



NORTH DAKOTA'S COLLABORATIVE APPROACH TO HAZARD MITIGATION

Progress Report January 2019 — July 2020

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A TEAM APPROACH TO BUILDING A RESILIENT NORTH DAKOTA



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– Division of Homeland Security
(NDDES-HLS)

The State Hazard Mitigation Team (SHMT) truly embraces Governor Burgum’s Cultural Aspirations for Team ND:

- Work as One
- Citizen Focused
- Growth Mindset
- Make a Difference
- Leadership Everywhere

All these aspirations have teamwork as a center of gravity. The SHMT excels at teamwork, no matter the agency or what organizations the members represent.

The *Progress Report January 2019 — July 2020: North Dakota’s Collaborative Approach to Hazard Mitigation* recognizes the achievement of the SHMT and how our collaboration has elevated North Dakota as a national leader in mitigation. The successful and integrated planning efforts featured in this report have required the support of 42 state agencies and divisions, 15 federal agencies, and 21 non-governmental and private organizations and eight local agencies,

who represent the four quadrants of our state.

This year, the State Hazard Mitigation Team (SHMT) welcomed two new partners, the American Red Cross (ARC) and the N.D. Department of Environmental Quality (NDDEQ). The ARC has been a mainstay in our state for disaster preparedness, prevention, response, recovery and mitigation. NDDEQ became its own agency on May 1, 2019, after separating from the N.D. Department of Health at the direction of the State Legislature.

Mitigation has evolved considerably since I began work in 1995 as a hazard mitigation specialist at the North Dakota Department of Emergency Services – Division of Homeland Security (NDDES-HLS), then the North Dakota Division of Emergency Management. Strong partnerships existed, but mitigation occurred on a much less deliberate basis than today. Even then, the SHMT thought outside the box when it came to keeping North Dakota safer. The team viewed mitigation, which is sustained action taken to reduce or eliminate long-term risk to people and property, as a commonsense approach to making their state more resilient. But processes were not as formalized as they are today, and only a few jurisdictions in North Dakota had multi-hazard mitigation plans (MHMPs).

When I returned to the agency after my tenure serving full time in the North Dakota National Guard, the state’s mitigation strategy had evolved considerably following the federal Disaster Mitigation Act of 2000 (DMA 2000). DMA

DMA 2000 placed a needed emphasis on determining the mitigation outcomes a community needed to achieve first (via a mitigation plan), then outlining the methods to achieve those outcomes through identifying mitigation actions before expending resources available through such programs as Unified Hazard Mitigation Assistance (HMA). Prior to DMA 2000, identification of outcomes and methods were not as emphasized as it should have been pre-event. Those discussions and planning efforts occurred primarily post-event when grant funding became available as part of a Presidential Disaster Declaration. In short, it was primarily a reaction-oriented process, and serious mitigation conversations occurred principally after disasters had impacted our communities. DMA 2000 forced us to have proactive mitigation conversations and do proactive mitigation planning before disasters struck, which we can all agree is a better time for these activities.

As of September 2020, all counties, one city and four tribal nations have approved MHMPs or are in the process of updating their current plans. The ND-DES-HLS Disaster Recovery Section, with support of the SHMT, has successfully pursued funding through FEMA's HMA for 405 projects. These projects focus on construction/structural; planning; natural systems protection; and education and awareness. Additionally, SHMT partners have invested their own resources to enact numerous other mitigation actions that are making North Dakota citizens safer.

Together, the SHMT looks at the mitigation planning process holistically, leveraging the Six-Step Planning Process and universally accepted emergency planning doctrine detailed in the Federal Emergency Management Agency's (FEMA) *Comprehensive Preparedness Guide 101: Developing and Maintaining Emergency Operations Plans*. As a result of this Whole Community approach, North Dakota became the first state in FEMA Region VIII to achieve Enhanced Mitigation plan status on February 6, 2019. A national panel assigned to review the plan considered it exemplary. Reviewers praised the impressive participation from a wide-ranging group of stakeholders. A statewide mitigation plan ensures the state can access funding for federal mitigation programs and permanent Public Assistance (PA) repairs following a disaster declaration. North Dakota's Enhanced Status increases mitigation funding following a federal disaster declaration from 15 to 20 percent.

North Dakota has also been reaping other benefits from the SHMT's proactive approach to mitigation. NDDES-HLS's demonstrated track record in mitigation program management and plan review resulted in Program Administration by State (PAS) Pilot status. FEMA established the PAS as a result of the 2012 Superstorm Sandy to create a more streamlined grant and mitigation plan approval process. North Dakota is one of the few states in the country with authority to approve plans and manage mitigation project development.

Unfortunately, we have a strong need for mitigation particularly since North



BRIC GRANT FUNDING AVAILABILITY

NDDDES-HLS recently announced availability of grant funding through two Hazard Mitigation Assistance grant programs, the Flood Mitigation Assistance (FMA) and the Building Resilient Infrastructure and Communities (BRIC) grant, which replaces the Pre-Disaster Mitigation Grant (PDM) Program.

Applications for the BRIC and FMA programs are due by Dec. 30, 2020. For more information, applicants can contact Todd Joersz, state hazard mitigation officer, at 701-328-8261 or email tjoersz@nd.gov or Justin Messner, disaster recovery chief, at 701-328-8107 or email jmessner@nd.gov.



Gov. Doug Burgum addresses members of North Dakota's Unified Command March 13 to kick off the state's COVID-19 response.

Dakota has had more than its share of disasters. Within the past 27 years, the state received 37 disaster declarations, including the catastrophic flood events of 1997, 2009 and 2011. Of those, the State of North Dakota has received five federal declarations — three of which were for flooding and two for COVID-19 — within the past two years. At the time of publication, we were waiting to hear

a response on the sixth request for a presidential disaster declaration for a June 29, 2020 to July 1, 2020, severe summer storm that caused extensive damages in the northern tier of the state.

As Governor Doug Burgum said in his recent request for federal aid, the saving grace for the frequency and intensity of disasters in North Dakota is the effectiveness of the mitigation program. In 2018, the National Institutes of Building Sciences in its *Natural Hazard Mitigation Saves: 2018 Interim Report* estimated every dollar spent on federal mitigation grants saves \$6 in damages in North Dakota. The following year, the PEW Charitable Trusts conducted a state-by-state analysis of the benefit of HMA and determined the return on investment amounted to \$6.53 per every dollar spent on mitigation in North Dakota. Based on that estimate, a total of \$160,207,600.25 invested in mitigation construction projects since 1997 has resulted in a savings of \$1,047,757,705.63 in long-term disaster response and recovery costs for the state.

The state also experienced a significant savings through its aggressive program to relocate more than 1,400 properties in flood-prone areas; the majority of which had been located in areas impacted by 2019 and 2020 flooding, as well as the June 29-July 1, 2020, storm event. With the assistance of the HMA programs and Community Development Block Grants (CDBG), the state acquisition program has created green spaces along rivers and lakes for an estimated cost benefit of \$386.4 million.

The SHMT is making a positive difference when it comes to keeping our fellow citizens safer. The SHMT's success speaks for itself over the past several years through the proven effectiveness of our mitigation actions executed as a result of our proactive mitigation planning.

PDM APPLICATIONS SELECTED FOR FURTHER REVIEW

NDDDES-HLS received notification 18 sub-applications totaling \$19,999,721.25 have been selected under the 2018 Pre-Disaster Mitigation (PDM) grant for further review. They include:

- Burleigh County/University of Mary Bank Stabilization
- Flood protection for the Fargo Wastewater and Raw Water Intake
- City of Jamestown James River Riverbend Restoration
- Storm shelters for Mercer County and McKenzie County
- 11 county MHMPs

NORTH DAKOTA, CANADIAN OFFICIALS COLLABORATE ON MOUSE/SOURIS DAM OPERATIONS

In Canada, it is called the Souris River; in the United States, North Dakota Century Code codifies the name as the Mouse River.

While the name may differ, representatives of both countries agree that it takes a collaborative approach to mitigate drought and flood impacts along the nearly 435-mile-long Mouse/Souris River that originates in Saskatchewan, winds through North Dakota, and crosses into Manitoba before joining the Assiniboine River.

Communities on both sides of the border experienced catastrophic flooding during late spring and summer in 2011 when heavy snowmelt and rainfall resulted in record flooding. In Saskatchewan, flooding inundated newly seeded cropland, flooded basements in Regina to Weyburn, and forced evacuations of 150 residents of Roche Percee and another 400 in Estevan. On the United States side, Mouse/Souris River floodwaters prompted the evacuation of approximately 12,000 Ward County area residents; swamped 4,100 homes and businesses in Minot alone; and surpassed record levels at such gauging points as the Minot Broadway Bridge, where floodwaters crested at 1561.72 feet MSL, 3.2 feet above the previous record of 1,558 feet set in 1881. As the river flowed back into Canada, 85 Souris residents fled their homes as communities fortified flood protection that had been sorely tested earlier in the spring.

North Dakota water experts, including members of the State Hazard Mitigation Team (SHMT), and their Canadian counterparts are working collaboratively to avoid future occurrences of widespread flooding as well as looking at ensuring adequate water supplies during times of drought.

Collaborative work on water management dates back to 1909 when both countries signed the Boundary Waters Treaty, establishing the International Joint Commission (IJC). Both countries signed an agreement for Water Supply and Flood Control in 1989.

Unprecedented flooding in 2011 focused attention on a review of the agreement with interests on both sides of the international boundary requesting evaluation of additional flood protection measures. In 2017, the IJC created the International Souris River Study Board to review and propose improvements to the operating plan for Rafferty, Grant Devine, and Lake Darling Reservoirs under the Canada-United States International Agreement for water supply and flood control in the Mouse/Souris River Basin.

The International Souris River Study Board developed the *Work Plan for the Souris River Basin*, dated November 5, 2017, outlining the scope of study and



An aerial view of the 2011 Minot flood.



An aerial view showing enhanced flood protection around Minot's water treatment plant.

establishing advisory groups to support the initiative. The Study Board created a Resource and Agency Advisory Group (RAAG) to understand how the modification of the operating plan may affect use of the river. RAAG serves as a conduit for communication with stakeholders regarding the study process; identifies potential conflicts with policies or interests; suggests ideas or approaches to improve the results of the study; and ensures all business needs and risks of interest to the study are accounted for and appreciated.

Laura Ackerman, SHMT Technical Advisory Committee member and Investigations Section Chief for the N.D. State Water Commission (SWC), co-leads the RAAG with her Canadian co-chair and Souris Basin expert, Russell Boals.

The Study Board also established a Public Advisory Group (PAG) representing multiple areas of interest and various geographic locations across the Mouse/Souris River. "This group has been highly beneficial in providing details of interests and opportunities as well as in evaluating alternatives," said Tim Fay, Study Board member.

The Study Board also developed an Independent Review Group to ensure independent technical reviews throughout the study process. While not originally included in the *Work Plan for the Souris River Basin*, another advisory group has evolved, the Indigenous Advisory Group, with representatives from Indigenous Nations in the U.S. and Canada. Ms. Ackerman anticipates the Indigenous Advisory Group will be a best practice for other river basin studies.

The Study Board early in the process realized there are other entities with regulatory, administrative, developmental, and proprietary interests which must be represented directly. The RAAG membership reflects these multiple voices. "Final membership of this group was delegated to the chairs of the group, making the chair positions crucial," Mr. Fay said. "The Canadian chair selected was Russell Boals, whose long experience with the International Souris River Board and all the parties interested in the basin made him an obvious candidate for the Canadian chair. The U.S. chair selection was Laura Ackerman, of the SWC. Laura is Chief of the Investigations Section at the Water Commission, having not only deep personal knowledge but also access to a highly skilled and knowledgeable technical staff for review and comment, as well as the ability to provide support of some activities."

Ms. Ackerman is also in direct contact with North Dakota state and local entities and is familiar with entities from other jurisdictions. She recently served as North Dakota's representative on the Missouri River Recovery Implementation Committee, which assisted in evaluating operations of the Missouri River mainstem dams. "This effort had many similarities with the Souris River Study process in realms of not only technical tasks but also interaction with the public and public authorities," Mr. Fay said. "This background has paid great dividends in the activity of the RAAG and the progress of the Souris River Study Board in general."



Lake Darling Dam.

RAAG members have been making considerable progress during the five-phase study, analyzing water supply, flood control, recreational, cultural and environmental data, including information contained in the *State of North Dakota Enhanced Mitigation Mission Area Operations Plan*. SHMT members supporting the efforts include the SWC, N.D. Departments of Emergency Services, Health, Transportation, Agriculture, Game and Fish, Office of the State Engineer, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the U.S. Geological Survey. City of Minot and Souris River Joint Board officials have been lending their expertise along with Canadian representatives of the City of Estevan, Sask Power, Saskatchewan Water Security Agency, Department of Fisheries and Oceans Canada, Manitoba Infrastructure, Saskatchewan Governments Relations, Saskatchewan Ministry of Environment, Environment Climate Change Canada, Manitoba Municipal Relations, and Agriculture and Agri-food Canada.

