



2020 Issue I



Garland Erbele, P.E.  
State Engineer &  
Chief Engineer-Secretary

## A NEWSLETTER FROM THE STATE ENGINEER & WATER COMMISSION

On December 5, 2019, several Water Commission staff members attended and provided presentations at the 56th Annual Joint North Dakota and Upper Missouri Water Convention and Irrigation Workshop in Bismarck. At the convention, I discussed water development, economic analysis, budget forecasting, upcoming projects, and technology.

The Water Commission is making great technological advances in how the agency collects, monitors, utilizes, and disseminates data. PRESENS, NDRAM, and AEM surveys are just a few recent examples of the innovative and noteworthy programs we have implemented.

Pushing Remote SENSsors (PRESENS) was designed and tested by in-house I.T. professionals, hydrologists, and technicians at the Water Commission. PRESENS is a self-contained, solar-powered, remote sensing device that allows real-time environmental data collection.

In 2019, approximately 103 PRESENS devices were deployed to gain a better understanding of hydrology in various areas, conduct streamflow measurements, and collect data at groundwater monitoring locations. By having these real-time data collection PRESENS units deployed in the field, Water Commission staff, the private sector, and the general public can save time and money by not having to make measurements the traditional way, on site – in the field. The development of PRESENS is expected to fundamentally change the way some environmental data is collected, and at an incredibly low cost.

Another innovative tool that was publicly announced in October is the North Dakota Risk Assessment Map-service (NDRAM). NDRAM is an interactive GIS-driven web interface designed and administered by the Water Commission. This user-friendly tool provides flood risk information in a format usable by everyone from elected officials to home and business owners. NDRAM is helping North Dakota become more flood resilient by identifying areas of risk in all 53 counties of the state.

(continued)

**Can You Find The Water Drop?**



This water drop is hidden  
somewhere in this issue.

# STATE ENGINEER'S PROFESSIONALISM AWARD

ROD BASSLER  
GIS Coordinator/ Cartographer



Rod Bassler (left) receiving his award from State Engineer Garland Erbele (right).

Rod Bassler was honored with the 2019 North Dakota State Engineer's Professionalism Award. Rod is a member of the I.T. staff and maintains the Geographic Information Systems for the Water Commission. Rod's contributions to the SWC are seen in every division on a daily basis. He has dedicated countless hours to ensure that the state's data is collected, stored, and made available to the general public in an easy and well-organized manner.

Rod has been a tremendous resource during the development of the North Dakota Risk Assessment Map-Service (NDRAM). He has contributed incredible insight, administered exceptional organization of datasets, and displayed outstanding commitment to cartography, GIS, and archiving. Rod has exhibited overall excellence throughout his years of service and continues to provide endless support to the agency.

# NORTH DAKOTA WATER WHEEL AWARD

JENNIFER VERLEGER  
ND Assistant Attorney General



Jennifer Verleger proudly displays her award.

Jennifer Verleger was the proud recipient of a 2019 North Dakota Water Wheel award for her continuous commitment to water issues in the state.

Jennifer has been a N.D. Assistant Attorney General providing general counsel and litigation services to the Office of the State Engineer and Water Commission since 2009. During that time, she has represented the state on water issues in the U.S. Supreme Court, N.D. Supreme Court, state and federal district courts, and office of administrative hearings in areas including inter-state rivers, federalism, water rights, water supply rule, water appropriation, drainage, and sovereign lands.

Jennifer exhibits remarkable leadership, provides fundamental knowledge, and demonstrates immense dedication in her role as legal council for the Water Commission, and Office of the State Engineer.

## COMMENDATIONS FOR OUTSTANDING PERFORMANCE

Each year, the Water Commission hands out Commendations for Outstanding Performance to employees who have performed at an exceptionally high level, or who have done exceptional work on a project or program. Nominations are made by Division Directors, and final determinations are made by the State Engineer. Recipients of Commendations for Outstanding Performance Awards for 2019 are Chris Bader, Jeremy Berreth, Courtney Evoniuk, Sheila Fryer, Bryan Hanson, Dave Hisz, Rex Honeyman, Jared Huibregtse, Paul Moen, Darron Nichols, and Bassel Timani.

# 2021 WATER DEVELOPMENT PLAN

Water Commission staff are in the beginning stages of planning for the 2021 Water Development Plan. Per statute, "the Commission is required to develop and maintain a comprehensive water development plan" on a biennial basis. The plan will include a comprehensive inventory of potential water development projects across the state. And as in the past, the water community's help is critical in identifying North Dakota's water development projects, their implementation timelines, and estimated costs.

