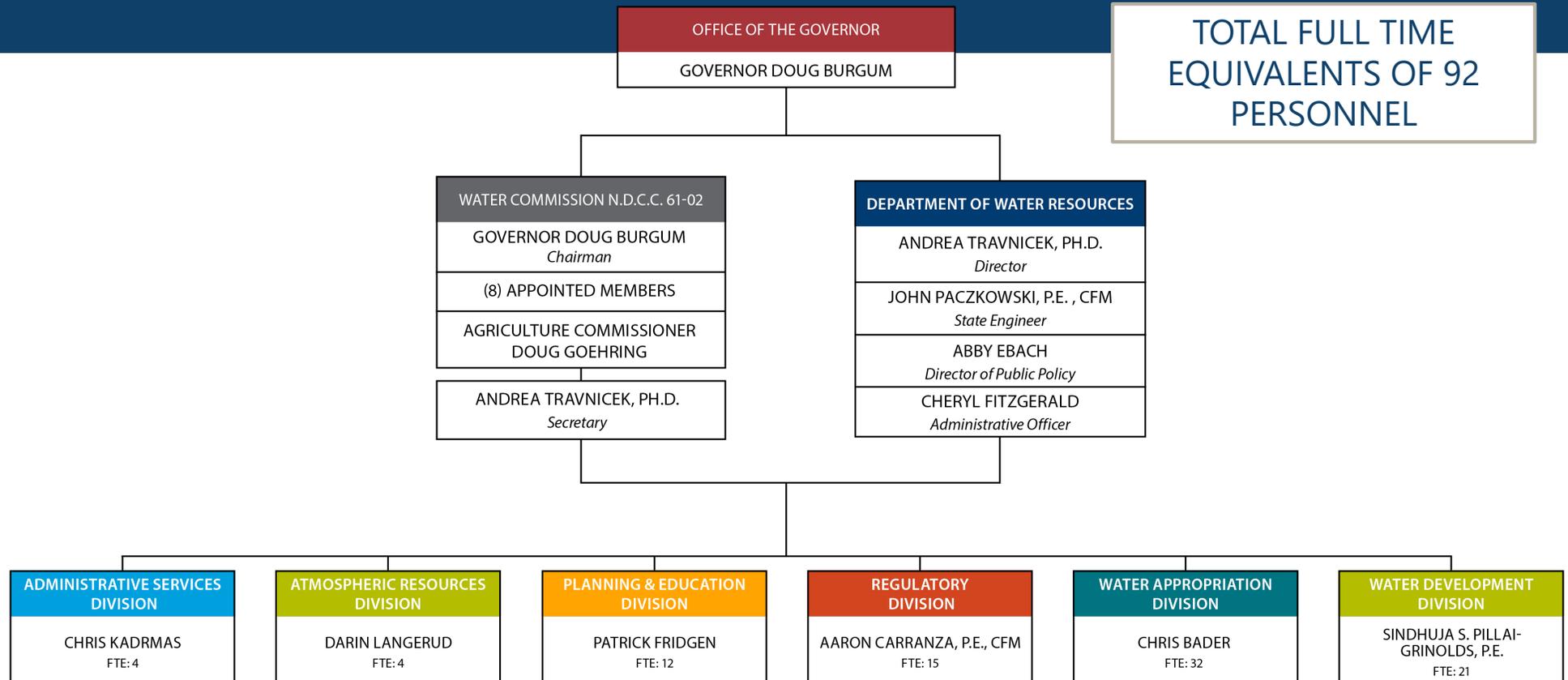


# DWR ORGANIZATIONAL CHART

TOTAL FULL TIME  
EQUIVALENTS OF 92  
PERSONNEL



# 5-YEAR STRATEGIC PLAN

NORTH DAKOTA DEPARTMENT OF WATER RESOURCES



## PURPOSE

DWR developed a five-year strategic plan to guide the deployment of resources toward key objectives, goals, and tactics that will remain a focus from July 1, 2022 through June 30, 2027. This plan is also intended to help create awareness among the public and stakeholders about DWR priorities.

## BACKGROUND

116



Surveys  
Completed

The North Dakota Department of Water Resources (DWR) was created in 2021 by legislative action through House Bill 1353. DWR was previously called the State Water Commission, which itself was created by legislative action in 1937 for the specific purpose of fostering and promoting water resources development throughout the state. The 2021 legislation also moved functions of the Office of the State Engineer (OSE) within the DWR, and allows the Governor to appoint a DWR Director subject to approval by the State Water Commission.