"The State Water Commission is hoping to find enhanced benefits and to equitably share the impacts between the two countries," Ms. Ackerman said. "We are learning a lot about what each other cares about and why. We have been able to model a lot of scenarios and alternatives."

RAAG members have had lively, productive discussions during the past few years as members consider modeling developed to evaluate alternatives. "The RAAG process has shown that jurisdictional water and related natural resources management challenges can be effectively discussed in the context of the large

transboundary interests,” Mr. Boals said. “The engagement process implemented by the Study Board will serve the Souris basin well into the future, given the need for wise and sustainable water resource utilization if development and climate challenges are to be effectively addressed.”

The study’s technical team presented the Phase 5 operational changes and alternatives during a July 22, 2020, webinar. RAAG members had the month of August to submit written comments and then on September 2, 2020, an additional webinar was held to gather more feedback. RAAG co-chairs created an online poll to help solicit feedback on the following operational changes:

- **Winter Drawdown Target Elevations** – Every winter, the reservoirs are drawn down to a certain elevation in preparation for spring runoff. Phase 5 tested two options of drawdown target elevations that incorporate fall antecedent conditions. One option generally lowers the reservoirs less over the winter, compared to current operations, which reduces risk to water supply. The other option lowers reservoirs more over the winter, compared to current operations, which reduces risk to flood control.
- **Winter Drawdown Target Date** – Under current operations, winter drawdown is targeted to be complete by February 1st. This operational change extends the drawdown date to March 1st, which provides a more constant flow in the river through the month of February. This has the potential to decrease ice build-up in the channel and increase environmental benefits (water quality and fish mortality).
- **Spring Maximum Flow Limits** – Under current operations, there are maximum flow limits in the spring at Sherwood and Minot. Dam operators strive to stay under these limits, as long as doing so does not cause dam safety concerns. It is understood that during large floods, like 2011, these flow limits cannot be met. However, the Study Board heard many times from stakeholders that it could be possible to reduce flood damage during smaller floods. This operational change tested further lowering of these flow limits in the spring during smaller flood years.
- **Summer Operating Plan** – It is generally believed that more fleshed-out summer operating rules would be beneficial to add to the current operating plan. This operational change further tested two summer operating options. One option was focused on reducing downstream flood peaks. The other option was focused on reducing downstream flood duration (mimics more closely a natural hydrograph).
- **Apportionment Year Shift** – Apportionment is the agreed-upon sharing of the natural flow of the Souris River between the U.S. and Canada (specifically, it spells out how much water Saskatchewan must deliver to North Dakota). Depending on conditions, the two countries may split the natural flow volume 50-50 or 60-40. Under current operations, the ap-

portionment year is the calendar year (January 1st to December 31st). This operational change modifies the apportionment year to the water year (November 1st to October 31st). Shifting the apportionment year generally results in changing the timing that North Dakota receives its share of the volume. Under certain conditions, it negatively affects how North Dakota can put the water to beneficial use.

Unfortunately, the COVID-19 crisis has adversely impacted the schedule and budget for the International Souris River Study Board as partners divert their attention and resources to support other domestic matters. In June 2020, the Study Board requested an extension, citing mostly delays and complications due to the pandemic. They outlined two options for an extension with Option 1 providing additional money and eight months to review plan formulation and assess the validity of the plan in a climate change context. Option 2 would also provide new money and an additional 10 months to allow review of scenarios and questions arising from the stochastic and climate change modeling for a potential revision to the already completed plan formulation.

If there is not an extension, the letter states that the final report is due to the IJC in March 2021. As of mid-September, the IJC and Study Board are still waiting for a response from the governments on how to proceed. In the meantime, the study team continues its work on engaging with advisory groups and writing reports.

Whatever decision is made by the two countries regarding an extension of the study, Ms. Ackerman anticipates the study’s benefits will continue long after the study has been completed. “I am hoping the study will result in recommendations that benefit both countries,” she said. “I hope we can maximize benefits and continue to learn from each other.”

LEARN MORE ABOUT THE INTERNATIONAL SOURIS RIVER STUDY BOARD’S PROGRESS

After completion of the study, the International Joint Commission will hold a public comment period on the International Souris River Study Board report and consider comments before making a final recommendation to both governments who will be the ultimate decision makers.

The International Souris River Study Board provides frequent updates on study progress on its webpage at <https://bit.ly/3hYfcJO>



FARGO

White Banner UNIFORMS

DEMPSEYS

BROADWAY RIVER MARKET

Starion Bank

Santitas Pizzeria

3RD AVE N

COMMUNITY COFFEES

ENGAGING THE PUBLIC IN MITIGATION

During the summer of 2018, the State Hazard Mitigation Team and the N.D. Department of Emergency Services (NDDDES) mitigation staff initiated a series of Community Coffees to engage the public in mitigation efforts. Community Coffees targeted specific sectors of communities, many of whose voices had never been heard in mitigation planning: senior citizens; homeless individuals; volunteers; public and private health care workers; first responders; service providers; individuals with functional and access needs; federal, state and local elected officials; new Americans and immigrant communities; and local and tribal government employees.

In January 2019, NDDDES decided to continue the Community Coffee initiative in response to positive feedback from North Dakotans who shared their stories of survival, concerns about the state's natural and technological hazards and adversarial threats, along with ideas for mitigation actions that could protect their communities. Following is a summary of comments shared during the Community Coffees conducted during 2019.

Library Square, Mandan, 2 p.m., January 16, 2019

NDDDES selected Library Square in Mandan for the first Community Coffee of 2019. The residents already were familiar with the concept of Community Coffees after hosting the first public outreach event in 2018. During the previous Community Coffee, residents expressed a strong interest in learning more about fire safety and hazard mitigation in their community.

In response, NDDDES mitigation staff coordinated with the Mandan Fire Department and the Morton County Emergency Management Office to arrange a second Community Coffee at Library Square, an affordable, independent living housing complex for senior citizens and individuals with functional and access needs. The event afforded 36 residents the opportunity to ask questions about fire safety with the Mandan Fire Department and to talk directly with their Emergency Manager, Tom Doering, and Assistant Emergency Manager, Cody Mattson, about the hazards and threats facing Morton County.

Fire Safety

When the fire alarm sounds, residents want to know what to do and where to go. Many face mobility challenges that could hinder them when time is of the essence. Uncertainty exists as to where they would safely gather to escape flames. They worry about how the fire department would reach them, particularly if they reside in one of the upper floors of the four-story buildings that comprise Library Square.

Captains Patrick Martin and Shane Weitikol reassured residents the Mandan Fire Department

already has a strategy in place to help residents. Captain Weitikol, who is also a paramedic, discussed how firefighters would access the facility, as they have done countless times when they receive medical assistance calls. Firefighters have arranged for master keys so they can gain admittance without delay. The facility also has the advantage of being located one-half block north of a fire station.

Captain Weitikol reminded residents that the elevators would not be operational during a fire. If stranded in the elevators, he urged residents to use the emergency phones on the elevator panels. The facility also has a sprinkler system, but as the firefighters pointed out, it could cause a significant amount of damage to personal property. If residents are unable to leave their apartments, Captain Weitikol suggested they place wet towels in front of their doors to block smoke. The fire department has the equipment and resources necessary for rescue on all levels of the building. Equipment, such as chair lifts, are also located in the building. As Captains Martin and Weitikol emphasized, service animals are important but priority for rescues would first be placed on residents.



Residents listen to Captain Shane Weitikol as he discusses the strategy for fire response at Library Square.

Hazards and Threats

In Morton County, officials have identified several hazards and threats that could impact residents, from fire to severe winter weather to chemical spills. Mr. Doering and Mr. Mattson introduced the residents to a concept they use to evaluate these concerns, the Threat and Hazard Identification and Risk Assessment (THIRA) process.

The THIRA process helps communities understand threats and hazards along with how the impacts may vary according to time of occurrence, season, location and other community factors. Based on the analysis, communities can assess resources and establish realistic capability targets. Mr. Doering asked the residents to identify the applicable core capabilities, which are the frameworks for measuring, analyzing and implementing security and resilience techniques. These core capabilities span all five mission areas, prevention, preparedness, response, recovery and mitigation. Mr. Doering helped the residents conceptualize the capabilities each hazard presents through use of realistic scenarios, such as a Heart River levee breach.

For winter storm, the residents worried about backup power, particularly for those who are dependent on oxygen. They identified several core capabilities, including critical transportation; infrastructure systems; fatality management services; public information and warning; mass search and rescue operations; and public health, health care and emergency medical services.

Chemical spills are another concern shared by the residents and their surrounding community based on proximity of Library Square to the railroad tracks and major thoroughfares. For this hazard, residents believed the following core capabilities applied: mass care services, mass search and rescue operations.

Residents also saw the need to increase capacity for responding to floods based on critical elements identified in the core capabilities of long-term vulnerability reduction; environmental response; public health, healthcare and emergency medical services; mass care services; mass care search and rescue operations; and critical transportation.

During the Community Coffee, residents also shared their concerns regarding civil unrest, identifying physical protective measures as an applicable core capability. For wildfire, the residents selected mass care services and on-scene security. Tornadoes are also a concern for residents who identified a number of core capabilities including economic recovery; environmental response/health and safety; fatality management services; on-scene security and protection; and public health, healthcare and emergency medical services.

The insights the residents shared will be incorporated into revisions planned for the *Morton County Multi-Hazard Mitigation Plan*.

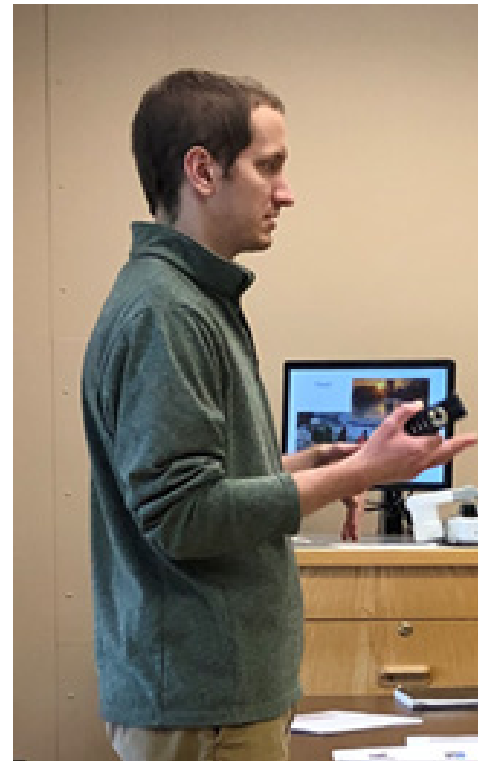
North Dakota State University, Fargo, 11 a.m., March 7, 2019

Future emergency management and business continuity professionals shared their opinions regarding Cass County's natural hazards during a planning class facilitated by Dr. Jessica Jensen, Ph.D., Department Head of the North Dakota State University Emergency Management Program.

Twenty-six students attended a presentation, "The Practicalities of Planning," in which Lake Agassiz Regional Council Program Manager Mitch Calkins, NDDDES Disaster Recovery Chief Justin Messner and NDDDES Deputy Planning Chief Kathleen Donahue discussed planning tools, as well successes and failures that can occur during the planning process. Because of the Federal Information Privacy Act, students provided their names but not their addresses on sign-in sheets.

Natural Hazards in Cass County

As part of the presentation, Mr. Calkins led students through a hazard ranking



Mitch Calkins discusses hazards with NDSU students.

exercise in which he discussed how he analyzed each of the hazards identified in the *Cass County Hazard Mitigation Plan* -- dam failure, drought, extreme cold, flood, geologic hazards, severe summer storms, severe winter weather, urban fire and wildland fire.

Calkins asked the students to complete a hazard assessment worksheet based upon the following risk assessment categories:

Probability — What is the likelihood of a hazard event occurring?

Impact — In terms of injuries, damage, or death, what do you anticipate the impacts will be?

Spatial Extent — How large of an area could be impacted by a hazard event? Are impacts localized or regional?

Warning Time — Is there usually some lead time associated with the hazard event? Have warning measures been implemented?

Duration — How long does the hazard event usually last?

Students gave high rankings to severe winter weather, severe summer weath-

Community Coffee Hazard Rankings

	Probability	Impact	Spatial Extent	Warning Time	Duration
Sev. Winter	3.85	2.38	3.90	1.40	3.41
Extreme Cold	3.43	2.32	3.90	1.32	3.32
Sev. Summer	3.35	1.94	3.35	1.50	2.10
Extreme Heat	2.45	1.95	3.35	1.35	3.05
Tornadoes	2.10	3.10	2.25	3.45	1.30
Flood	3.29	3.05	3.05	2.05	3.59
Drought	1.85	2.25	3.40	1.68	3.79
Dam Failure	1.80	2.70	2.26	2.72	2.44
Geological	2.22	1.90	1.70	2.40	1.81
Urban fire	2.37	2.70	1.70	3.58	1.53
Wildfire	1.63	2.05	2.21	3.21	2.37

er, extreme cold and flood. Lower ratings were given to wildland fire, geologic hazards and drought by many of the students. Results are as follows:

Assessing Current and Future Hazards

Students also answered two questions:

What hazard(s) do you feel needs more attention from local emergency management professionals and elected officials?

