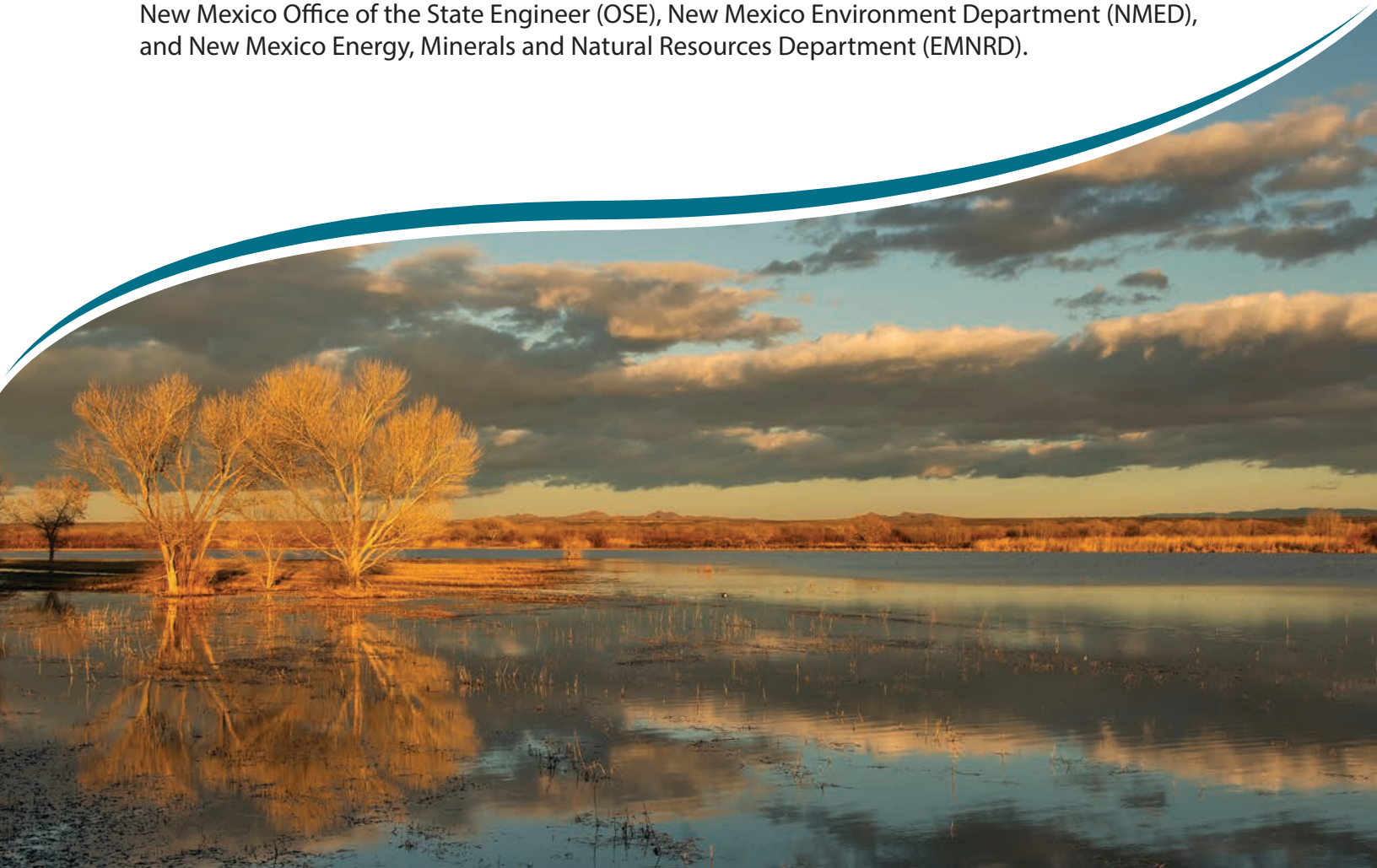
NEW MEXICO
WATER DATA

2024 Plan:
New Mexico Water Data Initiative

SEPTEMBER 2024

Plan for continued implementation of the Water Data Act

This plan was prepared by the New Mexico Bureau of Geology and Mineral Resources (NMBGMR) in partnership with the New Mexico Interstate Stream Commission (ISC), New Mexico Office of the State Engineer (OSE), New Mexico Environment Department (NMED), and New Mexico Energy, Minerals and Natural Resources Department (EMNRD).



New Mexico Water Data Act Directing Agencies

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New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
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(505) 476-3200
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New Mexico Environment Department
Harold Runnels Building
1190 St. Francis Drive, Suite N4050
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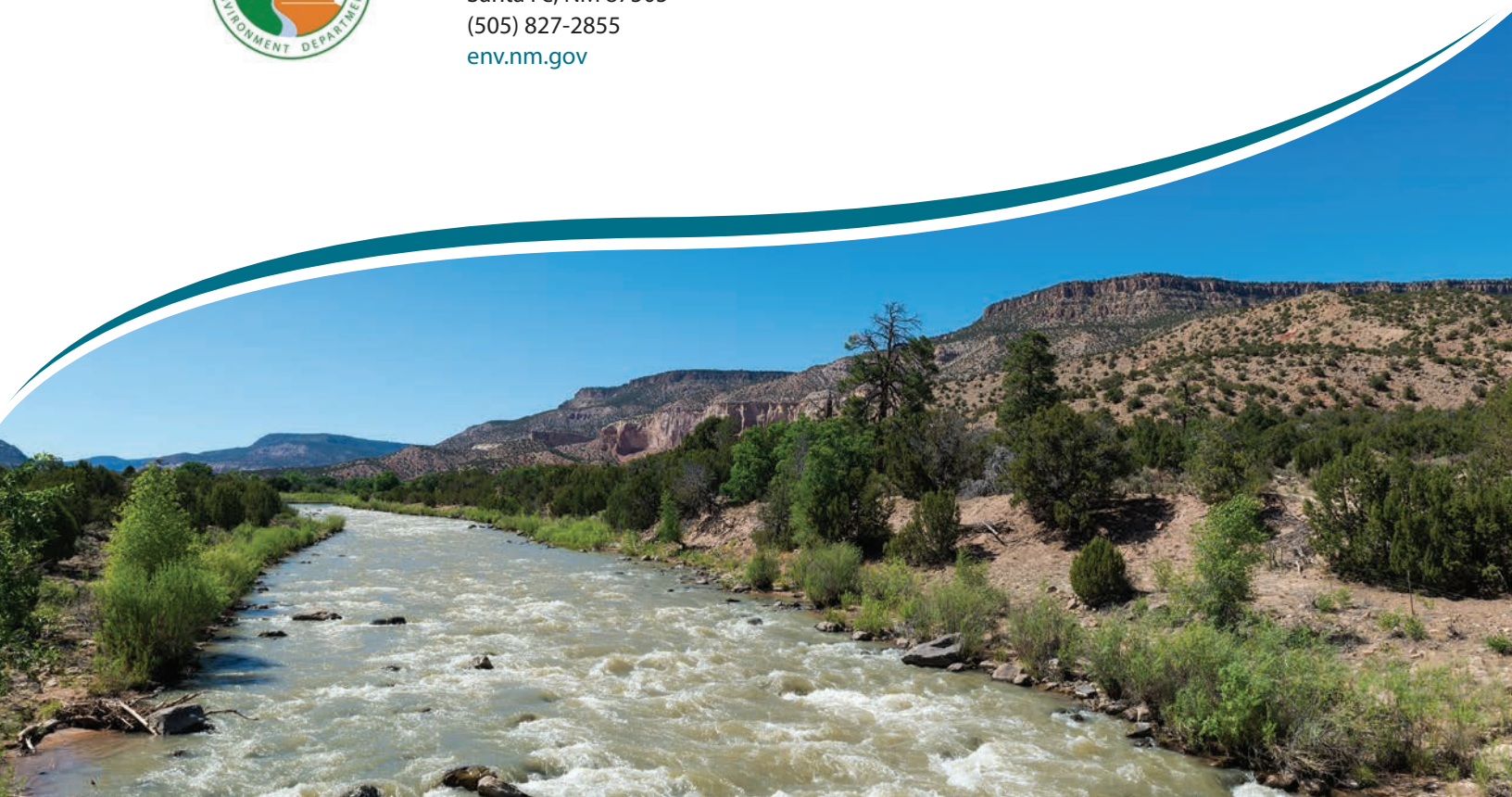

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Executive Summary

In 2019, the New Mexico Water Data Act became statute, setting the state on a path to become a national leader in modern water data sharing and integration. Since then, the state agencies participating in the act have created significant momentum. More work than ever is underway to make data accessible for water management and planning, but significant challenges still remain.

Recognizing the critical importance of water resources for the state's economy, environment, and public health, the collaboration of the New Mexico Water Data Initiative (WDI) aims to improve data accessibility, quality, and analysis to support data-informed decision-making and sustainable water management practices. Through efforts among key agencies and stakeholders, the WDI seeks to address existing challenges and capitalize on emerging opportunities in water data accessibility.