77



Personal  
Interviews

DWR has the authority to investigate, plan, construct, regulate, provide water appropriations, develop water-related projects, and serves as a mechanism to financially support those efforts throughout North Dakota. There are currently six divisions that make up the DWR: Administration, Atmospheric Resources, Planning and Education, Regulatory, Water Appropriation, and Water Development.

2



Focus  
Groups

In developing this plan, DWR commissioned a third-party vendor, Odney Inc., to engage DWR team members and stakeholders to gather input for the development of objectives, goals, tactics, and metrics.



### MISSION STATEMENT

To responsibly manage North Dakota's water needs and risks for the people's benefit.



### VISION STATEMENT

The Department of Water Resources will sustainably manage and develop North Dakota's water resources for the health, safety, and prosperity of its people, businesses, agriculture, energy, industry, recreation, and natural resources.



### VALUES STATEMENT

The Department of Water Resources values fairness, objectivity, accountability, responsiveness, engagement, and credibility. We pledge to use professional and scientific methods to maintain the highest of standards in our delivery of services.



### STRATEGIC INITIATIVES

The DWR Strategic Plan furthers the implementation of Governor Doug Burgum's strategic initiatives: Main Street Initiative; Tribal Engagement; Reinventing Government; Behavioral Health and Addiction; and Transforming Education.

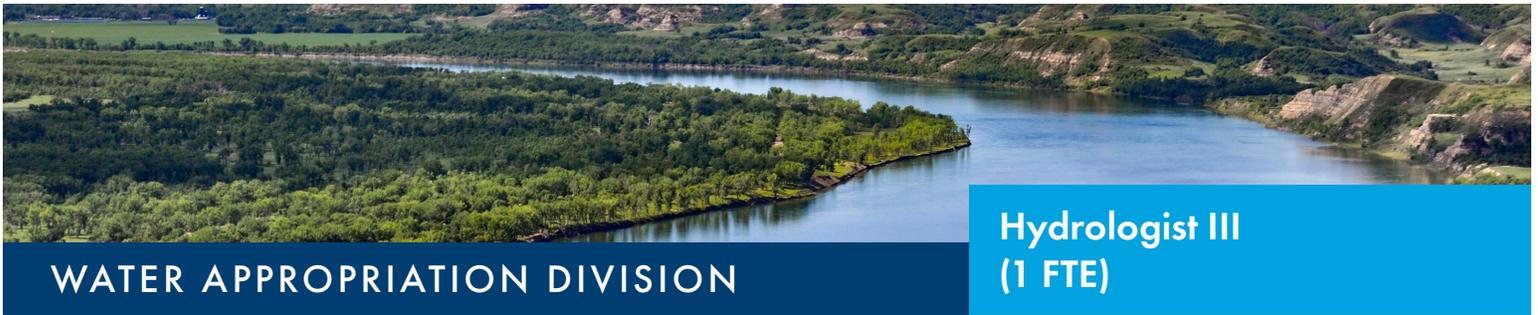
## OBJECTIVES

The DWR Strategic Plan outlines five key overarching objectives to be accomplished with establishment of goals and tactics for each objective.



- 1** Effectively communicate with the public and stakeholders with a primary focus on collaboration and building partnerships.
- 2** Develop world-class, sustainable, and resilient water development and management practices.
- 3** Support beneficial use of Missouri River system water and other available water supply sources.
- 4** Implement innovative ideas, technology, and grow analytic capabilities to improve efficiencies in water management and development.
- 5** Improve the department's internal resilience and promote a positive culture.





# WATER APPROPRIATION DIVISION

**Hydrologist III  
(1 FTE)**

The Water Appropriation Division (WAD) is experiencing an unprecedented backlog of work that is adversely impacting the ability of the division to respond to permit application requests and other permitting processes tied to the management of North Dakota's water resources. Historically, there has always been some variation in workload within the division, but over the past 10 years, there have been significant increases in the tasks that are clearly not cyclical and there are no indications that this will be mitigated moving forward without more staff resources to address increased workload.