Answers also ranged from pollution, geologic hazards, dam failure, cyber security, train derailment/hazardous materials, urban fires, winter storms, tornadoes, overland flooding to drought. One student encouraged flood plans encompass overland flooding, river flooding and sewer backup as another pointed

out snowmelt and rainfall increase the risk of flooding. The student also noted extreme weather impacts low income, homeless and utilities.

Winter hazards because “they are the most prominent to us” and extreme cold ranked high with one respondent discussing risk to bodily warmth. Another student wrote, “Flood is covered quite well already. I would recommend focusing on severe winter and summer weather, tornadoes and potential dam failures.”

Students recommended emphasis on flood planning continue. “Even though it is probably one of the most talked about hazards in Cass County, I believe that it is also one of the biggest threats,” a respondent said. Another student expressed concern about an active shooter incident.

During class, students discussed mitigation, including zoning ordinances, storm shelters, drought education, upgraded drainage systems, and burial of utilities. “I think the city/county/state should build more community shelters, something along the lines of warming houses in winter,” a student wrote, also emphasizing construction of self-powered buildings capable of withstanding tornadoes.

What hazard do you think will increase in frequency and/or severity in the near- to mid-term? (i.e. now through 15 years from now)

The question generated a variety of responses. Students identified drought, severe winter weather, severe summer weather and floods – as increasing in frequency and severity. Students predicted an increase in snow- and ice-related deaths and injuries. One respondent viewed population growth as a trigger for increased urban fires. Overland flooding is expected to increase in frequency. Students saw overtaxed and overused infrastructure as a contributing factor for increased frequency and severity of disasters. “I think summer storms and heat waves will be more severe in the future,” wrote one student. Another believes winter storms will increase in severity if the 2018-2019 winter season is any indication.

Students also shared a concern with climate change as a factor for increased severity of severe summer storms, tornadoes and droughts. “All weather-related events are likely to increase in intensity and frequency,” as one respondent said. Another believes climate change will influence not only winter and summer storms but also flooding.

One respondent viewed geologic hazards as a major risk in the future in terms of landslides, erosion, snowmelt and rainfall. Another flagged active shooter events as a viable concern requiring immediate attention and one that will increase in frequency through the years.

New Americans Community Coffee, Fargo, 2 p.m., March 7, 2019

“Snow, and way too much of it. Frigid temperatures, and way too many days of Arctic blasts.”

Both new Americans and the people who serve them agreed the comments above characterize their feelings about winter. The winter of 2018-2019 served as a sharp reminder of how quickly life-threatening conditions can evolve for the unprepared.

The novelty of snow has faded for our state's new Americans who traveled as many as 8,400 miles to settle in the Fargo area from their countries of origin, where one of the greatest threats in Africa is drought severe enough to create deep crevices in the earth.

New Americans learned about severe winter weather and other natural hazards facing Cass County during a new Americans Community Coffee hosted by Lutheran Social Services of North Dakota. Zeina Abouelazm, an NDSU Emergency Management international student from Egypt, organized the event which was attended by participants representing the New American Consortium, Family Health Care, Cultural Diversity Resource Center, Somali Student Association and the Somali Commu-

nity Development. The Fargo and West Fargo Police Cultural Liaisons attended the meeting along with NDSU international students and representatives of Fargo Emergency Management, Cass County Emergency Management and N.D. Department of Emergency Services.

In total, participants came from nine countries: Somalia, Egypt, Iraq, Kurdistan, Bosnia, Nepal, United States, Afghanistan, Bhutan. Approximately 80 percent of new Americans who move to North Dakota through the Lutheran Social Services Resettlement Program settle in the Fargo area. Immigrants who once accounted for 3 percent of the area's population in the early 1990s now represent 13 percent of residents.

Hazards and Threats

Mitch Calkins, Lake Agassiz Regional Council Program Manager, led a discussion about natural hazards facing Cass County – from dam failure to floods, a common hazard experienced in their countries of origin. new Americans commented

on the heavy snow blanketing the area this winter and wondered what it portends for spring. As one participant said, "It has snowed a lot this year compared to last year." Another shared his concern that flooding likely will evolve when the snow melts. A service provider discussed how vulnerable populations living near the river could be at risk.

Cass County Emergency Manager Jim Prochniak eased concerns by discussing the flood preparedness efforts taking place by city and county officials. As he explained, they plan for the worst-case scenario and will mobilize resources and volunteers to battle floodwaters. In answer to questions about how flooding evolves, Mr. Prochniak explained how snowmelt travels across land and ditches into the Red River of the North and its tributaries, causing river levels to rise. As for the spring flood potential, Mr. Prochniak said, "It has our attention."

Discussions also focused on drought and the sustainability of the aquifers in the area as well as the limited risk posed by geologic hazards. Tornadoes and severe summer weather, however, pose a greater risk. Participants identified heat as a concern for vulnerable populations and discussed how sirens alert the public to danger. Officials discussed how schools prepare for severe summer weather with tornado drills.

New Americans Coffee Hosted by Lutheran Social Services – Cari Logan, Humanitarian Special Projects Team Lead, Lutheran Social Services of North Dakota; Cassie Wiste, Cultural Resources Manager, Cultural Diversity Resources; Community Coffee Organizer Zeina Abouelazm, LSSND Intern; and Vince Kempf, Cultural Resources Officer, Fargo Police Department (Left Photo)

Mr. Calkins identified several concerns related to severe winter weather, including improper operations of space heaters, which could lead to fires. Communications and education issues exist when first responders react to potential fires after new Americans accidentally set off fire alarms when cooking.



Infectious diseases pose another threat since many new Americans are reluctant to undergo influenza shots after undergoing immunizations to obtain their green cards indicating the holder's status to live and work in the USA permanently. Participants also learned about how dam emergency action plans help by outlining protocols for ensuring structural integrity. They rated wildland fire as a low risk for Cass County. For some participants, drought does not pose as great of a risk as it does in their native countries.

Participants expressed concern about how emergency information would be communicated; in response, officials discussed the processes for alerting the public through social media, reverse 9-1-1 and the media. Notification systems have voice prompts for the primary languages spoken by new Americans. The Cass County Emergency Manager reminded new Americans to never drive on flooded roads and to check the county's website for flood-related information. Other preparedness measures include sump pumps and removing snow from window wells. New Americans living in rental units in close proximity to the river were urged to ask property owners about what measures are taken to keep living quarters dry.

"Emergency preparedness starts with the individual," Mr. Prochniak said. He urged the attendees to develop emergency kits with such provisions as canned food, water, cell phones, auxiliary equipment and medications. Participants agreed that community leaders among the immigrants could serve as an invaluable resource for promoting preparedness. Cass County Public Health is a good resource with its multilingual preparedness materials. Participants also recommended development of preparedness videos for immigrants who are illiterate in both their native language and English.

Stark County Community Coffee, Dickinson, 1 p.m., July 23, 2019

Whether it is a tornado, torrential rain, dam failure or severe summer storm, the first responders of Stark County are well versed on potential impacts of hazards and threats. A targeted group of eight first responders shared their experiences during a Community Coffee facilitated by Joel Quanbeck, Planner for KLJ Engineering, and Kathleen Donahue, NDDes Deputy Planning Chief, as part of efforts to develop the Billings-Dunn-Golden Valley-Stark Counties Multi-Hazard Mitigation Plan.

The first responders' experiences and observations provided insights into community concerns. One of the area's largest attraction, Dickinson Reservoir/Patterson Lake, is the largest volume lake in the county. While they acknowledged a potential dam failure could occur, the first responders indicated an emergency action plan would ensure a coordinated response.

Drought increases the risk of wildland fires and could have a huge impact on the agricultural-based economy. While it may not have a visible direct impact on individuals, the cumulative long-term effect would be detrimental to entire



Joel Quanbeck from KLJ Engineering discusses flood risk.

communities, not just the producers.

While spring flooding tops the list of concerns in eastern North Dakota, western areas view the hazard very differently. Instead of widespread overland flooding, the concern is more about ice jams and rapid runoff causing flash flooding at random locations. Responders viewed it as more of a nuisance. Flooding could isolate rural residents, prompting the need for welfare checks. But as one meeting participant said, the impacts would be short lived.

Torrential downpours associated with severe summer weather were of more concern to the responders. As South Heart Fire Chief Jesse Olson said, "Significant flash flooding would cut access to South Heart. Response would be compromised." First responders viewed mobile homes as a major risk factor for severe summer storms. As one participant said, "I haven't seen a community that doesn't have a mobile home." In Dickinson, several mobile home parks are without shelter areas. There were tornadoes in the Richardton, Taylor and Gladstone area during the summer of 2019 and the 2009 Dickinson tornado caused widespread damage and endangered the lives of citizens. Storms have also downed power lines in the Gladstone area.

Montana's mining history poses a geologic threat in terms of abandoned underground mines which may lead to sinkholes. The most concerning to responders is the Binek Coal Mine in the Zenith area near Belfield. Slumping is another concern, as evidenced by the shifting soils and slope failure taking place in the Badlands area near Interstate 94. The potential exists for significant damage.

Winter storms equate to loss of access and power. However, the Stark County Road Department has a good system in place to respond to blocked roads throughout the county and townships. The Belfield and Richardton road shops provide for a distributed response.

In comparison, first responders worried more about a hazardous materials release. Chief Olson discussed the volume of hazardous materials that travel through South Heart. "There is a lot of product that runs through that you don't know until it gets here," he said. A nearby anhydrous ammonia plant in proximity of the town causes concerns especially for a potential release in the middle of the night.

First responders also discussed the wildland fire threat posed by railroads. Railroad companies protect their rail beds by spraying for weeds. But sparks from trains can rapidly ignite the dead weeds, and a fire can extend for miles through terrain that is difficult to access. Overall, large swathes of contiguous grassland and cropland adjacent to cities also pose a risk, prompting participants to discuss the need for defensible space to protect communities. Meeting participants also found urban fires disconcerting since towns, such as Belfield, have vacant historic buildings that share common walls so that a fire in one building could lead to the loss of a whole half block.

Another hazard facing jurisdictions, space weather, could cause significant impacts as the power grid is repaired and electronic systems are rebuilt after an occurrence of a solar flare or electromagnetic pulse event. Infectious disease is also a concern, but one that participants felt was largely mitigated by solid planning initiatives by local public health officials.

Civil disturbances also pose a threat to Stark County communities, but the meeting participants felt a strong tradition of multi-jurisdictional cooperation will position first responders to address this concern. A cyber-attack on the state would have a direct impact on Stark County given the interconnectivity of communications systems. A cyber-attack could impact life-saving services such as 9-1-1.

Participants concluded the meeting with a discussion about the importance of public education in mitigation. As they indicated, misinformation narrows perspectives and undercuts the importance of taking precautions against hazards. However, a robust public education initiative with credible sources will help counter misinformation and limit miscommunication.

Dickey County Community Coffee, Ellendale, 2 p.m., December 10, 2019

Seventeen Dickey County residents evaluated ideas for making their communities more disaster resilient during a Community Coffee facilitated by Emergency Manager Charlie Russell, Executive Director Margie Johnson and Project Manager Traci Redlin of South Central Dakota Regional Council, and Regional Coordinator Bill Brown of the North Dakota Department of Emergency Services

(NDDDES). At the time of the event, the Dickey County planning team was in the final stages of revising the *Dickey County Multi-Jurisdictional Multi-Hazard Mitigation Plan (MJMHMP)*.

Nearly all participants raised their hands when Charlie Russell asked how many participants would be responding to an emergency. Mr. Russell underscored how it takes a large part of a local population to help during an emergency. All agreed more sharing and pooling of resources is taking place with adjoining jurisdictions when it comes to fire, law enforcement and emergency medical services resources.

The multiple roles participants serve in their community is reflective of other smaller communities across North Dakota. It offers a unique perspective into the hazards and threats confronting communities and the ways to mitigate impacts. The Dickey County Mitigation Planning Team assessed the following hazards and threats: transportation accident; severe winter weather; communicable diseases; severe summer weather; wildland fire; flood; hazardous materials release; shortage or outage of critical materials or infrastructure; drought, windstorm; homeland security incident; urban fire/structural collapse; and dam failure.

Traci Redlin led the group through a discussion of which hazards and threats keep them up at night. Flooding worries participants who discussed efforts to sandbag communities. An anomaly occurs in that water runs to the North Dakota-South Dakota state line and backs up, flooding homes. Hay bales left in fields over winter can cause culvert blockages in spring. Participants agreed it would be important to work with state and federal officials to map flood risk in the county.