As statutorily required, this plan summarizes work of the past year to implement the Water Data Act, goals for the coming year, and funding needs to implement the act. Also included is information about the long-term vision for integrated water data.

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Background

New Mexico enacted the Water Data Act in 2019 with the goal of making water data more accessible to decision makers and the public. Since the signing of the act, the five named directing agencies, along with other agencies and organizations throughout the state, have been working collaboratively to share, integrate, and manage water data as part of the collective Water Data Initiative (WDI).

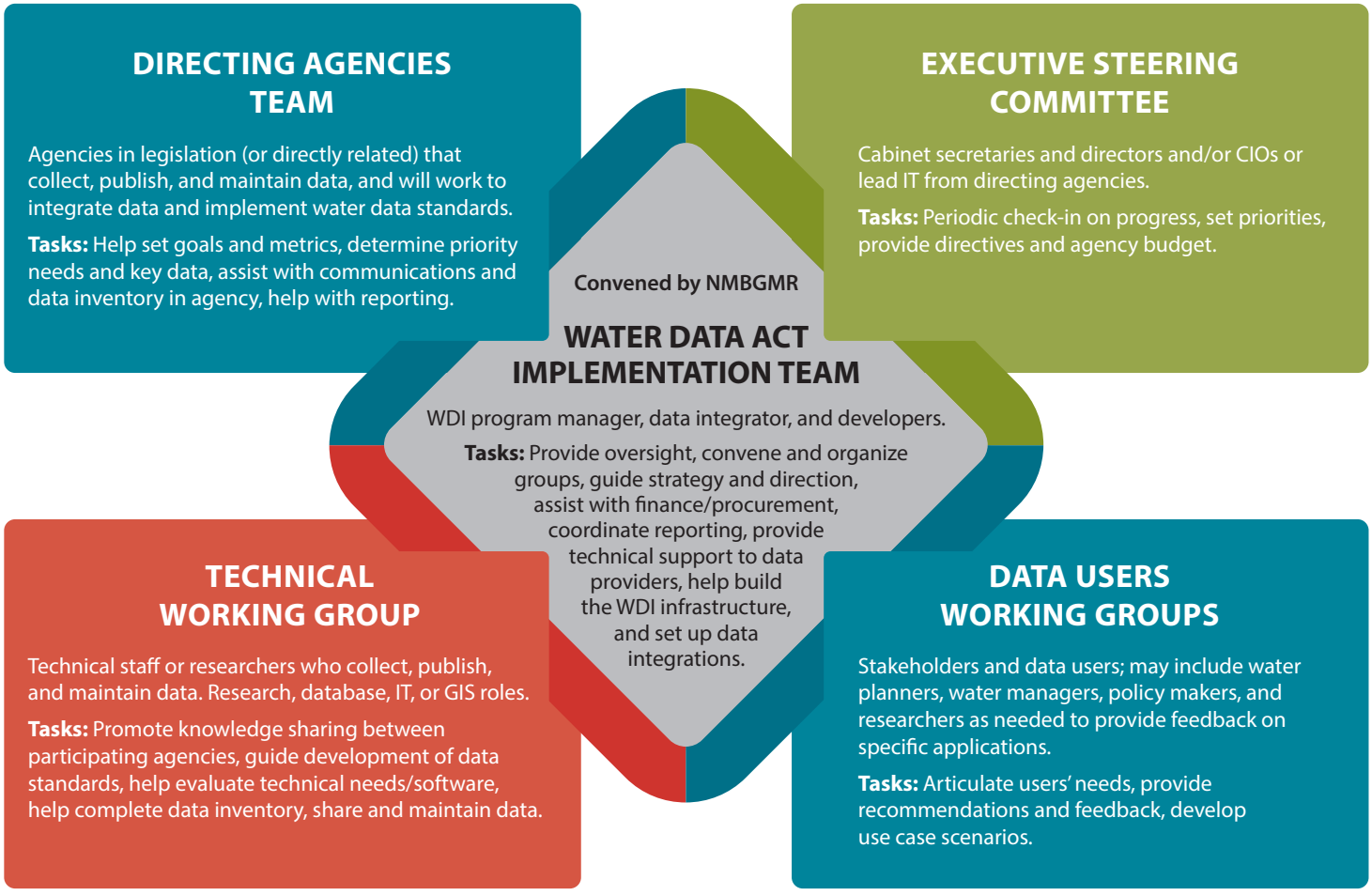
Key water data and information are available in the WDI's data catalog (catalog.newmexicowaterdata.org). In addition, each directing agency is individually working to improve the accessibility of water data by developing maps, applications, and application programming interfaces (APIs).

This plan was developed pursuant to the Water Data Act (NMSA 1978, § 72-4B), which requires that "annually by September 1 of each year, the agencies shall develop and submit a plan to the governor and the appropriate interim legislative committee that details:

1. an assessment of water data and information needs to support water management and planning;
2. goals, targets and actions to carry out the purposes of the Water Data Act in the upcoming fiscal year;
3. budgetary resources to carry out the purposes of the Water Data Act; and
4. metrics for achieving the purposes of the Water Data Act."

The figure below shows the current governance structure for the Water Data Act, illustrating how the directing agencies collaborate to implement the Water Data Act and improve data accessibility.

Governance



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State Initiatives Building on the Water Data Act

Water-focused state initiatives in New Mexico increasingly highlight the importance of the Water Data Act in water management and planning. The following recent efforts invoke the Water Data Act and describe its significance in upcoming water planning work.

Water Security Planning Act

The Water Security Planning Act (WSPA), passed in 2023, is New Mexico's guiding legislation for regional water planning and management. It creates a roadmap for regionalized water planning and implementation that prioritizes local communities' unique needs, uses the best available science and data, and maintains compliance with federal and state laws.

Water Data Act-related actions: The WSPA requires that planning efforts coordinate with the WDI and "that the best science, data and models relating to water resource planning are available to the regional water planning entities." New Mexico Interstate Stream Commission (ISC) planning staff and the New Mexico Bureau of Geology and Mineral Resources (NMBGMR) are coordinating via monthly meetings to understand data requirements for the WSPA.

The Governor's 50-Year Water Action Plan

The Governor's 50-Year Water Action Plan builds on the work of the 2022 NMBGMR bulletin that details climate change impacts on water resources in New Mexico over the next 50 years. The plan harnesses expertise from water stewards across our diverse state to conserve existing water resources, develop new water supplies, and protect New Mexico's watersheds.

Water Data Act-related actions: Several actions identified in the Water Action Plan can be implemented and supported by state water data. Detailed aquifer characterization, for example, requires access to current and historical groundwater level measurements and water quality data across the state. Actions related to water conservation may be supported by the use of meter data from the New Mexico Office of the State Engineer (OSE), or water quality protection can be improved with direct access to integrated water quality data through the WDI.

New Mexico State Water Plan 5-Year Review

The 2023 State Water Plan 5-Year Review evaluated the status of state water planning relative to recent climate projections and statutory requirements, and identifies priorities for next steps that incorporate modern climate science and support the reinvigoration of regional water planning.

Water Data Act-related actions: The plan commits the ISC to continue collaboration with the WDI to explore how state planning efforts can use water data as a foundation for public outreach and education and to support the regional planning process. WDI's work will be of great importance to continued planning efforts by streamlining access to data relevant to water planning topic areas.

Water Policy and Infrastructure Task Force Report

In 2022, the State Engineer formed a Water Policy and Infrastructure Task Force of water and natural resources experts, senior state agency staff, and stakeholders from around New Mexico to study the state's water problems and recommend actions the state can take to address water scarcity. This task force developed the Water Policy and Infrastructure Task Force Report.

Water Data Act-related actions: The report emphasizes the need to fully deploy existing tools to fulfill current statutory mandates such as the Water Data Act. Specifically, the report recommends fully meeting the recurring and nonrecurring funding needs of the WDI at state and local agencies, enhancing the technical capacity of the WDI, and encouraging information sharing with acequia communities and Pueblos, Tribes, and Nations.

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Integrated Water Data for New Mexico

The braided stream visual on the next page depicts the combination of "water data streams" from multiple regional, state, research, and federal data providers.

Each data provider can be considered an individual stream that is a tributary flowing toward a "confluence" of multiple data streams. The beaver dam depicts the WDI's long-term goal of integrating data from different providers into standardized application programming interfaces (APIs) to build usable, interoperable datasets.

Data providers with various internal data systems can store data in different ways, such as databases, geodatabases, or spreadsheets, which are shown as streams in this figure. Although each stream represents different methods of storing data internally, each can be shared via APIs, which allow a computer to share data with other computers, servers, or programs. Data shared on the internet via an API can be used by developers to make dashboards or interactive maps. Spreadsheets can be posted to the WDI data catalog (powered by CKAN, an open-source platform), which can share data through an API. Databases and geodatabases can also be connected to APIs to share data.

