presented Strong Towns' concepts in hundreds of cities and towns across North America.

**Tristan Cleveland** a community designer, researcher and urban columnist is the leader of the Healthy Communities research and planning with The Happy City Experiment. Cleveland has led projects with national and municipal governments in Canada and United Arab Emirates to help operationalize health research into design and policy.

**Joe Minicozzi** of Urban3, is a planner who imagines new way to think about and visualize land use for urban design and economics. Urban3's work establishes new conversations across multiple professional sectors, policy makers, and the public to creatively address the challenges of urbanization. Urban3's extensive studies range geographically over 30 states, Canada, Australia and New Zealand.

In addition to the keynote speakers, the summit will also provide six breakout sessions with topics ranging from transportation, real estate, community development, sustainable community growth, and more. A full list of breakout sessions can be found at [msnd.link/Agenda](https://msnd.link/Agenda).



# MAIN STREET ND

SUMMIT 2021

## Get Inspired! Join the Main Street Initiative

- The Main Street Initiative seeks to create thriving, resilient communities that attract and retain workforce needed to support growing businesses.
- It gives local leaders a direct access point to a variety of resources, allowing them to capitalize on their community's strengths and support sound planning decisions, address workforce needs and create functional budgets for a sustainable future.
- Healthy cities include vibrant, walkable gathering places that maximize existing infrastructure with mixed-use retail and housing that helps attract and retain the workforce needed to ensure North Dakota's strong future.
- North Dakota is home to innovative businesses and entrepreneurs who need sustainable amenities, utilities and bandwidth to attract and retain today's workforce.
- Businesses need to capitalize on mixed-use properties and seek to invest in existing and sustainable energy infrastructure, and properties that help to create in-fill and continue to grow their communities.
- The Main Street Initiative is built on three pillars: a skilled workforce; smart, efficient infrastructure; and healthy, vibrant communities to help North Dakota compete in a 21st century economy in which rapid technological advancement is changing every job, industry and organization.

*For more information, contact Maria Effertz Hanson at [mehanson@nd.gov](mailto:mehanson@nd.gov).*





# NORTH DAKOTA REALIZES SUBSTANTIAL SAVINGS BY INVESTING IN SMART, EFFICIENT INFRASTRUCTURE



By Carl Meyer,  
Hazard Mitigation Specialist  
North Dakota Department  
of Emergency Services

Starting in our “Main Street” communities, and extending state-wide, North Dakota’s State Hazard Mitigation Team (SHMT) continues to build and maintain a culture of resiliency and preparedness through effective implementation of mitigation projects and planning.

North Dakota Department of Emergency Services-Home-land Security Division (NDDes-HLS) assists in funding these actions through the Federal

Emergency Management Agency’s (FEMA’s) Hazard Mitigation Assistance (HMA) grant programs including the: Building Resilient Infrastructure and Communities (BRIC, formerly Pre-Disaster Mitigation), Flood Mitigation Assistance (FMA), and the Hazard Mitigation Grant Program (HMGP). These programs greatly assist communities with the cost of mitigation planning and project execution, bringing a 75% federal cost share to help facilitate project realization. In the case of HMGP grants, the state goes even further, adding an additional 10 percent cost share dropping the local share to just 15 percent. Robust engagement across all levels of state, regional, local and tribal stakeholder organi-



zations has enabled successful mitigation practices time and time again.

Since 1997, North Dakota has invested \$285,010,590.03 into hazard mitigation activities. As FEMA has reported via the National Institute of Building Sciences, a 6:1 return on investment ratio for natural hazard mitigation means the people of North Dakota have saved over a billion dollars -- while simultaneously augmenting the protection of people and property throughout the state. These projects have been implemented in many communities, large and small. Some recent activities funded through HMA and their total local-state-federal project costs include the “University of Mary Slope Stabilization Phase I” project (\$3,793,185.00), the “ND Resilient Infrastructure Project – Fargo Pump Station Flood Mitigation” (\$4,753,290.00), and “City of Fargo Wastewater Treatment Plant Flood Protec-

tion Plan” (\$4,906,390.00).

The “University of Mary Slope Stabilization Phase I” project was recently completed, with Phase II already approved and Phase III coming soon. The goal is to stabilize the slope of the hill the school sits atop, protecting University of Mary infrastructure and the students/staff therein. The “ND Resilient Infrastructure Project – Fargo Pump Station Flood Mitigation” project is underway and will fill a gap in the existing permanent flood protection infrastructure near the Red River Pump Station, protecting the water treatment plant and other nearby areas of the city susceptible to flooding. The “City of Fargo Wastewater Treatment Plant Flood Protection Plan” is also in progress. The protection plan will construct a permanent flood protection solution around the existing wastewater facility. This solution will consist of a combination of earthen levees and floodwalls,

replacing the temporary levees needed in the past that were both time consuming and costly.

Using HMGP funds, many other mitigation activities are taking place across the state. Funds from flooding and severe summer weather events (DR-4444-ND, DR-4475-ND) have been used for a wide variety of mitigation purposes. Funds from more recent events (DR-4553-ND, DR-4565-ND, DR-4509-ND COVID) will also be available, and the NDDES-HLS mitigation staff will be working on applications as funding becomes available. From updating local and regional multi-hazard mitigation plans, to building infrastructure, to equipping communities with the resources needed to protect their populations and property, the SHMT is working together to build stronger and smarter North Dakota. NDDES-HLS used HMGP funds from DR-4444-ND totaling \$1,856,397.00 for eight different projects, and HMGP funds from DR 4475-ND HMGP totaling \$2,613,821.59 for 14 projects.

Some of these projects include:

- Building storm shelters in areas where no shelter from severe weather currently exists;

- Installing early warning sirens in communities that were previously without;

- Installing emergency generators in critical facilities such as fire stations, health clinics, community shelters, and law enforcement stations;

- Two Space Weather projects to help study and mitigate the effects of space weather, in the form of solar flares, as well as the potential impacts from an electromagnetic pulse caused by terrorist or adversarial threats;

- FMA projects to eliminate the risk of repetitive flood damage to homes, buildings, and structures; and

- Advance Assistance projects (now called Project Scoping projects under BRIC) enabling communities to conduct studies and draft plans to tackle their own, unique mitigation needs.

NDDES recently announced availability of grant funding through two HMA grant programs, FMA and the BRIC grant. Applications for the BRIC and FMA programs are due by Dec. 31, 2021. For more information, applicants can contact Carl Meyer, Haz-

ard Mitigation Specialist, at 701-328-8108 or email [carlmeyer@nd.gov](mailto:carlmeyer@nd.gov); Todd Joersz, State Hazard Mitigation Officer, at 701-328-8261 or email [tjoersz@nd.gov](mailto:tjoersz@nd.gov); or Justin Messner, Disaster Recovery Chief, at 701-328-8107 or email [jmessner@nd.gov](mailto:jmessner@nd.gov).



# NDDOT OFFICIALS ENVISION SAFER, SMARTER HIGHWAYS

North Dakota's mercurial weather patterns make even the most experienced drivers edgy. Clear driving conditions can rapidly deteriorate as storm fronts advance across the state, turning highways into skating rinks during fall and winter, and roadways into small lakes during spring and summer.

In keeping with its mission to safely move people and goods, the North Dakota Department of Transportation (NDDOT) is pursuing a federal grant designed to increase public safety with intelligent transportation system technology and 24/7/365-day operations. NDDOT has applied for a \$1.1 million grant from the U.S. Department of Transportation for a Transportation Management Center (TMC) and SMART (Safety, Mobility, Automated, Real-time, Traffic Management) Corridor Planning Project.

As indicated in the *State of North Dakota Enhanced Mitigation Mission Area Operations Plan*, the state has over 106,966 miles of road and 4,837 bridges, including 18 international highway ports of entry along the Canadian border. Of that amount, NDDOT maintains 3,722 miles of road on the National Highway System (NHS), including 571 miles of interstate roads (I-29 and I-94). These roads are more heavily traveled in recent years. The Bureau of Transportation Statistics lists North Dakota as having Interstate Freight Flows in 2018 valued at over \$228.4 billion dollars, an increase of 30.1% in six years. This equals 277.4 billion ton-miles of freight, an increase of 41.4% in six years.

Brad Darr, NDDOT maintenance division director, says the grant specifically targets the I-29 corridor where NDDOT anticipates an increase in traffic with businesses like Amazon expanding operations into the area. Amazon plans to build a 1.3 million-square-foot, two-story fulfillment center north of Fargo and hire 500 employees. The company anticipates approximately 500 trucks will enter the facility during a 24-hour period. The area already has the highest accident rate in the state with many crashes attributed to hazardous weather. Between 2016 and 2020, a total of 1,150 crashes occurred along the I-29 corridor between South Dakota and Canada. Within the Fargo metro area, 836 accidents occurred during the same time period along I-29 and I-94.

A 24/7/365-day TMC would allow NDDOT staff to monitor the transportation network, dispatch maintenance resources, and provide travel information. With a TMC, Mr. Darr said, "we would have more and better resources to function at a high level." The TMC would leverage cameras, sensors, weather stations and computer algorithms to assess conditions and make split-second decisions



regarding traffic management. The TMC will also enhance coordination and cooperation with NDDOT and its partner agencies such as the North Dakota Department of Emergency Services and the North Dakota Highway Patrol. The grant would allow NDDOT to initially establish a TMC at its central office and provide funding for an architect to design a facility, potentially collocating with other public safety agencies.

Through the grant, the TMC would leverage a network of Intelligent Transportation System (ITS) devices and computer algorithms to improve the safety and efficiency of the state's roadway system. NDDOT already employs a network of intelligent transportation system (ITS) devices throughout the state consisting mainly of surveillance cameras, environmental sensing stations (ESS), road weather information systems (RWIS) network, dynamic message signs (DMS), automatic traffic recorders (ATR), and weigh in motion (WIM) devices. NDDOT has procured a central control software to unify control of the state's cameras, ESS, DMS and radar-based speed and volume sensors. The grant would allow NDDOT to expand its ITS network with such features as a data warehouse and performance monitoring, connected vehicle system monitoring and management, road weather motorist alert and warning, and spot weather impact warning.

While the grant focuses on the I-29 corridor, NDDOT hopes to eventually expand the project statewide. The project also supports NDDOT's Vision Zero strategy to eliminate motor vehicle crash fatalities and serious injuries on state highways. Vision Zero strategies address safe driver and passenger actions; safer infrastructure; and reducing the need for emergency medical services. The TMC and the Smart Corridor reinforce the Vision Zero's goal to aim for zero fatalities because "every life matters."





# IMPROVED HIGHWAY SAFETY FOR TRIBAL NATIONS

Highways crossing the Standing Rock Sioux Tribe and the Mandan, Hidatsa and Arikara Nation (MHA) reservations link residents with vital resources and ensure the transportation of goods and services that fuel our state's economy.

However, these highways have experienced several vehicle accidents due to unsafe intersections including the lack of turning lanes, passing opportunities, rumble strips and lighting. These roads have also been subjected to damages caused by flooding and heavy rains, from gravel washes to road collapses.

The leaders of the Standing Rock Sioux Tribe and MHA Nation are partnering with the North Dakota Department of Transportation (NDDOT) to improve safety for pedestrians and vehicles traveling in busy areas near schools, workplaces and homes.

Both nations collaborated with NDDOT on Vision Zero, an effort by more than 200 traffic safety partners to eliminate motor vehicle crashes, pedestrian-related fatalities, and serious injuries. In keeping with the program's goals, both tribal nations are supporting efforts by NDDOT to secure \$25 million for its Tribal Safety Project through the U.S. Department of Transportation's Rebuilding America Infrastructure with Sustainability and Equity (RAISE) grant. Governor Doug Burgum noted in his letter of support that the project provides direct benefit to two areas of persistent poverty, an important equity objective of the 2021 RAISE grant, as well as addresses disparities in rural transportation infrastructure.

Within the past 10 years, North Dakota's economy experienced a significant rate of growth, which has placed an unprecedented burden on our state's infrastructure, including the State Highway System.

As the state's Congressional delegation wrote in its letter of support for the grant, "While the state has made tremendous efforts to meet these ever-increasing needs, additional federal funding is needed to help ensure the safe and efficient transportation of goods and people."

As stated in *The Standing Rock Sioux Tribe/Sioux County Multi-Hazard Mitigation Plan*, the expansiveness and sparse population make Standing Rock and Sioux County highly dependent upon the network of tribal, federal, state and county highways. The *Mandan, Hidatsa and Arikara Nation Multi-Hazard Mitigation Plan* also discusses the tribal nation's dependency on its highway system and identifies such impacts from accidents as loss of life, injury, blocked roads, delayed response by emergency medical services and economic losses created by delays.

This ambitious grant targets unsafe driving conditions on certain stretches of roadway and intersections due to lack of safety improvements. The safety improvements include the installation of round-

abouts, turning lanes, lighting and rumble strips at critical locations.

The project identifies several areas of improvement including:

## **Standing Rock**

- A roundabout at Fort Yates at the intersection of North Dakota (ND) Highway 24 and Bureau of Indian Affairs (BIA) Highway 31; and
- Rehabilitation of several areas of ND Highway 6.

## **MHA Nation**

- A Roundabout east of New Town at ND Highway 23 and ND Highway 8;
- Turning lanes and lighting along ND Highway 23 east of New Town;
- Turning lanes and lighting along ND Highway 23 west of New Town;
- Signing and rumble strips along ND Highway 23B, the New Town Northeast Truck Reliever Route;
- Full depth reclamation and reconstruction and a roundabout along ND Highway 73 to its junction with ND Highway 22.

MHA Chair Mike Faith and Standing Rock Chair Mark Fox describe the benefits of the projects well in their letters of support when they stated, "completion of the projects will ensure safe and efficient movement of pedestrians and vehicles."



# SILVER JACKETS BRING PARTNERS TOGETHER TO INCREASE FLOOD RESILIENCY

The North Dakota Silver Jackets Program provides a partnership for an interagency approach to planning and implementing measures to reduce the risks associated with flooding and other natural hazards in the State of North Dakota. The North Dakota Silver Jackets Team Charter was initiated in 2010 and updated in 2013.

The North Dakota Silver Jackets program fosters a federal and state interagency approach to reduce the threat, vulnerability, and consequence of flooding. It is led by the North Dakota Department of Water Resources (DWR) with membership including the St. Paul Corps, Omaha Corps, United States Geological Survey (USGS), United States Fish and Wildlife Service (USFWS), Natural Resources Conservation Services (NRCS), National Weather Service (NWS), Federal Emergency Management Agency (FEMA) Region VIII, North Dakota Department Emergency Services (NDDDES), and North Dakota Geological Survey (NDGS). The program promotes flood risk reduction and awareness through identification, development and implementation of selected projects and measures with a goal of reducing the threat and impact of flooding in North Dakota.

This intergovernmental team of State and Federal agencies collaborate to:

- Facilitate strategic, integrated life-cycle mitigation actions to reduce the threat, vulnerability and consequences of flooding in the State of North Dakota;
- Create a mechanism to help solve flood risk

issues and recommend mitigation measures;

- Foster leveraging of agency resources and information;
- Increase and improve flood risk communication and outreach; and
- Develop comprehensive flood risk management strategies.

Following are a list of activities during July 1, 2020, through June 30, 2021:

## **ND Statewide Probable Maximum Precipitation (PMP) Analysis:**

The North Dakota Department of Water Resources (DWR) approved funding for this study in Fall of 2018. The study was initiated with a project and review board from the North Dakota Silver Jackets in the Spring of 2019 and completed as scheduled in May of 2021. The study was conducted by Applied Weather Associates and will be posted and available for use on the DWR website in the near future.

## **ND LiDAR Acquisition:**

Currently the DWR has acquired LiDAR for the entire state and it is available to all federal, state and public entities through the DWR's website. This project is ongoing with the collection of new quality Level II LiDAR in the Red River Basin and continuing westward across the state. Current funding for this effort is being provided primarily by Federal Emergency Management Agency (FEMA) Region VIII and the Natural Resources Conservation Service (NRCS)



but that can change annually. Other partners in this effort include United States Geological Service (USGS) and the St. Louis District of the Army Corps of Engineers (USACE).

## **ND Risk Assessment Map (NDRAM) Enhancement:**

The DWR is working with the Omaha District of the USACE and FEMA Region VIII to include the Corps' "Building Structure Database" along with their "Damage Curve Data" to the DWR's current NDRAM platform. This project was submitted in the Spring of 2020 and is expected to be a multi-year project with initial funding approved by the Omaha Corps in April of 2021. Upon completion it will assist federal and state agencies in identifying both the flood risk and associated damages throughout North Dakota.

## **Missouri River Basin Non-Stationarity Study:**

The DWR is partnering with the USGS and the Omaha District of the USACE to determine the impact of changing precipitation and hydrology on the Missouri River Basin. This is a multi-state/multi-year effort with our participation beginning in the Spring 2020 and funding being provided by FEMA Region VIII. Most recently the scope of this study has expanded to include additional river basins in North Dakota.



### **Discharge-Frequency Curve Update on the Mouse River:**

This project was requested through the St. Paul District of the USACE in the Spring of 2020 and is expected to begin with funding approved in October of 2021. If approved, this project will update the discharge frequency curves at the Sherwood and Westhope gages and allow for better flood forecasting throughout the Mouse River Basin (MRB).

### **Mouse River Basin Flood Inundation Mapping:**

This project has been ongoing since 2016 as a multiyear project with the DWR, St. Paul Corps, USGS, the Bismarck National Weather Service (NWS) office, and Souris River Joint Board (SRJB). Phase 1 through 3 includes the Mouse River Basin with Phase IV including a portion of the Des Lacs River. We recently completed Phase IV and are awaiting final modeling approval from the NWS and USGS. Upon approval (Fall 2021) this project will be provided to the SRJB and posted on the NWS Advanced Hydrologic Prediction Service (AHPS) web portal. This will allow all users to identify their location in the vicinity of the Mouse River Basin and determine their risks of flooding based upon current conditions.



### **Red River Basin (RRB) Gage Datum Update from '29 to '88:**

This project is a multi-year ongoing effort to survey all the existing RRB gages and convert them from National Vertical Datum (NVD) '29 to '88. Agencies participating in this effort include the DWR, Grand Forks NWS office, USGS and St. Paul Corps. Upon completion all the USGS

RRB gages will then report flow elevations in both '29 and '88 to prevent confusion within the RRB. Currently all new FEMA flood plain maps are being published in NVD '88, so this project would allow for similar elevation data to be made available when property owners look at their FEMA map compared to the USGS gage sites.