### Why An FTE Is Necessary

The increased workload can be tied to three independent drivers that have resulted in notable changes to division work processes, workflow, and workload. These include the following:

- Industrial Oil Field Production (Hydraulic Fracturing)
- Performance Audit
- Maturity of North Dakota Ground and Surface Water Systems

Hydraulic fracturing has profoundly changed the landscape, economics, and water demands in western North Dakota. Hydraulic fracturing requires substantial volumes of fresh water, and the associated demand for water in western North Dakota to facilitate the growth and expansion of the Bakken has placed overwhelming demands on WAD staff. The nature and the type of use related to delivering water for the development of the Bakken play has led to considerable increases in the number of Conditional and Temporary Permit applications as well as exceptional increases in the quantity of water that is requested.

### Metrics - Temporary Permit Applications (also see bar charts)

**2.5X** Temporary Water Permit Application Requests

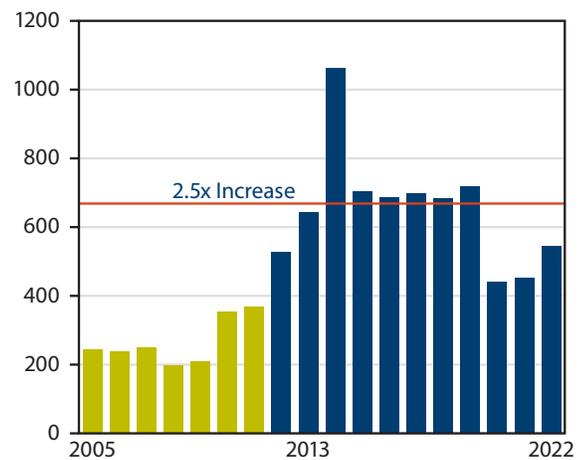
**10X** Volume Of Water Requested

### Metrics - Conditional Permit Applications

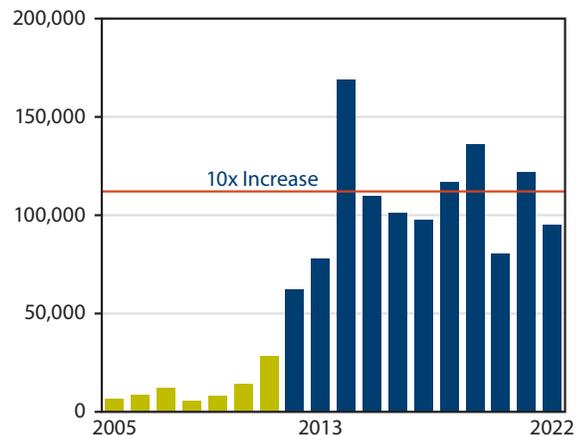
**51** Conditional Permits Issued Per Year, But 72 Are Received (Avg. 2000-Present) - Resulting In Growing Backlog

**501** Current Conditional Permit Backlog

### Temporary Permit Applications (Annual)



### Approved Acre-Foot Temp. Permits (Annual)





## DATA & TECHNICAL SERVICES DIVISION

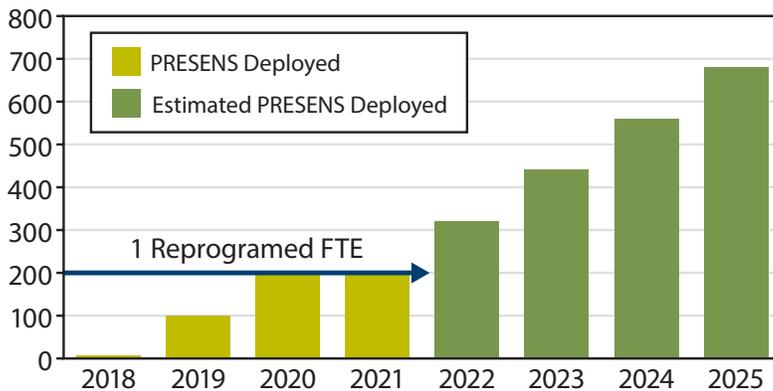
## Natural Resources Services (PRESENS) 1 FTE

DWR has always been a leader in data collection related to water resources, but has not had near real-time access to its data sources. The PRESENS (Pushing REmote SENSors) datalogger was designed in-house to fill that gap and provides near real time data so decisions and actions can be made based on current data. The PRESENS program was created by leveraging the talent of internal staff with the scientific background and knowledge of data needs of the DWR. The PRESENS program so far has been a resounding success. It has proven to be more valuable than originally hoped as staff have continued to adapt PRESENS to record new data, such as precipitation, soil temperature, and soil moisture. The program currently is in its infancy and is now ready to move into production.