Working to build and integrate these data sources is a current focus for the WDI. Integrated data will allow developers to use different data streams to create tools, maps, analytics, or dashboards, enabling data users to compare data from multiple providers. This will ultimately save time and make accessing and using data more efficient and effective for decision-making.

Reaching the Goal of Integrated Water Data: Building APIs

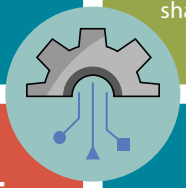
The first step toward achieving a confluence of integrated data is sharing data for use via API. A significant amount of work has been performed by WDI directing agencies in the past year to make more data accessible. Here is how they have been working toward that goal.

NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES

NMBGMR has created a public API for groundwater level and water quality data at **waterdata.nmt.edu**. This public API provides all of NMBGMR's groundwater level and water quality data for use in models, maps, or online user interfaces. The WDI team at NMBGMR is currently working on improving the documentation for this API so that it will be more accessible to developers.

NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

With funding received for fiscal year 2024, EMNRD has hired a skilled API developer who is developing EMNRD Coal Mine Reclamation Program and Oil Conservation Division water data APIs. Access to APIs will be managed through a central registration portal. Production release, expected by the end of the calendar year, will share a large amount of water data for use.



NEW MEXICO ENVIRONMENT DEPARTMENT

NMED has released an Open Data Portal, **api.env.nm.gov**, which is a centralized repository for all API-accessible agency data. Users can register to access the many water APIs that are already available, including drinking water system locations and violations and surface water features. Many more will be released to the portal in the near future.

NEW MEXICO OFFICE OF THE STATE ENGINEER AND INTERSTATE STREAM COMMISSION

The IT team at OSE/ISC is in the process of developing an API-based microservices architecture. These improvements will enhance the reporting capabilities from the New Mexico Water Rights Reporting System (NMWRRS), making more water rights data easily findable and accessible.

The Water Data Confluence

Working Toward Water Data Initiative Goals

Each directing agency has provided a report, included in Appendix 1, detailing how they have worked toward the overarching goals for implementing the Water Data Act in FY2024. Selected examples of how the directing agencies have addressed these goals are provided below, and there are many other highlights and successes listed in Appendix 1. Detailed targets, actions, and metrics for work in the next year can be found in Appendix 2.

Goal 1:

Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

NMBGMR coordinated and hosted the Water Data Initiative Workshop on May 10, 2024. This workshop, held in Albuquerque, had 200 registrants from water management agencies and the general public. The program included 37 speakers representing 28 different organizations, including state agencies, universities, and private industry from New Mexico and surrounding states, working to make water data more accessible for management and planning decisions.

Goal 2:

Work with the WDI groups to build digital data availability and integration using modern web services and documentation.

The **New Mexico Environment Department (NMED)** is developing an urgently needed water quality permitting database to support a new surface water permitting program mandated by the legislature and the existing groundwater permitting program. The water quality permitting application will allow electronic permit application, permit renewal, discharge monitoring data submissions, and inspection uploads. It will streamline interactions with the regulated community and make effluent water quality monitoring data and facility information readily accessible to the public. It will also allow NMED to efficiently manage the surface and groundwater permitting programs, including staff and resource allocation, revenue and funding oversight, and strategic analysis of the overall process. An internal team of technical and IT staff is guiding the database development process, which targets fall 2024 for showcasing an interim product.

Goal 3:

Identify and communicate Water Data Act funding needs to decision makers.

OSE/ISC has developed a water data needs assessment survey that is available to managers and supervisors. The survey will inform a gap analysis where managers can collaboratively identify funding needs and communicate recommendations to decision makers. The gap analysis and needs assessment survey are intended to support senior management and, ultimately, legislators in determining funding needs. The IT business manager also performed water data inventory interviews and helped identify resource needs so that OSE/ISC can fully participate in the WDI. This process seeks to identify and inventory data that are used and data that are needed and not readily available.

Goal 4:

Work collaboratively within the WDI groups to develop data standards and support the maintenance of data standards.

The **New Mexico Energy, Minerals and Natural Resources Department's (EMNRD)** application developers are creating clear and comprehensive web API documentation, which is crucial for developers seeking to integrate and interact seamlessly with water data services. EMNRD's documentation provides a detailed guide on how to use their APIs, including endpoint descriptions, request and response formats, authentication methods, and error handling. The development team is working to make the integration process as smooth as possible by offering code samples, interactive examples, and a comprehensive reference of API endpoints.

Collaborative FY2026 Funding Needs

This section lists each agency's annual recurring and nonrecurring funding needs for FY2026. Meeting the expectations of the 2019 Water Data Act requires a significant expansion of duties and infrastructure for each agency. This multiagency funding summary outlines the general needs of each agency, with more detailed information to come through each agency's budgetary request.

Annual Recurring Funding Received: $1.38M

Annual Recurring Funding Still Needed: $2.14M

State Agency	Annual Recurring Funding Received	Annual Recurring Funding Goal	Annual Recurring Funding Still Needed	Nonrecurring Funding Needed (FY2026)	Staffing Needs
NMBGMR (convening agency)	$500,000	$750,000	$250,000	$100,000	**6 FTEs*** *Funding for 4 total FTEs acquired in FY2023 and FY2025* *2 FTEs needed in IT services*
OSE/ISC	$410,000	$1,275,000	$865,000	$4,000,000**	**10 FTEs** *Funding for 3 FTEs in IT section acquired in FY2023* *7 FTEs needed in management divisions*
EMNRD	$469,300	$469,300	$0	$0	**2 FTEs** *Funding for 1 FTE in IT section acquired in FY2024 and a second FTE acquired in FY2025*
NMED	$0	$1,027,500	$1,027,500	$1,100,000	**5 FTEs** *2 FTEs in IT section* *2 FTEs in Water Protection Division* *1 FTE in Resource Protection Division*
Grand Total	**$1,379,300**	**$3,521,800**	**$2,142,500**	**$5,200,000**	**23 NEW state jobs total 9 already funded**

* FTE = full-time equivalent staff
** Includes C2 funding request

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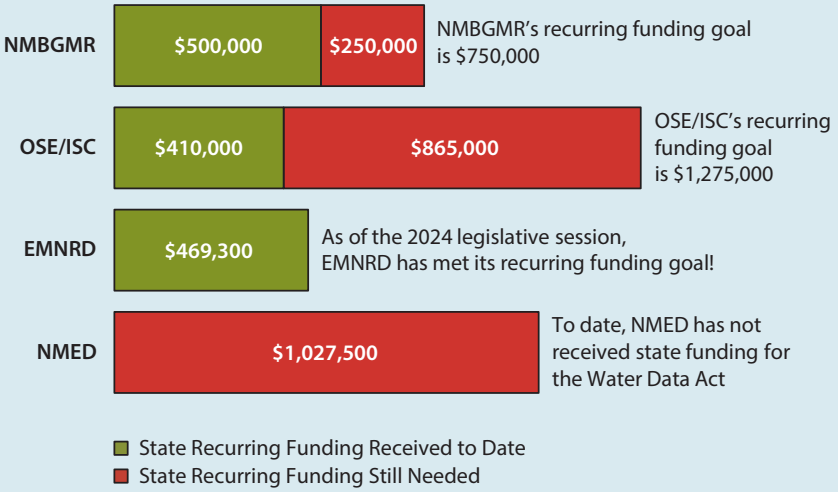
New Mexico Water Data Collaborative FY2026 Funding Needs

Recurring State Funding Received and Still Needed for Each Water Data Act Directing Agency



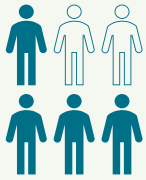
Total Recurring State Funding Received and Still Needed for all Water Data Act Directing Agencies

$2.14M still needed for NMBGMR, NMED, and OSE/ISC

$1.38M received to date for NMBGMR, EMNRD, and OSE/ISC!

NMBGMR

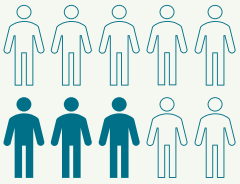
- **Recurring Funding Received: $500,000**
- **FY2026 Recurring Need: $250,000**
  Staffing; hosting and support for data catalog and website; IT contracts and services
- **FY2026 Nonrecurring Need: $100,000**
  Water Data Workshop and user experience testing



6 FTEs
3 Management and Admin
3 Software Developers
Funding for 4 FTEs acquired

OSE/ISC

- **Recurring Funding Received: $410,000**
- **FY2026 Recurring Need: $865,000**
  Staffing, web hosting services, data integration, database maintenance, software licensing, and data collection
- **FY2026 Nonrecurring Need: $4,000,000**
  Digitizing services, database customizations, and modernization of the WATERS and Real-Time Water Measurement applications



10 FTEs
3 IT
7 Management
Funding for 3 FTEs acquired in IT section

EMNRD

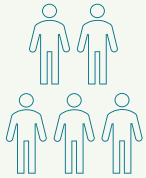
- **Recurring Funding Received: $469,300**
- **FY2026 Recurring Need: $0**
- **FY2026 Nonrecurring Need: $0**
  EMNRD has now met its near-term goal for Water Data Initiative funding. In addition to supporting two IT office staff, this funding is supporting IT services, contracts, and licenses.