### **Mouse River Basin Soil Instrumentation Project:**

This effort is being supported by the DWR, Bismarck NWS office, USGS, United States Fish and Wildlife Service (USFWS) and SRJB with a goal to install soil moisture and temperature gages throughout the MRB. Through the recent development and use of the DWR's new PRESENSE (Pushing Remote Sensor) system Silver Jackets identified the potential to use this cost efficient gage system to collect this data which could then be used by the NWS to enhance their flood forecasting capability. Silver Jackets is currently identifying locations for a small pilot project in the MRB with deployment of select gages to be installed in the Fall of 2021.

### **Red River Bathymetry Collection:**

This project was requested by the Red River Basin Commission through the North Dakota Silver Jackets to provide updated Bathymetry on the Red River main stem from the South Dakota border to the Canadian border (with the potential for Canada to participate in the collection effort moving further North). The St. Paul District of the USACE has approved funding for the project along with FEMA Region VIII and the project is scheduled to begin this fall (October 2021). Updated Bathymetry data on the Red River will enhance and improve all hydrology and hydraulic (H&H) studies in the Red River Basin and related flood risk reduction projects accordingly.

### **Little Missouri Hydrology and Hydraulics (H&H) Study**

The DWR has identified current flood risk in the Little Missouri River Basin and has requested the Omaha Corps conduct an H&H Study of the Little Missouri from its headwaters in Wyoming to the mouth with the Missouri River. Updated data is currently lacking in North Dakota and would enhance all flood risk mitigation and reduction efforts in the Little Missouri River Basin. If approved, this project would be funded and completed by the Omaha District of the USACE with selected engineering support from the DWR Investigation Section. This project is currently pending Omaha Corps approval and if approved could start as early as October 2021.

# FLOODPLAIN MANAGEMENT TOOLS ENHANCE PLANNING AND MITIGATION EFFORTS



*Hope Brighton, a senior at North Dakota State University, is pursuing a degree in Emergency Management with minors in Sociology and Political Science. She has experience working with NDDDES during the COVID-19 pandemic working as a scribe. Recently, she was working with the Minnesota Homeland Security and Emergency Management (HSEM) Radiological Emergency Preparedness (REP), facilitating their annual exercise remotely. Hope is a new Mitigation Planner with NDDDES.*

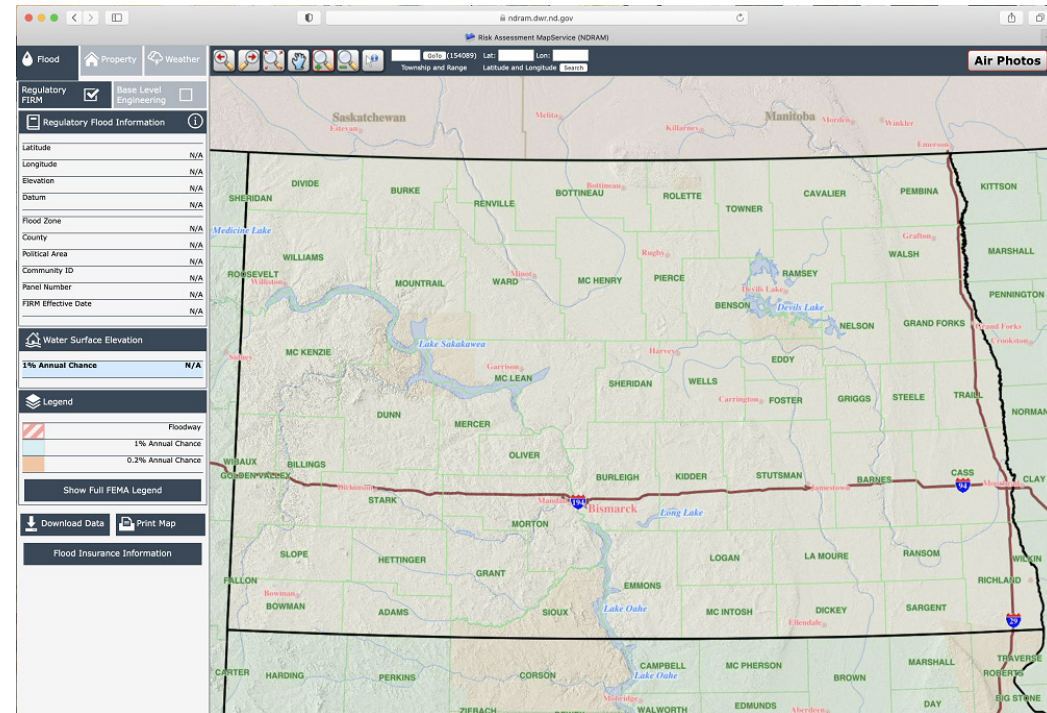
By Hope Brighton,  
Mitigation Planner  
North Dakota Department  
of Emergency Services

Floodplain tools are helping create smart, efficient infrastructure decisions. Starting in 1824, national legislation has focused on repairing and improving infrastructure, which protects our homes and potential from flooding. Stakeholders including the U.S. Army Corps of Engineers (USACE), the Federal Emergency Management Agency (FEMA), the Water Resources Council, state, local, and federal government, and Tribal Nations have worked tirelessly on these mitigation efforts. Following the

Hurricane Betsy flood event in 1965, federal administration was called to action resulting in the National Flood Insurance Act of 1968.

The Act created the National Flood Insurance Program (NFIP) and the Federal Insurance and Mitigation Administration (FIMA) that currently function under FEMA. Primarily, the NFIP's function was to encourage communities to enforce floodplain management and to help find a reasonable method of sharing flood risk loss.

Since the creation of the NFIP, the program has grown immensely and provides not only insurance to individuals but also risk assessment tools using flood mapping. These tools include regulatory products acting as a baseline of information promoting the need for flood insurance. An example of a regulatory tool is the Flood Insurance Rate Maps (FIRM) in which FEMA has created for Special Flood Hazard Areas (SFHAs) depicting areas at a high risk of flooding at a 1% annual chance event. In addition to regulatory tools, FEMA offers



additional non-regulatory products such as Changes Since Last FIRM, Flood Depth & Analysis Grids, Areas of Mitigation Interest, etc. Both regulatory and non-regulatory FEMA products provide key information for state, local, tribal, and private stakeholders to visualize potential risk.

In an effort to leverage all available resources, FEMA introduced the Cooperating Technical Partners (CTP) Program that encourages partnerships between the federal and local communities participating in the NFIP. These partnerships not only close the gap between federal and local partnerships, but also aid FEMA in keeping flood hazard maps current by leveraging federal grant funding through FEMA's Risk Mapping, Assessment and Planning (Risk MAP) program. This is where the North Dakota Department of Water Resources (DWR), formerly known as the State Water Commission, comes in. Laura Horner, Risk MAP



Program Manager, has played a critical role in developing and disseminating flood risk information for the State of North Dakota since 2014. The DWR in partnership with FEMA Region VIII, based in Denver, Colorado, have worked tirelessly to update and enhance the state's flood risk information.

One robust tool that was developed through a federal and state partnership, is the North Dakota Risk Assessment MapService (NDRAM). NDRAM is an interactive geographic information system (GIS) driven web interface introduced in 2019 at Governor Burgum's Main Street Summit. The interactive web interface is accessible to all stakeholder groups from flood risk experts to the average homeowner. NDRAM allows users to align and compare FEMA regulatory FIRM maps and a statewide Base Level Engineering (BLE) dataset that was generated leveraging North Dakota's extensive LiDAR data.

The statewide BLE dataset offers flood risk information to all 53 counties, allowing NDRAM to depict and provide flood risk data to rural communities

where flood risk mapping had not been done before. The interactive platform allows users to select an area within the state to view a detailed, current view of the articulated flood risk.

An example of rural communities using NDRAM to improve smart, efficient infrastructure is Morton County's Emergency Management Director Cody Mattson. Mattson and his team used NDRAM to assess their flood risk in the City of Almont. The City of Almont is considered an unmapped community through the FEMA RiskMAP program, meaning regulatory FIRM products have not yet been developed. Mattson and his team assessed the flood risk captured in the BLE assessment and were able to conclude that Almont would benefit from flood mitigation. With assistance from the Department of Water Resources, the City of Almont has been able to complete mitigatory dredging projects to aid in temporary levee security. Additionally, NDRAM provided Mattson with mapping tools to determine that mitigatory practices would potentially save the

community funding and keeping the community safe. This is just one success story within the State of North Dakota using NDRAM.

The development of North Dakota's NDRAM data service is a critical resource intended to aid in future resiliency decision making and flood fighting successes. The availability of the BLE data to help supplement the FEMA FIRM products allows for a new level of awareness for all North Dakotans. Harnessing risk information utilizing the NDRAM viewer before future flood events can provide technical data to mitigators and may assist in effective community decision making. Understanding floodplain management comprehensively encourages more effective mitigatory efforts.

"Flood mapping and mitigation efforts have considerably evolved throughout the ten years that I have worked at the agency," said Laura Horner, Risk MAP Program Manager. "Collaboratively, we will continue to advance and expand floodplain management programs on state and federal levels. NDRAM is a comprehensive example of the accessible, beneficial, and innovative services that help generate informed decision-making regarding flood preparedness for residents, emergency managers, community leaders, and stakeholders in North Dakota."

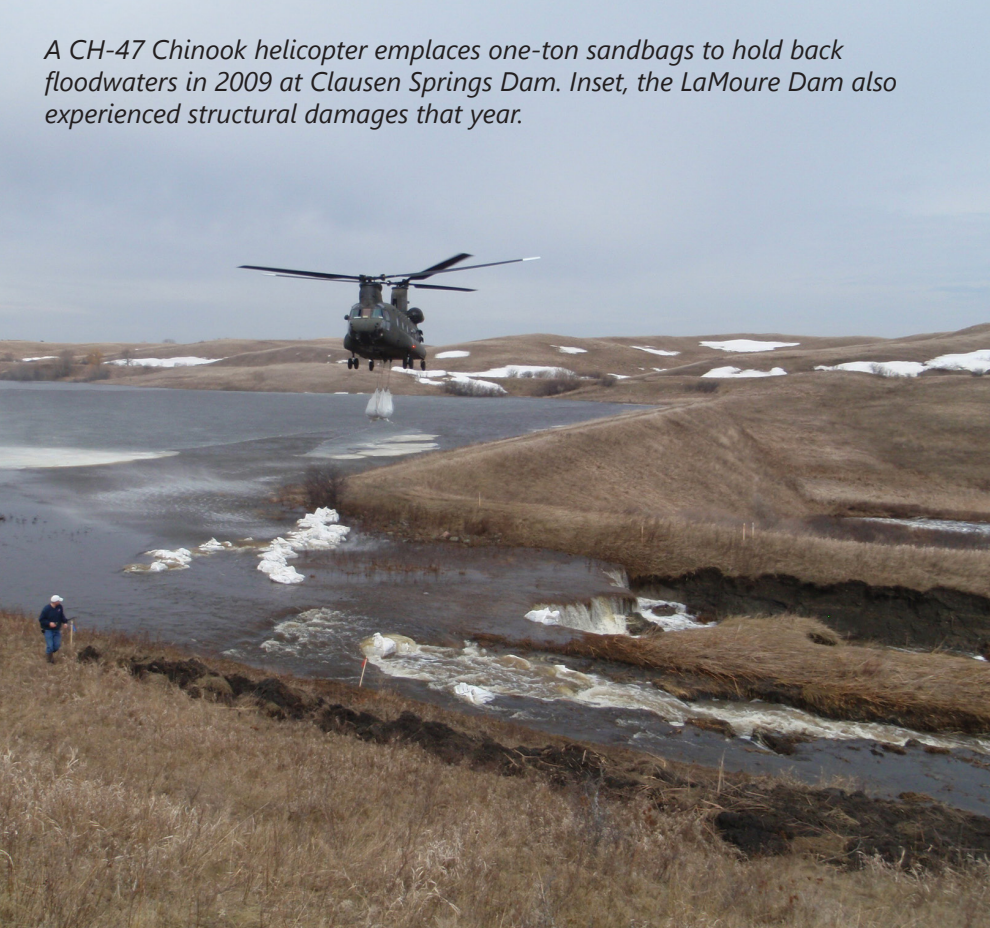
NDRAM has endless potential and opportunity impacting local, state, tribal, and private stakeholders throughout. All data is available for free of charge and accessible to the public at [ndram.dwr.nd.gov](http://ndram.dwr.nd.gov).



Laura Horner, Risk MAP program manager, can be contacted at [lmhorner@nd.gov](mailto:lmhorner@nd.gov) or **701.328.2759**. Additional information is located on the DWR's webpage - [www.dwr.nd.gov](http://www.dwr.nd.gov).



*A CH-47 Chinook helicopter emplaces one-ton sandbags to hold back floodwaters in 2009 at Clausen Springs Dam. Inset, the LaMoure Dam also experienced structural damages that year.*



# NORTH DAKOTA'S DAM SAFETY PROGRAM EMPHASIZES STRUCTURAL INTEGRITY

When catastrophic flooding occurred in 2009, the North Dakota Department of Water Resources (DWR), formerly known as the State Water Commission, led state efforts to mitigate significant erosion and protect the emergency spillways for Cottonwood Creek and Clausen Springs Dams.

DWR engineers once again assisted local water resource boards in the spring of 2013 when heavy rains and snowmelt runoff caused record high reservoir levels in northeastern North Dakota, prompting the precautionary evacuation of more than 1,000 residents from the City of Cavalier living downstream of Renwick Dam.

Dams are essential components of the state's infrastructure, providing essential services such as water storage for irrigation, hydroelectric power generation, flood control, water supply, fire protection, recreation, and wildlife habitat. However, if the sudden, rapid, and uncontrolled release of impounded water due to dam failure occurs, the lives of downstream residents, their communities, public and private property, and agricultural interests could be in jeopardy.

The DWR Dam Safety Program works to ensure sound management of the state's dam inventory. Of the state's 3,362 known dams, Karen Goff, the DWR Dam Safety Program Manager, says 49 are currently classified as high hazard and 63 as medium hazard structures. The hazard classification of dams is based on the potential for loss of life and significant damage if failure occurs.

As noted in the State of North Dakota Enhanced Mitigation Mission Area Operations Plan, developed by the North Dakota Department of Emergency Services (DES), lack of maintenance, aging dams, funding for repairs, and hazard creep downstream of existing dams can lead to an increased risk of a dam failure event. Additionally, changes in precipitation patterns may put more dams at risk to conditions that exceed the original design criteria of aging dams. These factors make it imperative to include dam failure in hazard mitigation planning to reduce the risk to North Dakota, and are factors that the DWR works to address through Dam Safety Program activities.

The Dam Safety Program conducts dam inspections, maintains an inventory of dams, determines the hazard classification of dams, and assists with emergency preparedness activities. Dam Safety Program responsibilities recently expanded to also include the agency review of construction permits for dams and ponds. Ms. Goff, who has managed the program for 17 years, has been working with engineer Katelyn Kelly and engineering technician Sara Van Ningen to make the

dam and pond permitting process more efficient.

Staff members are also updating the 1985 North Dakota Dam Design Handbook guidelines. The handbook outlines design standards and criteria for dams throughout the state. The Statewide Probable Maximum Precipitation (PMP) study that was approved for funding by the State Water Commission in fall of 2018 was completed by Advanced Weather Associates in May 2021. This study was initiated with support from the ND Silver Jackets. The then-SWC formally accepted the PMP study results in June 2021 and continue to work to incorporate the updates to further improve life safety and efficient design of dams.

Staff also renewed emphasis on emergency action plans (EAP). North Dakota Century Code § 61-03-25 requires EAPs for all high hazard and medium hazard dams. The plans serve as a roadmap for identifying potential emergency conditions and required actions to minimize loss of life and property damage. The DWR encourages dam owners to work with local emergency management authorities to develop these plans. The Dam Safety Program has been working hard to achieve 100 percent compliance by dam owners. Dam owners are encouraged to reach out to Karen and her team with any question on EAP development.

The DWR has also been concentrating efforts on safety at low head dams, which can create a dangerous hydraulic roller effect and have been referenced as "drowning machines" and "killers in our rivers" by the Association of State Dam Safety Officials (ASDSO). The Dam Safety Program is working to update a prioritized inventory of the state's low head dams. Because recreational river users may not be aware of the hazards posed by low head dams, the DWR has been supportive of local entities and dam owners in both the removal of structures no longer serving a purpose, and improving existing structures to increase safety through the agency's Cost-Share Program. The DWR has also been providing, free of charge, up to two cautionary safety signs to owners of low head dams. However, installation efforts of the signage will be a local responsibility.

Safe dams require the efforts of many parties including dam owners and local entities. At the state level, DES and DWR will continue to coordinate on mitigation planning and emergency response efforts.

For more information regarding the low head dam signs and North Dakota's Dam Safety Program, please contact (701) 328-2760 or visit the Department of Water Resources' website at [www.dwr.nd.gov](http://www.dwr.nd.gov).

# PUBLIC AND PRIVATE PARTNERS DEMONSTRATE SUCCESSFUL COLLABORATION IN 2020-2021



By Katie Leitch,  
Planner  
North Dakota Department  
of Emergency Services

North Dakota has a history of successful coordination and collaboration throughout the state. We saw in 2020 the capabilities and capacities around the Whole Community during the outbreak of the COVID-19 virus. The pandemic captured the resiliency among North Dakotans, showing the consistent strive for growth.

The success of any response starts with effective incident management leveraging Incident Command

System principles. COVID-19 was no different. A State Unified Command System (UCS) was activated on March 15, 2020, and led by the Governor's Office, ND Departments of Health (NDDoH) and Emergency Services (NDDes) in response to the pandemic. The Governor's Office developed and provided policy-level guidance, while NDDoH provided professional knowledge in medical response. NDDes, specifically the Division of Homeland Security (NDDes-HLS), provided expertise in incident management, facilitation, and synchronization of multiple key stakeholders under a unified response system. All told, this UCS remained activated until April 30, 2021; a total of 411 days, which is the

longest activation of a State UCS in North Dakota's history.

Multiple state agencies supported the UCS, and integrated key community partners in a synchronized manner. This collaboration contributed to the successful expansion of effective structures, processes, and resourcing ensuring the success of the Whole Community response to the pandemic.

ICS processes created effectiveness but also produced some challenges. Several UCS stakeholders were operating under Incident Command System (ICS) doctrine for the first time. Incoming stakeholders learned and executed the ICS structures simultaneously. There was uncertainty of what precisely these structures are, where people fit into the UCS

team, and how this necessarily may have differed from an individual's day-to-day agency assignment and supervision chain. This also resulted in some initial hesitations with embracing ICS on the part of some stakeholders unfamiliar with the concepts. These were eventually overcome through proven results.

Stakeholders nonetheless adapted to and overcame the challenges incumbent with the newness of a UCS. "Once all partners began to understand and embrace the effectiveness of Incident Command System doctrine and a Unified Command approach to incident management, we were able to achieve incredible successes as a multi-agency, multi-organizational team to save and improve lives. Great





credit goes to this team because so many had been unfamiliar with Unified Command Systems before being tossed into one without much preparation...all while simultaneously being asked to perform at the highest level in their professional careers," said Sean Johnson NDDes-HLS Planning Section Chief.