### Why An FTE Is Necessary

Reprogrammed staff have been responsible for picking up the extra work associated with developing and managing the PRESENS program. To add more devices and to move the PRESENS program into a production system, an additional FTE devoted to PRESENS is required.

### Goal Is 2,000 PRESENS Units



### Other Considerations



PRESENS is a game-changing technology in environmental data collection that is the envy of other states and provinces.

### Metrics

**368** Locations Measured Using PRESENS

**\$1,200** Average Cost Per Unit ~ \$450 - \$2,000 (Sensor Dependent)

**680** Units By 2025 (18 Million Measurements/Year)

**75%** Less Staff Visits at PRESENS Sites VS Non-PRESENS Sites

PRESENS can perform real-time measurements beyond what any number of personnel could accomplish, including data not previously collected such as temperature and barometric pressure.

### Typical Well

**1 FTE**

1 Meas./Mo.

**VS**

**1 PRESENS**

44,000 Meas./Mo.

In recent years, North Dakota's water projects have increased in project complexity and project volume, which in part is correlated closely to the increased funding for flood control and surface water projects. Additionally, the litigious nature of water-related issues such as drainage and water resource board decisions has also increased, thereby increasing the complexity of reviews and lengthening review timelines. The DWR Engineering & Permitting Section (E&P) staff have been at the forefront of these increases, attempting to keep pace with incoming permit applications while still prioritizing permit reviews for construction season dependent projects.

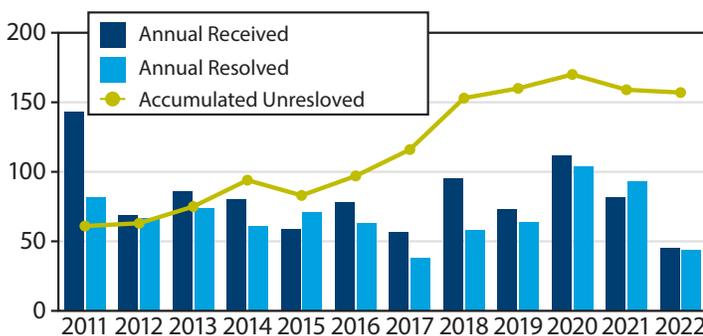
### Why An FTE Is Necessary

- The E&P staff are unable to keep pace with the current trend in the complexity and volume of flood control and drainage project permit applications and complaint appeals.
- Major flood control projects, such as the Fargo-Moorhead Diversion Project and Mouse River Enhanced Flood Protection Project as well as other flood control projects for Grafton, Valley City, and Lisbon entailed more complex reviews requiring more staff time, thereby shifting workload priorities away from a growing backlog.
- The functions of E&P are core agency functions that are required to be completed by Century Code and Administrative Code, requiring adequate resources to fulfill.
- Other priorities, such as project or site inspections, field visits, database improvement, and education and outreach, are not currently occurring due to limited staff availability.

### Other Considerations

Several attempts have been already made to harvest efficiencies with an existing E&P staff of 5 FTEs to process all applications, determinations, and appeals. These efforts already completed include leveraging of technology for electronic project management routing, reorganization of dam construction permits to the Dam Safety Section, and the publishing of 3 new agency policies that address common litigious issues with drainage and construction permitting, thereby streamlining aspects of the drain permitting and construction permitting processes. While these attempts were successful to some degree, incoming, time-sensitive applications take priority at the expense of a growing review backlog and other priorities.

### Trends In Applications And Reviews



### Metrics

5+

Major flood control project reviews since 2015, three of which are ongoing - ex. FM Diversion

28

Unprecedented emergency drain permit applications in 2019 and 2020 flood fighting season, diverting other review priorities

1

Only known project-related inspection or field visit completed since 2019 due to prioritization of review backlog

13

Complaint appeals pending review (the most complicated and time intensive reviews averaging only 1.5 per year completed)