✓ *Funding Achieved!*

2 FTEs
Funding for 2 FTEs acquired in IT office

NMED

- **FY2026 Recurring Need: $1,027,500**
  Staffing, web hosting, data integration, data collection, data quality assurance/quality control, and database maintenance
- **FY2026 Nonrecurring Need: $1,100,000**
  Database acquisitions, integrations, and digitizing services



5 FTEs
2 IT section
2 Water Protection Division
1 Resource Protection Division

Impact

The WDI is bringing people and agencies together to solve the problem of data accessibility in New Mexico. State funding is used to support essential staff positions and IT for modernization efforts, but is also leveraged to develop grant and philanthropic support. Long-term funding will ensure that meaningful conversations and actions will continue into the future.






Appendix 1

Directing Agency Reports on Progress from Previous Year

This appendix includes a report from each of the directing agencies describing how their agency worked toward the goals of the Water Data Act over the past reporting period.

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New Mexico Bureau of Geology and Mineral Resources Report on FY2024 Activities

Status update on **New Mexico Bureau of Geology and Mineral Resources** activities related to the 2023 (FY2024) Water Data Initiative Annual Plan.

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

In the 2023 Water Data Initiative Annual Plan, NMBGMR's goals aimed to improve the consistency of internal and external communications related to the WDI and provide more opportunities for engagement from contributing agencies and the public. These goals were met in the following ways.

- NMBGMR coordinated and hosted the Water Data Initiative Workshop on May 10, 2024. This workshop, held in Albuquerque, had 200 registrants from water management agencies and the general public. The program included 37 speakers representing 28 different organizations, including state agencies, universities, and private industry from New Mexico and surrounding states, working to make water data more accessible for management and planning decisions.
- In October 2023, NMBGMR coordinated and hosted a follow-up to the 2022 Technology Adoption Project meeting. This one-day workshop convened members of the WDI directing agencies to review progress toward goals and recommit to the work of making water data accessible.
- The WDI team works directly with the Aquifer Mapping Program (AMP) team at NMBGMR on water data-related projects and solicits feedback on data-sharing infrastructure.
- NMBGMR hosts and maintains the official WDI website (newmexicowaterdata.org), which provides news, information, and data related to the WDI, as well as ways for the public to contact NMBGMR personnel directly with questions and comments.
- NMBGMR publishes regular newsletters and social media posts, which include news and information about WDI activities. In FY2024, NMBGMR published a WDI newsletter every other month on average and social media posts with similar frequency.
- Throughout the year, NMBGMR water data points of contact Rachel Hobbs and Stacy Timmons participated in webinars and in-person seminars at NMBGMR and external agencies to raise awareness of the WDI.
- NMBGMR is an active participant in the Internet of Water Coalition (IoW). The IoW is a national group of organizations working with federal, state, and local government partners to build foundational water data infrastructure across the United States and create a community of people and organizations using water data to make better decisions. Stacy Timmons participated in the annual IoW strategic meeting in Washington, D.C., in September 2023. The WDI is a key stakeholder in the IoW and has contributed significant input to this national organization. The IoW has provided tremendous support for the WDI over the years, helping with water data projects and vetting software and data service options.
- With other IoW participants, NMBGMR developed a water data-focused session for the national Water Science Conference, hosted by the American Geophysical Union in Saint Paul, Minnesota, in June 2024. This session helped bring national attention to New Mexico's leadership in water data accessibility.

GOAL 2: Work with the WDI groups to build digital data availability and integration using modern web services and documentation.

In the 2023 Water Data Initiative Annual Plan, NMBGMR committed to upgrading and expanding its internal data ecosystem and modernizing the data management practices for all hydrogeology programs. In the past year, NMBGMR has taken the following steps to work toward this goal.

- NMBGMR has created a public API for groundwater level data at waterdata.nmt.edu, which provides all of NMBGMR's groundwater level data for use in models, maps, or online user interfaces.
- NMBGMR developed and published the New Mexico Groundwater Dashboard, with support from the Thornburg Foundation, where users can view groundwater monitoring locations around New Mexico and download data.
- NMBGMR hosts and maintains the New Mexico Water Data Catalog. This year, NMBGMR added new datasets and new organizations, increasing the amount of data accessible in the data catalog to 268 datasets. NMBGMR also upgraded the data catalog to streamline the metadata requirements and added a new showcase feature to highlight new applications.
- NMBGMR continued development of a new data entry system for groundwater data. This system allows multiple users within the Aquifer Mapping Program to enter groundwater data, improving how data are incorporated into the database.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

- Each year, NMBGMR coordinates the development of the Water Data Initiative Annual Plan as required by the Water Data Act. The annual plan provides updates on the WDI's work and upcoming budgetary needs. The budgetary information was circulated during the 2024 legislative session to provide guidance to lawmakers on funding goals for the directing agencies.
- Stacy Timmons coordinated a presentation by the WDI directing agencies at the October 2023 Interim Water and Natural Resources Committee meeting, where each agency shared goals and budgetary needs for the upcoming year.
- NMBGMR put together a budget expansion request, including a request for an additional $500,000 in recurring funding to support the bureau's Water Data Act work and convening efforts for the state. This budgetary request was submitted under the New Mexico Institute of Mining and Technology through the Higher Education Department. The request was funded at $250,000 in the 2024 legislative session for FY2025, bringing NMBGMR's recurring budget for the Water Data Act to $500,000 annually.

GOAL 4: Work collaboratively within the WDI groups to develop data standards and support the maintenance of data standards.

- NMBGMR convenes the New Mexico water data technical working group, which comprises members of the directing agencies and other water management agencies throughout New Mexico. This group worked consistently in FY2024 to develop a standard for groundwater data in SensorThings API format.
- NMBGMR is also collaborating with NMED's Groundwater Quality Bureau and other regional agencies, such as Bernalillo County and the Estancia Basin Water Planning Committee, to standardize water data submissions to the data catalog.

The Impact of Water Data Act Funding in FY2024

NMBGMR state funding remained steady at $250,000 in FY2024. In addition, $325,000 of nonrecurring funding was received for database upgrades and analytical data services with the bureau's water chemistry lab. The state nonrecurring funding supported staff positions, maintenance of IT infrastructure, and hosting and support of the data catalog. NMBGMR was also able to leverage existing state funding to receive grants and philanthropic funding to enhance the impact of the WDI.

- Nonrecurring state funding for data system upgrades has been used in FY2024 to reduce the reliance on Microsoft Access forms for data entry and data reporting for the Aquifer Mapping Program database. For several years, this database, built on an SQL platform, has been moving away from Access, and progress has been made toward building webforms for data entry and data visualization/report generation, which are being implemented.
- A portion of the nonrecurring state funding was dedicated to improvements for the water chemistry laboratory's database to upgrade the data management system to a cloud-based service with options for improved data delivery for internal and external clients. This upgrade will improve data service and integration with the Aquifer Mapping Program database.
- Funded by a Bureau of Reclamation WaterSMART applied science grant, NMBGMR has developed a meter management application for the Pecos Valley Artesian Conservancy District (PVACD). This application allows PVACD to efficiently track meter maintenance and operations, and allows for direct communication with OSE through an API. During FY2024, NMBGMR developed the meter management application in coordination with PVACD. PVACD personnel are now field testing the application for use by their technicians. This project also supports 10 dedicated wells for monitoring groundwater levels with PVACD, as well as a data integration platform that connects data from state, federal, and local (PVACD) sources.
- Funded by a Bureau of Reclamation WaterSMART applied science grant, NMBGMR has been working with the ISC and OSE to make data more available for modeling efforts in the middle Rio Grande. Several component projects are in the works to increase the availability of groundwater modeling-specific datasets, such as aquifer test data and hydrologic properties for aquifers in the project region.
- NMBGMR received philanthropic funding from the Thornburg Foundation that allowed the Water Data Initiative Workshop to be free for the almost 200 participants.
- NMBGMR received philanthropic support from the Water Foundation, which supports the use of our Google Cloud Platform. Google Cloud includes developer resources, such as data storage, compute engine, and cloud functions, that are necessary for developing NMBGMR's data integration infrastructure.

New Mexico Office of the State Engineer and Interstate Stream Commission Report on FY2024 Activities

Status update on **OSE and ISC** activities related to the 2023 (FY2024) Water Data Initiative Annual Plan.