Active COVID-19 cases eventually began an initial decline in June 2020, which started the launch of the ND Smart Restart. NDDoH assumed incident management responsibilities in addition to medical response ones, with NDDes-HLS supporting as required. Unfortunately, a resurgence of infections occurred over the summer. With the resurgence came a renewed need for a holistic approach to incident management. The Unified Command thus re-expanded in late August 2020. NDDes-HLS re-assumed its facilitative responsibilities for inci-

dent management. Staff spent more time directly engaged in COVID-19 response-related activities that included: testing and supporting reopening of schools, incident action planning, contingency planning, incident management facilitation, operational and logistical coordination, and situational awareness activities.

An advisory board of community members representing all significant cities was brought together as a part of the COVID response efforts. The New American, Foreign Born and Immigrant Advisory Board played a prominent role in the development of a participatory grant and a decision-making approach proposal, stated Zeina Abouelazm, previous NDDes-HLS Contingency Planner/Intern. These were presented to state departments and are being implemented and tested in some cities within the state.

On April 30, 2021, the Governor lifted the state emergency, at which time, the State Unified Command was de-activated and incident management responsibilities were re-assumed by the NDDoH. Even with the transition, every UCS stakeholder continues to be pertinent in responding to COVID-19. Collaboration continues to produce successful outcomes by bringing together information, planning, coordination, and resources. Enhancing communication and dividing work efforts to problem solve remains effective. Most important, partnerships built under the UCS remain strong.

Incident management success continues beyond COVID-19. Other large-scale events such as wildfire, drought, severe summer storms, and overland flooding have been managed collaboratively and effectively by the Whole of State Government through ICS doctrinal structures and processes. Fire season typically starts during April in North Dakota. According to Amy Anton, NDDes-HLS Response Section Chief, expectations were to be slow, but as of 2021, it began early this year with the Windy Fire on January 14 that burned approximately 7,000 acres on the North Dakota side and 10,000 acres on the South Dakota side. Since then, the state has experienced more than 2,000 fires burning over 123,000 total acres; this compares to just over 900 fires for a total of approximately 12,000 total acres in 2020. The drought has only increased the size and intensity of fires this year.

Given an early start to the fire season, the North Dakota Forest Service (NDFS) was understaffed with their seasonal firefighters. As a result, the agency had to bring in additional resources from other states for assistance. Two NDDes-HLS staff members with a firefighting background were activated through the NDFS/NDDes Memorandum of Agreement (MOA). The additional staffing augmented NDFS staff for wildland fire suppression and response efforts, including the Medora, Horse Pasture, and Manning fires. These efforts are to bolster state firefighting resource capacity further.

“With the outlook for a long and active fire season, we began conducting initial planning/coordination meetings with the NDFS and the North Dakota National Guard (NDNG) in February to discuss and prepare for the upcoming fire season.”

The fire season of 2021 has developed some significant differences compared to previous years. Fire size has increased along with the number of fires in the state. Compounding the situation were critical fire conditions and significant fire activity throughout the western United States severely limiting outside resource availability.

“With the outlook for a long and active fire season, we began conducting initial planning/coordination meetings with the NDFS and the North Dakota National Guard (NDNG) in February to discuss and prepare for the upcoming fire season. Additional coordination and preparedness meetings began in early March 2021 with the National Weather Services and key agencies,” said Anton.

NDES-HLS coordinated with the NDFS and the Department of Water resources, formerly the State Water Commission, to establish a State Drought and Wildland Fire Unified Command, which officially activated in mid-April. NDES-HLS coordinated with NDFS to develop a state wildland fire task force program enabling local fire departments to enact response-oriented actions outside their area of jurisdictional responsibility upon request of the NDFS. These actions would provide local fire departments with the ability to assist with response to fires throughout the state and/or stage in advance of concerning weather events and during high-risk days for fire.

The UCS for drought and wildfire has been a highly effective and collaborative partnership. Stakeholders continue to work well together based on

their previous ICS experience and are able to pivot effortlessly toward managing a fire and drought season simultaneously. Drought and wildfire have correlations but not causations. Droughts are also more recovery-oriented, while wildfire is generally response-focused. The UCS effectively brought together partners that don't usually work together every day in a seamless manner to address the needs and challenges presented by both events. Similar partners were able to synchronize well in a UCS to work as one to address the needs of all North Dakotans. Johnson describes a “Battle Rhythm” within the UC activities that ensured consistent and coordinated efforts to accomplish common objectives communicated in an Incident Action Plan.

Trends are occurring with fires and drought that raise concerns about mitigation efforts. One resource shortage that could impact response and recovery efforts, if not sustained, is water. There may be a long-term concern about maintaining water supply assurance, as it is crucial in fighting fires, growing crops, and raising livestock. There is potential of a drought continuing into future years. Without some relief to the lack of adequate moisture, water supply challenges may become more and more prevalent throughout the state.

Overall, the common application of ICS principles and processes within a Unified Command System reinforces the importance of multi-hazard/threat planning, regardless of the event type and across all Mission Areas including mitigation. For emergency management to be effective, we need to look at how planning primarily addresses the second and third-order effects of hazards and threats, and not just the hazards or threats themselves. When planning in emergency management focuses on second

their previous ICS experience and are able to pivot effortlessly toward managing a fire and drought season simultaneously. Drought and wildfire have correlations but not causations. Droughts are also more recovery-



and third-order effects, it amplifies what we must do instead of focusing on the why. With these actions, planning has increased our level of preparedness for events.

The State Hazard Mitigation Team, along with local and tribal mitigation planning teams, are analyzing the 2020-2021 drought to understand impacts and then identify viable mitigation actions for droughts in the future to increase overall resiliency. The successful collaboration of Whole Community partners ensures an integrated approach taken during response will move us forward as we look at ways to build smarter and more resiliently.





# ND UNIFIED SPILL REPORTING SYSTEM PROVIDES STREAMLINED, ONE-STOP OPTION

*By Hope Brighton*

North Dakota has rooted history in the energy industry. The first oil wells were drilled into our soil in the 1910s leading to fluxes in oil production drawing those seeking employment and increasing industry and revenue. The energy industry is a key leader in North Dakota's economy.

In addition to oil spills, the history of hazardous material releases in North Dakota ranges from farming incidents to accidents at fixed facilities to large releases due to train derailments. As noted in the State of North Dakota Enhanced Mitigation Mission Area Operations Plan, there are 9,777 Tier II reporting facilities housing or using hazardous chemicals. The state averages about 60 trains per year that carry more than one million gallons of crude oil, and has 11,358 miles of pipelines transporting gas and other hazardous liquids.

While industries using or producing hazardous materials bring revenue and promote the economy they also comewith new potential threatsThese spills have the capability to leave irreversible impacts on our soils, water, and wildlife. Spill, discharges, and releases can also cause serious public health and environmental impacts. Federal and State laws require the reporting of incidents that may result in pollution of our natural environments. A total of 1,927 hazardous materials incidents occurred between January 1, 2019, and July 31, 2020, including reports of 1,306 oil spills and 534 environmental incidents as well as 87 flash faxes from the National Response Center. It is critical for information to be shared in a timely, detailed manner.Before the Unified Spill Reporting System was in place reports of environmental incidents were submitted to one of three ND state agencies – the Department of Emergency Services, the Department of Environmental Quality, and the Department of Mineral Resources' Oil and Gas Division. From here a spill report was filled out by the energy company to the Oil and Gas Division's website and emailed to involved stakeholders. Inspectors would enter the information into the Oil and Gas Division's system and share it with the Departments of Environmental Quality and Emergency Services. However, if an inspector is not called, the spill information was never passed onto the Departments of Environmental Quality and Emergency Services. The report would not be seen until that private stakeholder entered a report. This is just one example of the process a private stakeholder must go through following the report of a spill, release, or discharge before the Unified Spill Reporting

KEEP NORTH DAKOTA LEGENDARY

## UNIFIED SPILL REPORTING SYSTEM



### CLICK HERE TO REPORT A SPILL

Spills, discharges, and emergency releases can cause serious harm to public health and the environment. Federal and state laws require federal and/or state agencies be notified in the event of an accidental spillage of any materials that may pollute water, air or soil.

### Unified Spill/Tier II Reporting System

North Dakota uses a whole-of-government approach for developing long-term strategies for managing energy development in an environmentally responsible manner. The state's Unified Spill/Tier II reporting system is a tool for and effective state response and a mitigation strategy for unanticipated spill events.

This effort also provides transparency with stakeholders, including fellow North Dakotans, producers, transporters, developers and media members.

In accordance with state and federal law, the intentional or unintentional release of hazardous materials must be reported to the state within 24 hours of the incident. This can be accomplished by using this reporting system to meet the requirement of notifying all state agencies, both online and by calling **1-833-995PILL (1-833-997-7455)**. This number provides a one-call routing menu with options for reporting based on the nature of the spill.

System. While these processes worked, there were many bureaucratic steps, and the reporting system was not as transparent to the public and involved stakeholders as it had the potential to be.

Starting in to 2018 the planning process to create a streamlined reporting system began. It was a collaborative effort led by the Department of Emergency Services that was supported by the ND Department of Environmental Quality, ND Department of Agriculture, and the ND Oil and Gas Division. Starting on January 5<sup>th</sup> of 2021, a new streamlined system using HazConnect provides a one-stop shop for producers, transporters, developers of the energy industry. In addition to the private stakeholders involved, the public was given the same



resource to allow for ease of reporting and further transparency. The reports are now electronically submitted notifying all involved agencies and posted to spill.nd.gov using the Public Access Tool. Implementing a streamlined reporting system, state agencies have strengthened overall response capabilities by creating close partnerships and providing efficient tools to energy industry stakeholders.

Utilizing the Unified Reporting System creates a streamlined process that allows for clear communication decreasing the potential for lost communication following a spill, release, or discharge. Having accurate, timely data not only aids in the response in the event but data can be used to expand in other functions of state agencies. Within the Department of Emergency Services, the data can boost mitigation strategies and can be used for training emergency responders to better understand hazardous incidents that have occurred. Employing real, historical data to back response and mitigatory action supports data-informed, smart decisions.

To comply with state and federal law, the intentional or unintentional release of hazardous materials must be reported to the state within 24 hours of the incident. This can be accomplished by using this reporting system to

meet the requirement of notifying all state agencies, both online and by calling 1-833-99SPILL. This number provides a one-call routing menu with options for reporting based on the nature of the spill. If there is an immediate need 9-1-1 should be the first contact point. Spills can be reported at [spill.nd.gov](http://spill.nd.gov).

Any spill that has an impact, or potential impact, to public health includes:

- Waterways impacted/threatened
- Injuries or deaths
- Evacuations, or potential need for
- Any spill/release that has immediate impact to wildfire

Creating and utilizing partnerships within the energy industry allows for a more efficient response and smarter action into the future. "By using a whole-of-government approach, we have developed a reporting system that will help North Dakota more effectively respond and mitigate impacts from unanticipated spill events," said Cody Schulz, North Dakota Homeland Security director. To learn more or report a spill or release go to: [www.spill.nd.gov](http://www.spill.nd.gov)

# RESOURCES FOR BUILDING RESILIENT COMMUNITIES

The Federal Emergency Management Agency (FEMA) has identified several resources for helping build smart, efficient infrastructure and making communities more disaster resilient.

## COMMUNITY BUILDING GRANTS

**Building Blocks for Sustainable Communities:** The EPA Office of Sustainable Communities sometimes offers grants to support activities that improve the quality of development and protect human health and the environment. When these grants are offered, they will always be announced on [www.grants.gov](http://www.grants.gov).

**Building Resilient Infrastructure and Communities (BRIC) Program:** The BRIC supports states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC replaced the Pre-Disaster Mitigation (PDM) program. The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency. BRIC funds are distributed from FEMA to the state. For more information [www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities](http://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities).

**Community Development Block Grants (CDBG):** The U.S. Department of Commerce administers the Community Development Block Grants (CDBG) program which are intended to provide low and moderate-income households with viable communities, including decent housing, as suitable living environment, and expanded economic opportunities. Eligible activities include community facilities and improvements, roads and infrastructure, housing rehabilitation and preservation, development activities, public services, economic development, planning, and administration. Public improvements may include flood and drainage improvements. In limited instances, and during the times of “urgent need” (e.g. post disaster) as defined by the CDBG National Objectives, CDBG funding may be used to acquire a property located in a floodplain that was severely damaged by a recent flood, demolish a structure severely damaged by an earthquake, or repair a public facility severely damaged by a hazard event. CDBG funds can be used to match FEMA grants. More Information: [www.hud.gov/program\\_offices/comm\\_planning/cdbg](http://www.hud.gov/program_offices/comm_planning/cdbg)

### **General Services Administration, Sale of Federal Surplus**

**Personal Property:** This program sells property no longer needed by the federal government. The program provides individuals, businesses and organizations the opportunity to enter competitive bids for purchase of a wide variety of personal property and equipment. Normally, there are no restrictions on the property purchased. More information: [www.gsa.gov/portal/category/21045](http://www.gsa.gov/portal/category/21045)

**Hazardous Materials Emergency Preparedness Grants:** Grant funds are passed through to local emergency management offices and HazMat teams having functional and active LEPC groups. More information: [www.phmsa.dot.gov/hazmat/grants](http://www.phmsa.dot.gov/hazmat/grants)

**Hazard Mitigation Grant Program (HMGP):** The HMGP is a post-disaster mitigation program. It is made available to states by FEMA after each Federal disaster declaration. The HMGP can provide up to 75 percent funding for hazard mitigation measures. The HMGP can be used to fund cost-effective projects that will protect public or private property in an area covered by a federal disaster declaration or that will reduce the likely damage from future disasters. Examples of projects include acquisition and demolition of structures in hazard prone areas, flood-proofing or elevation to reduce future damage, minor structural improvements, and development of state or local standards. Projects must fit into an overall mitigation strategy for the area identified as part of a local planning effort. All applicants must have a FEMA-approved Hazard Mitigation Plan (this plan).

Applicants who are eligible for the HMGP are state and local governments, certain nonprofit organizations, authorized tribal nations or organizations, or institutions that perform essential government services. Individuals or homeowners cannot apply directly for the HMGP; a local government must apply on their behalf. For more information [www.fema.gov/grants/mitigation/hazard-mitigation](http://www.fema.gov/grants/mitigation/hazard-mitigation).

**NOAA Office of Education Grants:** The Office of Education supports formal, informal and non-formal education projects and programs through competitively awarded grants and cooperative agreements to a variety of educational institutions and organizations in the United States. More information: [www.noaa.gov/office-education/grants](http://www.noaa.gov/office-education/grants)

**NRCS Environmental Quality Incentives Program (EQIP):** The Environmental Quality Incentives Program, administered through the NRCS, is a cost-share program that provides financial and technical assistance to agricultural producers



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to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland. Owners of land in agricultural or forest production or persons who are engaged in livestock, agricultural or forest production on eligible land and that have a natural resource concern on that land may apply to participate in EQIP. Eligible land includes cropland, rangeland, pastureland, non-industrial private forestland and other farm or ranch lands. EQIP is another funding mechanism for landowner fuel reduction projects. More information: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/>

**Urban and Community Forestry (UCF) Program:** A cooperative program of the U.S. Forest Service that focuses on the stewardship of urban natural resources. With 80 percent of the nation's population in urban areas, there are strong environmental, social, and economic cases to be made for the conservation of green spaces to guide growth and revitalize city centers and older suburbs. UCF responds to the needs of urban areas by maintaining, restoring, and improving urban forest ecosystems on more than 70 million acres. Through these efforts the program encourages and promotes the creation of healthier, more livable urban environments across the nation. These grant programs are focused on issues and landscapes of national importance and prioritized through state and regional assessments. Information: <http://www.fs.fed.us/managing-land/urban-forests/ucf>

**U.S. Department of Agriculture, Community Facilities Loans and Grants:** Provides grants (and loans) to cities, counties, states and other public entities to improve community facilities for essential services to rural residents. Projects can include fire and rescue services; funds have been provided to purchase fire-fighting equipment for rural areas. No match is required. More information: [http://www.usda.gov/wps/portal/usda/usdahome?navid=GRANTS\\_LOANS](http://www.usda.gov/wps/portal/usda/usdahome?navid=GRANTS_LOANS)

**U.S. Department of Homeland Security:** Enhances the ability of states, local and tribal jurisdictions, and other regional authorities in the preparation, prevention, and response to terrorist attacks and other disasters, by distributing grant funds. Localities can use grants for planning, equipment, training and exercise needs. These grants include, but are not limited to areas of Critical Infrastructure Protection Equipment and Training for First Responders, and Homeland Security Grants. More information: <http://www.dhs.gov/>

## FIRE RELATED GRANT PROGRAMS

**Community Planning Assistance for Wildfire:** Established in 2015 by Headwaters Economics and Wildfire Planning International, Community Planning Assistance for Wildfire (CPAW) works with communities to reduce wildfire

risks through improved land use planning. CPAW is a grant-funded program providing communities with professional assistance from foresters, planners, economists and wildfire risk modelers to integrate wildfire mitigation into the development planning process. All services and recommendations are site-specific and come at no cost to the community. More information: <http://planning-forwildfire.org/what-we-do/>

**FEMA, Readiness, Response and Recovery Directorate, Fire Management Assistance Grant Program:** This program provides grants to states, tribal governments and local governments for the mitigation, management and control of any fire burning on publicly (non-federal) or privately owned forest or grassland that threatens such destruction as would constitute a major disaster. The grants are made in the form of cost sharing with the federal share being 75 percent of total eligible costs. Grant approvals are made within 1 to 72 hours from time of request. Periodic announcements of grant availability. More information: <https://www.fema.gov/welcome-assistance-firefighters-grant-program>

**Secure Rural Schools Program:** The Self-Determination Act has recently been reauthorized and now includes specific language regarding the Firewise Communities program. Counties seeking funding under Title III must use the funds to perform work under the Firewise Communities program. Counties applying for Title III funds to implement Firewise activities can assist in all aspects of a community's recognition process, including conducting or assisting with community assessments, helping the community create an action plan, assisting with an annual Firewise Day, assisting with local wildfire mitigation projects, and communicating with the state liaison and the national program to ensure a smooth application process. Counties that previously used Title III funds for other wildfire preparation activities such as the Fire Safe Councils or similar would be able to carry out many of the same activities as they had before. However, with the new language, counties would be required to show that funds used for these activities were carried out under the Firewise Communities program. More information: <https://www.fs.usda.gov/working-with-us/secure-rural-schools>

**Fire Management Assistance Program:** This program is authorized under Section 420 of the Stafford Act. It allows for the mitigation, management, and control of fires burning on publicly or privately owned forest or grasslands that threaten destruction that would constitute a major disaster. More information: <http://www.fema.gov/fire-management-assistance-grant-program>

**Fire Prevention and Safety Grants:** The Fire Prevention and Safety Grants (FP&S) are part of the Assistance to Firefighters Grants, and are administered by the FEMA. FP&S Grants support projects that enhance the safety of the public

and firefighters from fire and related hazards. The primary goal is to target high-risk populations and reduce injury and prevent death. Eligibility includes fire departments, national, regional, state, and local organizations, Native American tribal organizations, and/or community organizations recognized for their experience and expertise in fire prevention and safety programs and activities. Private non-profit and public organizations are also eligible. Interested applicants are advised to check the website at <https://www.fema.gov/grants/preparedness/firefighters/safety-awards>.