### Goals For Reviews Continue To Fall Short

Work Load Analysis (Days)	Review Type	Goals For Average Processing Time
811	Construction Permits	3 - 4 months
790	Statewide Significance Drain Permits	3 - 4 months
670	Complaint Appeals	4 - 6 months
605	Stream Crossing Determinations	1 - 2 months
437	Watercourse Determinations	1 - 2 months
344	Assessment Appeals	1 - 2 months
102	Non-Statewide Surface Drain Permits	< month
40	Emergency Permits	< 2 weeks

# 2023 EXECUTIVE SUMMARY WATER DEVELOPMENT PLAN



**CHECK OUT**  
the  
Dashboard!

[www.dwr.nd.gov](http://www.dwr.nd.gov)



Those involved in water project development know that existing projects evolve, and new projects are continuously being considered by local water managers. For that reason, it is necessary for the state to assemble updated water project information on a biennial basis to coincide with the state's budget cycles. In the past, the Department of Water Resources (DWR) has produced and printed that information in a detailed Water Development Plan. Today, DWR and the State Water Commission are providing that same information electronically through a Water Development Plan Dashboard (Dashboard) - along with highlights included in this printed Executive Summary.

The following information outlines funding recommendations for critical water supply, flood protection, and other general water management projects; a prioritized summary of water development financial needs that were collected directly from project sponsors; and summaries of revenue streams that support projects. In addition to the aforementioned information, the Dashboard includes large project overviews, long-term funding needs, aging water supply infrastructure survey results, current purpose funding tracking, and more!

## WATER DEVELOPMENT GOALS & PRIORITIES

### GOAL 1

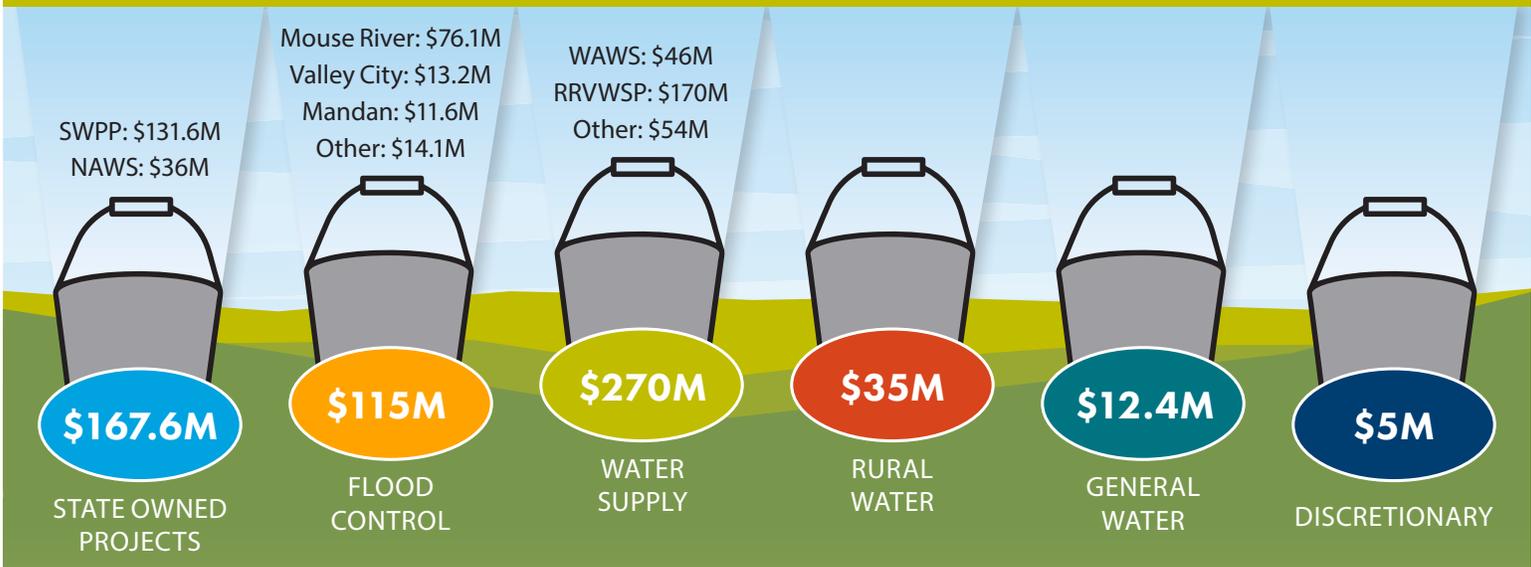
Improve resiliency and protect North Dakota's citizens and economy from negative water-related impacts.