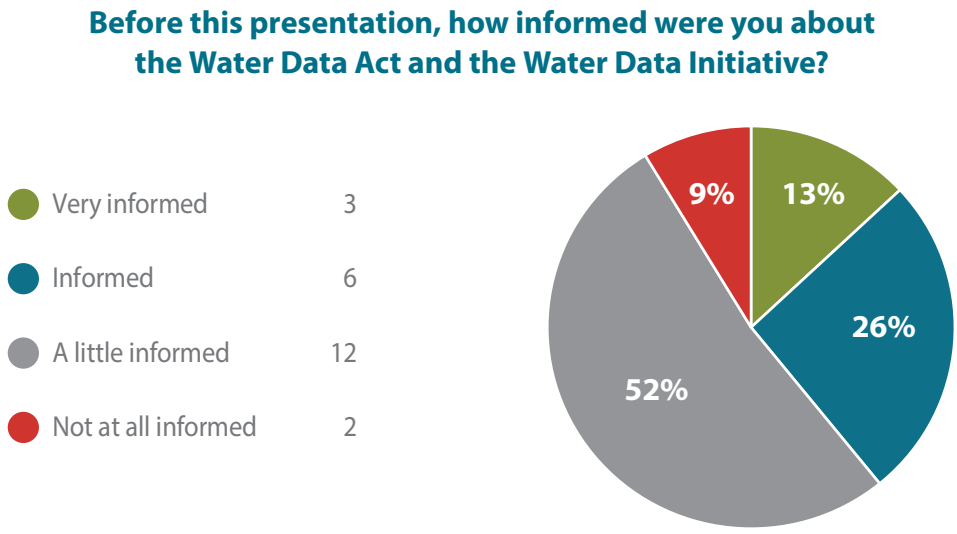
GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

Ruth Villegas is the OSE point of contact for the WDI, and Michelle Hunter is the ISC point of contact.

Interagency communication regarding the WDI at OSE/ISC has improved, and the agency drafted a communication plan. The NMBGMR's role as the convening agency is instrumental in enhancing interagency communication. Regular interagency meetings are held with NMBGMR and the directing agencies to discuss WDI progress and technical issues. OSE/ISC had great representation (35 attendees) at the annual Water Data Initiative Workshop held in May 2024. An annual technology adoption workshop and roundtable discussion are held with the WDI directing agencies and staff. Ad hoc meetings between the OSE/ISC IT staff and the NMBGMR water data program manager are held as needed.

Internal communication has also improved, with multiple intra-agency communication channels employed in FY2024. Three internal OSE/ISC meetings were held in FY2024 to provide internal users with WDI information and updates. The first meeting provided general information about the Water Data Act, followed by another meeting communicating updates about the 2023 WDI plan. Staff attendance was very good at these two meetings, with 47 attendees at the first meeting and 91 at the WDI update meeting. The Department of Finance and Administration (DFA) Federal Grants Bureau presented its program to OSE/ISC staff, including information on how DFA supports New Mexico state agencies with federal grant management and processing. Other directing agency staff were invited to this meeting. One-on-one meetings were held with 28 managers and staff for the OSE water data inventory, and information about the Water Data Act and WDI was communicated to the interviewees. A needs assessment survey, which began in FY2024, provides an opportunity for IT staff to communicate with managers about their needs for a successful program and explain the fundamentals of the Water Data Act and WDI.

The pie chart below is from a sample of 90 attendees of an internal presentation on the Water Data Act and WDI at the end of March 2024.



GOAL 2: Work with the WDI groups to build digital data availability and integration using modern web services and documentation.

Development on the SensorThings API with a FROST-Server is under review, and progress has been ongoing throughout FY2024. The New Mexico public water system boundaries dataset was prepared by HydroAnalytics LLC with guidance and collaboration from the OSE Water Use and Conservation Bureau, NMED, and the New Mexico Rural Water Association. This dataset is available on the OSE website and the New Mexico Water Data site hosted by NMBGMR. Building digital data availability for OSE/ISC is largely focused on modernizing internal IT legacy applications and infrastructure. The OSE development team is increasing the use of APIs in modernization efforts for legacy systems. Many parallel and ongoing efforts are underway to modernize legacy IT systems, leading to more efficient ways of collecting, reporting on, and sharing data. These efforts are fundamental to building digital data availability. Progress on modernizing OSE applications includes:

- Dam safety web application replacing a Microsoft Access database.
- District 2 web application for tracking water use. This application will replace spreadsheets. This project is being coordinated with NMBGMR's project with PVACD so that the OSE and PVACD applications will be able to communicate directly.
- New Mexico Water Rights Reporting System (NMWRRS) replacing a GlassFish server and Crystal Reports system.
- Developed a Water Right Technical Engineering System (WATERS) API to an Informix database.
- Water Rights Adjudication Tracking System (WRATS) modernization project is proceeding with contractor support and will continue in FY2025 with C2 funding.
- Update to the OSE Hydrology Bureau aquifer testing database in collaboration with NMBGMR.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

The primary strategy for identifying funding needs is a needs assessment survey that is available to managers and supervisors within OSE/ISC. Senior management at OSE/ISC is actively engaged in identifying and developing processes for prioritizing the IT and data management needs at OSE/ISC. The needs assessment survey will inform a gap analysis where managers can collaboratively identify funding needs and communicate recommendations to decision makers. The gap analysis and needs assessment survey are intended to support senior management and, ultimately, legislators in determining funding needs.

The water data inventory interviews helped identify resource needs so that OSE/ISC can fully participate in the WDI. This process seeks to identify and inventory data that are used and data that are needed and not readily available. The water data inventory interviews included a basic question about what managers need to make their programs successful given the current state of their program or area of focus.

GOAL 4: Work collaboratively within the WDI groups to develop data standards and support the maintenance of data standards.

OSE/ISC participates in the WDI technical working group regular meetings and the Technology Adoption Project meetings. There have been internal meetings and decisions made about adopting shared language use and standards. Efforts have also been made to adopt GIS standards and process standards. This work is ongoing. Modernizing legacy systems and software will incorporate modern controls where user inputs are limited/controlled to facilitate standardization and improve data quality. The controls will result in cleaner data, increased reporting capabilities, and quality improvements for sharing data.

The Impact of Water Data Act Funding in FY2024

The OSE Information Technology Systems Bureau (ITSB) works diligently to address user needs with the addition of three WDI dedicated IT positions funded in 2022. Participation in the WDI has increased given these new positions, which include an IT business analyst and two application developers. The OSE IT development team is growing and building its capacity to meet the needs of OSE/ISC, and this will benefit the WDI.

OSE/ISC is deeply grateful to Governor Michelle Lujan Grisham, the 2024 New Mexico Legislature, and senior OSE/ISC management for expanding recurring funding for 27 new positions. Regardless of where these positions are assigned, they will undoubtedly contribute to supporting the intent of the Water Data Act and the missions of OSE and ISC. However, more resources are required to realize the full intent of the act. OSE's IT needs are significant, and a robust IT infrastructure and related applications are vital to produce, consume, and share quality data expeditiously. The WDI is a multiyear endeavor, and almost all data that are either produced or consumed by OSE/ISC are water data. OSE/ISC's success regarding the WDI goals and objectives depends on continued financial support from the New Mexico Legislature. This holds true whether funding is sourced through C2 projects, capital projects, special appropriations, or recurring staff expansions.

OSE/ISC continues to seek and process federal grant funding. The OSE Hydrology Bureau has been awarded funding from the NASA Western Water Applications Office in response to the Rio Grande Basin Needs Assessment Workshop addressing critical water resources issues. The funding amount is $200,000 over an estimated two-year period. The OSE Hydrology Bureau is partnering with a team of scientists at the Mountain Hydrology Group, part of the Institute of Arctic and Alpine Research at the University of Colorado–Boulder, to develop an operational snow-water equivalent (SWE) analysis tool.

The Hydrology Bureau also received a Bureau of Reclamation WaterSMART applied science grant to develop a map-based analytical interface for water rights administration in New Mexico. This project will result in an improved water rights administration tool for New Mexico water managers, one that will assist in making informed decisions, aid in water planning and communication, and provide a tool to help communities better understand their water management challenges and opportunities.

Agency-Specific Goals

Alternative funding sources are being pursued. OSE/ISC has secured multiple grants in FY2024 and continues processing grants as previously mentioned, including the Hydrology Bureau's NASA Western Water Applications Office grant and a WaterSMART applied science grant.

The ongoing Water Rights Adjudication Tracking System (WRATS) project has been prioritized. OSE/ISC is in the third year and final phase of modernizing WRATS, which is funded via C2 and is a certified project under DoIT. The project will be completed in the spring of 2025. Based on the deployment date, the agency will be submitting two RFIs in the coming fiscal year for 1) analysis and discovery to begin the process of modernizing the WATERS application and 2) modernizing the Real-Time Water Measurement application. The agency has also submitted to C2 a request to fund both of these projects, which, if approved, will be available in FY2026.