**Wildland Urban Interface Community and Rural Fire Assistance:** The program is designed to implement the National Fire Plan and assist communities at risk from catastrophic wildland fires. The program provides grants, technical assistance, and training for community programs that develop local capability, including: Assessment and planning, mitigation activities, and community and homeowner education and action; hazardous fuels reduction activities, including the training, monitoring or maintenance associated with such hazardous fuels reduction activities, on federal land, or on adjacent nonfederal land for activities that mitigate the threat of catastrophic fire to communities and natural resources in high risk areas; and, enhancement of knowledge and fire protection capability of rural fire districts through assistance in education and training, protective clothing and equipment purchase, and mitigation methods on a cost share basis. More information at: <https://www.fedprogramsearch.com/cfda/national-fire-plan-wildland-urban-interface-community-fire-assistance.htm>

**U.S. Fish & Wildlife Service, Rural Fire Assistance Grants:** Each year, the U.S. Fish & Wildlife Service (FWS) provides Rural Fire Assistance (RFA) grants to neighboring community fire departments to enhance local wildfire protection, purchase equipment, and train volunteer firefighters. Service fire staff also assist directly with community projects. These efforts reduce the risk to human life and better permit FWS firefighters to interact and work with community fire organizations when fighting wildfires. The Department of the Interior (DOI) receives an appropriated budget each year for an RFA grant program. The maximum award per grant is \$20,000. The DOI assistance program targets rural and volunteer fire departments that routinely help fight fire on or near DOI lands. More information: [http://www.fws.gov/fire/living\\_with\\_fire/rural\\_fire\\_assistance.shtml](http://www.fws.gov/fire/living_with_fire/rural_fire_assistance.shtml)

**Western Wildland Urban Interface Grants:** The National Fire Plan (NFP) is a long-term strategy for reducing the effects of catastrophic wildfires throughout the nation. The Division of Forestry's NFP Program is implemented within the Division's Fire and Aviation Program through the existing USDA Forest Service, State & Private Forestry, State Fire Assistance Program.

Congress has provided increased funding assistance to states through the U.S. Forest Service State and Private Forestry programs since 2001. The focus of

much of this additional funding was mitigating risk in WUI areas. In the West, the State Fire Assistance funding is available and awarded through a competitive process with emphasis on hazard fuel reduction, information and education, and community and homeowner action. This portion of the National Fire Plan was developed to assist interface communities manage the unique hazards they find around them. Long-term solutions to interface challenges require informing and educating people who live in these areas about what they and their local organizations can do to mitigate these hazards.

The 10-Year Comprehensive Strategy focuses on assisting people and communities in the WUI to moderate the threat of catastrophic fire through the four broad goals of improving prevention and suppression, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance. The Western States Wildland Urban Interface Grant may be used to apply for financial assistance towards hazardous fuels and educational projects within the four goals of: improved prevention, reduction of hazardous fuels, restoration of fire-adapted ecosystems and promotion of community assistance. Information: <https://www.westernforesters.org/wui-grants>

## WATER RELATED GRANT FUNDING PROGRAMS

**Flood Mitigation Assistance (FMA) Program:** The FMA combines the previous Repetitive Flood Claims and Severe Repetitive Loss Grants into one grant program. FMA provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA is funded annually; no federal disaster declaration is required. Only NFIP insured homes and businesses are eligible for mitigation in this program. Funding for FMA is very limited and, as with the HMGP, individuals cannot apply directly for the program. Applications must come from local governments or other eligible organizations. The federal cost share for an FMA project is 75 percent. At least 25 percent of the total eligible costs must be provided by a non-federal source. Of this 25 percent, no more than half can be provided as in-kind contributions from third parties. At minimum, a FEMA-approved local flood mitigation plan is required before a project can be approved. FMA funds are distributed from FEMA to the state. For more information: <https://www.fema.gov/grants/mitigation/floods>

**Rehabilitation of High Hazard Potential Dam Grant Program:** FEMA's Rehabilitation of High Hazard Potential Dams (HHPD) grant program provides technical, planning, design, and construction assistance for eligible rehabilitation activities that reduce dam risk and increase community preparedness. More information: <https://www.fema.gov/emergency-managers/risk-management/dam-safety/grants/resources>



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## EDUCATIONAL RESOURCES

**Beyond the Basics: Best Practices in Local Mitigation Planning:** The product of a 5-year research study where the Coastal Hazards Center and the Center for Sustainable Community Design analyzed local mitigation plans to assess their content and quality. The website features numerous examples and best practices that were drawn from the analyzed plans. Visit: <http://mitigationguide.org/>

**EPA, Smart Growth in Small Towns and Rural Communities:** EPA has consolidated resources just for small towns and rural communities to help them achieve their goals for growth and development while maintaining their distinctive rural character. To learn more, visit:

<https://www.epa.gov/smartgrowth/smart-growth-small-towns-and-rural-communities>

**EPA, Hazard Mitigation for Natural Disasters: A Starter Guide for Water and Wastewater Utilities.** The EPA released guidance on how to mitigate natural disasters specifically for water and wastewater utilities. For more information, visit: <https://www.epa.gov/waterutilityresponse/hazard-mitigation-natural-disasters>

**FEMA, Grant Application Training:** Each year, FEMA partners with the State on training courses designed to help communities be more successful in their applications for grants. Contact your State Hazard Mitigation Officer for course offering schedules. Example Courses:

Unified Hazard Mitigation Grant Assistance Application Development Course  
[Benefit Cost Analysis \(BCA\)](#) Toolkit Course

**FEMA, Community Assistance Visit:** It may be appropriate to set up a Community Assistance Visit with FEMA to provide technical assistance to communities in the review and/or updating of their floodplain ordinances to meet the new model ordinance. Consider contacting your State NFIP Coordinator for more information. More information at: <https://www.fema.gov/glossary/community-assistance-visit-cav>

**FEMA: Building Science:** The Building Science branch develops and produces multi-hazard mitigation publications, guidance materials, tools, technical bulletins, and recovery advisories that incorporate the most up-to-date building codes, floodproofing requirements, seismic design standards, and wind design requirements for new construction and the repair of existing buildings. To learn more, visit: <https://www.fema.gov/building-science>

**Headwaters Economics:** Headwaters Economics is an independent, nonprofit research group that works to improve community development and land management decisions in the West. To learn more, visit: <https://headwaterseconomics.org/>

**National Integrated Drought Information System:** The National Drought Resilience Partnership may provide some additional resources and ideas to mitigate drought hazards and increase awareness of droughts. Visit: <https://www.drought.gov/drought/what-nidis/national-drought-resilience-partnership>.

**STAR Community Rating System:** Consider measuring your mitigation success by participating in the STAR Community Rating System. Local leaders can use the STAR Community Rating System to assess how sustainable they are, set goals for moving ahead and measure progress along the way. To get started, go to <http://www.starcommunities.org/get-started>

## July 1, 2020 -- June 30, 2021, Mitigation Action Updates

The following list encompasses updates on mitigation actions that have occurred since the *State of North Dakota Enhanced Mitigation Plan* received approval on February 14, 2018.

PLEASE NOTE: The status reports in **red** are updates are for July 1, 2020, through June 30, 2021. The ones in **black** are ongoing and continuing, or were completed during the last update in 2020. Revisions to Action Statements, Action/Strategy Descriptions and agencies added to tasks are also in **red**, based on changes in direction as determined by the State Hazard Mitigation Team.

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
2019-1	Mitigation Planning	Provide technical and financial assistance to local and tribal jurisdictions developing or updating multi-hazard mitigation plans (MHMPs); and assist communities with planning for other identified threats and concerns.	All local and tribal jurisdictions are encouraged to develop and adopt mitigation plans that fulfill the requirements of the Disaster Mitigation Act of 2000, enhance community resiliency, and meet the needs of the jurisdictions. This action also calls for the State Hazardous Mitigation Team (SHMT) to continue its Community Coffee initiative, collaborating with local and tribal mitigation planning teams to elicit public feedback on hazards, threats, risks, vulnerabilities, and mitigation actions.	<p><b>ND Department of Emergency Services (NDES):</b></p> <ul style="list-style-type: none"> <li>Supported a regional G318 Hazard Mitigation Planning Workshop by FEMA Region VIII during March-April 2021 with a Hazard Identification and Risk Assessment presentation.</li> <li>Promoted best practices and technical assistance during 7/1/2020-6/30/2021 during multiple mitigation plan reviews under the Program Administration by State (PAS) Pilot Project.</li> <li>Collaborated with the N.D. Department of Health, Office of Health Equity, on July 15, 2020, to broaden the definition of vulnerable populations.</li> <li>Developed a risk assessment tracker based upon data from local and tribal MHMPs.</li> <li>Developed a project tracker listing all projects identified in local and tribal MHMPs.</li> <li>Conducted a G318 Hazard Mitigation Workshop and tour of mitigation project sites in Fargo in September 2019 in collaboration with Fargo-Cass County Emergency Management, Federal Emergency Management Agency.</li> <li>Held five Community Coffees in 2019 with new Americans, North Dakota State University (NDSU) students, seniors, first responders, and local hazard</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p>mitigation teams in collaboration with Emergency Managers from Fargo/Cass, Dickey, Stark and Morton County Emergency Management; Lutheran Social Services; NDSU; and KLJ Engineering.</p> <ul style="list-style-type: none"> <li>Assisted emergency managers in the completion of local Threat and Hazard Identification and Risk Assessments (THIRAs).</li> <li>Conducted 4 regional training sessions on how to complete the THIRA tool.</li> </ul> <p><b>ND Forest Service:</b></p> <ul style="list-style-type: none"> <li>Provided cost-share grant opportunities for 45 fire departments totaling \$312,300.</li> <li>Provided municipal tree inventories and emerald ash borer (EAB) mitigation plans to 100 communities. Provided EAB mitigation plans last year to 18 small communities.</li> <li>Provided cost-share assistance to communities preparing for and diversifying tree species ahead of the arrival of EAB.</li> <li>Trained 205 natural resource professionals in EAB identification and mitigation options</li> </ul> <p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Participated and contributed to the statewide mitigation plan through collaborative meetings</li> </ul> <p><b>ND State Fire Marshal:</b></p> <ul style="list-style-type: none"> <li>Support and attend all planning sessions with NDDes.</li> </ul> <p><b>NDSU Extension:</b></p> <ul style="list-style-type: none"> <li>Extension specialists and agents have been providing educational resources and technical assistance to local and tribal mitigation planning teams to understand hazard and threat impacts on the agricultural industry and communities.</li> </ul> <p><b>Continued Next Page</b></p>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p><b>ND Department of Agriculture and Animal Health Division:</b></p> <ul style="list-style-type: none"> <li>Served as break-out room facilitators of an Animal Search and Rescue (ASAR) emergency shelter planning workshop of a County Emergency Manager (EM), Voluntary Organizations Active in Disaster (VOAD) and animal control from Minnesota and North Dakota in Nov 2020.</li> <li>Support and promote Secure Food Supply plans, National Poultry Improvement Plan biosecurity plans and pilot Swine Health Improvement Plan to effect disease and disaster mitigation at the producer level.</li> <li>Conducted a review of the infectious diseases annex for the Hettinger County Hazard Mitigation Team.</li> <li>Participate in a number of county Mitigation Planning processes to review and support county processes</li> </ul> <p><b>ND Department of Transportation (DOT):</b></p> <ul style="list-style-type: none"> <li>Provided feedback on the Roads Acting as Dams (RAAD) portions of the Spirit Lake MHMP.</li> </ul> <p><b>ND Geological Survey:</b></p> <ul style="list-style-type: none"> <li>Reviewed the geologic hazard profile for the Rolette County Hazard Mitigation Team.</li> </ul>
2019-2	Hazard Mitigation Planning Toolbox	Develop a web-based Hazard Mitigation Planning Toolbox.	This action supports State, local, and tribal planning teams by providing links to hazard- and threat-related information and mitigation-related webinars; guidance for developing plans that involve the Whole Community; information on the State's building	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Resumed efforts to identify and establish a database of resources after the COVID-19 response.</li> <li>Initiated development of the North Dakota Reference Guide: Key Hazard Mitigation Planning Considerations.</li> <li>Developed and implemented a process for tracking hazard- and threat-related informational links. Project still under development.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
			code program; and development of reference guidance.	
2019-3	Building Codes and Zoning Ordinances	Encourage local jurisdictions to develop and update building codes and zoning ordinances.	Building codes and zoning ordinances promote mitigation principles by outlining requirements and restrictions to keep communities safer. Examples include: <ul style="list-style-type: none"> <li>• Floodplain ordinances</li> <li>• Defensible space (fire prevention)</li> <li>• Snow load building requirements</li> </ul>	<p><b>North Dakota Planning Association</b></p> <ul style="list-style-type: none"> <li>• Continuing to educate City and County planners on zoning and encourage all entities to update their Zoning Ordinances and Comprehensive Plans.</li> </ul> <p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>• Emphasized importance of building codes and zoning ordinances during a G318 Hazard Mitigation Workshop in Fargo in 2019.</li> </ul> <p><b>NDDDES and ND Department of Commerce:</b></p> <ul style="list-style-type: none"> <li>• Continue to encourage local and tribal planning teams to consider adding mitigation actions directed at reviewing/enhancing building codes and zoning ordinances, as part of technical assistance efforts.</li> </ul>
2019-4	Cultural and Historical Preservation	Promote the participation of cultural and historical preservation organizations in the planning process.	This Whole Community action calls for leveraging the expertise of cultural and historical preservation organizations when: 1) analyzing risk and vulnerability; and 2) identifying mitigation measures designed to protect cultural and historical resources.	<p><b>NDDDES &amp; State Historical Society:</b></p> <ul style="list-style-type: none"> <li>• Conducted a meeting with a Federal Emergency Management Agency (FEMA) partner to discuss potential training/integration opportunities. COVID-19 response postponed efforts.</li> </ul> <p><b>ND State Historical Society:</b></p> <ul style="list-style-type: none"> <li>• Worked closely with environmental and agricultural groups to protect cultural resources in planning drought mitigation.</li> </ul> <p><b>NDSU Extension:</b></p> <ul style="list-style-type: none"> <li>• As part of response to events in 2019, 2020, and 2021, Extension staff members have developed educational materials on mitigation measures to preserve historical and cultural resources to response and recovery workers and citizens.</li> </ul>
2019-5	Basin-wide Water Management Planning	Conduct comprehensive basin-wide watershed	This action ensures comprehensive basin-wide water development	<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>• The NDDWR provides funding and technical assistance for basin-wide water and land management planning.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
		management planning in the five major basins in North Dakota.	planning in the seven major basins in North Dakota – the upper and lower Missouri River Basins, the James River Basin, the Mouse River Basin, the Red River Basin, and the Devils Lake Basin – to allow for a consistent and collaborative approach to flood and drought mitigation plans and projects particularly in large population areas. Looking at the issues that face the basins from a regional and watershed perspective rather than through single jurisdictions typically results in a more favorable and thorough plan of action.	<p>This has included assistance to Joint Water Resource Boards (JWRBs).</p> <ul style="list-style-type: none"> <li>On a biennial basis, the NDDWR completes a Water Development Plan. As required by NDCC 61-02-01.3, the DWR shall develop and maintain a comprehensive water development plan that includes a water project inventory. The last Water Development Plan was completed in January 2021.</li> <li>Also see Souris Basin Dams Mitigation Action.</li> <li>The NDDWR has entered into an agreement with the USGS to evaluate seepage on the Souris River. The Souris River Seepage Study is evaluating how drought conditions are affecting reservoir releases on the Souris River for the purpose of informing future operations.</li> </ul> <p><b>US Army Corps of Engineers (USACE) – St. Paul District:</b></p> <ul style="list-style-type: none"> <li>St. Paul District, in cooperation with the Red River Basin Commission, the North Dakota Joint Water Resources Commission and the Minnesota Red River Watershed Management Board, completed a Basin-wide Comprehensive Watershed Management Plan for the Red River of the North in 2018. The Plan defines goals and roles for multiple agencies.</li> </ul> <p><b>US Army Corps of Engineers (USACE) – Omaha District:</b></p> <ul style="list-style-type: none"> <li>Publish the Missouri River mainstem System 2021-2022 Annual Operating Plan by December 2021. This document outlines both flood risk reduction and water conservation activities for the Missouri River mainstem.</li> <li>Plans are underway to make USACE Emergency Action Plan inundation maps and updated comprehensive dam database publicly available in the <a href="#">National Inventory of Dams</a> by the end of 2021. Will include summaries of best available risk information and inundation scenarios,</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				including water depth and arrival times and life loss and property impact estimates.
2019-6	Local Master/ Comprehensive Planning	Encourage local zoning and planning boards and commissions to develop and maintain master and/or comprehensive plans.	Analyses of local and tribal mitigation plans indicate local master and comprehensive plans are outdated in many communities. This action supports development of these plans as vehicles to regulate development in hazard-prone areas. Hazard mitigation becomes much more cost effective when handled before structures and infrastructure are placed in hazard-prone areas.	<p><b>NDDes and ND Department of Commerce:</b></p> <ul style="list-style-type: none"> <li>Supported an initiative by the ND Department of Commerce to promote comprehensive planning during the October 2020 Main Street Summit.</li> </ul> <p><b>North Dakota Planning Association</b></p> <ul style="list-style-type: none"> <li>Continuing to educate City and County planners on zoning and encourage all entities to update their Zoning Ordinances and Comprehensive Plans.</li> </ul> <p><b>ND State Fire Marshal</b></p> <ul style="list-style-type: none"> <li>Updated the fire code to the 2018 Edition to remain current and match the building, residential and other State codes.</li> <li>Notified local fire authorities of the State fire code and gave access to updates.</li> <li>Participated in the Building, Residential and other State code adoption processes run by the Dept. of Commerce.</li> <li>Meet with local fire chiefs and Emergency Managers to discuss local issues.</li> <li>Approximately 40 fire departments visited in 40 different counties.</li> <li>Met with approximately 5 Emergency Managers.</li> <li>Meet with local fire chiefs and Emergency Managers to discuss local issues.</li> <li>Emails sent to County Emergency Managers (EMs) requesting invitation to meetings</li> <li>Attended three County EM meetings</li> <li>Approximately 50 local fire chief visits conducted.</li> </ul> <p><b>Continued next page</b></p>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Working on flood risk reduction investigations for the City of Zap (Mercer County), Spiritwood Lake (Stutsman County), and Rice Lake (Emmons County).</li> <li>The DWR provides funding and technical assistance for basin-wide water and land management planning. This has included assistance to Joint Water Resource Boards.</li> <li>On a biennial basis, the Department of Water Resources completes a Water Development Plan. As required by NDCC 61-02-01.3, the Department of Water Resources shall develop and maintain a comprehensive water development plan that includes a water project inventory. The last Water Development Plan was completed in January 2019.</li> <li>Completed flood risk reduction investigation for the City of Strasburg (Emmons County)</li> </ul>
2019-7	Integration of Mitigation and Comprehensive Planning	Promote integration of mitigation and comprehensive plans.	Integration of both mitigation and comprehensive planning will link mitigation strategies with a community's vision, goals, objectives, policies and strategies for future growth and development.	<p><b>ND Housing Finance Agency (NDHFA):</b></p> <ul style="list-style-type: none"> <li>NDHFA published the North Dakota 2020 Current State of Housing. The study focused on the affordability of single and multifamily housing, the impacts of COVID-19, and housing challenges faced by vulnerable populations in 2020. <a href="http://www.ndhfa.org/wp-content/uploads/2020/11/CurrentStateofHousing.pdf">www.ndhfa.org/wp-content/uploads/2020/11/CurrentStateofHousing.pdf</a></li> </ul> <p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>NDDDES, FEMA, and the City of Fargo conducted a meeting on implementation of FEMA Integrated Preparedness Program. Unfortunately, COVID response has delayed further collaboration and implementation.</li> </ul> <p><b>NDDDES and ND Department of Commerce:</b></p> <ul style="list-style-type: none"> <li>NDDDES and FEMA supported the 2019 Main Street ND Summit attended by more than 1,400 community leaders, students and stakeholders. NDDDES organized a panel on community resilience and using a "whole-of-community" approach when recovering from disasters with speakers</li> </ul>



Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p>from Paradise, CA; Dubuque, IA; FEMA Region VIII; and NDDDES. Speakers included: Melissa Schuster, Paradise Town Council member, California; Deron Muehring, Dubuque civil engineer, Iowa; Logan Sand, FEMA community planner; and Justin Messner, NDDDES disaster recovery chief.</p> <ul style="list-style-type: none"> <li>• NDDDES, Grand Forks Emergency Management and FEMA in which panelists emphasized the importance of hazard mitigation planning as an investment in communities and the importance to integrate mitigation with other planning initiatives such as comprehensive and land use plans.</li> <li>• SHMT partners who supported the 2019 summit included North Dakota's: State Library, Forest Service, Department of Health, Job Service, North Dakota State University Extension, NDHI, Game and Fish Department, Housing Finance Agency, Workforce Safety and Insurance, Department of Transportation, Department of Human Services, Public Finance Authority, Information Technology Department, Department of Parks and Recreation, Department of Water Resources, Department of Agriculture, Office of Management and Budget, and NDDDES.</li> </ul>
2019-8	Firewise and Community Wildfire Protection Plan (CWPP)	Promote the Firewise and CWPP program.	ND Forest Service (NDFS) provides financial and technical assistance regarding CWPPs. These plans specifically address mitigation for wildland fires and may be required for jurisdictions to receive wildfire mitigation funding. This	<p><b>ND Forest Service and ND State Fire Marshal (NDSFM):</b></p> <ul style="list-style-type: none"> <li>▪ Collaborate on promotion of Firewise and Community Wildfire Protection Plans (CWPPs).</li> <li>▪ Promote State software contract for free fire reporting. Work with Bureau of Indian Affairs to identify issues and solutions that NDSFM can help with. <b>Approximately 225 fire departments are reporting fires through the contract.</b> Last year, approximately 30 fire departments have begun reporting fires through the contract.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
			action calls for integrating data from the CWPPs into mitigation plans and leveraging mitigation plan data to inform the CWPPs.	
2019-9	Debris Management Plans	Support the development of local and tribal debris management plans.	Debris management plans help mitigate potential public health impacts following a disaster. This action requires facilitating education, planning, and developing tools to properly address debris management.	<p><b>ND Department of Environmental Quality (NDDEQ):</b></p> <ul style="list-style-type: none"> <li>The NDDEQ Solid Waste Program conducted annual operator training in January and February 2020 and January and February 2021 (two sessions each year) for landfill operators which included information on debris management from disasters.</li> <li>The NDDEQ Solid Waste Program conducted annual operator training in January and February 2019 and January and February 2020 for landfill operators which included information on debris management from disasters. The Solid Waste Program also held online workshops on July 23, 2020, and July 28, 2020, related to debris management from disasters for inert landfills.</li> </ul> <p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>NDDDES developed a template for debris management for local and tribal communities to adapt to their needs.</li> </ul>
2019-10	Disaster Recovery Planning Toolbox	Develop a web-based Disaster Recovery Planning Toolbox that promotes community resiliency.	This action promotes a Whole Community approach to pre- and post-disaster planning by providing planning and programmatic resources. The web page will provide information on land use strategies; hardening of critical infrastructure; protecting environmental and	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Continued efforts to identify and establish a database of resources.</li> <li>Developed and implemented a process for recovery informational links. Project still under development.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
			cultural resources; sustainability; and revitalization of the economy; and social and natural environment systems.	
2019-11	Dam Emergency Action Plans (EAP)	Review EAPs to ensure these plans address actions to reduce the potential consequences of dam failure.	Dam owners are required to develop, update, and periodically test EAPs for all high and medium hazard dams under NDCC 61-03-25. This action reduces both the risk of dam failure and potential consequences if a failure were to occur.	<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>• Efforts to track and maintain copies of existing EAPs and ensure compliance with NDCC 61-03-25 are ongoing.</li> </ul> <p><b>U.S. Bureau of Reclamation:</b></p> <ul style="list-style-type: none"> <li>• Conducted EAP (Emergency Action Plan) orientation exercises on these dates: Dickinson Dam, March 24, 2021; Heart Butte Dam, March 10, 2021; and Jamestown Dam, March 5 2021.</li> <li>• Conducted the yearly EAP orientation exercises for Dickinson Dam (February 26, 2020); Jamestown Dam (March 11, 2020) and Heart Butte Dam (March 3, 2020).</li> </ul> <p><b>US Army Corps of Engineers – Omaha District:</b></p> <ul style="list-style-type: none"> <li>• Modification for Pipestem – redesign and construct new spillway - in design, construction anticipated to begin in 2022.</li> <li>• Dam Safety Modification Study (DSMS) for Garrison – ongoing.</li> <li>• DSMS for Snake Creek – initiating fall 2021</li> <li>• Issue Evaluation Study (IES) for Oahe – ongoing (dam itself is in SD but reservoir extends into ND).</li> <li>• No EAPs were updated during this time period; however, plans are underway to make USACE Emergency Action Plan inundation maps and updated comprehensive dam database publicly available in the <u>National Inventory of Dams</u> by end of 2021. Will include summaries of best available risk information and inundation scenarios, including water depth and arrival times and life loss and property impact estimates.</li> </ul>

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				<p><b>US Army Corps of Engineers -- St. Paul District:</b></p> <ul style="list-style-type: none"> <li>• Dam Safety manager updates the EAPs for dams in the St. Paul District inventory (Baldhill and Homme), These two dams are in the queue for EAP updates and orientation exercises.</li> <li>• Specific to the Devils Lake construction; most of the project documentation has been completed. The As-Built Drawings, Updated Design Documentation Reports, Operations &amp; Maintenance Manuals, and EAP have been provided to the City of Devils Lake. The Levee System Evaluation Report, documenting certification of the project, was submitted to FEMA in May 2020. Only a few minor items of documentation remain such as finalizing the instrumentation report.</li> </ul> <p>While preparing the final documents it was discovered that the 17<sup>th</sup> Street ponding area hydraulic analysis had not been updated to the same storm event as the other ponding areas. Doing so would result in a larger floodplain footprint that would potentially impact residential homes. Rather than increase the footprint of the ponding area, the decision was made to excavate the existing pond and install a small pump station. The excavation is nearing completion with the pump station scheduled to be completed in late fall/early winter 2021-22.</p> <p>Also, USACE considers Devils Lake a hybrid levee system, designed as a dam in many ways. But it is in the National Levee System Inventory, not the dam inventory. It does not have a dam number. This is added for clarification.</p> <p><b>ND Game and Fish Department:</b></p> <ul style="list-style-type: none"> <li>• No EAPs were reviewed during this time period.</li> </ul> <p><b>Continued Next Page</b></p>

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				<p><b>Natural Resources Conservation Service:</b></p> <ul style="list-style-type: none"> <li>• Dam assessments were completed for three high hazard dams: Mott, English Coulee, and Upper Turtle River Dam 5 (to be completed 12/20). These included development of updated dam breach hydraulic modeling; which will inform future EAP updates.</li> <li>• Dam assessments were initiated at Mott, English Coulee, and Upper Turtle River Dam 5 (to be completed 12/20).</li> </ul>
2019-12	Dam Rehabilitation <i>New Action Added in 2020</i>	Rehabilitate aging dams that do not meet current dam safety criteria.	Reconstruction or decommissioning of dams that have dam safety deficiencies. This action calls for reducing the risk of dam failure and potential consequences if a failure were to occur.	<p><b>Natural Resources Conservation Service:</b></p> <ul style="list-style-type: none"> <li>• Rehabilitation planning for Matecjek, Fordville, Bylin, Senator Young, Olson, Bourbanis, and Larimore dams is ongoing.</li> </ul> <p><b>Department of Water Resources</b></p> <ul style="list-style-type: none"> <li>• Provides cost-share for the repair, rehabilitation, or removal of dams with safety deficiencies.</li> <li>• Maintains an inventory of known low-head dams in the state and provides cost-share to mitigate associated dangers.</li> </ul>
2019-13	Geographic Information Systems (GIS) Data Improvement/ Data Creation	Identify and enact GIS Improvements or Data Creation.	This action promotes collaboration with the North Dakota Geographic Information Systems Technical Committee (GISTC) and the SHMT to share data in support of the development of State, local, and tribal mitigation plans. This includes interagency sharing of GIS data for inundation mapping, and geologic mapping data.	<p><b>ND Information Technology:</b></p> <ul style="list-style-type: none"> <li>• Continues to make State Agency GIS data available for viewing, downloading, and web streaming via the <a href="#">State's GIS Hub</a>, the <a href="#">Hub Data Portal</a> (newly upgraded to Esri's Open Data sharing solution) and enterprise database solutions (upgraded to SQL).</li> <li>• Developed a statewide parcel program, comprised of contiguous rural property boundaries and taxation information. With funding provided by the ND legislature and collaboration with local county and tribal governments. Aggregation of locally maintained property information is now available to aid in planning and mitigation efforts.</li> </ul> <p><b>Continued Next Page</b></p>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
			<p>Additionally, the action calls for resolving identified gaps in GIS data, if feasible. It requires an evaluation of the feasibility and sustainability for the appropriate steward agency to undertake prior to the next plan update cycle.</p>	<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Continues to improve statewide elevation datasets via large highly accurate lidar collections across the state of North Dakota. Ultimately useful in BLE for flooding inundation.</li> <li>Through collaboration with FEMA, NDDWR has created a publicly accessible <a href="#">ND Risk Assessment Map Service</a>.</li> </ul> <p><b>ND Department of Emergency Services:</b></p> <ul style="list-style-type: none"> <li>Is nearing completion of statewide NG 9-1-1 GIS dataset buildout and implementation. (Includes; Site Structure Address Points, Road Centerlines, Emergency Response Zones). 45 of the 53 county jurisdiction are complete and loaded for 911 service providers.</li> <li>During COVID identified and facilitated numerous dataset maintenance and creation via collaboration with other state agencies. Including, Local Public Health Units, Hospitals and Educational Institutions.</li> </ul> <p><b>ND State Fire Marshal:</b></p> <ul style="list-style-type: none"> <li>Share fire department coverage updates with NDDDES/ND State Radio/ND Information Technology to increase accuracy of response GIS maps.</li> <li>Built software capable of sharing coverage updates. Need to get NDDDES login to extract data updates.</li> </ul> <p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Due to COVID-19 along with local public health and the statewide response teams continuous work in the response; <b>no additional training has been scheduled.</b></li> </ul> <p><b>ND Department of Environmental Quality, ND Department of Health (NDDOH), NDDDES:</b></p> <ul style="list-style-type: none"> <li>These GISTC member agencies cooperated to update trauma centers, hospital, nursing homes, skilled nursing homes and other facilities regulated by NDDOH for COVID response and tracking. Benefits included continued interagency coordination and sharing of</li> </ul>

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				<p>geospatial data allows for rapid response. Gap identified included maintenance of NDDOH geospatial data.</p> <p><b>ND Forest Service</b></p> <ul style="list-style-type: none"> <li>Created high-resolution tree cover map for 53 counties, through USDA Forest Service Great Plains Initiative II. Interactive map will be available on USDA FS site.</li> <li>Created map of highly erodible cropped soils as potential strategic locations for windbreaks to mitigate climate effects.</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>In 2020, Animal Health division procured USAHERDS that includes premises mapping and incident mapping capabilities. The agency's expanding data set coupled with GIS can inform planning and response priorities.</li> <li>NDDA has continued to develop its GIS platforms across the Commissioner's program areas to help ensure that information is available for department and community use. This includes increased data on local food map, staff added attributes for vendors that allow visitors to the map to see layers displaying producers that sell certain types of foods at a local or regional level.</li> </ul> <p><b>ND Department of Transportation:</b></p> <ul style="list-style-type: none"> <li>In accordance with 23 CFR 667, NDDOT created GIS point and line layers to help evaluate resiliency of state and federal aid county roads damaged and permanently repaired due to multiple Emergency Relief events.</li> </ul>
2019-14	Geologic Mapping	Promote geologic mapping efforts.	Surface geologic mapping activities continue to focus in North Dakota's urban areas with current mapping projects being conducted in the greater Bismarck-Mandan and	<p><b>ND Geological Survey:</b></p> <ul style="list-style-type: none"> <li>Completed landslide mapping in all 1,464 1:24,000 quadrangles across North Dakota. So far, the Survey has mapped over 34,000 landslides: <a href="https://www.dmr.nd.gov/ndgs/landslides/">https://www.dmr.nd.gov/ndgs/landslides/</a> We believe we are the first state to accomplish this task at the detailed mapping scale of 1:24,000.</li> </ul>

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			<p><b>Fargo areas.</b> Geologic hazards (landslide areas) mapping continues to focus in the most landslide prone areas in western North Dakota where mapping has not been completed. Updating of older mapping work is also being conducted with the inclusion of recently available Light Detection and Ranging (LiDAR) elevation data and contemporary aerial imagery products.</p>	<ul style="list-style-type: none"> <li>Older landslide maps continue to be updated with LiDAR elevation data sets adding significantly to the amount of landslides mapped statewide.</li> <li>Completed all 1,464 1:24,000 scale LiDAR elevation quadrangles and all 61 1:100,00 scale LiDAR sheets providing full coverage of easily accessible detailed elevation maps and data sets across the entire state. Raster files and pdfs are available at: <a href="https://www.dmr.nd.gov/ndgs/lidar/">https://www.dmr.nd.gov/ndgs/lidar/</a></li> <li>Completed 508 1:24,000 scale landslide maps in landslide prone areas in western North Dakota and along major hydrologic corridors in the rest of the state including the Sheyenne and Red River Valleys with current coverage of 75 % (1,100 of 1,467 quads) of the state. So far, the Survey has mapped 30,186 landslides: <a href="https://www.dmr.nd.gov/ndgs/landslides/">https://www.dmr.nd.gov/ndgs/landslides/</a></li> <li>Completed 1,164 1:24,000 scale LiDAR elevation quadrangles providing full coverage of easily accessible detailed elevation maps and data sets across the entire state. Raster files and pdfs are available for all 1467 quadrangles: <a href="https://www.dmr.nd.gov/ndgs/lidar/">https://www.dmr.nd.gov/ndgs/lidar/</a></li> </ul>
2019-15	Losses Avoided	Conduct a comprehensive losses avoided study.	<p>This action calls for developing a Losses Avoided Committee to determine criteria and conduct a statewide loss avoidance study as funding allows. The study would encompass project level information from the different mitigation partner agencies in order to catalog and analyze projects, determine</p>	<p><b>ND Department of Water Resources</b></p> <ul style="list-style-type: none"> <li>The DWR has an economist on staff evaluating benefits and costs of flood hazard reduction projects which apply for funding through the agency's cost-share program.</li> </ul> <p><b>ND Department of Transportation:</b></p> <ul style="list-style-type: none"> <li>In accordance with 23 CFR 667, NDDOT created GIS point and line layers to help evaluate resiliency and losses avoided of state and federal aid county roads damaged and permanently repaired due to multiple Emergency Relief events.</li> </ul> <p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Plans are under development to identify SHMT partners with interest to support a Losses Avoided Committee.</li> </ul>



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			<p>potential damages and benefits, and provide a narrative for each identified project to determine its general effectiveness in mitigating damages.</p>	<p><b>Natural Resource Conservation Service:</b></p> <ul style="list-style-type: none"> <li>Economic analysis work to quantify flood damage reduction benefits was completed on the Tongue River channel stabilization project; a project targeted to halting excess sedimentation into Renwick Dam that protects the City of Cavalier.</li> <li>During the last reporting period, economic analysis work to quantify flood damage reduction benefits is in process on Matecjek, Fordville, Bylin, Senator Young, Olson, Bourbanis, and Larimore dams as a part of the planning process to bring them into compliance with current dam safety criteria. Economic analysis to evaluate flood damage reduction benefits for proposed flood damage reduction projects on Cart Creek, Upper Maple 2A, Upper Maple 5, and the Amenia Levee have completed.</li> </ul> <p><b>US Army Corps of Engineers – Omaha District:</b></p> <ul style="list-style-type: none"> <li>Accreditation occurred for the Williston Levee.</li> <li>Plans are underway to make USACE Emergency Action Plan inundation maps and updated comprehensive dam database publicly available in the <u>National Inventory of Dams</u> by end of 2021. Will include summaries of best available risk information and inundation scenarios, including water depth and arrival times and life loss and property impact estimates.</li> </ul> <p><b>US Army Corps of Engineers – St. Paul District:</b></p> <ul style="list-style-type: none"> <li>Every January the Corps of Engineers prepares a Damages Prevented spreadsheet that lists all of the projects we designed. It includes cumulative damages prevented since construction, the current year's damages and cumulative including the current year. The information is provided to Headquarters.</li> <li>The Annual Flood Damages Prevented Report to Congress (Appendix G) is available for the fiscal year around April/May each year. Previous reports are also</li> </ul>