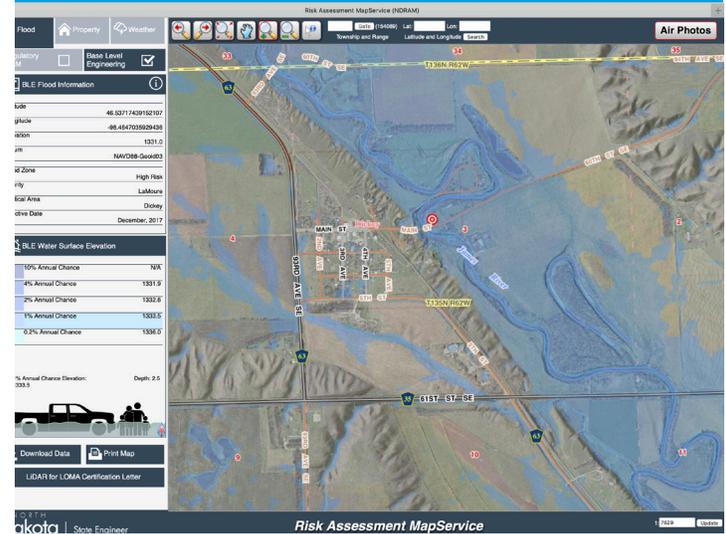
The input gained will become the foundation of the SWC's budget request to the Governor and Legislature. Thus, we will soon be requesting information on water projects that may require SWC cost-share during the 2021-2023 and future biennia. The project submission process is now exclusively electronic, with few exceptions for special cases. Projects can be submitted via our website (swc.nd.gov).

The submission process is scheduled to open at the beginning of February 2020, when notification letters and emails will be distributed to the water community. During the development of the 2021 plan, project sponsors will be given until the end of April to submit projects for inclusion in the plan, unless prior arrangements have been made. If you are expecting to receive a notification but for some reason do not, please contact Jared Huibregtse at 701-328-4967 or [jhuibregtse@nd.gov](mailto:jhuibregtse@nd.gov).

# 2017-2019 BIENNIAL REPORT

The 2017-2019 Biennial Report is available for download at [swc.nd.gov](http://swc.nd.gov). The report highlights key events, accomplishments, and other pertinent activities of the State Water Commission and Office of the State Engineer during the last biennium. It serves as a means for the agency to ensure it continues to meet its mission: "To improve the quality of life and strengthen the economy of North Dakota by managing the water resources of the state for the benefit of its people."

# INNOVATIVE TECHNOLOGY – NDRAM



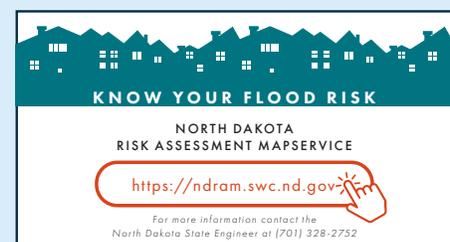
The North Dakota Risk Assessment Mapservice (NDRAM) was publicly announced in October 2019 and is an interactive GIS-driven web interface designed by the Water Commission. This new flood map data viewer is located on the agency's MapServices.

NDRAM collaboratively displays two FEMA data sets while utilizing the Water Commission's existing data delivery framework. This user-friendly tool provides water surface elevations, flood depths, and the ability to download engineering model data and print customized maps.

NDRAM allows concerned residents to type in their address (house number, zip code, and county) to get parcel-specific information. The address look-up feature leverages the 911 location and address information.

Another exciting feature of the tool includes real-time weather warning displays across the state, making it especially useful for planning, mitigation, and disaster preparation and recovery actions.

The innovative map viewer is an incredible asset for residents, emergency managers, and community leaders seeking flood risk information. A fact sheet regarding the data viewer is available for download on the agency's website.



# NEW HIRES



**ANDREW GORZ**

Water Resource Program Administrator I

In June 2019, Andrew “Andy” Gorz started as a Water Resource Project Administrator I in the Water Appropriations Division. Among other job responsibilities, he will primarily be monitoring data from water depots, keeping track of reporting via database management, and processing annual water use information. Andy received his Bachelor of Science Degree in Geology from North Dakota State University. Prior to joining the Water Commission, he spent five years at the University of North Dakota’s Energy and Environmental Research Center as a Geologist doing site characterization, GIS mapping, and geo-modeling for CO2 capture and storage.

Andy is married to his wife (Kelly), and has a 10-year old daughter (Zoey), and 9-year old son (Zachary). He says there are three main things he enjoys: 1) Outdoor activities such as hiking, camping, backpacking, and canoeing; 2) The television show Dr. Who—he first started watching the original version in the early 1980s; and 3) He is a board game fanatic. While living in Grand Forks, Andy ran a club that met every-other-week to try new games. He keeps a library of games at his home, and his favorite game is called “Vinhos,” which is a trading and economic game about wine-making in Portugal.