New Mexico Energy, Minerals and Natural Resources Department Report on FY2024 Activities

Status update on **EMNRD** activities related to the 2023 (FY2024) Water Data Initiative Annual Plan.

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

Kevin Myers continues his tenure as the EMNRD agency Water Data Act point of contact.

During this period, a good cross section of the agency has participated in various communications, including upper management, the Information Technology Office (ITO), Energy Conservation Management Division (ECMD), and Mining and Minerals Division (MMD).

Specific examples of meetings, workshops, and outreach related to Goal 1 include:

- EMNRD staff participated in technical working group meetings on a monthly basis.
- EMNRD staff participated in the October 25, 2023, Technology Adoption Program (TAP) follow-up meeting and workshop at the Randall Davey Audubon Center.
- EMNRD interagency communication for ITO and MMD has increased as implementation of the Water Data Initiative Annual Plan started in the second half of FY2024.
- EMNRD participated in a panel with other water agencies in Las Cruces on October 3, 2023, before the Water and Natural Resources Committee during an interim committee meeting.
- EMNRD staff met in April 2024 to discuss annual planning and reporting for the FY2026 budget cycle.
- ECMD is planning public outreach in 2024 regarding its New Mexico Climate Risk Map.

GOAL 2: Work with the WDI groups to build digital data availability and integration using modern web services and documentation.

Major progress is now being made with respect to Goal 2 in FY2024.

The Water Data Act developer position authorized in 2023 was created, advertised, and interviewed for and is now filled with a well-qualified candidate. We are now in the middle of developing our EMNRD Water Data Act APIs, including a central registration portal. This central portal allows us to receive applications requesting access (including their contact and project information), assign JSON web tokens, and track and meter web API usage, among other things. Using this portal, the initial MMD coal mine water data web APIs have been completed, and work is ongoing for the Oil Conservation Division (OCD) water data web APIs. Once the initial OCD water data web APIs are complete, we expect to do further security hardening and testing prior to production release, which is expected before the end of this calendar year.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

Funding needs were clearly articulated by EMNRD and the Water Data Act team, and EMNRD received Water Data Act funding during both the 2023 and 2024 legislative sessions. This funding is recurring and currently provides for two Water Data Act IT positions as well as additional funds for professional services and other supportive procurements.

GOAL 4: Work collaboratively within the WDI groups to develop data standards and support the maintenance of data standards.

EMNRD has participated in WDI working groups regarding data standards. Concerning our current portal under development for the EMNRD Water Data Act APIs, we endeavor to create clear and comprehensive web API documentation, which is crucial for developers seeking to integrate and interact with our services seamlessly. Our documentation provides a detailed guide on how to use our APIs, including endpoint descriptions, request and response formats, authentication methods, and error handling. We also strive to make the integration process as smooth as possible by offering code samples, interactive examples, and a comprehensive reference of API endpoints.

The Impact of Water Data Act Funding in FY2024

During the 2023 legislative session, EMNRD received Water Data Act funding for one position. This developer position was created, advertised, and interviewed for and is now filled with a well-qualified candidate.

We are working to implement the Water Data Act by developing our EMNRD Water Data Act APIs, including a central registration portal. The central portal allows us to receive applications requesting access (including their contact and project information), assign JSON web tokens, and track and meter web API usage. Using this portal, the initial MMD coal mine water data web APIs have been completed, and work is ongoing for the OCD water data web APIs. Once the initial OCD water data web APIs are complete, we expect to do further security hardening and testing prior to production release, which is expected by the end of this calendar year.

New Mexico Environment Department Report on FY2024 Activities

Status update on **NMED** activities related to the 2023 (FY2024) Water Data Initiative Annual Plan.

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

Kelsey Rader, deputy director of the Water Protection Division (WPD) at NMED, is the agency point of contact (POC). NMED staff from the Ground Water Quality Bureau (GWQB), Surface Water Quality Bureau (SWQB), Drinking Water Bureau (DWB), Petroleum Storage Tank Bureau (PSTB), and Office of Information Technology (OIT) plan to meet quarterly to assess activities to implement the Water Data Act.

The PSTB is short staffed and does not have a POC. Communications have been primarily through email and in-person meetings with the WDI team and NMED POC Kelsey Rader on a quarterly basis. Jim Gibb, manager of the Remedial Action Program, is participating in Water Data Act implementation. Communication has been maintained, and PSTB has engaged in all meetings in FY2024.

GOAL 2: Work with the WDI groups to build digital data availability and integration using modern web services and documentation.

- Improving APIs
  - ◊ NMED has released an Open Data Portal, which is a centralized repository for all API-accessible agency data. Many water APIs are already available, and many more will be released to the portal in the near and mid-range future.
- Digitizing paper data
  - ◊ NMED continues to work on digitizing all paper data and received funding from the legislature through Infrastructure Capital Improvement Plan authorization to develop a consolidated records repository. Funding to begin digitizing paper records has been authorized through DoIT C2 funding to OIT, and digitization is anticipated to begin in FY2025. NMED is currently utilizing funding from the Uranium Bill (HB-164 from 2022) to digitize uranium mine, mill, and remediation site data. Additionally, NMED has identified funding to acquire database solutions to allow electronic handling of all water data.
- Water quality permitting database
  - ◊ NMED is developing an urgently needed water quality permitting database to support a new surface water permitting program mandated by the legislature and the existing groundwater permitting program. The water quality permitting application will allow electronic permit application, permit renewal, discharge monitoring data submissions, and inspection uploads. It will streamline interactions with the regulated community and make effluent water quality monitoring data and facility information readily accessible to the public. It will also allow NMED to efficiently manage the surface and groundwater permitting programs, including staff and resource allocation, revenue and funding oversight, and strategic analysis of the overall process. An internal team of technical and IT staff is guiding the database development process, which targets fall 2024 for showcasing an interim product.
- SWQB standard operating procedures (SOPs)
  - ◊ SWQB continues to review, revise, and develop SOPs for the collection, review, and reporting of physical, chemical, and biological surface water quality data. SWQB improved the following SOPs this reporting cycle: data validation and verification, chemical sampling in lotic environments, physical habitat, sondes, and dissolved oxygen (DO) and conductivity loggers. SWQB also developed a PFAS sampling collection SOP in 2023 in coordination with the WPD PFAS working group. All SOPs are available at https://www.env.nm.gov/surface-water-quality/sop/

- SWQB data uploaded to EPA's Water Quality Exchange (WQX)
  - ◊ SWQB uploaded chemical, physical, and biological data collected in 2021–2022 during both rotational ambient and probabilistic (random statistical) surveys to WQX from the following survey areas: Jemez Mountains, lower Pecos River, and Rio Puerco/Little Colorado River/Rio Puerco. These data are downloadable from the Water Quality Portal at https://www.waterqualitydata.us
- NMED PFAS data screening committee
  - ◊ The NMED Per- and Polyfluoroalkyl Substances (PFAS) Data Screening Committee was established in 2020 to assess PFAS data quality and to facilitate the consistent use and availability of such data throughout the department. The committee conducts rigorous data validation and verification of analytical results, the majority of which are from finished water or untreated surface and groundwater. Data integrity is assessed based on seven quality criteria related to sample collection and field practices, analytical quality control conformance, and study-specific data quality indicators. Data are then assigned one of four quality/usability levels that indicate their reliability and appropriate use (e.g., universal versus provisional use). The committee also acts as a central repository for PFAS data collected by NMED programs, with the exception of datasets collected by NMED's Department of Energy Oversight Bureau housed in the publicly accessible Intellus New Mexico database.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

- SWQB Chief Shelly Lemon presented at the New Mexico Water Quality Control Commission meeting in July 2023 to discuss recent changes to the Clean Water Act and definition of "waters of the United States," implications for New Mexico, and the need for a state permitting program for discharges of contaminants to surface waters, which requires expanded support for data management.
- SWQB Chief Shelly Lemon provided an overview of NMED's surface water permitting program development and funding needs at the following meetings:
  - ◊ Middle Rio Grande Technical Advisory Group meeting (August 2023)
  - ◊ Water Protection Advisory Board meeting—Albuquerque Bernalillo County Water Utility Authority (September 2023)
  - ◊ New Mexico Water Law Conference (September 2023)
  - ◊ Buckman Direct Diversion Board meeting (November 2023)
  - ◊ New Mexico State University Water Resources Research Institute's 68th Annual Water Conference (November 2023)
  - ◊ New Mexico Farm and Livestock Bureau meeting (November 2023)
  - ◊ SWQB's Wetlands Roundtable (November 2023)
  - ◊ Water Leaders Workshop (December 2023)
  - ◊ State agency-only meeting (April 2024)

WPD Director John Rhoderick presented to multiple interim committees, discussing impacts of federal rulemaking changes on New Mexico surface waters as well as needed rulemakings and future needs, including data management, to address water use and reuse in New Mexico. Funding needs for development and implementation were discussed throughout the interim and during the FY2024 legislative session.