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				<p>available for the past 10 years. <i>Contact St. Paul District staff who with Mr. Chandra Pathak to get copies via email.</i> His team is currently working on the website where these reports would be available in future years. However, the website is not completed and not yet available.</p>
2019-16	North Dakota Silver Jackets	<p>Provide flood risk mitigation measures throughout North Dakota with hydrologic studies and related flood risk reduction projects.</p>	<p>The North Dakota Silver Jackets program fosters a Federal and State interagency approach to reduce the threat, vulnerability, and consequence of flooding. It is led by the North Dakota Department of Water Resources (DWR) with membership including the St. Paul Corps, Omaha Corps, United States Geological Survey (USGS), United States Fish and Wildlife Service (USFWS), Natural Resources Conservation Services (NRCS), National Weather Service (NWS), FEMA Region VIII, North Dakota Department Emergency Services (NDDDES), and North Dakota Geological Survey (NDGS). The program promotes flood</p>	<p><b>ND Department of Water Resources</b> <b>See the Silver Jackets article in this annual report for the 2020-2021 Updates.</b></p> <ul style="list-style-type: none"> <li>• ND Statewide Probable Maximum Precipitation (PMP) Analysis: The DWR approved funding for this study in Fall of 2018 and the study was initiated with support from the ND Silver Jackets in Spring 2019. The study was completed by Applied Weather Associates in May 2021.</li> <li>• ND LiDAR Acquisition: Currently the DWR has acquired LiDAR for the entire state and it is available to all federal, state and public entities through the Department of Water Resources website. This project is ongoing with current funding being provided from FEMA Region VIII and the Natural Resources Conservation Service (NRCS). Our current focus is updating the current LiDAR in the Red River Basin from Quality Level III to Quality Level II, a significant enhancement.</li> <li>• ND Risk Assessment Map (NDRAM) Enhancement: The Department of Water Resources and ND Silver Jackets are working with the Omaha Corps of Engineers and FEMA Region VIII to include the Corps Building Structure Database along with their Damage Curve Data to the DWR's current NDRAM platform. This project was submitted in Spring of 2020 and if approved will assist federal and state agencies in identifying both the flood risk and associated damages to selected areas.</li> <li>• Missouri River Basin Non-Stationarity Study: The DWR and ND Silver Jackets are partnering with the United</li> </ul>

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			<p>risk reduction and awareness through identification, development and implementation of selected projects and measures with a goal of reducing the threat and impact of flooding in North Dakota.</p>	<p>States Geological Survey (USGS) and the Omaha Corps of Engineers to determine the impact of changing precipitation and hydrology on the Missouri River Basin. This is a multi-year effort with our participation beginning in Spring 2020.</p> <ul style="list-style-type: none"> <li>• Discharge-Frequency Curve Updates on the Mouse River at the Sherwood, ND and Westhope, ND Gages; The ND Silver Jackets requested this project from the St. Paul Corps in Spring of 2020 and is currently pending approval. If approved, this project will update the discharge-frequency curves at Sherwood and Westhope and allow for better flood forecasting throughout the Mouse River Basin.</li> <li>• Mouse River Basin Flood Inundation Mapping: This ND Silver Jacket project has been ongoing since 2016. Phase 1 through 3 includes the Mouse River Basin and we just started Phase IV (Oct. 2019) to include a portion of the Des Lacs River. Upon completion (Spring 2021) this will be provided to the Souris River Joint Board and published on the National Weather Service’s (NWS) Advanced Hydrologic Prediction Service (AHPS) web portal. This will allow all users to identify their location in the vicinity of the Mouse River Basin and determine their risks of flooding based upon current conditions.</li> <li>• Red River Basin (RRB) Gage Datum Change from ‘29 to ‘88. The ND Silver Jackets requested this project from the St. Paul Corps in the Spring of 2020 and is currently pending approval. The goal is to survey all the existing RRB gages and convert them from NVD ‘29 to ‘88. Upon completion all the USGS RRB gages will then report flow elevations in both ‘29 and ‘88 to prevent confusion within the Basin. Currently all new FEMA flood plain maps are being published in NVD ‘88, so this project would allow for similar data to be made available when property</li> </ul>

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				<p>owners look at their FEMA map compared to the USGS gage sites.</p> <ul style="list-style-type: none"> <li>Souris River Basin (SRB) Soil Temperature and Moisture Gage Study: The ND Silver Jackets requested the St. Paul Corps conduct this study in the Spring of 2020 and is currently pending approval. The study would analyze the best locations throughout the SRB to place temperature and soil moisture gages to better determine the flood risk and reduce the risk of flooding.</li> </ul> <p><b>US Army Corps of Engineers – Omaha District:</b></p> <ul style="list-style-type: none"> <li>Conducted a Baseline Engineering (BLE) study.</li> </ul>
2019-17	Souris Basin Dams	Analyze operating agreements for the Souris River Dam.	As part of flood mitigation efforts, the International Joint Commission is reviewing operating agreement for the Souris River Dams. This three-year study, due in 2020, involves agencies and the public from North Dakota, Saskatchewan, and Manitoba. The IJC appointed a Study Board to oversee the study.	<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Collaborated with partners to complete data analysis, develop recommendations to present to the International Joint Commission and conducted public hearings.</li> <li>Provided work-in-kind for various technical and administrative tasks.</li> <li>Assisted with facilitation of workshops with advisory groups.</li> <li>Participated on the Resource and Agency Advisory Groups, including being co-chair.</li> </ul> <p><b>N.D. Departments of Emergency Services, Health, Transportation, Agriculture, Game and Fish, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers and the U.S. Geological Survey:</b></p> <ul style="list-style-type: none"> <li>Provided data analysis to the Resource Agency Advisory Group.</li> <li>Participated in workshops and meetings; sharing data and recommendations.</li> </ul>
2019-18	Drought Contingency Plans	Encourage rural and regional water suppliers to develop drought contingency plans.	This action prepares water suppliers and farmers for potential drought conditions by developing priorities for	<p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>Serve as a lead agency for the Drought Multi-Agency Coordination System; provide assistance to producers and local and tribal mitigation planning teams.</li> </ul> <p><b>Continued Next Page</b></p>

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			water use during drought.	<p><b>National Weather Service:</b></p> <ul style="list-style-type: none"> <li>Supported the Command and General Staff Calls for Drought and Fire, and also support the Wildfire Readiness Level calls.</li> <li>Also issue Drought Information Statements: (<a href="https://www.drought.gov/drought-information-statements">https://www.drought.gov/drought-information-statements</a>) and Drought Briefings (<a href="https://www.weather.gov/media/bis/BIS_drought_briefing.pdf">https://www.weather.gov/media/bis/BIS_drought_briefing.pdf</a>)</li> </ul> <p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Administer and manage the Drought Disaster Livestock Water Supply Assistance Program (Program). The Program provides financial relief to livestock producers experiencing water supply problems caused by drought. See more in the “Drought Mitigation” Action Title.</li> </ul> <p><b>US Army Corps of Engineers – St. Paul District:</b></p> <ul style="list-style-type: none"> <li>Publish the Missouri River mainstem System 2021-2022 Annual Operating Plan by December 2021. This document outlines both flood risk reduction and water conservation activities for the Missouri River mainstem.</li> </ul> <p><b>NDSU Extension:</b></p> <ul style="list-style-type: none"> <li>Develop educational program focused on livestock water quality that provided screening of livestock water sources impacted by drought.</li> </ul> <p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans.</li> </ul>
2019-19	Hazardous Materials Flow Study – <b>Project Completed</b>	Assist local and tribal jurisdictions with hazardous materials planning.	NDDDES has commissioned a hazardous materials flow study that, once complete, will provide insights into volume and	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>A website has been created by NDIT to host the flow study data for ease of access to relevant stakeholders.</li> <li>Completed statewide Flow Study. With Hazardous Materials Emergency Preparedness (HMEP) dollars NDDDES conducted a Flow Study across the state.</li> </ul>

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			nature of hazardous materials movement into, out of, and within North Dakota. Data from the study will also help local leaders with land and traffic planning, zoning, and mitigation plans.	Individual counties have access to data about what hazardous materials are traveling through or being stored in their counties; identify geographic areas (roads, train routes, pipelines) which are at risk of experiencing an accident/spill; identification of populations, public and private facilities which may be impacted by accidents/spills. The counties can take this information on help mitigate impacts by identify mitigation actions to prevent spills from occurring in those areas (e.g. reduced speeds)
2019-20	Tornado Safe Rooms and Shelters	Support the establishment of tornado safe rooms and shelters.	NDDDES has been working with local and tribal communities to promote the use of safe rooms and shelters. These rooms and shelters protect the public from injury or death caused by tornadoes and other high wind events.	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>• Applications for Tornado Shelter projects have been submitted to FEMA to be located in Elgin, Steele County, LaMoure County, and Cavalier County.</li> <li>• Promoted storm shelters as a focal project type for the Pre-Disaster Mitigation grant cycle.</li> <li>• Shelters were awarded in McKenzie County and in the City of Beulah.</li> </ul>
2019-21	Flood Mitigation Measures	Support the implementation of flood mitigation measures at the local and tribal level.	This action places priority on flood mitigation projects for Special Flood Hazard Areas. This action encompasses projects that prevent damage to structures, such as critical facilities and homes, bank stabilization, bank armoring, acquisitions, floodwalls, and relocation	<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>• The State of North Dakota directs the majority of state funding for flood damage reduction projects through the DWR budget, and cost-share program.</li> <li>• The 2021 Legislative assembly provided \$48 million for various types of flood damage reduction projects, \$435 million for the Fargo-Moorhead Area Diversion Project, and \$74.5 million for the Mouse River Enhanced Flood Protection Project.</li> <li>• The DWR budget bill following the 2019 Legislative Assembly included \$197 million in authority for state cost-share toward flood damage reduction projects.</li> </ul>

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			<p>of critical facilities (such as lift stations).  <b>There are flood mitigation projects outside of the Special Flood Hazard areas that protect homes, businesses, government buildings, and roads in rural areas of the state.</b></p>	<ul style="list-style-type: none"> <li>DWR has an economist on staff evaluating benefits and costs of flood mitigation projects which apply for funding through the DWR Coat-Share Program.</li> </ul> <p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Flood Mitigation projects have been awarded to the City of Fargo for the protection of its Wastewater Treatment Plant and the Raw Water Pump Station</li> </ul> <p><b>Natural Resource Conservation Service:</b></p> <ul style="list-style-type: none"> <li>Final engineering design assistance to the Watershed Plans developed with Cass Joint Water Resource Board (JWRB) for a 2.2-mile levee to protect the community of Amenia and with the Park River JWRD for a 2,590 ac-ft off channel retention project to protect rural homes, roads, and the community of Crystal.</li> <li>Planning is also in progress with the Pembina WRD for a channel stabilization project on the Tongue River, to halt massive erosion that is impacting Renwick Dam (provides flood protection to the City of Cavalier).</li> </ul> <p><b>US Army Corps of Engineers – St. Paul District:</b></p> <ul style="list-style-type: none"> <li>Publish the Missouri River mainstem System 2021-2022 Annual Operating Plan by December 2021. This document outlines both flood risk reduction and water conservation activities for the Missouri River mainstem.</li> </ul>
2019-22	Floodproofing Critical Facilities	Promote flood proofing activities to protect critical facilities, utility infrastructure, government buildings, and residential structures.	Floodproofing measures include anchoring buildings and tanks, reinforcement of walls with water resistant materials, installing watertight doors and windows, sealing basements and walls to prevent seepage, installing permanent	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Flood Mitigation projects have been awarded to the City of Fargo for the protection of its Wastewater Treatment Plant and the Raw Water Pump Station.</li> <li>Mitigation staff has promoted the concept during meetings with potential Hazard Mitigation Assistance applicants.</li> </ul> <p><b>ND Department of Water Resources</b></p> <ul style="list-style-type: none"> <li>DWR evaluates the efficiency of infrastructure floodproofing to ensure public expenditures return sufficient benefits to the state's taxpayers for the</li> </ul>

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			<p>pumps, installing backflow prevention valves on utilities, elevating utility systems and other equipment, and taking measures to protect water and sewer systems from floodwaters <b>Note – not all floodproofing measures are eligible for the DWR cost-share assistance.</b></p>	<p>investment to be considered through the cost-share program.</p> <p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans.</li> </ul>
2019-23	Power Redundancy at Critical Facilities	Encourage redundancies within power systems.	<p>This action ensures continued emphasis on back-up generators or alternative solutions of emergency power until the service is restored for critical facilities, special needs facilities, utility infrastructure, and emergency shelters. Alternative solutions may include solar panels.</p>	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Projects have been awarded to install emergency back-up generators at the Stanley Lift Station and Kulm Water Tower.</li> <li>Back-up generators have been awarded to 25 Fire Halls/Law Enforcement Centers throughout the state of North Dakota.</li> <li>Central Valley Health in Jamestown and the City of Jamestown Main Lift station both installed emergency back-up generators.</li> <li>City of Mandan was awarded a project to install back-up generators at two of their lift stations.</li> </ul> <p><b>ND Association of Rural Electric Cooperatives (NDAREC):</b></p> <ul style="list-style-type: none"> <li>Further adoption of smart meters more accurately predict &amp; identify outages, thereby reducing outage response times and durations.</li> <li>Additional smart devices such as substation circuit breakers and line reclosers offer improved visibility of the electrical system via SCADA, enabling more automation and system diagnostics.</li> </ul>



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				<ul style="list-style-type: none"> <li>Advanced modeling tools help identify overloaded equipment before failures occur.</li> <li>NDAREC members install backup generators in critical areas as well as have generators available for outages.</li> <li>Electric cooperatives continue to add solar panels to the system.</li> <li>Under power ground lines are routinely added to the system, especially in high risk areas, while redundancy is built into the system.</li> </ul> <p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans.</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards and risks, and promote information/ intelligence sharing.</li> </ul> <p><b>US Department of Homeland Security:</b></p> <ul style="list-style-type: none"> <li>CISA (Cybersecurity and Infrastructure Security Agency) is now the operational component under the US Department of Homeland Security for all cybersecurity and infrastructure security preparedness, prevention, mitigation and recovery.</li> </ul>
2019-24	Electric Infrastructure Protection	Promote electrical infrastructure mitigation measures.	This activity would primarily occur through the burial of electrical power lines but also include other electrical mitigation activities, including redundancies of the power grid.	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Providing conference Chair and sponsorship for CyberCon, a cyber and infrastructure protection conference</li> </ul> <p><b>ND Association of Rural Electric Cooperatives:</b></p> <ul style="list-style-type: none"> <li>Distribution-voltage automatic transfer switches for critical loads allow for substation sources to automatically transfer without operator interaction in the event of a single substation outage.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<ul style="list-style-type: none"> <li>Investments in new or substation expansions allow for additional capacity to serve new loads while also backfeeding other substations in the event of a system contingency.</li> <li>NDAREC members continue to add under power ground lines, retire overhead power lines and replace with underground powerlines especially in high risk areas. Redundancy is built into the system and is expanded upon when feasible.</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards and risks, and promote information/ intelligence sharing.</li> </ul>
2019-25	Outdoor Warning Systems	Support installation and update of outdoor warning systems.	Local and tribal mitigation plans identify outdoor warning systems as a priority mitigation action for the state's communities. Federal, state, local, tribal, and territorial alerting authorities can use Integrated Public Alert and Warning System (IPAWS) and integrate local systems that use Common Alerting Protocol standards with the IPAWS infrastructure. IPAWS provides public safety officials with an effective way to alert and warn the public about serious emergencies	<p><b>NDDes:</b></p> <ul style="list-style-type: none"> <li>Projects have been awarded to install early warning sirens in the City of St. Johns and the Peace Gardens.</li> <li>Applications for three early warning sirens for the City of Bismarck and the City of Minnewaukan have been submitted to FEMA.</li> <li>City of Mott was awarded a project to install an additional early warning siren by the County Fairgrounds and update the current siren.</li> <li>The Preparedness Section awarded 33 projects totaling \$579,332 through the State Homeland Security Program Grants for long range hailing and warning devices; and systems, public notification and warning. Recipients included: Argusville Fire Department District; Park River Fire Department; Minot Public Works Department; counties of Grant, Logan, McLean and Rolette; and Cities of Fredonia, and Gackle in Logan County; Cities of Christine, Hankinson, Lidgerwood, Mantador and Wahpeton in Richland County; City of Hope in Steele County; and Cities of Fessenden, Hurdsfield and Sykeston in Wells County.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
			using the Emergency Alert System (EAS), Wireless Emergency Alerts (WEA), the National Oceanic and Atmospheric Administration (NOAA) Weather Radio, and other public alerting systems from a single interface.	<p><b>City, County, Tribal Emergency Management:</b></p> <ul style="list-style-type: none"> <li>Stutsman County Law Enforcement Center provides monthly testing of the outdoor warning sirens for LaMoure County and others to ensure their operation.</li> <li>LaMoure County does also support various communication methods and have an IPAWS vendor.</li> </ul>
2019-26	Emergency Notification Systems	Procure and implement all-hazards emergency notification systems.	NDDDES supports federal, state, local, and tribal agencies with the update and installation of emergency notification systems to include next generation interaction 911, phones, smart TVs, and smart message boards.	<p><b>NDDDES and the North Dakota Association of Counties:</b></p> <ul style="list-style-type: none"> <li>Collaborating on development of the next generation 911 project.</li> </ul> <p><b>City, County, Tribal Emergency Management:</b></p> <ul style="list-style-type: none"> <li>LaMoure County does support various communication methods including IPAWS, telephone emergency alert system, telephone text mass message to first responders, and social media.</li> </ul>
2019-27	Dam Status Review	Periodically review dam status, conditions, designs, permitting of new dams; encourage owners to maintain and repair dams.	This would improve North Dakota's State Dam Safety Program to reduce the risk of dam failure and reduce the potential consequences if a failure were to occur.	<p><b>ND Department of Water Resources:</b> <b>Refer to the Dam Safety Article in this annual report.</b></p> <ul style="list-style-type: none"> <li>DWR has a prioritized inventory of known low-head dams in the state and provides cost-share funding to mitigate specific hazard effects or remove the structures.</li> <li>Periodic dam inspections and review of construction permit applications are ongoing; development of updated dam design guidelines is underway; and a statewide study to update Probable Maximum Precipitation (PMP) values used in dam design is underway.</li> </ul> <p><b>Continued Next Page</b></p>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p><b>US Bureau of Reclamation:</b></p> <ul style="list-style-type: none"> <li>Held ASI (Annual Site Inspections) on: Dickinson Dam, May 12, 2021; Heart Butte Dam, May 19th, 2021; and Jamestown Dam, August 4, 2021</li> <li>Reclamation conducted the annual site inspection (ASI) for Dickinson Dam (July 15, 2020); Jamestown Dam (August 11, 2020) and Heart Butte Dam (July 16, 2020)</li> </ul> <p><b>US Army Corps of Engineers – Omaha District:</b></p> <ul style="list-style-type: none"> <li>All USACE dams in North Dakota were inspected during the past year in accordance with the dam safety program requirements. Annual Inspection for Garrison Dam and Snake Creek Embankments the week of 16 September 2021 and the Annual Inspections for the Williston Levee and Pipestem Dam were performed the week of 20 September 2021. A Periodic Inspection of Bowman-Haley Dam was completed the week of 10 May 2021. Risk reduction studies are ongoing at Snake Creek, Garrison, and Pipestem Dams. Construction to modify the Pipestem spillway are anticipated to begin in 2023. Williston Levee is currently being accredited by FEMA under the National Flood Insurance Program.</li> <li>Plans are underway to make USACE Emergency Action Plan inundation maps and updated comprehensive dam database publicly available in the <u>National Inventory of Dams</u> by end of 2021. Will include summaries of best available risk information and inundation scenarios, including water depth and arrival times and life loss and property impact estimates.</li> </ul> <p><b>US Army Corps of Engineers – St. Paul District:</b></p> <ul style="list-style-type: none"> <li>The Corps conducted the 5-year periodic inspection at Homme on 12 August 2020, and Baldhill on 15 August 2018.</li> </ul> <p><b>ND Game and Fish Department:</b></p> <ul style="list-style-type: none"> <li>No progress to report during this time period.</li> </ul>