Anhydrous tank drops in cities also ranked as a major concern. As Mr. Russell asked, if a leak occurred, "What would we do?" The nearest regional hazardous materials team is more than 100 miles away in Fargo. Jamestown has limited resources.

Given the county's dependency on agriculture, participants see drought as a major threat to their communities. Dam failure, on the other hand, was not a major concern since the participants rated the likelihood of failure as low even though also lost several years ago in a flood.

Participants identified an active shooter incident as a major concern, pointing to shooting incidents in Pembina and Wells Counties. Closer to home, Trinity Bible College and Graduate School in Ellendale has been picketed. The new power substation, approximately two miles West of Ellendale, also presents a concern. However, Mr. Russell indicated there are considerable physical protective measures in place for the substation located on 40 acres.

Participants also discussed mitigation strategies for their communities. As they noted, there are no tornado shelters in Dickey County. Displaced residents tend to stay with relatives or friends, and retirement community residents are transported to other, safer communities. However, a designated shelter with a



generator would be beneficial in each community when motorists and out of towners are stranded and looking for a safe place. Township representatives expressed interest in pursuing tornado shelters. However, there is concern how to keep the shelters secured so they are not vandalized or misused and to balance these concerns with allowing quick access during times of emergencies. Residents would need to host a storm shelter on their land, but it does raise the questions of who would open and maintain the shelter. The meeting participants would also like to see additional warning sirens in communities, particularly in Pheasant Lake and Maple River Hutterite Colony.

The community representatives agreed road and infrastructure projects would increase resiliency of their communities but could be a multi-million-dollar project. The Cities of Forbes and Fullerton would benefit from updates to their firefighting equipment. The group also discussed burial of power lines as a mitigation measure; they estimated only 10 percent of Dakota Valley power lines are buried.

NDDes thanks Community Coffee participants for sharing their insights to increase our state's resiliency.

2019, DECADE'S WEATHER SUMMARY FOR NORTH DAKOTA

Prepared by John Paul Martin, Warning Coordination Meteorologist
Bismarck Office of the National Weather Service

2019 Weather Statistics for Bismarck, ND

- Temperature extremes from -33 on January 30 to 94 on August 6
- Only six (6) days with high temperatures 90 or above (average / normal is 21)
- Highest temperature and number of days 90 or above is a testament to it being so wet (holding temperatures back – we usually get a few days with 100+ and 21 with 90+)
- 2nd wettest year on record at Bismarck at 29.58 inches / 1876 had 30.92 inches
- 5th coldest February at -0.4 average (-18.5 from normal)
- Twice as much snow in February than what is average / normal (16 inches versus 8)

Decade 2010-2019 Weather Statistics for Bismarck, ND

Bismarck records back to 1875:

- Three (3) of the wettest years are in this decade, 2013, 2016 and 2019 (side note that 2011 will be 12th wettest overall, 2010 13th wettest, and 2009 14th wettest - so, six (6) of the wettest years back to 1875 occurred in the past 14 years).
- Two (2) of the snowiest winter seasons occurred this decade, 2010-2011 (85.4 inches) and 2016-2017 (71.6 inches). The snowiest winter on record is 1996-1997 with 101.6 inches.
- Three (3) of the warmest years are in this decade, 2012, 2015 and 2016.
- No year this decade is in the top 10 for coldest nor driest.

2019 Weather Statistics for North Dakota (emphasis on west and central)

- Very cold from late January through February and into early March
- Ice Jam flooding in late March especially in McKenzie County and Morton County (and James River, Beaver Creek near Linton, Apple Creek Burleigh County)
- Flash Flood deaths Standing Rock Nation Sioux County 2 deaths and 2 injuries early morning July 9
- Lightning death (1) Schnell Recreation Area near Richardton (Stark County) August 4
- Mott tornado July 12 EF1 105 mph



This 2020 picture of a tornado in Bottineau is courtesy of Russ Korzeniewski, member of the Technical Advisory Committee of the State Hazard Mitigation Team.

- Very early season crippling blizzard October 10-12
- Wettest fall on record for North Dakota led to flooding
- KMBX Doppler Radar lowered lowest scan elevation to improve warning services in northern North Dakota

For North Dakota (statewide) with records back to 1895, in this decade (past 10 years 2010 through 2019):

- 5 of the wettest years on record occurred in this decade: 2010, 2011, 2013, 2016 and 2019
- 1 of the driest years on record occurred in this decade: 2017
- 3 of the warmest years on record occurred in this decade (average yearly temperature):
 - 2012, 2015 and 2016
 - No year this decade is in the top 10 for coldest.
- This decade there have been 286 tornadoes in North Dakota. Of those 286 tornadoes two (2) resulted in deaths. A tornado in Ward County on August 12, 2010 killed one person and injured one person. That tornado crossed from Burke County into Ward. A tornado in McKenzie County, at Watford City, on July 9, 2018 killed one person (a 6 day old infant boy) and injured 28 people.
- This decade there has been one lightning death in North Dakota. That occurred in Stark County, near Richardton, on August 4, 2019.
- This decade there have been three (3) flash flood deaths in North Dakota. One death was in Ransom County, near Lisbon, on June 20, 2013. Two flash flood deaths occurred in Sioux County, on the Standing Rock Nation, on July 9, 2019.
- Deaths resulting from tornadoes, lightning, and flash floods are very rare in the state. In fact, of the 53 counties in the state, 41 of them have not had a tornado death. Records back to 1950 show 27 tornado deaths in North Dakota. Of those 26 tornado deaths, 10 occurred in Fargo on June 20, 1957, and five (5) were in the Elgin area of Grant County, on July 4, 1978. 388 people have been injured in North Dakota from tornadoes.
- Some of the more notable wildfires in the state included one south of Dickinson on March 19, 2012 where two (2) people were injured and two (2) farmsteads were destroyed. Significant wildfires broke out in Slope County from August 24 to 29, 2012. A wildfire in the Bucyrus area of



A North Dakota Army National Guard UH-60 Black Hawk operates with a 600 gallon water bucket April 13, 2015, in support of local authorities responding to a wildfire in Burleigh County, south of Bismarck, North Dakota.

Adams County on October 17 and 18, 2012 caused millions of dollars in damage. A wildfire from April 12 to 14, 2015 just south of Bismarck resulted from an abandoned campfire and forced the evacuation of residents in the area and the University of Mary Campus. And finally, a wildfire in Sioux County, on the Standing Rock Nation, on October 11 and 12, 2015 destroyed homes, a church, and outbuildings in the Cannon Ball area. An elementary school was damaged and school playground equipment was destroyed. That wildfire forced the evacuation of hundreds of people.

- For floods to occur in North Dakota in any given year and at varying locations is almost a given. The most widespread of this flooding is typically in the spring, with winter snowmelt. The year 2011 stands out among flood years not only of this last decade but of modern flood record keeping history. This because of how widespread the flooding was and how devastating it was to so many people. The flooding of the spring and summer of 2011 was historic. Other significant flood years this decade included 2010, 2013, 2014 and 2019.



Building a Weather-Ready Nation

MAIN STREET INITIATIVE BUILDS RESILIENT COMMUNITIES

Community resilience starts on Main Street. Throughout North Dakota, Main Streets are the heart of downtown districts, essential to the continued economic viability and vitality of our communities.

Communities that plan for resilience are more flexible to “weather” disasters and adapt to changing economic environments. They are invested in the three pillars of Gov. Doug Burgum’s Main Street Initiative: a skilled 21st century workforce; smart, efficient infrastructure; and healthy, vibrant communities.

The State Hazard Mitigation Team (SHMT) frequently collaborates with the Main Street team at the North Dakota Department of Commerce to advance mitigation and resiliency initiatives that underscore the three pillars of the Main Street Initiative.

“Since the COVID-19 pandemic first impacted North Dakota, resiliency and economic development have emerged as top priorities for our state,” said Shawn Kessel, interim director of Commerce and member of the Technical Advisory Committee that directs the activities of the SHMT. “Now, more than ever before, we need to bring together North Dakota’s community leaders of all types to discuss resiliency.”

Commerce will be hosting the 2020 Main Street ND Summit, a virtual event slated for Oct. 6-7, <https://www.nd.gov/living-nd/main-street-nd/take-action/main-street-summit>. With a focus on **Building Resilient Communities**, the conference will be presented in partnership with the Economic Development Association of North Dakota, the North Dakota Council on the Arts and Prairie Family Business Association. Participants will have the opportunity to bring innovative ideas from world-class keynote and breakout session speakers back to their communities to effect change at the local level.

For the past two years, SHMT partners have supported the Main Street ND Summit. For the 2020 Summit, North Dakota Homeland Security Director Cody Schulz will be providing an overview of resilience opportunities available through Hazard Mitigation Assistance. The N.D. Department of Emergency Services (NDDDES) is accepting applications for the Building Resilient Infrastructure and Communities and Flood Mitigation Assistance through Dec. 30, 2020.

Some of the projects admissible under the grant coincide well with the goals of Main Street communities. They include: property acquisition/demolition and relocation, structure elevation, mitigation reconstruction, dry floodproofing, critical facility generators, flood risk reduction, structural and non-structural retrofitting, safe room construction, infrastructure retrofitting, soil stabilization, wildfire mitigation, utility protection and multi-hazard mitigation plan (MHMP) creation/updates.



Director Schulz will also facilitate two sessions on resilience during the summit. The first session focuses on resilience and how the U.S. Economic Development Administration (EDA) and the Federal Emergency Management Agency (FEMA) are addressing resilience at the individual, local, state and tribal levels during times of COVID-19. The second session, Planning for Resiliency/Plan Integration in the State of North Dakota, will outline opportunities to integrate local and regional plans when updating communities’ MHMPs and the EDA Comprehensive Development Strategy plans.

Last year, NDDDES and FEMA supported the 2019 Main Street ND Summit attended by more than 1,400 community leaders, students and stakeholders. Director Schulz moderated a panel that focused on community resilience and using a “whole-of-community” approach when recovering from disasters. 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.

Logan Sand, Kari Goetz, the Grand Forks County emergency manager, and Kathleen Donahue, NDDDES deputy planning chief, participated on a panel titled “Community Planning 101.” Panelists emphasized the importance of hazard

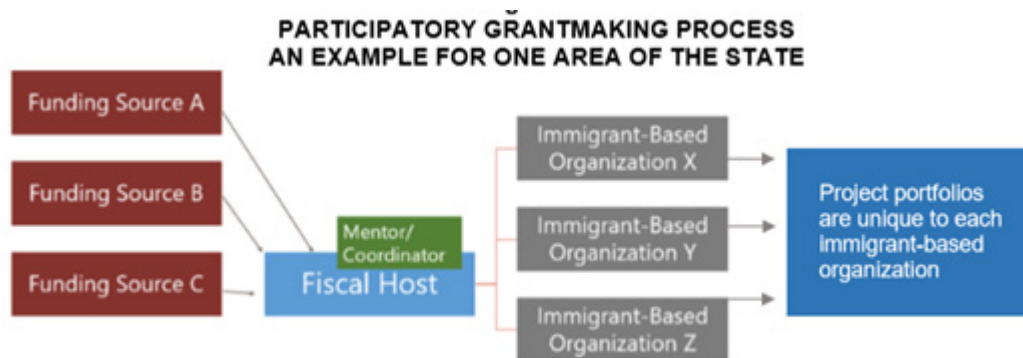
IMMIGRANT COMMUNITIES OUTREACH AND SUPPORT STRATEGY: COMMUNITY LED, COMMUNITY APPROVED

Zeina Abouelazm,
NDES Contingency Planner | NDSU Intern

This year was full of unexpected events. Who would have thought that the state of North Dakota, let alone the whole world, would be fighting a pandemic that seems to be foreign to even the most experienced professionals? The presence of such a critical pandemic left many citizens of North Dakota in a state of the unknown. COVID-19 had great impacts on the state, as well as individuals and households in various ways. A group that experienced high vulnerability, great impacts and little guidance were immigrants and immigrant communities.

The Health Equity Office (HEO) of the North Dakota Department of Health (NDDoH), helped to elevate these concerns to the State Unified Command whose members directed development of a strategy to help immigrants and immigrant communities. Alicia Belay, MPH, Ph.D., from the HEO was joined by two contingency planners from the North Dakota Department of Emergency Services, Carron Day and Zeina Abouelazm, and tasked with creating Immigrant and Immigrant Communities Outreach and Support Strategy that acts as a guiding document for response and recovery efforts targeting the immigrant community. Representatives of state agencies and non-profit agencies, many of whom serve on the State Hazard Mitigation Team (SHMT), provided technical support for strategy development. The strategy is now serving as a tool for the SHMT's new Hazard and Threat Outreach and Education Committee.