### GOAL 2

Improve resiliency and provide safe and reliable water supplies for the health and prosperity of North Dakota's citizens and economy.

*Each Goal has associated high priority initiatives that can be viewed on the Dashboard.*

## 2023-2025 DWR PROJECT & PURPOSE FUNDING RECOMMENDATIONS



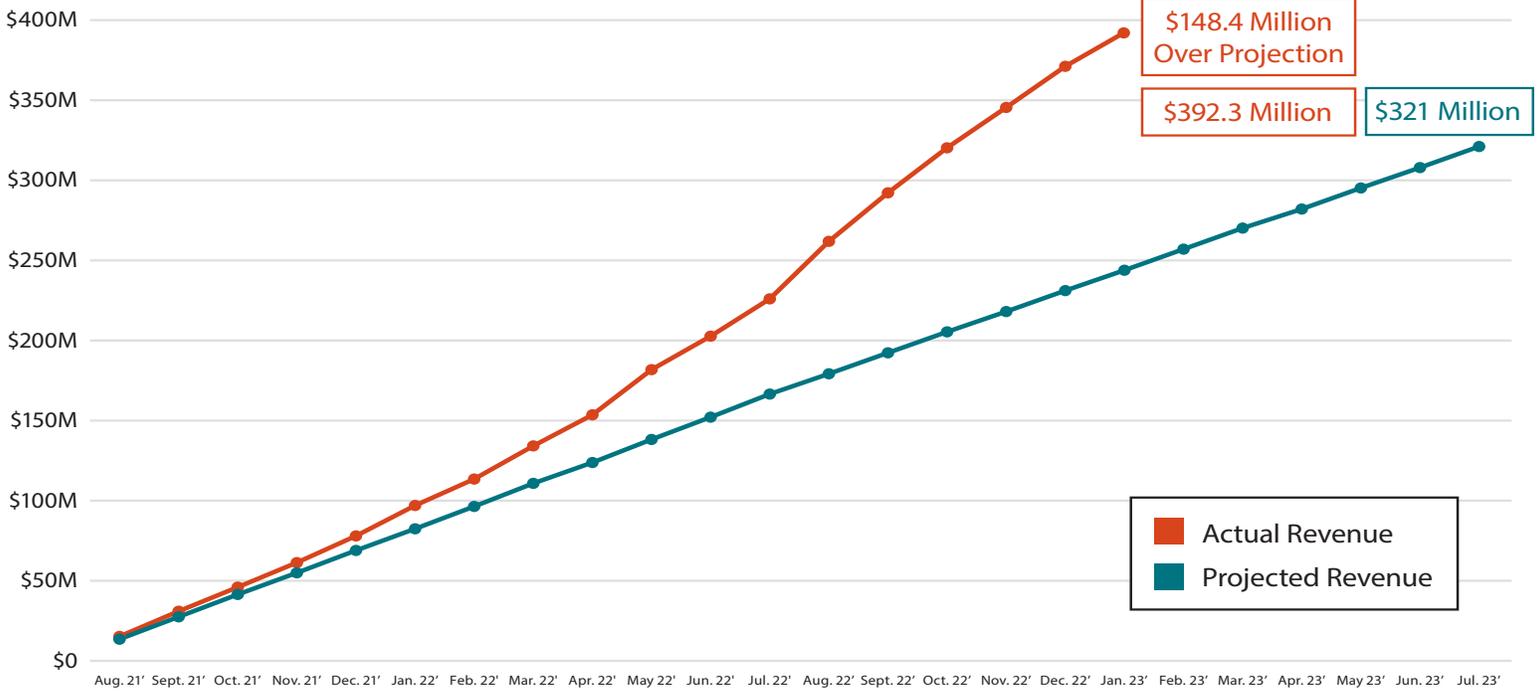
# 2023-2025 PROJECT FINANCIAL NEEDS SUMMARY (ESTIMATED DWR SHARE)