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				<p><b>Natural Resources Conservation Service:</b></p> <ul style="list-style-type: none"> <li>NRCS completed inspections on 16 dams in 2021 and 24 dams in 2020 currently under Operations &amp; Management (O&amp;M) agreements and invited owners or their representatives to join our staff in the field so that needed maintenance and repairs could be discussed on site. Followed up with letters documenting recommendations.</li> </ul>
2019-28	Protect Communication Sites	Retrofit communication sites to mitigate risk of threats and hazards.	Mitigation of potential losses of critical communications requires retrofitting sites with protective security measures, which include installing guy wires and ensuring system redundancies through satellites, portable towers, and new technology devices.	<p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.</li> </ul> <p><b>ND Department of Transportation:</b></p> <ul style="list-style-type: none"> <li>NDDOT deinstalled fencing around new sites and have an on-board monitoring system that does notifications/alarms if the premises are entered without authorization or if the site goes down.</li> <li>NDDOT installed fencing around our new sites and have an on-board monitoring system that does notifications/alarms if the premises are entered without authorization or if the site goes down.</li> </ul>
2019-29	Secure Electronic Systems	Procure and install secure electronic systems.	This action focuses on protecting data by employing next generation firewalls and implementing industry best practices. This action promotes adoption of processes that promote secure electronic systems.	<p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards and risks. and promote information/ intelligence sharing.</li> </ul> <p><b>Cybersecurity and Infrastructure Agency:</b></p> <ul style="list-style-type: none"> <li>CISA (Cybersecurity and Infrastructure Security Agency) is now the operational component under the US Dept of Homeland Security for all cybersecurity and infrastructure security preparedness, prevention, mitigation and recovery.</li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
2019-30	Transportation Engineering and Systems	Improve transportation infrastructure to reduce transportation accidents and prevent mass casualty and hazardous material release incidents.	This action will be completed through engineering, including the design of subsequent roads, railways, and barriers. Managed transportation through the implementation of hazardous truck routes and bypasses may prevent hazardous material releases, particularly in populated areas. Regulations related to railway speeds could reduce the probability of accidents in urban areas and provide consistency across the state. Additional considerations could be given to those communities experiencing growth or development in industries requiring heavy use of the transportation systems. This outreach/ education would also include adversarial (e.g. Homegrown Violent Extremist (HVE), Terrorism, Hacktivists)	<p><b>ND Department of Transportation:</b></p> <ul style="list-style-type: none"> <li>Received \$22 million from the 2020 Better Utilizing Investments to Leverage Development (BUILD) grant to upgrade 12 sites. The competitive grant, awarded through the U.S. Department of Transportation, is designed to repair, rebuild and revitalize transportation systems across America.</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.</li> </ul> <p><b>ND Aeronautics Commission:</b></p> <ul style="list-style-type: none"> <li>The North Dakota Aeronautics Commission supports aviation activities in the state through communication with state and local organizations, the Federal Aviation Administration (FAA), congressional offices, local airports, and national aviation groups. The agency also works with local governments and airport authorities throughout the state to identify and prioritize airport safety enhancement projects. In FY 2021, the state and local entities were successful in leveraging approximately \$40 million from the Federal Airport Improvement Program for airport projects within North Dakota.</li> <li>The agency worked with local governments and airport authorities throughout the state to identify and prioritize airport safety enhancement projects. In FY 2019, the state and local entities were successful in leveraging approximately \$68 million from the Federal Airport Improvement Program for airport projects within North Dakota. The Williston Basin International Airport was also completed and opened for public operation during the Fall of 2019. This new commercial service airport helps to ensure a safe aeronautical environment is</li> </ul>

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			threats (purposed or imminent).	available for the transportation of people and goods to the Williston Basin area.
2019-31	Snow Fences	Support the development of natural and artificial snow fences at the local and tribal levels.	Several local and tribal mitigation plans identify snow fences as a strategy. Enactment of this action will require emphasis on obtaining sources of funding for Snow Fences since state funding sources are no longer available.	<p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Continue to provide guidance to ocal and tribal mitigation planning teams to identify areas where snow fences are needed.</li> </ul> <p><b>ND Forest Service:</b></p> <ul style="list-style-type: none"> <li>Incentives for living Snow Fences are available through the Environmental Quality Incentives Program (EQIP) administered by USDA NRCS and through the ND Statewide Conservation Tree Planting Initiative. <b>Technical assistance is available from NDFS or local Soil Conservation Districts.</b></li> </ul>
2019-32	Drought Mitigation	Identify and implement drought mitigation strategies.	This action requires implementation of programs and projects that mitigate water supply shortages for domestic, rural, municipal, industrial, and agricultural uses; and assist vulnerable populations with heat induced health risks; promotes crop insurance and drought-resistant farming practices.	<p><b>NDSU State Climate Office:</b></p> <ul style="list-style-type: none"> <li><b>Provide in-depth analysis of current drought conditions and outlooks during ND Ag Disaster Response bi-weekly calls and for the State Drought Multi-Agency Coordination System.</b></li> <li><b>Shared analysis for the Governor's disaster declarations of drought and other weather conditions to provide incident-specific data and to discuss long-term impacts of North Dakota's recent drought and other disasters.</b></li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>The Commissioner developed with ND Information Technology a software to allow submission of requests related to drought impacts on feed transportation. This system built in dynamics will allow future data collection if additional Emergency Programs are authorized.</li> </ul> <p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li><b>The DWR manages the Drought Disaster Livestock Water Supply Assistance Program as outlined in NDAC Chapter 89-11. This Program was last activated in April 2021 and currently remains open. This Program provides 50% cost-</b></li> </ul>

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p>share, with up to \$4,500 per project to help livestock producers install long term sustainable water supplies for their cattle in times of severe drought. Eligible projects include new water wells, rural water system connections, pipeline extensions, pasture taps and associated works, labor, and materials and equipment rentals for work completed by the producer to develop new water supply projects.</p> <p>During the 66<sup>th</sup> Legislative Assembly, the cost-share limit was raised from \$3,500 per project to \$4,500 (limit 3 projects per producer).</p> <p>The Program must be activated by the State Water Commission (SWC), which determines beginning and end dates. Funds can only disburse for water supply projects in counties that the Governor has declared to be a drought disaster area for purposes of the program.</p> <ul style="list-style-type: none"> <li>• The NDDWR has entered into an agreement with the USGS to evaluate seepage on the Souris River. The Souris River Seepage Study is evaluating how drought conditions are affecting reservoir releases on the Souris River for the purpose of informing future operations.</li> </ul> <p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>• Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans.</li> </ul> <p><b>ND Department of Transportation, ND Department of Commerce, NDDDES, NDSU State Climate Office, ND Department of Agriculture, National Weather Service:</b></p> <ul style="list-style-type: none"> <li>• SHMT partners collaborated on assessments of drought conditions during 2019-2021 and potential mitigation strategies.</li> </ul> <p><b>Continued Next Page</b></p>



Action ID #	Action Title	Action (Statement)	Action/Strategy Description	Status Updates: 7/1/2020 – 6/30/2021
				<p><b>NDSU Extension Service:</b></p> <ul style="list-style-type: none"> <li>Develop educational resources and curriculum on drought planning and mitigation, and disseminated information through webinars, meetings, articles and interviews.</li> <li>Provide technical support to farmers and ranchers impacted by drought to aid in identifying drought related hazards and develop mitigation strategies.</li> <li>Lead the bi-weekly ND Agriculture Disaster Response meetings to evaluate disaster impacts on the agricultural community, including drought and drought mitigation measures.</li> </ul> <p><b>US Army Corps of Engineers – Omaha District:</b></p> <ul style="list-style-type: none"> <li>Publish the Missouri River mainstem System 2021-2022 Annual Operating Plan by December 2021. This document outlines both flood risk reduction and water conservation activities for the Missouri River mainstem.</li> </ul>
2019-33	Hazardous Fuels Reduction	Identify potential areas or communities that may be adversely effected by excessive fuel loading and create partnerships to mitigate hazardous fuels.	The action will support Firewise concepts and Community Wildfire Protection Plan by creating a more resilient landscape with communities that are protected from catastrophic wildfires.	<p><b>ND Forest Service:</b></p> <ul style="list-style-type: none"> <li>The ND Forest Service continues to collaborate with state, federal and local partners on a hazardous fuels reduction strategy for areas of concern within North Dakota.</li> <li>Continue to target 100 acres of hazardous fuels in the ponderosa pine stand in western North Dakota yearly. The ponderosa pine hazard fuel mitigation site is within a 1000-acre area representing the northeastern most extent of ponderosa pine in North America and one of two native pine areas in North Dakota. The mitigation site includes both private and federal lands. The project provides risk mitigation by removing hazardous fuel thus providing a higher degree of protection to communities and homes that may be at risk.</li> </ul>
2019-34	Hazardous Materials Storage and Disposal	Promote and enforce safe handling, storage, and disposal		<p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>The Commissioner continued to support unused Hazardous Materials collection using Project Safe Send,</li> </ul>

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		of hazardous materials.		<p>this project provided a transportation vendor in several ND cities for drop of unused chemicals to prevent spillage or other impacts.</p> <p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>The department updated fact sheets and web site information to provide information on safe handling, storage and disposal of hazardous material.</li> <li>The department updated rules and retargeted inspection to increase staff presence in the field.</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.</li> </ul> <p><b>ND State Fire Marshal:</b></p> <ul style="list-style-type: none"> <li>Continue to work with other State Agencies to identify and inspect sites storing hazardous materials in excess of maximum allowable quantities and ensure compliance with state adopted codes such as the North Dakota State Fire Code.</li> <li>No progress, just added State Fire Marshal to this action as ensuring fire code compliance is a critical point of HAZMAT storage safety.</li> </ul>
2019-35	Insurance Moonshots	Encourage homeowners to purchase insurance.	This action supports FEMA's goal of doubling the number of properties covered by flood insurance by 2022. Education will be key to ensuring citizens understand their level of threat, types of insurance are available. This action requires educating several different	<p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Promote the NFIP, Community Rating System (CRS) and RiskMAP programs and provide guidance to communities who participate in the NFIP and the CRS to ensure their achievement in the flood loss objectives under the NFIP.</li> </ul> <p><b>City, County, Tribal Emergency Management:</b></p> <ul style="list-style-type: none"> <li>LaMoure County held a public meeting prior to Spring Flooding to encourage knowledge of the NDRAM product to show flood prone areas and also encourage flood insurance. The DWR, NWS, and USACE also attended.</li> </ul>

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			<p>industries in order to convey the message. The State National Flood Insurance Program (NFIP) Coordinator will work with the State Insurance Commission on setting up workshops. The State NFIP Coordinator will continue to hold training with specific target markets (e.g., Emergency Managers, Realtors, Floodplain Administrators, Public) annually as funding becomes available.</p>	
2019-36	NFIP, RiskMap and CRS Program	Promote the NFIP, CRS, and RiskMAP program and provide guidance to communities who participate in the NFIP and CRS Program to ensure their achievement in the flood loss objectives under the NFIP.	<p>This action provides guidance to communities who participate in the NFIP to ensure their achievement in the flood loss objectives under the NFIP. This is accomplished by providing technical assistance, evaluating community performance, implementing NFIP floodplain management activities, and strengthening community floodplain management</p>	<p><b>See the NDRAM article in this annual report for the 2020-2021 Updates.</b></p> <p><b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Promote the NFIP, CRS, and RiskMAP programs and provide guidance to communities who participate in the NFIP and the CRS to ensure their achievement in the flood loss objectives under the NFIP.</li> </ul> <p><b>NDDDES:</b></p> <ul style="list-style-type: none"> <li>Utilizing the RiskMap program to support our benefit cost analyses for NDDDES Hazard Mitigation projects.</li> </ul> <p><b>NDDDES and Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Promoted use of RiskMap as a tool for local and tribal planning teams during the first plan developers meeting in March 2021.</li> </ul>

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			<p>expertise. Communities that go beyond the minimum federal standards are eligible to join the CRS. Through this program, communities are becoming more flood resilient and property owners are rewarded with discounts on their NFIP flood insurance premium.</p> <p>RiskMAP provides high quality flood maps and information, tools to better assess the risk from flooding, and planning and outreach support to communities to help them take action to reduce, or mitigate, flood risk.</p>	
2019-37	StormReady Program	Promote use of NOAA's National Weather Service's StormReady Program.	<p>The StormReady program will help mitigate the impacts of storms by giving communities the communication and safety skills needed to save lives and property, before and during the event. StormReady helps community leaders and</p>	<p><b>National Weather Service:</b></p> <ul style="list-style-type: none"> <li>The NWS continues to promote Storm Ready, a good resource is the StormReady Website: <a href="https://www.weather.gov/stormready/nd-sr">https://www.weather.gov/stormready/nd-sr</a>. Currently 30 counties, 29 communities, 1 tribal nation and four universities participate.</li> </ul> <p><b>NDDES:</b></p> <p><b>City, County, Tribal Emergency Management:</b></p> <ul style="list-style-type: none"> <li>LaMoure County encourages StormReady as NWS has attended and taught at the county agricultural safety days</li> </ul>

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			emergency managers strengthen local safety programs.	for elementary students and weather warn classes for the public.
2019-38	Cyber Security Threats Education	Educate and support the Whole Community on ways to mitigate cyber threats affecting personal, private, and state security and other sensitive information.	An attack can impact business revenue, services offered by state, local, or tribal governments and other organizations, and the functionality of infrastructure and other physical systems. North Dakota has placed a higher priority on building prevention systems and countermeasures to mitigate the impacts of this hazard, but the prevalence and varied approaches of cyberattacks means that this remains a threat.	<p><b>ND Information Technology and State and Local Intelligence Center</b></p> <ul style="list-style-type: none"> <li>• The NDDDES Preparedness Section issued several awards for IT personnel to attend Cyber Security training.</li> <li>• Cyber Public Awareness Campaigns: includes public speaking, conferences and events</li> <li>• 25 Public Speaking Presentations</li> <li>• Committee Members of BSC CyberCon and                             <ul style="list-style-type: none"> <li>○ ND Cybersecurity Conference</li> <li>○ VCSU Youth Tech Day</li> </ul> </li> <li>• Members of K-20W</li> <li>• SANS GirlsGoCyberStart</li> <li>• Air Force CyberPatriot</li> <li>• Cybershield</li> <li>• Members of the Cyber Intelligence Network, Election-ISAC, MS-ISAC and many others.</li> <li>• Joint Security Operations Command</li> <li>• Misinformation/Disinformation Campaigns</li> <li>• NDResponse website Cybersecurity and Fraud Information</li> <li>• National Cyber Security Awareness Month</li> <li>• Career Fair and Career Days</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>• Staff is conference Chair at CyberCon promoting infrastructure and cyber security.</li> <li>• Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.</li> </ul> <p><b>Continued Next Page</b></p>

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				<p><b>NDDES:</b></p> <ul style="list-style-type: none"> <li>• Providing conference Chair and sponsorship for CyberCon, a cyber and infrastructure protection conference</li> </ul>
2019-39	Public Education and Outreach	Develop and implement an all-hazard and all-threat public education and outreach program.	<p>This program would include:</p> <ul style="list-style-type: none"> <li>• Engaging media and social media during hazardous awareness months, prior to spring flooding, and other seasonal weather hazards.</li> <li>• Providing education about the potential consequences of geomagnetic and solar storms in addition to radio blackouts.</li> <li>• Encouraging personal mitigation measures for property and community.</li> <li>• Promoting educational activities designed to protect the public, including weather spotter training, adversarial threat training and Community Emergency Response Team (CERT).</li> <li>• Providing the public information to make informed decisions about how to prevent infections</li> </ul>	<p><b>NDDES, ND Department of Health, ND Department of Human Services:</b></p> <ul style="list-style-type: none"> <li>• Conducted numerous press briefings, townhall meetings and other outreach to provide up-to-date and accurate information on vaccine safety and effectiveness, mask efficacy, safe therapies and other COVID-19 mitigation strategies.</li> <li>• Led collaborative efforts to develop an Immigrant and Immigrant Communities Outreach and Support Strategy, designed to act as a guiding document for COVID-19 response and recovery efforts targeting the immigrant community.</li> </ul> <p><b>National Weather Service:</b></p> <ul style="list-style-type: none"> <li>• NWS Grand Forks and Bismarck offices held virtual SKYWARN training sessions in the spring of 2021.</li> <li>• NWS continues to hold SKYWARN spotter classes, though COVID-19 did have an impact on those in 2020. NWS continues to provide education and outreach via social media - Facebook and Twitter along with our webpages: <a href="http://weather.gov/bis">weather.gov/bis</a> and <a href="http://weather.gov/fgf">weather.gov/fgf</a>. We have also coordinated outreach with the NDDES Strategic Communications Chief Eric Jensen. This includes providing weather /water education and outreach material on the ND Response Website and social media channels.</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>• Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.</li> </ul> <p><b>Continued Next Page</b></p>