The strategy identified, to the best of its ability, the different immigrant groups present in the state of North Dakota as well as the ones most vulner-



able ones (federally resettled immigrants through Lutheran Social Services, post resettlement groups, spouses & others, and migrant workers). In an effort to encompass local input into such strategy and gather information about the different needs in the community and the best way to reach the intended community, the Health Equity Office coordinated weekly virtual calls in different areas of the state including Jamestown, Dickinson, Fargo, Bismarck, Grand Forks, Williston and Minot. Carron Day and Zeina Abouelazm were often present on such calls to assist Alicia Belay in note taking and to participate in the conversation.

As a result of extensive research, the weekly held calls and personal outreach efforts, the team was able to complete an abbreviated needs assessment which identified three main areas of needs that face immigrants and immigrant communities in the state of North Dakota as a result of COVID-19. These were: communication, social and economic needs.

Communication needs encompassed the need for translated materials, audio content from trusted figures, information access and the identification

of community leaders and trusted advisers in the different parts of North Dakota. Social needs included overcoming the sense of shame and stigma that comes with COVID-19, the impacts of isolation on community ties, behavioral health impacts and the impacts on K-12 learning and barriers that students face including at times having little guidance from parents due to several reasons, such as linguistic barriers and lack of access to technology. Economic needs included those of individuals and families, such as food security, employment, family dependents and the purchase of personal protective equipment (PPE supplies); as well as needs of small businesses, a huge need in all communities. This included limited financial and business development information, religious barriers that impact a business's ability to pay interest to a bank, not being able to meet several business requirements like banking and payroll records requirements, and language challenges.

After identifying such needs, five interconnected strategies were proposed for consideration. A community-led network model and the participatory

grant making concept are specific proposals shown in the graphs below and on the opposite page. Other strategies were grouped into three groups: representing proposed responses to communications, social and economic needs.

A few points that were very apparent through this effort are that different communities have different needs, there are often volunteer services in place for most communities that are led by community members. Yet, there is a constant lack of funding and capacity of such volunteers. In addition, immigrants often accept more help from trusted community members. As a result, the Community-Led Network Model and participatory grant making were proposed by this team as a guiding approach to meeting the different needs of communities.

A community-led network was designed to provide support, oversight and information access to an immigrant community and each individual immigrant's path to self-sufficiency and integration into their new home. Present programs effectively leveraging community networks, such as the ESHARA, an ethnic self-help alliance serving refugees in the Fargo/Moorhead metro area, is already reaching communities during the COVID-19 pandemic. These programs have been developed by immigrant groups for implementation within their own respective communities. The ESHARA model works, because it is developed on the foundation of the existing communication and support structure among immigrant communities. The strategy proposed the use of a similar model on a state level which allows for more control on the local level with the state guidance and providence of financial opportunities when present. Ideally, the state would identify community leaders/advisers in different communities who would act as program and fund managers in their specific communities. These leaders would be responsible for identifying the needs specific to their own community and working on meeting such needs with the funds and guidance provided at the state level. The graphs featured here show how a

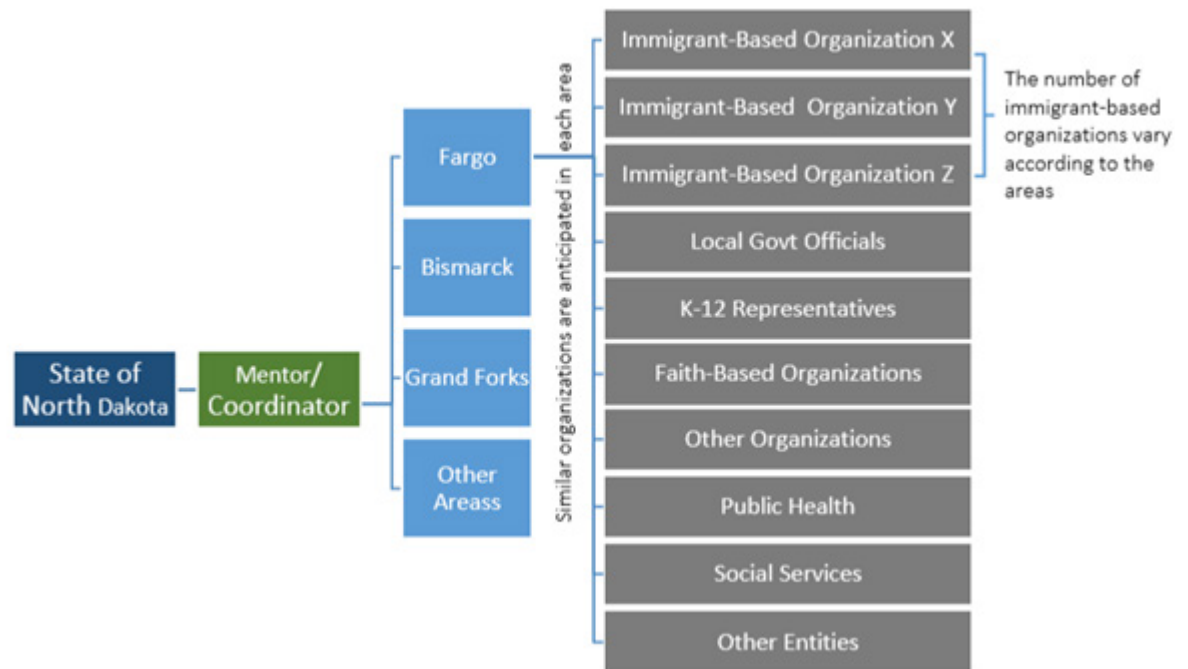
community-led network model and participatory grant making work together.

The proposed strategy showcased the need for more communication and local participation at the state level. As a result, several initiatives were conducted. The Office of Health Equity created the NFI Advisory Board (also known as the New American, Foreign-born and Immigrant Advisory board), which includes 30+ immigrant community members who act as liaisons and as representatives of their communities at the state level both during and after COVID-19. Moreover the North Dakota Department of Emergency Services is looking at different hazard education possibilities and initiatives that would target specific needs of communities, based on their

input. A potential proposal right now is the use of hazard mitigation funds to create community specific education opportunities based on their need; for instance, having educational videos in one region while conducting an in-person fire safety exercise in another.

While the Immigrant and Immigrant Communities Outreach and Support Strategy initiative started with a focus on COVID-19, it is apparent that such community constantly has economic, communication and social needs that are often not conveyed at the state level. As a result, efforts to reach the different needs of the immigrant communities will continue beyond those of the pandemic through different state agencies efforts.

COMMUNITY-LED NETWORK MODEL



MY PART IN THE FIGHT AGAINST COVID-19

*M. Cole Baker,
NDDDES Contingency Planner | Intern,
NDSU Emergency Management Student*

When I awoke on the morning of March 24, 2020, I had no idea what would be in store for me. I had been working as a security guard for two weeks and COVID-19 was on everyone's mind. I remember thinking that day that I had applied for an internship in Duluth and still had not heard from them. I was starting to get worried I might not have one for the summer.

When I got home that night, I had missed a call from both my advisor and teacher, so I immediately called them back. The conversation was very brief. Before I could even say hello, Carol Cwiak, Ph.D., Associate Professor at North Dakota State University (NDSU), asked, "You worked Logistics in the Marines, right?" "Yeah, among other things," I replied. "Do you need an internship still?" she asked. "Yes," I replied starting to get confused. "Good, can you be in Bismarck at noon in two days?" she asked. I responded, "Yeah, why?" She then said, "Good. You now work for the North Dakota Department of Emergency Services (NDDDES) at the State Emergency Operations Center (SEOC) in Bismarck. Good luck! I will send you more details in an email. Goodbye."

Before I could respond, she hung up. I could not believe it. It had finally happened; I was finally in the fight.

That was six months ago and my time with NDDDES was amazing. I have had so many wonderful opportunities to learn new things and work with some amazing people. The amount of knowledge I have gained working with people who have been fighting disasters for decades is immeasurable. I started off in Logistics acquiring fit testing kits for N95 masks when the team was trying to get as many of them to

the hospitals as they could. Nobody thought to look at the sugar refineries and beet plants but coming from an agricultural background I figured they had to have some. Turned out I was right, and we were able to get a few from them and sent to hospitals in Fargo. Shortly thereafter I was sent to the warehouse because I made mention that I could operate a forklift as they desperately needed forklift drivers to load the trucks and move material. I did that for two weeks before they thought I should get some experience in contingency planning working under Sean Johnson, Plans Section Chief. They sent me there and that is where I stayed for the remainder of my time with NDDDES.

Working as a contingency planner was a spectacular time, seeing the inner workings of how the SEOC operated and providing assistance as follows:

- Researching for not one but two Presidential Disaster Declarations;
- Staying in contact with all the county emergency managers around the state and putting together a matrix to track their road conditions;
- Helping with the immigrants and immigrant communities project to get COVID information to people who might not speak English;
- Putting together a briefing for the State Hazard Mitigation Team (SHMT) annual meeting on Enhanced Benefit status that was granted to North Dakota by the Federal Emergency Management Agency;
- Learning about the inner workings of the SHMT;
- Working on Operation Future which was a student-based project by NDSU interns on how to get masks to people; and
- Facilitating meetings and meeting dozens of interesting people from all around the country and different organizations.



I could not have been more fortunate to have this job and the people I worked with including Sean Johnson, Kathleen Donahue, Zeina Abouelazm, Ben Snyder, and Jordan Christianson just to name a few. I look forward to working with them again in the future once I have graduated.

M. Cole Baker, a student at North Dakota State University, is pursuing a major in emergency management with a minor in sociology. He served as a contingency planner and an intern during March through August with NDDDES. During his internship, Cole has worked in logistics and has worked on several projects with the agency's Planning Section. Projects included developing a mitigation action tracker for use by the State Hazard Mitigation Team; assisting with two presidential disaster declarations; and conducting data analysis and research on trends in other states during the COVID-19 pandemic.



DIAL
911

ND Department of Emergency Services
Ensuring a safe and secure homeland for all North Dakotians



N.D. NATIONAL GUARD

030

NORTH DAKOTA EXPERIENCES A WIDE ARRAY OF DISASTERS

Staff members at the N.D. Department of Emergency Services (NDDDES) have coordinated state response for wildland fires, hazardous material spills, potable water shortages, missing persons, Amber Alerts, downed/missing aircraft, train derailments, flooding, severe winter storms, tornadoes, power outages, hail, rain and high-wind storms that produced significant property damage and threatened lives.

Between January 1, 2019, and July 31, 2020, there were 1,927 hazardous materials incidents reported. Hazardous materials incidents and other releases/spills during this timeframe include:

- 1,306 oil spill reports
- 534 environmental incident reports
- 87 National Response Center (NRC) flash faxes

Examples of larger incidents include:

2019-2020 Events

Over the past two years, North Dakota has received five federal declarations – three of which were for flooding – bringing needed assistance to communities struggling to repair widespread damage to infrastructure. The state also has received two declarations for COVID-19, which has greatly enhanced its capability to address the rapidly evolving impacts of the global pandemic.

March 21, 2019 – April 28, 2019 – Flooding

Presidential Disaster Declaration (*FEMA-DR-4444-ND*) granted for widespread spring flooding across western, south-central and eastern North Dakota during March 21, 2019 – April 28, 2019.

Flooding occurred throughout the state, including areas seldom subjected to high waters, including rivers in western North Dakota.

Preliminary damage assessments indicated more than \$8.4 million in damages.

October 9-26, 2019 – Flooding, Heavy Rain, Snowstorm

Presidential Disaster Declaration (*FEMA-DR-4475-ND*) granted for flooding from heavy rain, snowstorm between October 9 and October 26, 2019.

ND experienced a trio of weather extremes this year, from spring flooding to

State agency representatives began meeting to discuss spring flood preparations in December 2019.



a severe summer drought to the wettest August-to-October period in 125 years of recordkeeping.

A rain and snow event October 9-12 led to unprecedented fall flooding; up to three feet of snow fell in portions of northeastern North Dakota.

Impacts of the storm that dumped heavy rain and snow on a large swatch of the state caused up to \$9.7 million in damage to public infrastructure in 15 counties, according to preliminary damage assessments.

January 20, 2020 and Continuing

Presidential Emergency Declaration (*FEMA-EM-3477-ND*) and Presidential Disaster Declaration (*FEMA-DR-4509-ND*) for COVID-19 Pandemic from January 20, 2020 and continuing

April 1-20, 2020 – Flooding

Presidential Disaster Declaration (*FEMA-DR-4553-ND*) granted for flooding between April 1 and April 20, 2020.

Widespread spring flooding estimated to have caused more than \$40 million in damages to roads and other public infrastructure in 21 counties.

River and overland flooding caused significant damage to roads, bridges and culverts in counties that were already heavily burdened by recovery costs from significant spring and fall flooding in 2019.