Discussions with several environmental non-governmental organizations were held throughout the year to discuss funding needs and potential support. Ongoing discussions between the WPD and the NMED cabinet secretary regarding current and future funding needs for water programs and the WDI were held throughout the year for consideration of funding submittals to the legislature and governor's office.

GOAL 4: Work collaboratively within the WDI groups to develop data standards and support the maintenance of data standards.

The NMED GWQB has worked with two non-governmental organizations to identify future regulatory changes and possible data needs through the toxic pollutants working group. The group has focused on gathering input and information from stakeholders through biannual meetings that also provide added information through presentations made by experts in the areas of risk, toxicology, regulations, and data evaluation.

The Impact of Water Data Act Funding in FY2024

To date, NMED has not received dedicated funding for implementation of the Water Data Act. The department has received special appropriations from the New Mexico Legislature to develop and administer a surface water quality state permitting program, which relies on the creation of the water quality permitting database.

Additionally, NMED funds data collection, database management, and reporting activities for the SWQB under existing Clean Water Act Section 106 and 106 supplemental grants. SWQB maintains an internal database (surface water quality information database, SQUID) with assistance from NMED IT.

Agency-Specific Goals

- Acquire, modify, and implement new databases for GWQB, SWQB, and PSTB.
  - ◊ NMED is working toward this goal, has completed the initial evaluation phase of the water quality permitting database project, and will move to the implementation phase within the next six months.
- Complete development of the process to automatically upload daily sampling data from the Safe Drinking Water Information System (SDWIS) and Drinking Water Watch. Once completed and operational, share the developed process with other states.
  - ◊ NMED continues to provide manual drinking water data uploads approximately biweekly. NMED is also continuing to develop a process where the data uploads are automated to the FROST-Server.
- Initiate paper data digitization.
  - ◊ Scheduled to begin in FY2024. SWQB is hiring a college intern for FY2024–FY2025 to prepare National Pollutant Discharge Elimination System (NPDES) permit effluent water quality data for digitization. GWQB is also hiring two college interns for the same tasks, along with ground truthing the available location data prior to digitization.
- Build capacity by adding staff in OIT, GWQB, SWQB, and DWB to develop, maintain, and expand NMED's ability to make data available to the public.
  - ◊ Budget has not allowed for expansion of staff, and NMED continues to pursue a dedicated budget.
- Explore funding sources to cover ongoing costs of developing, implementing, and maintaining necessary staff and resources to fully implement the Water Data Act.
  - ◊ This effort is ongoing, with no significant updates.

Appendix 2

Directing Agency Planning

Each of the directing agencies was asked to provide a plan to describe how their agency will participate in the Water Data Act in the upcoming year and to give estimates for budgetary requirements that would expedite the goals of the act. This information is presented here for the purpose of estimating what an agency needs to meet the requirements of the act; it should not be considered an official budgetary request. It is critical that meeting this need does not take away from directing agencies' ability to conduct their current missions and goals. Funding the Water Data Act will require expansions to agency budgets. However, due to the increased agency efficiency that will result from funding this effort, this investment will pay for itself in the coming years. Large IT projects, such as large database replacements and multiyear data digitization efforts, will be directed through the DoIT C2 computer system funding process.

New Mexico Bureau of Geology and Mineral Resources

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

- **Action:** Reinvigorate and harmonize the efforts of the four WDI governing working groups to ensure that they optimally support the WDI mission.
- **Metric:** Convene four meetings of the directing agency working group. Convene members of the data users working group to solicit feedback on the New Mexico Water Data Catalog. Identify an optimal meeting schedule for the technical working group and meet at least four times. Apprise executive steering committee of major ongoing WDI work.
- **Target:** Enhance external input on WDI work and initiatives.

GOAL 2: Work to build digital availability of water data for management and planning using modern web services and documentation.

- **Action:** Create a roadmap for developing a confluence of integrated water data sources to achieve the WDI goal of producing interoperable water datasets.
- **Metric:** By the end of FY2025, develop and implement a work plan that describes a long-term plan of integrating multiple data sources. The work plan will include a business case, schedule, data gaps, and external resources needed.
- **Target:** Development and testing of an initial proof-of-concept "data integration engine" to create interoperable datasets from multiple state and federal data sources.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

- **Action:** NMBGMR will continue to communicate funding needs for the Water Data Act as a bureau and New Mexico Tech priority, building recurring state resources in the long term.
- **Metric:** NMBGMR will work to maintain funding levels at $500,000 annually or greater, supported by state funding, along with other gifts and grant opportunities.
- **Target:** NMBGMR will develop fact sheets and clear documentation of funding uses and funding needs for the bureau, as well as broader WDI efforts, for decision makers.

NMBGMR Budgetary Needs

Table A. Water Data Act Funding Needs for FY2026

Type of Cost	Amount
Nonrecurring funding goal	$100,000
Recurring funding goal—services, contracts, licensing, etc.	$100,000
Recurring funding goal—staff costs	$650,000
TOTAL Costs FY2026	**$850,000**

Table B. Water Data Act Funding Received to Date

Type of Funding	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
State recurring funding	$110,000	$103,774	$103,000	$253,000	$255,000	$500,000
State nonrecurring funding	$0	$0	$0	$0	$325,000	$0
Other (grants, philanthropic, etc.)	$25,000	$140,000	$185,000	$240,000	$272,000	$200,000

Table C. Recurring Funding Still Needed for FY2026

Type of Cost	Amount
Total recurring funding needed (Table A)	$750,000
State recurring funding received (Table B)	$500,000
State recurring funding still needed	**$250,000**

Recurring: Recurring staff costs for FY2026 include staff salaries for the water data program manager, data services manager, two software developers, and a data integrator, as well as administrative support. Recurring costs for services, contracts, and licenses include the maintenance of our Google Cloud console; hosting, support, and development for the water data catalog; and hosting and support for the WDI website.

Nonrecurring: Nonrecurring costs for FY2026 include services and contracts to support the Water Data Workshop, user experience testing and feedback to improve the New Mexico Water Data Catalog, and administrative support to facilitate the governing working groups.

New Mexico Office of the State Engineer and Interstate Stream Commission

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

- **Action:** OSE/ISC will increase internal awareness of the Water Data Act and the WDI.
- **Metric:** An online survey will be conducted for all OSE/ISC users to measure Water Data Act and WDI awareness within OSE and ISC and see if awareness has increased using a larger sample size.
- **Target:** Increase awareness of informed or very informed users to 80% in FY2025.

GOAL 2: Work to build digital availability of water data for management and planning using modern web services and documentation.

- **Action:** OSE will finalize a water data inventory and a needs assessment survey in FY2025. Both initiatives have already helped to identify many user needs. Completing these two related efforts will provide a better understanding of user needs.
- **Metric:** Complete a report listing the user needs as they relate to the WDI.
- **Target:** A report will be presented to OSE/ISC users in a virtual meeting in early 2025.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

- **Action:** There is an ongoing online needs assessment survey at OSE/ISC that was sent to all managers and supervisors. The survey will be rewritten to better address the issues at OSE/ISC and will be sent to all employees in FY2025. Once this revised survey is completed in FY2025, it will feed into a gap analysis.
- **Metric:** Monitor the survey responses to see when 75% of agency employees have completed the ongoing needs assessment survey.
- **Target:** A gap analysis will be completed before the end of August 2024 and presented to internal decision makers. This gap analysis will be used to identify future budgetary needs.

Additional agency goals for the upcoming fiscal year:

A. Internal users have prioritized getting updates about the WDI (in order of preference) via email, Microsoft Teams, iDrop (intranet), and the OSE website.

B. The agency-designated WDI analyst will facilitate an internal discussion on barriers to WDI success.

OSE/ISC Budgetary Needs

Table A. Water Data Act Funding Needs for FY2026

Type of Cost	Amount
Nonrecurring funding goal*	$4,000,000
Recurring funding goal—services, contracts, licensing, etc.	$475,000
Recurring funding goal—staff costs	$800,000
TOTAL Costs FY2026	**$5,275,000**

* Included in C2 funding request

Table B. Water Data Act Funding Received to Date

Type of Funding	FY2022	FY2023	FY2024	FY2025
State recurring funding	$0	$410,000	$410,000	$410,000
State nonrecurring funding	$0	$500,000	$1,695,200	$425,000
Other (grants, philanthropic, etc.)	$0	$0	$0	$0

Table C. Recurring Funding Still Needed for FY2026

Type of Cost	Amount
Total recurring funding needed (Table A)	$1,275,000
State recurring funding received (Table B)	$410,000
State recurring funding still needed	**$865,000**

FY2026

Recurring: Web hosting services, data integration, database maintenance, software licensing, data collection, and staffing.

Nonrecurring: Database acquisitions and integrations, digitizing services, database customizations, and modernization of the WATERS and Real-Time Water Measurement applications.