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			or infestations or avoid spreading diseases.	<p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>The department updated fact sheets and web site information to provide information on various hazard, but especially those related to flooding.</li> </ul> <p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Extensive outreach and educational efforts underway due to the COVID19 response.</li> <li>Multiple news releases on various non-COVID health risks, including rabies, foodborne illness, west Nile virus, vaccinations, vector borne diseases.</li> <li>Multiple health alerts sent to health care providers and other stakeholders regarding significant public health issues such as COVID-19, vaping injuries, congenital syphilis, hepatitis A, pertussis and other health threats.</li> </ul> <p><b>ND State Fire Marshal:</b></p> <ul style="list-style-type: none"> <li>Continue to coordinate with other agencies and participate in fire safety public education projects:                             <ul style="list-style-type: none"> <li>Fire safety week in October each year</li> <li>Arson awareness week Spring each year</li> <li>Back to school fire safety</li> <li>Smoke alarm installation campaigns</li> <li>Childcare fire safety</li> </ul> </li> </ul> <p><b>City, County, Tribal Emergency Management:</b></p> <ul style="list-style-type: none"> <li>LaMoure County encourages preparedness through county website postings, public meetings and press releases in local papers.</li> </ul> <p><b>American Red Cross (ARC):</b></p> <ul style="list-style-type: none"> <li>Continue to conduct the Sound the Alarm (STA) annually at a determined location. The ARC works with the local mayor, emergency managers, fire departments and other partners. COVID-19 disrupted plans in 2020; however, ARC encouraged clients to request individual alarms, at no cost, on its website: <a href="https://www.redcross.org/sound-the-alarm.html">https://www.redcross.org/sound-the-alarm.html</a></li> </ul>

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				<ul style="list-style-type: none"> <li>• Provides Pillowcase Project, another preparedness program, to schools with 2-5 graders or any youth program. The ARC educates youth about the potential for disasters and what items they should take with while escaping/getting out, placing those items in their pillowcases. The ARC provides workbooks/scenarios, making them aware of the various dangers.</li> </ul> <p><b>ND Forest Service</b></p> <ul style="list-style-type: none"> <li>• Coordinates and conducts seasonally appropriate wildfire prevention outreach and education campaigns using a variety of media. Most resources available via the ND Response website.</li> <li>• Conducts seasonally appropriate wildfire prevention outreach and education campaigns using a variety of media.</li> </ul> <p><b>Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>• The DWR manages a Water Education Program. The North Dakota Water Education Program enhances public knowledge and awareness about water resources.</li> <li>• Programming efforts include water science, conservation, and best management practices, and demonstrate how water interacts with humans and the natural environment.</li> <li>• Many of the programs are presented using online, indoor, and outdoor educational experiences and the dissemination of classroom ready teaching aids.</li> </ul> <p><b>NDSU Extension</b></p> <ul style="list-style-type: none"> <li>• Develop educational resources and curriculum, and disseminate information through webinars, meetings, articles and interviews related to drought, flooding, building agricultural resilience, enhancing community resilience, and stress and mental health.</li> <li>• Provide technical support to farmers and ranchers impacted by hazards and develop mitigation strategies.</li> </ul>



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2019-40	Dam Owner Education	Work with federal, state, local and tribal agencies to secure additional financial support to improve dams and educate dam owners.	Ensure dams are properly maintained and necessary repairs are made. This outreach/ education would also include adversarial (e.g. HVE or Terrorism) threats (purposed or imminent). This would also improve North Dakota's State Dam Safety Program to reduce the risk of dam failure and reduce the potential consequences if a failure were to occur.	<p><b>Refer to the Dam Safety Article in this annual report.</b>  <b>ND Department of Water Resources:</b></p> <ul style="list-style-type: none"> <li>Presented on dam safety topics to dam owners at a local water convention.</li> <li>Send notices to owners of low head dams to educate them about the existence of those dams, and to offer free signs to warn the public about the dangers associated with low head dams.</li> </ul> <p><b>U.S. Bureau of Reclamation:</b></p> <ul style="list-style-type: none"> <li>Reclamation utilizes a comprehensive facility review schedule at the North Dakota Dams. The reviews are done on an eight-year cycle. Yearly annual site (ASI), every fourth year of the cycle, a more intensive, periodic review (PR) is conducted and the eighth year of the cycle, a wide ranging, comprehensive review (CR) is conducted. Recommendations from those reviews are tracked to ensure that they are addressed.</li> </ul> <p><b>State and Local Intelligence Center:</b></p> <ul style="list-style-type: none"> <li>Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.</li> </ul> <p><b>US Army Corps of Engineers – Omaha District</b></p> <ul style="list-style-type: none"> <li>Plans are underway to make USACE Emergency Action Plan inundation maps and updated comprehensive dam database publicly available in the <a href="#">National Inventory of Dams</a> by end of 2021. Will include summaries of best available risk information and inundation scenarios, including water depth and arrival times and life loss and property impact estimates. USACE will provide briefings to the State of North Dakota Dam Safety and local emergency response agencies on the release of this mapping. Press releases will be used to inform the public.</li> </ul> <p><b>Continued Next Page</b></p>

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				<p><b>US Army Corps of Engineers – St. Paul District</b></p> <ul style="list-style-type: none"> <li>The National Inventory of Dams (<a href="https://nid.sec.usace.army.mil/">https://nid.sec.usace.army.mil/</a>) is being updated to include a risk summary for USACE dams. Baldhill was due to be posted at the time of printing.</li> </ul> <p><b>ND Game and Fish Department:</b></p> <ul style="list-style-type: none"> <li>No progress to report during this time period.</li> </ul>
2019-41	Medical Surge	Increase the capacity to provide acute and long-term care for people with infectious diseases.	This action increases the capacity within communities to provide acute and long-term care for people with infectious diseases, including comfort care. Medical surge is labor and cost intensive as well as resource and space intensive. Shortages of qualified healthcare workers and medical supplies or equipment will be a challenge.	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Established systems to assist with and provide COVID-19 vaccinations in areas where additional resources are needed/</li> <li>Establish system to provide support for COVID-19 diagnostic testing and screening.</li> <li>Established two medical surge facilities in response to COVID-19</li> <li>Established HAI work team to assist LTC with infection prevention and case management in response to COVID-19</li> <li>Provided a system to assist with staffing shortages resulting from staff being furloughed related to COVID-19</li> <li>Providing PPE to providers from the state medical cache for the COVID-19 response.</li> </ul>
2019-42	Community Health and Safety Resiliency	Increase safety and health of workers, first responders and new Americans.	The action emphasizes efforts to promote safety and health measures designed to protect workers, first responders and new Americans. These initiatives include, but are not limited to, safety training, risk management training, public health screening,	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Established systems for the safe delivery of COVID-19 vaccines</li> <li>Established systems for the rapid placement of monoclonal antibodies where they are needed or requested.</li> <li>Coordinate wrap-around services for individuals in isolation or quarantine.</li> <li>Health screenings have increased for response employees and partners for the COVID response. Staff working in the field who anticipate close contact with high risk individuals are required to be swabbed/tested weekly.</li> </ul>

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			and assistance for new Americans.	<p>During orientation, new staff are directed in proper Personal Protective Equipment (PPE) donning and doffing and are fit tested for N95 respirators.</p> <ul style="list-style-type: none"> <li>Established testing sites in locations to increase accessibility to COVID-19 testing</li> </ul> <p><b>ND Workforce Safety and Insurance:</b></p> <ul style="list-style-type: none"> <li>WSI offers organizations such as political subdivisions, civic groups, churches, etc. with volunteers to establish a volunteer policy to provide coverage for volunteers. WSI also promotes the health, safety, and well-being of employees by providing the following professional safety services: <ul style="list-style-type: none"> <li>Promoting safety</li> <li>Developing safety courses, plans, and programs</li> <li>Responding to safety complaints</li> <li>Responding to requests for technical assistance</li> <li>Conducting courtesy walk-through inspections</li> <li>Providing general safety consultations</li> <li>Conducting accident and hazard investigations</li> <li>Providing internal risk management services and</li> <li>Training and education</li> </ul> </li> </ul> <p><b>City, County, Tribal Emergency Management:</b></p> <ul style="list-style-type: none"> <li>LaMoure County employees participate in the Wellness Program through the Public Employees Retirement System (PERS) and also offers employees a free health screening annually.</li> </ul>
2019-43	Vaccination	Promote vaccinating the <del>affected</del> -at risk population to induce active immunity to a disease and develop herd immunity or slow disease progression.	Promote vaccinations to prevent and control diseases and stopping outbreaks in both humans and animals. It is the best tool for preventing disease in people and animals.	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Role out of COVID-19 vaccinations, tracking of breakthrough cases, implementation of third COVID vaccine doses, planning for COVID booster doses.</li> <li>Extensive work with the Legislature to preserve vaccination laws and defeat bills that would ban vaccination requirements.</li> </ul>

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			<p>Vaccines are not available for all diseases. Vaccines may be in short supply. It may take six months or longer to produce influenza and foot-and-mouth disease (FMD) vaccines specific for an outbreak. Vaccination programs are labor and resource intensive. Record keeping for the purposes of tracking can be labor intensive.</p>	<ul style="list-style-type: none"> <li>Established storage, handling and distribution systems for the safe storage and handling of COVID-19 vaccine, including ultra-cold storage capacity.</li> <li>Provided human resources for the COVID-19 vaccine campaign.</li> <li>In progress due to COVID-19.</li> <li>Achieved 90% vaccination coverage for HPV vaccination in adolescents.</li> <li>Nearing 95% rate for school age children on required school vaccinations.</li> <li>Ensured post-exposure prophylaxis and vaccination of people who may have been exposed to rabies</li> </ul> <p><b>ND Department of Agriculture, Division of Animal Health:</b></p> <ul style="list-style-type: none"> <li>Animal Health conducted two planning workshops, with practicing veterinarians, NDSU Extension and the Veterinary Diagnostic Laboratory representatives to explore capabilities, capacities, and resource gaps in the event of a national or state-wide Foreign Animal Disease (FAD) vaccination campaign. The plan that was created at this workshop was then tested during a multi-state, multi-agency tabletop exercise in May 2020.</li> </ul>
2019-44	Disease and syndromic surveillance	Enact the system collection of the occurrence of disease or disease syndrome.	<p>Surveillance enables the more rapid detection of outbreaks and capable of providing consistent data for comparison over time or by population. Disease reporting is not always timely and may occur after an outbreak has started. It requires cooperation from several areas of the health care industry. There may also</p>	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Upgrade completed to the disease reporting system (Maven).</li> <li>Continuous upgrades to Dynamics 365 application for COVID data relating to both community testing and case investigations.</li> <li>The COVID-19 response has shown significant improvement in data collection and analysis. These processes will undergo evaluation for future outbreaks.</li> <li>Implemented new syndrome definitions to better understand the scope of COVID-19 case distribution in the state.</li> </ul> <p><b>Continued Next Page</b></p>

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			be delays due to disagreements over or lack of funds available funds for indemnity payments.	<p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>• USAHERDS software also included tests and accessions module to better map and monitor spatial disease events over time. Provide health inspections of all attendees at the North Dakota State Fair along with educational efforts to exclude, identify or prevent spread of infectious diseases of animals, animal owners and spectators. Promoted water and feed testing to prevent and mitigate drought-associated diseases.</li> <li>• Assisted veterinarians with lab costs associated with testing for unusual disease investigations.</li> </ul>
2019-45	Chemoprophylaxis	Give people or animals who may have been exposed to a disease-causing agent an antibiotic, antifungal or antiviral medication to prevent illness.	Chemoprophylaxis can be effective in preventing and controlling disease and outbreaks in both human and animal populations.	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>• Updated anthrax resources in Spring 2020.</li> <li>• Guidance issued to providers for prophylaxis for close contacts to COVID cases using monoclonal antibodies</li> <li>• In response to three meningococcal cases, provided recommendations and follow up to assure close contacts received chemoprophylaxis.</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>• Coordinate for diseases such as Anthrax for resource information and appropriate use of this process to vaccinate</li> </ul>
2019-46	Disease and Infestation Prevention and Control Technical Assistance	Providing technical information to health care professionals, agronomists, vector control boards or others.	The action requires education on regarding the regulation pertaining to importation, diagnosis, treatment and management of people, animals or plants relating to the prevention and control of diseases or infestations, including infection prevention. This action focuses on	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>• Continued mitigation efforts for COVID-19. Scaled up mitigation for a third wave in the fall of 2021.</li> <li>• Lab is conducting whole genome sequencing on COVID positive specimens to identify variants</li> <li>• Breakthrough cases and reinfections are being tracked.</li> <li>• Technical assistance provided to schools, child care, higher educations, employers/businesses and health care on implementation of COVID preventive measures and response to cases.</li> </ul>

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			<p>providing the latest science on diagnosis and management of diseases and infestations. It can be difficult to reach all providers with information. Information and best-practice recommendations may be conflicting or not available when responding to novel or emerging threats.</p>	<ul style="list-style-type: none"> <li>Enacted quarantine orders for international travelers in response to COVID-19. (Subsequently lifted in September 2020)</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>The Animal Health Division is expanding partnerships and providing technical support to NDSA, NDVMA, and industry associations including Farmed Cervid and Captive Elk for CWD prevention and control, and cattle associations on ADT efforts and TB eradication.</li> <li>Coordinate Import/Export certification and Health Certificates along with Animal Health Control Programs, leafy spurge flea beetle collection for control of Leafy Spurge, and outreach on potential invasive pests like Emerald Ash Borer.</li> </ul> <p><b>NDSU Extension:</b></p> <ul style="list-style-type: none"> <li>Provided expertise and public education on the identification, diagnosis, remediation and prevention of anthrax in animals, and prevent exposure and transmission to people.</li> </ul>
2019-47	Isolation and Quarantine	Separate people, animals or produce who are ill or are contaminated or that may have been exposed from the general population.	<p>Isolation and quarantine are effective for selected situations only and used more extensively in animal health and sometimes in plant health. The action requires human resources to ensure compliance and to provide humane living conditions, and such, is labor and resource intensive. It may require providing a specific</p>	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Scaled up efforts for case work, including isolation and quarantine in response to the delta variant and the anticipated fall increase in cases.</li> <li>Implemented policy and procedures for isolation and quarantine or people diagnosed with or exposed to COVID-19.</li> <li>Hired and trained a team of case investigators and contact tracers to assist with operationalizing isolation and quarantine activities.</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>Quarantine animals or plants upon investigation as appropriate until disease risks are mitigated.</li> </ul> <p><b>Continued Next Page</b></p>

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			location for isolation or quarantine. May require considerable work determining if animals or people have been infected or exposed.	<p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>• Department worked with other agencies on methods of proper animal disposal.</li> </ul>
2019-48	Social Distancing	Provide community or population-based strategies to reduce events that lead to crowding during an infectious disease outbreak.	Examples include canceling public events, canceling classes, encouraging sick people to stay at home and discouraging non-essential travel. This is less labor intensive than other mitigation strategies. These measures may result in economic impacts such as canceling concerts or sporting events or closing retail centers. Closing daycares and schools can create workforce problems as parents are forced to stay at home with children. From an animal health perspective, this might include closing auction markets, agricultural fairs, and competitions. Closing markets creates possible humane concerns during	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>• Numerous news releases and press conferences regarding social distancing, including some state level policies requiring distance education, closing of non-essential businesses and prohibiting larger gathers.</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>• Removed from mitigation action.</li> </ul> <p><b>ND Department of Human Services:</b></p> <ul style="list-style-type: none"> <li>• Enacted the following measures: <ul style="list-style-type: none"> <li>○ Waiting rooms: Chairs placed at 6 ft. distance</li> <li>○ Hand sanitizer station deployed</li> <li>○ Screening process implemented at all Human Service Centers, State Hospital and Life Skills and Transition Center</li> <li>○ Joint office space: Installed plexiglass health barriers at staff desks.</li> <li>○ Mandated PPE use for all staff and clients when in the facility.</li> <li>○ Developed PPE use guide</li> <li>○ Implemented C-OVID19 home visit guidelines</li> <li>○ Completed numerous 'Teams' trainings with staff on screening, PPE use and Preventative Measures</li> <li>○ C-19 Transport Guidelines</li> </ul> </li> </ul>

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			stop movements. Generally, not enforceable unless there is a legal order issued.	
2019-49	Depopulation of ill or exposed animals or plants	Used to control animal and plant diseases, this is the process of removing ill and/or exposed animals or plants through euthanasia or other methods.	Depopulation is effective in eliminating ill animals or plants, or those that pose a risk for transmitting disease. However, it can be labor and resource intensive, and it often has an economic impact on the producer. Social outcry or poor public acceptance is another concern. Depopulation may also lead to decreased protein availability in the food supply.	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Worked with the Department of Agriculture on numbers <i>Brucella canis</i> situations in the state.</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>Updated and reviewed MOUs with Federal Agencies with regards to depopulation and indemnity.</li> </ul> <p><b>NDSU Extension:</b></p> <ul style="list-style-type: none"> <li>Provided expertise and public education on the disposal of animal carcasses contaminated with anthrax spores.</li> </ul>
2019-50	Control plant disease and infestation	Spray or apply insecticides/ fungicides/ pesticides/ herbicides/ larvicides.	This action is used to control plant diseases and infestations. In some cases of animal and human disease spread by ticks, mosquitoes, or other vectors. It is effective if applied appropriately. Larvicides used to control mosquitoes tend to be more specific in their targets. This can be labor	<p><b>ND Department of Health:</b></p> <ul style="list-style-type: none"> <li>Tick surveillance looking for various species of ticks associated with disease transmission</li> <li>Testing ticks for human pathogens</li> <li>Mosquito surveillance for west Nile virus and other arboviruses.</li> </ul> <p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>Removed from mitigation action.</li> </ul> <p><b>ND Game and Fish Department:</b></p> <ul style="list-style-type: none"> <li>ND Game and Fish Department: Surveys were taken on numerous lakes and Aquatic Nuisance Species were observed in 4 lakes. The public was notified and rules were posted in various places.</li> </ul>



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			intensive, is not effective in eliminating the problem completely, and not always target specific.	<p><b>ND Department of Environmental Quality:</b></p> <ul style="list-style-type: none"> <li>Department reviews requests for aerial applications over populated areas. Review includes checking that the aerial applicator plans to use appropriate product and equipment for work being done as well as the steps they plan to take to notify the public of the activity.</li> </ul> <p><b>NDSU Extension</b></p> <ul style="list-style-type: none"> <li>Develop and disseminate educational materials on noxious and invasive plant identification, characteristics and management.</li> </ul>
2019-51,	Genetic Modification	Used mostly in helping to control plant diseases and pests. This involves the development of hybrid plants that are resistant to common diseases.	Genetic modification is very effective in preventing known diseases. Social acceptance of genetically modified organisms (GMOs) is conflicted along with poor public perception, time, resource, and labor intensive. New technology may cost producers more to implement. One disease may be replaced by another to which the plant is still susceptible.	<p><b>ND Department of Agriculture:</b></p> <ul style="list-style-type: none"> <li>No update during this reporting period.</li> </ul>

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