June 29-July 1, 2020 – Severe Summer Storm and Flash Flooding

On August 31, 2020, Governor Burgum requested a presidential major disaster declaration for a severe summer storm that caused flash flooding in six counties and resulted in more than \$5 million in damage to roads and infrastructure.

The June 29-July 1 storm destroyed infrastructure and damaged homes with high winds, hail and four to eight inches of rain in some areas. In a few short hours, this impactful storm swamped fields and pastures, washed out roads, damaged bridges and railroad tracks, flooded basements, destroyed electrical equipment and knocked out power to thousands of North Dakotans.

An aerial view of the Sorlie Bridge in Grand Forks shows elevated water levels on the Red River during spring 2020.



AN ALL-INCLUSIVE LONG-RANGE TRANSPORTATION PLAN

Zeina Abouelazm,
NDDDES Contingency Planner | NDSU Intern

The citizens of North Dakota are always on the go; biking, driving, walking, or even flying. The state's new Long-Range Transportation plan strives to encompass all means of transportation.

The plan is also referred to as Transportation Connection and is an update from the last developed plan in 2012. This plan aims to focus on new and innovative public engagement with a variety of different stakeholders, a performance-measured approach, and implementation actions.

As a part of public engagement, the N.D. Department of Transportation (NDDOT) is conducting several outreach efforts to stakeholders in our state to get more insights and feedback for this new policy-level

plan. Emergency Services and Emergency Management stakeholders were essential partners who needed to be involved in this effort. As a result, the North Dakota Department of Emergency Services (NDDDES) helped coordinate and introduce this effort through virtual regional emergency management meetings that included the state's northwest, northeast, southwest, and southeast regions. The meetings were a great success with over a hundred participants including emergency managers and their hazard mitigation teams.

The conversations varied based on the jurisdictions. Meetings encompassed introduction slides presented by the NDSU Emergency Management students and interns, Cole Baker and Zeina Abouelazm, who gave a brief background about transportation incidents and patterns in the state. Zeina and Cole also discussed mitigation actions that can be taken to reduce the risk of such incidents. Following that, the NDDOT gave a presentation which showcased an overview of the Long-Range Transportation plan, its phases, and key goals which are:

- Coordinate with state, regional, tribal, and local planning partners
- Connect with a wide variety of audiences
- Tell the Story of Transportation in ND
- Understand customer expectations and priorities
- Gauge willingness to pay and desired performance

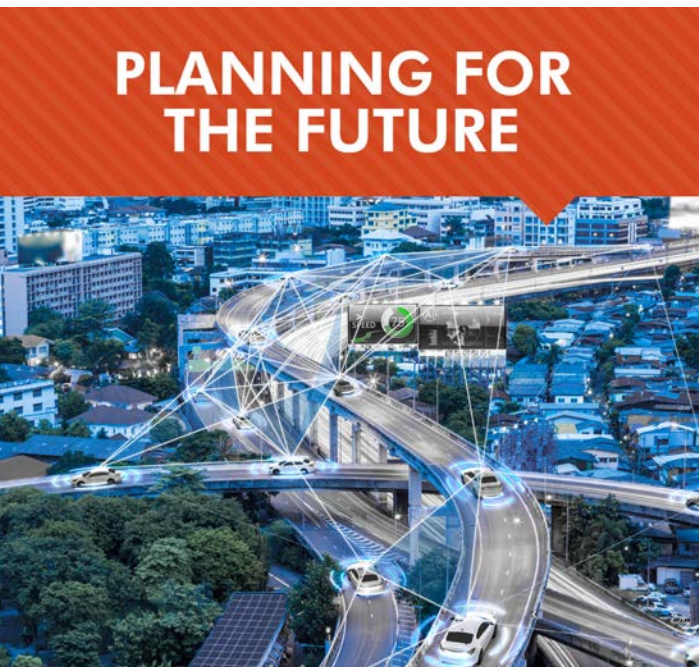
Finally, there was an interactive poll at the end to get the input of attendees regarding transportation planning in the state, the future of transportation, and needed transportation improvements to enhance mitigation and resiliency. Overall, feedback greatly varied between jurisdictions and individuals. However, everyone agreed that transportation should be included in emergency management



Zeina Abouelazm, a student at North Dakota State University, is pursuing a double major in communication and emergency management who served as an intern with NDDDES during the summer of 2020. During her internship, Zeina has worked on several projects with the agency's Planning Section, including developing a risk assessment tracker to use by the State Hazard Mitigation Team. She also has assisted with the state's COVID-19 response by working with state agencies and non-profit organizations to explore ways in which to reach immigrant communities to provide emergency information during the pandemic.

plans to ensure the overall safety of a community.

The annual State Hazard Mitigation Team (SHMT) featured the Transportation Connections in August 2020. The SHMT plans to incorporate recommendations into the *Enhanced Mitigation Mission Area Operations Plan*. More information on this plan can be found at the NDDOT project website (www.transportationconnection.org) as well as the NDDOT Facebook/ Twitter/ Instagram pages.



IMPROVING RESILIENCY IN RURAL NORTH DAKOTA

The N.D. Department of Transportation (NDDOT) has received \$22 million from the 2020 Better Utilizing Investments to Leverage Development (BUILD) grant. The competitive grant, awarded through the U.S. Department of Transportation, is designed to repair, rebuild and revitalize transportation systems across America.

North Dakota's congressional delegation announced the awards on September 14, 2020. "Inaccessible roadways create a real public safety concern, potentially blocking access to life-saving emergency response crews, not to mention they can be a real hindrance for residents. This \$22 million grant will provide vital resources to repair roadways in our state and improve public safety," said Senator John Hoeven, a member of the Senate Transportation, Housing and Urban Development Appropriations Committee. "We appreciate Secretary Elaine Chao advancing this grant to North Dakota as it will improve the long-term resiliency of North Dakota's roadways and systems."

"An investment in infrastructure is an investment in our communities," said Senator Kevin Cramer. "We appreciate President Trump for his commitment to revitalizing our nation's roads and bridges, and Secretary Chao for approving the BUILD grant North Dakota requested, which will improve our highways and protect them from natural disasters."

"We've seen time and again the inconvenience and danger associated with flooded roads. This funding is essential to ensuring North Dakotans have access to safe, reliable, and efficient transportation," said Congressman Kelly Armstrong. "We thank Secretary Chao for recognizing the unique challenges faced in our state and appreciate her commitment to rebuilding our country's infrastructure in a meaningful way."

Funds will be leveraged to raise the grade of roadways at 12 different locations along North Dakota's rural highways and Interstate 94 in various areas of the state in order to reduce occasional road closures. These closures are necessitated by seasonal water accumulation and road flooding in local drainage basins. The topography and seasonal climate patterns of North Dakota result in frequent flooding of closed drainage basins, "prairie potholes." Grade raises will eliminate costly detours, improve roadway resiliency and reduce the environmental impacts caused by flooding.

The locations of grade raises are as follows:

US Highway 83

- Route Position (RP) 184.000

ND Highway 3

- RP 130.000
- RP 137.000

ND Highway 15

- RP 88.000

ND Highway 20

- RP 54.800-56.500

US Highway 52

- RP 130.000

ND Highway 14

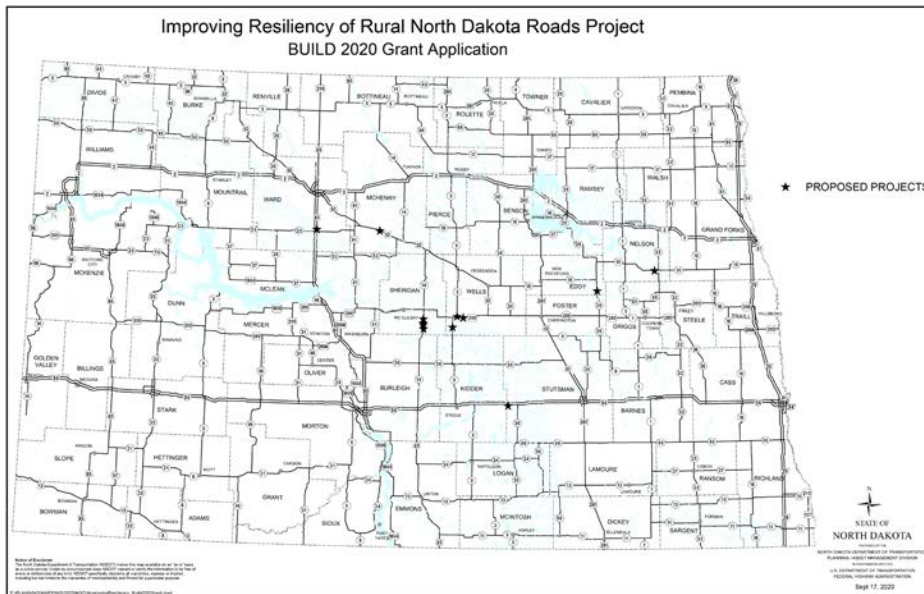
- RP 36.917
- RP 39.200
- RP 39.700
- RP 39.825

ND Highway 200

- RP 257.9

I-94

- RP 223.9 (Rest Area Lagoon)



2019-2020 Mitigation Action Updates

Changes in **red** are new additions by State Hazard Mitigation Team partners to Actions and Action/Strategy Description. Otherwise, 2019-2020 Status reports appear in black except for new agencies added to tasks. Those items appear in **red**.

Action ID #	Action Title	Action (Statement)	Action/Strategy Description	2019-2020 Status – 1/1/2019 – 7/31/2020
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>North Dakota Department of Emergency Services (NDES):</p> <ul style="list-style-type: none"> 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. Held five Community Coffees in 2019 with new Americans, North Dakota State University (NDSU) students, seniors, first responders, and local hazard mitigation teams in collaboration with Emergency Managers from Fargo/Cass, Dickey, Stark and Morton County Emergency Management; Lutheran Social Services; NDSU; and KLJ Engineering. Assisted emergency managers in the completion of local Threat and Hazard Identification and Risk Assessments (THIRAs). Conducted 4 regional training sessions on how to complete the THIRA tool. <p>ND Forest Service (NDFS):</p> <ul style="list-style-type: none"> Provided municipal tree inventories and emerald ash borer (EAB) mitigation plans to 18 small communities. 100 communities now have plans. Provided cost-share assistance to communities preparing for and diversifying tree species ahead of the arrival of EAB.

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				<ul style="list-style-type: none"> • Trained 205 natural resource professionals in EAB identification and mitigation options. ND State Water Commission (SWC): • Participated and contributed to the statewide mitigation plan through collaborative meetings. ND State Fire Marshal: ▪ Support and attend all planning sessions with NDDDES. NDSU Extension: • Extension agents have been providing technical assistance to local and tribal mitigation planning teams to understand hazard and threat impacts on the agricultural community. ND Department of Agriculture and Animal Health Division: • Conducted a review of the infectious diseases annex for the Hettinger County Hazard Mitigation Team. Participated in a number of county Mitigation Planning processes to review and support county processes ND Department of Transportation (DOT): • Provided feedback on the Roads Acting as Dams (RAAD) portions of the Spirit Lake MHMP ND Geological Survey: • Reviewed the geologic hazard profile for the Rolette County Hazard Mitigation Team.
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	<p>NDDDES:</p> <ul style="list-style-type: none"> • Developed and implemented a process for tracking hazard- and threat-related informational links. Project still under development.

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			State's building code program; samples of best practices and development of the North Dakota Reference guide: Key Hazard Mitigation Planning Considerations.	
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"> • Floodplain ordinances • Defensible space (fire prevention) • Snow load building requirements 	<p>NDDES:</p> <ul style="list-style-type: none"> • Emphasized importance of building codes and zoning ordinances during a G318 Hazard Mitigation Workshop in Fargo in 2019. <p>NDDES and ND Department of Commerce:</p> <ul style="list-style-type: none"> • Encourage local and tribal planning teams to consider reviewing/enhancing building codes and zoning ordinances, as part of technical assistance efforts.
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>NDDES & State Historical Society:</p> <ul style="list-style-type: none"> • Conducted a meeting with a Federal Emergency Management Agency (FEMA) partner to discuss potential training/integration opportunities. COVID-19 response postponed efforts. <p>NDSU Extension:</p> <ul style="list-style-type: none"> • As part of response to events in 2019 and 2020, Extension staff members has made available information on mitigation measures to preserve historical and cultural resources to response and recovery workers and citizens.
2019-5	Basin-wide Water Management Planning	Conduct comprehensive basin-wide watershed management planning in the five	This action ensures comprehensive basin-wide water development planning in the seven major basins in North Dakota – the upper and lower Missouri River Basins, the	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> • The SWC provides funding and technical assistance for basin-wide water and land management planning. This has included assistance to Joint Water Resource Boards (JWRB).