PROJECT PURPOSES	WATER DEVELOPMENT PLAN INVENTORY PROJECT NEEDS			DESCRIPTION OF FINANCIAL NEED: 2023-2025
	High Priority	Moderate Priority	Low Priority	
Flood Control (Total = \$210M)	\$120.4	\$47.2	\$42.4	Heart River Flood Control (Mandan), Mouse River Enhanced Flood Protection, Other Flood Control, Valley City Permanent Flood Protection, and Water Conveyance.
F-M Area Diversion	-	-	-	Total state commitment of \$850M addressed during 2021 Legislative session with \$435.5M provided through HB 1431.
Mandan Flood Risk Reduction	\$11.6	-	-	Floodwall replacement, levee raises, and interior drainage improvements.
Mouse River Enhanced Flood Protection	\$76.1	-	-	Funding scenario based on \$76.1M over 5 biennia. Includes property acquisitions in Minot and rural areas, additional levee design, and construction on the Maple Diversion and in-town levees.
Other Flood Control	\$19.5	\$0.7	\$0.2	Community flood protection projects, levee certifications, flood reduction studies, and rural ring dikes.
Valley City Permanent Flood Protection	\$13.2	-	-	Phase 6 - Permanent concrete flood walls, removable flood walls, clay levees, storm water pump stations, and bioengineered stream bank restorations.
Water Conveyance	\$0.0	\$46.5	\$42.2	New drainage, drainage improvements, bank stabilizations, and snagging and clearing.
General Water Management (Total = \$48.1M)	\$2.5	\$42.4	\$3.2	Dam remediations, repurposing, rehabilitations, and repairs; irrigation; watershed plans; and water retention and detention.
Rural Water Supply (Total = \$109.7M)	\$13.7	\$18.8	\$77.2	Community regionalizations, system expansions, storage improvements, transmission line installations, and water treatment plant (WTP) improvements.
Water Supply (Total = \$679.9M)	\$467.9	\$1.6	\$210.4	Municipal water supply projects, Northwest Area Water Supply, Red River Valley Water Supply, Southwest Pipeline Project, and Western Area Water Supply.
Municipal Water Supply	\$0.0	\$1.6	\$210.4	Water distribution, storage, and treatment expansions; improvements; and replacements.
Northwest Area Water Supply	\$36.0	-	-	Intake Contract II, Bottineau and Souris Reservoirs and Pump Stations, In-line Booster Pump Stations, Minot WTP Phase III, Raw Water Line Initialization, and Biota WTP Phase II.
Red River Valley Water Supply	\$254.3	-	-	Pipeline construction, Eastern North Dakota Alternative Water Supply design, McClusky Canal Intake preliminary design, and Biota WTP and Main Pump Station design.
Southwest Pipeline Project	\$131.6	-	-	Strategic hydraulic improvements, WTP expansion, rural service additions, and DWR operations.
Western Area Water Supply	\$46.0	-	-	Rural water service area expansions to new users and Williston WTP expansion.
<b>TOTAL (\$1.05B)</b>	<b>\$605</b>	<b>\$110</b>	<b>\$333</b>	

RESOURCES TRUST FUND - State funding provided through DWR for water development has historically come from several sources including the General Fund, Resources Trust Fund (RTF), and Water Development Trust Fund. Today, the primary source of funding is the RTF. The RTF is funded with 20.5 percent of revenues from the oil extraction tax.

## 2021-2023 RESOURCES TRUST FUND REVENUE TRACKING



2023-2025 PROJECTED REVENUE TO SUPPORT PURPOSE FUNDING RECOMMENDATIONS

**\$485M**  
Special Funds

+

**\$120M**  
Water Projects Stabilization Fund\*

=

**\$605M TOTAL**

Executive Budget Recommendation

\* Created by SB 2345 during the 2021 Special Legislative Session. Funded with Resources Trust Fund revenues from oil extraction taxes that surpass budget projections.

## CONTACT US



**Andrea Travnicek, Ph.D.**  
DIRECTOR

[atravnicek@nd.gov](mailto:atravnicek@nd.gov)  
701.328.4942



**John Paczkowski, P.E.**  
STATE ENGINEER

[jpaczkowski@nd.gov](mailto:jpaczkowski@nd.gov)  
701.328.3446



**Chris Kadrmaz**  
ADMIN. DIRECTOR

[ckadrmaz@nd.gov](mailto:ckadrmaz@nd.gov)  
701.328.1956



**Patrick Fridgen**  
PLANNING DIRECTOR

[pfridgen@nd.gov](mailto:pfridgen@nd.gov)  
701.328.4964



NORTH  
**Dakota**  
Be Legendary.

Water Resources

1200 Memorial Highway  
Bismarck ND 58504