New Mexico Energy, Minerals and Natural Resources Department

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

- **Action:** Continued active participation in inter- and intra-agency communications with EMNRD point of contact, key staff, and upper management.
- **Metric:** Active participation and communication both inside and outside EMNRD for topics related to the Water Data Act.
- **Target:** EMNRD point of contact providing timely responses to NMBGMR, attending workshops, attending meetings, keeping EMNRD informed, and learning about Water Data Act implementation at other agencies. The frequency of contact will be at least monthly inside EMNRD and quarterly outside the agency.

GOAL 2: Work to build digital availability of water data for management and planning using modern web services and documentation.

- **Action:** A second full-time ITO position will be filled, with specific job duties and support from EMNRD for the new hire. In addition to the full-time ITO positions, other monies will be designated for support, training, and contractors to implement water data projects.
- **Metric:** The number of dedicated IT staff working toward water data technical goals of developing, releasing, and maintaining APIs.
- **Target:** Two dedicated IT staff. Refining the implementation plan will be part of the duties and responsibilities during the initial months and years.

GOAL 3: Identify and communicate Water Data Act funding needs to decision makers.

- **Action:** Assisting with executive steering committee meetings and scheduling.
- **Metric:** Informing upper management of goals and budgetary needs for FY2026. Assessment of the recurring funding will occur each year.
- **Target:** EMNRD participation at executive steering committee annual meetings and intra-agency communication of Water Data Act budgetary needs for FY2026 budget cycle.

EMNRD Budgetary Needs

Table A. Water Data Funding Needs for FY2026 (unchanged from FY2025 approved budget)

Type of Cost	Amount
Nonrecurring funding goal	$0
Recurring funding goal—services, contracts, licensing, etc.	$200,000
Recurring funding goal—staff costs (Application Developer II and Business Analyst)	$269,300
TOTAL Costs FY2026	**$469,300**

Table B. Water Data Funding Received to Date

Type of Funding	FY2022	FY2023	FY2024	FY2025
State recurring funding	$0	$0	$125,000	$469,300
State nonrecurring funding	$0	$0	$0	$0
Other (grants, philanthropic, etc.)	$0	$0	$0	$0

Table C. Recurring Funding Still Needed for FY2026

Type of Cost	Amount
Total recurring funding needed (Table A)	$469,300
State recurring funding received (Table B)	$469,300
State recurring funding still needed	**$0**

Table D. Future Funding Requirements

Type of Cost	FY2024 In Place	FY2025	FY2026	FY2027	FY2028	FY2029	TOTAL
Nonrecurring OCD	$0	$0	$0	$0	$0	$0	$0
Nonrecurring MMD	$0	$0	$0	$0	$0	$0	$0
Recurring—services, contracts, licensing, etc.	$0	$200,000	$200,000	$200,000	$200,000	$200,000	$1,000,000
Recurring staff costs—ITO	$125,000	$269,300	$269,300	$269,300	$269,300	$269,300	$1,346,500
TOTAL	**$125,000**	**$469,300**	**$469,300**	**$469,300**	**$469,300**	**$469,300**	**$2,346,500**

FY2025 will fund a second Information Technology Office (ITO) position, possibly a business analyst, and will continue funding the first ITO position, whose specific duties include application developer. In addition to the staff costs, additional recurring funding for services, contracts, licenses, and other support starts in FY2025.

Funding for a second ITO position, plus additional funds for contractors and support, represents 75% of the 5-year budget estimates. Even though the amount is less than originally estimated by 25%, the amount of recurring funds is double the initial estimate. The recommendation is for the same funding level for FY2026 as the previous year, and one of the duties of the business analyst will be to assess the funding needs as more APIs are implemented.

In early 2022, the EMNRD ITO developed a business case that estimated total cost of ownership using recurring and nonrecurring costs that considered new and existing data projects. MMD's Coal Program also estimated the costs necessary for updating and transitioning its coal water quality dataset. Any funding will require a further assessment of priorities and next steps to begin implementation through procurement processes and assigning tasks within EMNRD for selected projects. Part of the assessment will set boundaries on the extent of paper and electronic data that are not yet in a findable, searchable, and usable form for API-accessible data. This 2022 business case will be reviewed and revised annually if needed.

Key project activity areas include:

- Identify key data for water management and planning.
- Develop data standards and definitions, especially for data feeds primarily provided by EMNRD.
- Design and implement IT infrastructure required to support APIs.
- Evaluate data systems.
- Create agency data-specific water data plan.
- Build data API/data stream.
- Develop data tools, analytics, and applications for public and partners.
- Address historical data/paper data digitization.
- Improve, update, and refine various water datasets, tools, and applications.

EMNRD data feeds that have been identified as part of our WDI efforts and are planned to be in the scope of our API implementations:

- Oil Conservation Division
  - ◊ Produced water volumes
  - ◊ Injected and disposed water volumes
  - ◊ Water dispositions (related to oil and gas properties)
  - ◊ Recycled water volumes
  - ◊ Hydraulic fracturing volumes
    - ▪ Water use reports
    - ▪ Hydraulic fracturing chemical disclosures (e.g., list of chemicals used in each frack)
  - ◊ Daily water injection reports for injection wells affected by induced seismicity
  - ◊ Remediation-related water quality test reports (C-141)
  - ◊ Groundwater abatement plan-associated water data
  - ◊ Discharge permit-associated water data
- Mining and Minerals Division
  - ◊ Coal water quality data
- State Parks
  - ◊ Weekly reservoir water level data
- More data feeds are expected

Primary tasks for IT personnel supporting the Water Data Act implementation:

- Develop and support multiple publicly facing APIs, including geospatial capabilities, that support programmatic inquiry into all of EMNRD's water data.
- Develop automated/paperless processes related to water data collection to replace current unstructured/manual processes that result in data in structured databases and not disorganized files in nonstandard formats.

New Mexico Environment Department

GOAL 1: Maintain inter- and intra-agency communications about activities and implementation of the Water Data Act.

- **Action:** Identify additional data needs in alignment with the goals of the Water Data Act pertaining to water system regionalization and resiliency as well as water and wastewater system cybersecurity.
- **Metric:** Participate regularly in working groups with the New Mexico Department of Homeland Security and Emergency Management on water and wastewater system cybersecurity and finalize development of the New Mexico Water Systems Regionalization Recommendations Report.
- **Target:** Identify and share new data needs with the Water Data Act technical working group by December 2024.

GOAL 2: Work to build digital availability of water data for management and planning using modern web services and documentation.

- **Action 2a:** Finalize development of and launch the water quality permitting database.
- **Metric 2a:** Regular participation in meetings, reviews, and testing for database launch.
- **Target 2a:** Launch the first phase of the water quality permitting database by fall 2024. The first phase of the database will include modules for surface water quality permitting data and an initial conversion of the GWQB discharge permits that already exist in paper format only. The major advancement provided by this first phase will be the ability of permittees to submit monitoring reports and data to NMED in an electronic format instead of paper.
- **Action 2b:** Facilitate the development of the 3D Hydrography Program (3DHP) in New Mexico. The 3DHP is an initiative by the U.S. Geological Survey (USGS) to replace the National Hydrography Dataset with one derived from high-resolution elevation data.
- **Metric 2b:** Participate in and coordinate interagency meetings to coordinate and develop funding sources to support the production of 3DHP data. USGS has a cost-sharing program to support the project, but it will require substantial funds from a variety of partners.
- **Target 2b:** Complete the project in the next 5 to 10 years.

GOAL 3: Continue to identify and communicate Water Data Act funding needs to decision makers.

- **Action:** NMED will review funding needs and progress quarterly, and will brief executive leadership in preparation for requests for capital outlay and other legislative special funding requests prior to the next legislative session.
- **Metric:** Review budgetary needs quarterly and provide updates to executive leadership.
- **Target:** Prepare funding requests for capital outlay and other legislative funding for two years.

NMED Budgetary Needs

Table A. Water Data Funding Needs for FY2026

Type of Cost	Amount
Nonrecurring funding goal	$1,100,000
Recurring funding goal—services, contracts, licensing, etc.	$450,000
Recurring funding goal—staff costs	$577,500
TOTAL Costs FY2026	**$2,127,500**

Table B. Water Data Act Funding Received to Date

Type of Funding	FY2022	FY2023	FY2024	FY2025
State recurring funding	$0	$0	$0	$0
State nonrecurring funding	$0	$0	$0	$0
Other (grants, philanthropic, etc.)	$0	$0	$0	$0

Table C. Recurring Funding Still Needed for FY2026

Type of Cost	Amount
Total recurring funding needed (Table A)	$1,027,500
State recurring funding received (Table B)	$0
State recurring funding still needed	**$1,027,500**

Recurring: Web hosting, data integration, data collection, data quality assurance/quality control, database maintenance, and staffing (2 FTEs in IT, 2 FTEs in Water Protection Division, and 1 FTE in Resource Protection Division) to manage data coordination and IT interface.

Nonrecurring: Database acquisitions, integrations, and digitizing services.