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		major basins in North Dakota.	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.	<ul style="list-style-type: none"> On a biennial basis, the Water Commission completes a Water Development Plan. As required by NDCC 61-02-01.3, the Water Commission 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. Also see Souris Basin Dams Mitigation Action
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>ND State Fire Marshal:</p> <ul style="list-style-type: none"> Meet with local fire chiefs and Emergency Managers to discuss local issues. Emails sent to County Emergency Managers (EMs) requesting invitation to meetings <ul style="list-style-type: none"> Attended three County EM meetings Approximately 50 local fire chief visits conducted <p>NDDES and ND Department of Commerce:</p> <ul style="list-style-type: none"> NDDES will be supporting an initiative by the ND Department of Commerce to promote comprehensive planning during the October 2020 Main Street Summit. <p>ND State Water Commission:</p> <ul style="list-style-type: none"> The SWC provides funding and technical assistance for basin-wide water and land management planning. This has included assistance to Joint Water Resource Boards. On a biennial basis, the Water Commission completes a Water Development Plan. As required by NDCC 61-02-01.3, the Water Commission shall

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				<p>develop and maintain a comprehensive water development plan that includes a water project inventory. The last Water Development Plan was completed in January 2019.</p> <ul style="list-style-type: none"> • Completed flood risk reduction investigation for the City of Strasburg (Emmons County) • Working on flood risk reduction investigations for the City of Zap (Mercer County), Spiritwood Lake (Stutsman County), and Rice Lake (Emmons County)
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>NDDDES and ND Department of Commerce:</p> <ul style="list-style-type: none"> • 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 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. • 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. • 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, Highway Patrol, Game and Fish Department, Housing Finance

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				Agency, Workforce Safety and Insurance, Department of Transportation, Department of Human Services, Public Finance Authority, Information Technology Department, Department of Parks and Recreation, State Water Commission, Department of Agriculture, Office of Management and Budget, and NDDES.
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 action calls for integrating data from the CWPPs into mitigation plans and leveraging mitigation plan data to inform the CWPPs.	<p>ND Forest Service and ND State Fire Marshal (NDSFM):</p> <ul style="list-style-type: none"> ▪ Collaborate on promotion of Firewise and Community Wildfire Protection Plans (CWPPs). ▪ Promote State software contract for free fire reporting. Work with Bureau of Indian Affairs to identify issues and solutions that NDSFM can help with. Approximately 30 fire departments have begun reporting fires through the contract. ▪ NDSFM has not met with Bureau of Indian Affairs yet.
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>ND Department of Environmental Quality (NDDEQ):</p> <ul style="list-style-type: none"> • 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. <p>NDDES:</p> <ul style="list-style-type: none"> • NDDES developed a template for debris management for local and tribal communities to adapt to their needs.

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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 cultural resources; sustainability; and revitalization of the economy; and social and natural environment systems.	<p>NDDes:</p> <ul style="list-style-type: none"> Developed and implemented a process for recovery informational links. Project still under development.
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>NDSWC:</p> <ul style="list-style-type: none"> Efforts to track and maintain copies of existing EAP's and ensure compliance with NDCC 61-03-25 are ongoing. <p>U.S. Bureau of Reclamation:</p> <ul style="list-style-type: none"> Reclamation conducted the yearly EAP orientation exercises for Dickinson Dam (February 26, 2020); Jamestown Dam (March 11, 2020) and Heart Butte Dam (March 3, 2020) <p>Natural Resources Conservation Service:</p> <ul style="list-style-type: none"> No EAPs were updated during this time period; however, dam assessments were initiated at Mott, English Coulee, and Upper Turtle River Dam 5 (to be completed 12/20).
2019-12	Dam Rehabilitation	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	<p>Natural Resources Conservation Service:</p> <ul style="list-style-type: none"> Rehabilitation planning for Matecjek, Fordville, Bylin, Senator Young, Olson, Bourbanis, and Larimore dams is ongoing.

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			consequences if a failure were to occur.	
2019-13	Geographic Information Systems (GIS) Data Improvement/ Data Creation	Identify possible GIS Improvements or Data Creation.	<p>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> <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>ND Information Technology:</p> <ul style="list-style-type: none"> ND Information Technology has made State Agency GIS data available for viewing, downloading, and web streaming via the State's GIS Hub. More information is available from https://www.gis.nd.gov/ <p>ND State Water Commission:</p> <ul style="list-style-type: none"> The SWC's GIS data is displayed and available from our web mapping service, https://mapservice.swc.nd.gov/. This also pertains to ND Risk Assessment Map (NDRAM) regarding flood inundation data, https://ndram.swc.nd.gov/. <p>ND State Fire Marshal:</p> <ul style="list-style-type: none"> Share fire department coverage updates with NDDES/ND State Radio/ND Information Technology to increase accuracy of response GIS maps. Built software capable of sharing coverage updates. Need to get NDDES login to extract data updates. <p>ND Department of Health:</p> <ul style="list-style-type: none"> Conducted a three-day GIS training planned for the summer of 2020 with the CDC. Due to COVID-19 along with local public health and the statewide response teams continuous work in the response the training was cancelled. <p>ND Department of Environmental Quality, ND Department of Health (NDDOH), NDDES:</p> <ul style="list-style-type: none"> 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.

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				<p>Benefits included continued interagency coordination and sharing of geospatial data allows for rapid response. Gap identified included maintenance of NDDOH geospatial data.</p> <p>ND Forest Service</p> <ul style="list-style-type: none"> Created high-resolution tree cover map for 49 counties, with 4 left to complete, through USDA Forest Service Great Plains Initiative II. Currently under review. Interactive map will be available on USDA FS site. Created map of highly erodible cropped soils as potential strategic locations for windbreaks to mitigate climate effects. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> 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. <p>ND Department of Transportation:</p> <ul style="list-style-type: none"> 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.
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 Fargo	<p>ND Geological Survey:</p> <ul style="list-style-type: none"> 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

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			<p>areas. 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>	<p>with current coverage of 75 % (1,100 of 1,467 quads) of the state. So far, the Survey has mapped 30,186 landslides: https://www.dmr.nd.gov/ndgs/landslides/</p> <ul style="list-style-type: none"> 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: https://www.dmr.nd.gov/ndgs/lidar/
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 potential damages and benefits, and provide a narrative for each identified project to determine its general effectiveness in mitigating damages.</p>	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> SWC has an economist on staff evaluating benefits and costs of flood hazard reduction projects which apply for funding through the SWC cost-share program. <p>ND Department of Transportation:</p> <ul style="list-style-type: none"> 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. <p>NDDDES:</p> <ul style="list-style-type: none"> Plans are under development to identify SHMT with interest to support a Losses Avoided Committee. <p>Natural Resource Conservation Service:</p> <ul style="list-style-type: none"> 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

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				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.
2019-16	North Dakota Silver Jackets	Enact basin wide hydrologic studies.	The North Dakota Silver Jackets program fosters an interagency approach to reduce the threat, vulnerability, and consequence of flooding. The program promotes basin-wide hydrological studies to determine potential flood control projects, measures, and mitigation activities. These efforts currently encompass the Mouse, James, Sheyenne, and Red River Basins and may be expanded to other basins.	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> • ND Statewide Probable Maximum Precipitation (PMP) Analysis: The SWC 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 is being conducted by Applied Weather Associates and scheduled for completion in May 2021. • ND LiDAR Acquisition: Currently the SWC has acquired LiDAR for the entire state and it is available to all federal, state and public entities through the Water Commission's 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. • ND Risk Assessment Map (NDRAM) Enhancement: The SWC 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 NDSWC'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.

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				<ul style="list-style-type: none"> • Missouri River Basin Non-Stationarity Study: The SWC and ND Silver Jackets are partnering with the United 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. • 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. • 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. • 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

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				<p>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 owners look at their FEMA map compared to the USGS gage sites.</p> <ul style="list-style-type: none"> • Souris River Basin (SRB) Temperature and Soil 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.
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>ND State Water Commission:</p> <ul style="list-style-type: none"> • Continued to provide funding • Provided work-in-kind for various technical and administrative tasks • Assisted with facilitation of workshops with advisory groups • Participated on the Resource and Agency Advisory Groups, including being co-chair
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 water use during drought.	<p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> • Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans.

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2019-19	Hazardous Materials Flow Study – Project Completed	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 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.	<p>NDDDES:</p> <ul style="list-style-type: none"> Completed statewide Flow Study. With Hazardous Materials Emergency Preparedness (HMEP) dollars NDDDES conducted a Flow Study across the state. 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>NDDDES:</p> <ul style="list-style-type: none"> Promoted storm shelters as a focal project type for the Pre-Disaster Mitigation grant cycle. Shelters were awarded in McKenzie County and in the City of Beulah.
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 of critical facilities (such as lift stations).	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> The State of North Dakota directs the majority of state funding for flood damage reduction projects through the SWC budget, and cost-share program. The SWC budget bill following the 2019 Legislative Assembly included \$197 million in authority for state cost-share toward flood damage reduction projects. SWC has an economist on staff evaluating Benefits and Costs of Flood Mitigation projects which apply for funding through the SWC Coat-Share Program.

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			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.	<p>NDDes:</p> <ul style="list-style-type: none"> Flood Mitigation projects have been awarded to the City of Fargo for the protection of their Wastewater Treatment Plant and the Raw Water Pump Station. <p>Natural Resource Conservation Service:</p> <ul style="list-style-type: none"> 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.
2019-22	Floodproofing Critical Facilities	Promote flood proofing activities to protect critical facilities, utility infrastructure, government buildings, and residential structures.	<p>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 pumps, installing backflow prevention valves on utilities, elevating utility systems and other equipment, and taking measures to protect water and sewer systems from floodwaters.</p> <p>Note – not all floodproofing measures are eligible for SWC cost-share assistance.</p>	<p>NDDes:</p> <ul style="list-style-type: none"> Mitigation staff has promoted the concept during meetings with potential Hazard Mitigation Assistance applicants. <p>ND State Water Commission:</p> <ul style="list-style-type: none"> SWC evaluates the efficiency of infrastructure floodproofing to ensure public expenditures return sufficient benefits to the state's taxpayers for the investment to be considered through the cost-share program. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans.
2019-23	Power Redundancy at Critical Facilities	Encourage redundancies within power systems.	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,	<p>NDDes:</p> <ul style="list-style-type: none"> City of Mandan was awarded a project to install back-up generators at two of their lift stations. <p>ND Association of Rural Electric Cooperatives (NDAREC):</p>

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			utility infrastructure, and emergency shelters. Alternative solutions may include solar panels.	<ul style="list-style-type: none"> • NDAREC members install backup generators in critical areas as well has have generators available for outages. • Electric cooperatives continue to add solar panels to the system. • Under power ground lines are routinely added to the system, especially in high risk areas, while redundancy is built into the system. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> • Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans. <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> • Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.
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>NDDDES:</p> <p>ND Association of Rural Electric Cooperatives:</p> <ul style="list-style-type: none"> • 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. <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> • Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.
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	<p>NDDDES:</p> <ul style="list-style-type: none"> • City of Mott was awarded a project to install an additional early warning siren by the County Fairgrounds and update the current siren.

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			<p>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 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>	<ul style="list-style-type: none"> 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. <p>City, County, Tribal Emergency Management:</p> <ul style="list-style-type: none"> Stutsman County Law Enforcement Center provides monthly testing of the outdoor warning sirens for LaMoure County and others to ensure their operation. LaMoure County does also support various communication methods and have an IPAWS vendor.
2019-26	Emergency Notification Systems	Procure and implement all-hazards emergency notification systems.	<p>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>	<p>NDDDES and the North Dakota Association of Counties:</p> <ul style="list-style-type: none"> Collaborating on development of the next generation 911 project. <p>City, County, Tribal Emergency Management:</p> <ul style="list-style-type: none"> LaMoure County does support various communication methods including IPAWS, telephone emergency alert system, telephone text mass message to first responders, and social media.

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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>ND State Water Commission:</p> <ul style="list-style-type: none"> SWC has prioritized the inventory of low-head dams and provides cost-share funding to mitigate specific hazard effects or remove the structure. 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. <p>US Bureau of Reclamation:</p> <ul style="list-style-type: none"> 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) <p>Natural Resources Conservation Service:</p> <ul style="list-style-type: none"> NRCS completed inspections on 24 dams currently under Operations & Management (O&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.
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>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing. <p>ND Department of Transportation:</p> <ul style="list-style-type: none"> 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.
2019-29	Secure Electronic Systems	Procure and install secure electronic systems.	This action focuses on protecting data by employing next generation firewalls and	<p>State and Local Intelligence Center:</p>

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			implementing industry best practices. This action promotes adoption of processes that promote secure electronic systems.	<ul style="list-style-type: none"> Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.
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) threats (purposed or imminent).	<p>ND Department of Transportation:</p> <ul style="list-style-type: none"> 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. <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing. <p>ND Aeronautics Commission:</p> <ul style="list-style-type: none"> 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 available for the transportation of people and goods to the Williston Basin area.