# COMMISSION MEETING APPROVALS

December 6, 2019

Pembina County WRD – Drain No. 82	\$1,011,666
Valley City Permanent Flood Protection Loan	\$3,676,600
Watford City – Water Distribution 2019	\$1,580,000

# HALL OF FAME



Robert Thompson and Harley Swenson

Congratulations to Robert Thompson and Harley Swenson for their dedication and commitment to water and the people of North Dakota throughout the years. Both former Commissioners were inducted into the North Dakota Water Users Association Hall of Fame on December 5, 2019.

Robert Thompson and Harley Swenson admirably served as members of the State Water Commission for 24 years and have demonstrated profound commitment to promoting water resource management, addressed influential flood protection projects, provided valuable input in water supply and other water development projects, and contributed influential direction and unwavering support as valued commission members.

# DROUGHT DISASTER LIVESTOCK WATER SUPPLY PROJECT ASSISTANCE PROGRAM

At the December 6, 2019 Water Commission meeting, the Drought Disaster Livestock Water Supply Project Assistance Program (Program) was deactivated with a December 20, 2019 deadline for accepting new applications. The deactivation was recommended and approved because there are no longer any areas within the state experiencing severe drought conditions. All currently approved projects will have until June 17, 2020 to complete their projects and submit for reimbursements.

# going digital

The Current is going digital! The quarterly edition of The Current will ONLY be available, starting in April, as a digital publication. The new format will continue to provide valuable and important Water Commission information, but will be distributed electronically via email. To continue receiving the newsletter and to be added to the online mailing list, please email [thecurrent@nd.gov](mailto:thecurrent@nd.gov). For upcoming issues, remember to check your email inbox rather than your mailbox!

# POLICY CHANGES AFFECT WATER SUPPLY AND CONVEYANCE PROJECTS



At their December meeting, the Water Commission approved cost-share policy that requires Life Cycle Cost Analyses (LCCA) be submitted on all water supply projects and that Economic Analyses (EA) be submitted for all conveyance and flood control construction projects with an expected total cost of \$200,000 or more.

In addition to municipalities, regional and rural systems seeking cost-share assistance for water supply projects will also

now be required to submit the most current version of the LCCA form that is available at [swc.nd.gov](http://swc.nd.gov). Additionally, the updated policy requires that LCCAs include a "No Action" alternative. This alternative should address the costs of items likely to be incurred if the requested project objectives are not addressed. Sponsors, in consultation with SWC staff may include justification as to why "No Action" is not an alternative. LCCA is a tool that can help project sponsors choose between strategies to address a water supply issue, as well as, between ways to implement the chosen strategy.

Flood control and conveyance project sponsors are now required to submit a current EA worksheet for projects with a total cost of \$200,000 or more in order for a cost-share application to be considered complete and eligible for review. The current version of the EA worksheet can also be found online at [swc.nd.gov](http://swc.nd.gov) for download. Be sure to check that the worksheet you are using is the current version and not a desk copy.

EA worksheet results are required so that these projects are vetted with the same information, receive equal treatment in the decision process, and the economic benefits of state investment in these projects are transparent and clearly identified.

If you have questions or require assistance with either EA or LCCA, contact Duane Pool at [dpool@nd.gov](mailto:dpool@nd.gov) or (701) 328-4968.



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NDRAM is a collaborative effort with FEMA that utilizes the Water Commission's existing robust technology and data delivery infrastructure. It is also being considered by FEMA to be a pilot for expansion of the concept at the national level. NDRAM is an incredible asset for residents, emergency managers, and community leaders seeking flood risk information.

In 2016, the Water Appropriations Division started using aerial electromagnetic surveys (AEM). These surveys involve a helicopter towing a large hoop-shaped antenna about 100 feet above the ground that sends and receives electromagnetic signals to characterize geology beneath the land surface.

The results of the survey provide imagery and characteristics of the subsurface materials that can aid in the mapping of buried glacial aquifer deposits that contain major groundwater supplies. These surveys have allowed the agency to collect thousands of square miles of data while providing \$1.2 million in cost savings.

These are just a few of the state-of-the-art programs that the agency is utilizing to help revolutionize how we collect and interpret datasets. These tools have been truly remarkable and will only improve in the future.

## UPCOMING COMMISSION MEETINGS

FEBRUARY 13, 2020  
1-5 | Brynhild Haugland Room

APRIL 9, 2020  
1-5 | Brynhild Haugland Room

JUNE 9, 2020  
1-5 | Pioneer Room

AUGUST 13, 2020  
1-5 | Brynhild Haugland Room

OCTOBER 8, 2020  
1-5 | Brynhild Haugland Room

DECEMBER 11, 2020  
1-5 | Brynhild Haugland Room

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- Upcoming Meetings
- Current Agency Efforts & Activities
- News Releases
- Policy & Program Updates
- And Much More!

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A NEWSLETTER FROM THE STATE  
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