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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>NDDES:</p> <ul style="list-style-type: none"> Collaborated with local and tribal mitigation planning teams to identify areas where snow fences are needed. <p>ND Forest Service:</p> <ul style="list-style-type: none"> 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. Technical assistance available from NDFS or County SCDs.
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>ND Department of Agriculture:</p> <ul style="list-style-type: none"> 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. <p>ND State Water Commission:</p> <ul style="list-style-type: none"> The State Water Commission manages the Drought Disaster Livestock Water Supply Assistance Program as outlined in NDAC Chapter 89-11-01. This Program provides 50% cost-share 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. During the 66th Legislative Assembly, the cost-share limit was raised from \$3,500 per project to \$4,500 (limit 3 projects per producer).

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				<ul style="list-style-type: none"> The Program must be activated through the State Water Commission, 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. This Program was last activated in June 2017 and was deactivated in December 2019. Producers with approved projects were given until June 17, 2020, to complete their previously approved water supply projects. Through the 2017 Program ,510 projects were completed by 368 applicants. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> Promote and provide training to assist drinking water systems of all sizes perform Vulnerability Assessments and develop Emergency Response Plans. <p>ND Department of Transportation, ND Department of Commerce, NDDDES, NDSU State Climate Office, ND Department of Agriculture, National Weather Service:</p> <ul style="list-style-type: none"> SHMT partners collaborated on assessments of drought conditions during 2019-2020 and potential mitigation strategies. <p>NDSU Extension Service:</p> <ul style="list-style-type: none"> Initiated the bi-weekly ND Agriculture Disaster Response meetings to evaluate disaster impacts on the agricultural community, including drought and drought mitigation measures.
2019-33	Hazardous Fuels Reduction	Identify potential areas or communities that may be adversely effected by excessive fuel loading and create	The action will support Firewise concepts and Community Wildfire Protection Plan by creating a more resilient landscape with communities that	<p>ND Forest Service:</p> <ul style="list-style-type: none"> The ND Forest Service will continue to collaborate with state, federal and local partners on a hazardous fuels reduction strategy for areas of concern within North Dakota.

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		partnerships to mitigate hazardous fuels.	are protected from catastrophic wildfires.	<ul style="list-style-type: none"> Continue to target a 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.
2019-34	Hazardous Materials Storage and Disposal	Promote and enforce safe handling, storage, and disposal of hazardous materials.		<p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> The Commissioner continued to support unused Hazardous Materials collection using Project Safe Send, this project provided a transportation vendor in several ND cities for drop of unused chemicals to prevent spillage or other impacts. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> The department updated fact sheets and web site information to provide information on safe handling, storage and disposal of hazardous material. The department updated rules and retargeted inspection to increase staff presence in the field. <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing. <p>ND State Fire Marshal:</p> <ul style="list-style-type: none"> 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.

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				<ul style="list-style-type: none"> No progress, just added State Fire Marshal to this action as ensuring fire code compliance is a critical point of HAZMAT storage safety.
2019-35	Insurance Moonshots	Encourage homeowners to purchase insurance.	<p>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 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>	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> 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. <p>City, County, Tribal Emergency Management:</p> <ul style="list-style-type: none"> 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 State Water Commission, NWS, and USACE also attended.
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	<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</p>	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> 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.

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		objectives under the NFIP.	activities, and strengthening community floodplain management 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. 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.	
2019-37	StormReady Program	Promote use of NOAA's National Weather Service's StormReady Program.	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 emergency managers strengthen local safety programs.	<p>National Weather Service:</p> <ul style="list-style-type: none"> The NWS continues to promote 2019-36 Storm Ready, a good resource is the StormReady Website which is located here: https://www.weather.gov/stormready/nd-sr. Currently 30 counties, 29 communities, 1 tribal nation and four universities participate. <p>City, County, Tribal Emergency Management:</p> <ul style="list-style-type: none"> LaMoure County encourages StormReady as NWS has attended and taught at the county agricultural safety days 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	An attack can impact business revenue, services offered by state, local, or tribal governments and other	<p>ND Information Technology and State and Local Intelligence Center</p> <ul style="list-style-type: none"> Cyber Public Awareness Campaigns: includes public speaking, conferences and events

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		threats affecting personal, private, and state security and other sensitive information.	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.	<ul style="list-style-type: none"> ○ 25 Public Speaking Presentations ○ Committee Members of BSC CyberCon and <ul style="list-style-type: none"> ○ ND Cybersecurity Conference ○ VCSU Youth Tech Day ○ Members of K-20W ○ SANS GirlsGoCyberStart ○ Air Force CyberPatriot ○ Cybershield ○ Members of the Cyber Intelligence Network, Election-ISAC, MS-ISAC and many others. ○ Joint Security Operations Command ○ Misinformation/Disinformation Campaigns ○ NDRresponse website Cybersecurity and Fraud Information ○ National Cyber Security Awareness Month ○ Career Fair and Career Days <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> ● Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.
2019-39	Public Education and Outreach	Develop and implement an all-hazard and all-threat public education and outreach program.	This program would include: <ul style="list-style-type: none"> • Engaging media and social media during hazardous awareness months, prior to spring flooding, and other seasonal weather hazards. • Providing education about the potential consequences of geomagnetic and solar storms in addition to radio blackouts. • Encouraging personal mitigation measures for property and community. • Promoting educational 	<p>NDDES, ND Department of Health, ND Department of Human Services:</p> <ul style="list-style-type: none"> ● 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. <p>National Weather Service:</p> <ul style="list-style-type: none"> ● 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: weather.gov/bis and weather.gov/fqf. We

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			<p>activities designed to protect the public, including weather spotter training, adversarial threat training and Community Emergency Response Team (CERT).</p> <ul style="list-style-type: none"> • Providing the public information to make informed decisions about how to prevent infections or infestations or avoid spreading diseases. 	<p>have also coordinated outreach with the NDDDES Strategic Communications Chief Eric Jensen. This includes providing weather /water education and outreach material on the ND Response Website and social media channels.</p> <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> • Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> • The department updated fact sheets and web site information to provide information on various hazard, but especially those related to flooding. <p>ND Department of Health:</p> <ul style="list-style-type: none"> • Extensive outreach and educational efforts underway due to the COVID19 response. • Multiple news releases on various non-COVID health risks, including rabies, foodborne illness, west Nile virus, vaccinations, vector borne diseases. • 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. <p>ND State Fire Marshal:</p> <ul style="list-style-type: none"> • Coordinate with other agencies and participate in fire safety public education projects: <ul style="list-style-type: none"> ○ Fire safety week in October each year ○ Arson awareness week Spring each year ○ Back to school fire safety ○ Smoke alarm installation campaigns ○ Childcare fire safety

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				<p>City, County, Tribal Emergency Management:</p> <ul style="list-style-type: none"> LaMoure County encourages preparedness through county website postings, public meetings and press releases in local papers. <p>American Red Cross (ARC):</p> <ul style="list-style-type: none"> Conducts 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: https://www.redcross.org/sound-the-alarm.html 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. <p>ND Forest Service</p> <ul style="list-style-type: none"> Conducts seasonally appropriate wildfire prevention outreach and education campaigns using a variety of media.
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	<p>ND State Water Commission:</p> <ul style="list-style-type: none"> Presented on dam safety topics to dam owners at a local water convention. 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. <p>U.S. Bureau of Reclamation:</p> <ul style="list-style-type: none"> Reclamation utilizes a comprehensive facility review schedule at the North Dakota Dams. The reviews are

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			reduce the potential consequences if a failure were to occur.	<p>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.</p> <p>State and Local Intelligence Center:</p> <ul style="list-style-type: none"> Continue outreach with Critical Facilities/ Sectors concerning threats, hazards, and risks and promote information/ intelligence sharing.
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>ND Department of Health:</p> <ul style="list-style-type: none"> Established two medical surge facilities in response to COVID-19 Established HAI work team to assist LTC with infection prevention and case management in response to COVID-19 Provided a system to assist with staffing shortages resulting from staff being furloughed related to COVID-19 Providing PPE to providers from the state medical cache for the COVID-19 response.
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, and assistance for new Americans.	<p>ND Department of Health:</p> <ul style="list-style-type: none"> 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. During orientation, new staff are directed in proper Personal Protective Equipment (PPE) donning and doffing and are fit tested for N95 respirators. Established testing sites in locations to increase accessibility to COVID-19 testing

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				<p>ND Workforce Safety and Insurance:</p> <ul style="list-style-type: none"> • 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"> ○ Promoting safety ○ Developing safety courses, plans, and programs ○ Responding to safety complaints ○ Responding to requests for technical assistance ○ Conducting courtesy walk-through inspections ○ Providing general safety consultations ○ Conducting accident and hazard investigations ○ Providing internal risk management services and ○ Training and education <p>City, County, Tribal Emergency Management:</p> <ul style="list-style-type: none"> • LaMoure County employees participate in the Wellness Program through the Public Employees Retirement System (PERS) and also offers employees a free health screening annually.
2019-43	Vaccination	Promote vaccinating the affected 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. Vaccines are not available for all diseases. Vaccines may be in short supply.	<p>ND Department of Health:</p> <ul style="list-style-type: none"> • In progress due to COVID-19. • Achieved 90% vaccination coverage for HPV vaccination in adolescents. • Nearing 95% rate for school age children on required school vaccinations.

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			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.	<ul style="list-style-type: none"> Ensured post-exposure prophylaxis and vaccination of people who may have been exposed to rabies
2019-44	Disease and syndromic surveillance	Enact the system collection of the occurrence of disease or disease syndrome.	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 be delays due to disagreements over or lack of funds available funds for indemnity payments.	<p>ND Department of Health:</p> <ul style="list-style-type: none"> The COVID-19 response has shown significant improvement in data collection and analysis. These processes will undergo evaluation for future outbreaks. Implemented new syndrome definitions to better understand the scope of COVID-19 case distribution in the state. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> Assisted veterinarians with lab costs associated with testing for unusual disease investigations.
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>ND Department of Health:</p> <ul style="list-style-type: none"> In response to three meningococcal cases, provided recommendations and follow up to assure close contacts received chemoprophylaxis. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> Coordinate for diseases such as Anthrax for resource information and appropriate use of this process to vaccinate
2019-46	Disease and Infestation Prevention and	Providing technical information to health care professionals, agronomists, vector	The action requires education on regarding the regulation pertaining to importation, diagnosis, treatment and	<p>ND Department of Health:</p> <ul style="list-style-type: none"> Enacted quarantine orders for international travelers in response to COVID-19. (Subsequently lifted in September 2020)

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	Control Technical Assistance	control boards or others.	management of people, animals or plants relating to the prevention and control of diseases or infestations, including infection prevention. This action focuses on 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>ND Department of Agriculture:</p> <ul style="list-style-type: none"> 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.
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.	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 location for isolation or quarantine. May require considerable work determining if animals or people have been infected or exposed.	<p>ND Department of Health:</p> <ul style="list-style-type: none"> Implemented policy and procedures for isolation and quarantine or people diagnosed with or exposed to COVID-19. Hired and trained a team of case investigators and contact tracers to assist with operationalizing isolation and quarantine activities. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> Quarantine animals or plants upon investigation as appropriate until disease risks are mitigated. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> Department worked with other agencies on methods of proper animal disposal.

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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 stop movements. Generally, not enforceable unless there is a legal order issued.	<p>ND Department of Health:</p> <ul style="list-style-type: none"> • 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. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> • Removed from mitigation action. <p>ND Department of Human Services:</p> <ul style="list-style-type: none"> • Enacted the following measures: <ul style="list-style-type: none"> ○ Waiting rooms: Chairs placed at 6 ft. distance ○ Hand sanitizer station deployed ○ Screening process implemented at all Human Service Centers, State Hospital and Life Skills and Transition Center ○ Joint office space: Installed plexiglass health barriers at staff desks. ○ Mandated PPE use for all staff and clients when in the facility. ○ Developed PPE use guide ○ Implemented C-19 home visit guidelines ○ Completed numerous 'Teams' trainings with staff on screening, PPE use and Preventative Measures ○ C-19 Transport Guidelines
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	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	<p>ND Department of Health:</p> <ul style="list-style-type: none"> • No update during this reporting period. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> • No update during this reporting period.

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		through euthanasia or other methods.	producer. Social outcry or poor public acceptance is another concern. Depopulation may also lead to decreased protein availability in the food supply.	
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 intensive, is not effective in eliminating the problem completely, and not always target specific.	<p>ND Department of Health:</p> <ul style="list-style-type: none"> • Tick surveillance looking for various species of ticks associated with disease transmission • Testing ticks for human pathogens • Mosquito surveillance for west Nile virus and other arboviruses. <p>ND Department of Agriculture:</p> <ul style="list-style-type: none"> • Removed from mitigation action. <p>ND Department of Environmental Quality:</p> <ul style="list-style-type: none"> • 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.
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>ND Department of Agriculture:</p> <ul style="list-style-type: none"> • No update during this reporting period.

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