

ANNUAL REPORT • 2022



Indiana Department
of Natural Resources

Division Of Water



DNR
Indiana Department
of Natural Resources



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By: DNR Staff

Indiana Department of Natural Resources

DIVISION OF WATER • ANNUAL REPORT • 2022

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Division of Water Mission

Protect, enhance, preserve, and wisely use water resources for the benefit of Indiana's citizens through professional leadership, management, and education.

Division of Water Programs

Administration

Provides support for all programs and sections of the Division of Water.

Compliance and Enforcement

Investigates potential violations of the Flood Control Act, Lake Preservation Act, Regulation of Dams, and other statutes; works with property owners to resolve violations; and educates the public and others on regulatory requirements in order to increase compliance with statutes and reduce violations.

Dams and Levees

Responds to dam safety incidents and emergencies; reviews proposed publicly and privately owned dams, oversees dam maintenance and inspection requirements, inspects dams, provides guidance on dam safety, develops dam breach flood inundation mapping, and serves as experts for dam safety issues.

Engineering Services and GIS

Maps floodplains and reviews computer modeling for permit applications and compliance files; participates in the Cooperating Technical Partner program with FEMA to develop and maintain floodplain mapping; provides engineering, GIS, and other expertise to assist in projects and process improvements across sections; coordinates all geographic information systems (GIS) activities in the division.

Floodplain Management

State's coordinating agency for the National Flood Insurance Program (NFIP); serves as FEMA's liaison to local communities to implement their floodplain ordinances; conducts periodic audits of Indiana NFIP participating communities; helps communities resolve violations; provides flood insurance information to communities; serves as experts on FEMA standards for floodplain development; and provides outreach, education and technical support for local floodplain management programs.

Lake Michigan

Reviews permit applications for construction and emergency repair requests; serves as expert on wind, waves, coastal erosion, dredging, sand movement, and seawall construction; advises the Lake Michigan Coastal Program.

Project Development

Is being refocused on activities that provide technical assistance on water resource issues such as the administration of the Conservancy District Act, Watershed Development Commissions, and overseeing FEMA dam grant opportunities, projects, and coordination.

Resource Assessment

Researches water resource availability, maps groundwater resources, provides data analysis for monitoring drought and groundwater.

Technical Services

Oversees permitting for the Flood Control Act, Lake Preservation Act, Regulation of Dams, Navigable Waterways, and other statutes; provides floodplain and regulatory information to the public.

Water Rights and Use

Facilitates assessment, protection, and provision of Indiana's groundwater and surface water resources; oversees water well driller licensing and continuing education; investigates water rights complaints; administers significant water withdrawal facility registration and water-use reporting; administers Indiana's implementation of the Great Lakes Compact; and coordinates the sale of water from State-financed reservoirs.



Letter from the Director

The past year was an exciting and inspiring time for the Division of Water (DOW). In 2022-23 we hired or repositioned four Section Managers: Jon Eggen in Dams & Levee Safety; Garth Lindner in Resource Assessment; Alysson Oliger in Technical Services; and Christie Stanifer in Compliance and Enforcement. We also welcomed/relocated 15 other staff members, including creating new positions for a Division Outreach Coordinator and a Project Manager in Engineering Services. Soon we will bring on Section Managers for a rejuvenated Project Development section and another manager in Engineering Services, along with filling other vacant positions.

We initiated an external review of the division communications and outreach initiatives. This effort will provide strategic direction for better communication with our stakeholders based on the feedback collected. We realize water resource programs and policies can appear technical and opaque to the public. Our challenge is to effectively communicate our work and make sure we are serving the citizens of Indiana. This study will help us effectively work with our partners in reaching those who are impacted by water – which is everybody!

The 2023 legislative session brought forth three major bills that directly affect the division. It's clear that water resource topics are gathering more interest from the legislature, and we must be attuned to the opportunities that this creates. We also look to extend our work with federal partners in promoting and implementing our programs and working with groups like the Indiana Silver Jackets to foster our common goals and initiatives. Read more about the upcoming changes in the Legislative Changes section of this report.

We continue to guide our decisions by the DNR's seven pillars of customer service, fiscal responsibility, communication, diversity and succession planning, personal growth, flattening the organization, and enhancing the DNR brand. These values have long been an integral part of the Division of Water, and that they continue to be so. I look forward to the challenges and opportunities that will present themselves to us over the next year and beyond.



Indiana Department of Natural Resources' Division of Water Director David Knipe.

Division of Water Website

To learn more about the Indiana Department of Natural Resources' Division of Water, visit

on.IN.gov/water



Legislative Changes

The 2023 legislative session brought several changes that impact DOW operations.

SEA 242 – Floodplain Mapping

Allows landowners to utilize DNR's best available data or obtain their own data when applying for a local permit to construct in a floodplain, requires local floodplain administrators to be trained & certified, and protects innocent buyers by requiring sellers to disclose if the property is located within a federally mapped floodplain.

Section 3; New section added to IC 14-28-3 (Floodplain Management Act)

After June 30, 2025, an individual must not serve as the local floodplain administrator unless the individual has completed the following:

- Become a Certified Floodplain Manager
- Completed a course or training approved by the DNR DOW

Section 4; New section added to IC 14-28-3 (Floodplain Management Act)

Allows a person to at any time request a review from the department of the department mapping data. The department shall provide the review at no cost. The department shall use a detailed hydrologic modeling method.

If the person requesting the review of the department has also applied to a local floodplain administrator for a permit to authorize a construction activity, the department must complete the review and communicate the results to the requester within 120 days.

Section 5; Amendment to IC 32-21-5 (Residential Real Estate Sales Disclosure)

If the owner of a property has personal knowledge that a portion or all of the real estate parcel is located in the floodplain per FEMA's FIRM they must disclose that information.

SB 412 – Natural Resources Matters

Section 5; New section added to IC 14-25.5-2 (Enforcement Actions by the Department)

Enforcement for high hazard dams that allows for the division to file an affidavit with the county recorder's office that a violation or deficiency exists on the property.

Section 11; New section added to IC 14-28-3 (Floodplain Management Act)

The department shall hold a meeting at least once every 5 years with local officials. The meetings shall promote cooperation with the locals participating in the NFIP, provide technical and data assistance to the local officials, conduct trainings and outreach.

Section 12; New section added to IC 14-28-3 (Floodplain Management Act)

Per FEMA direction, a permit is now required for any proposed development in a floodplain on state-owned or managed property. Prior to the adoption of this legislation, staff had been compiling data on state properties in floodplains and developing strategies to manage the new permitting process. Implementation of this revised floodplain development review will occur over the next fiscal year.

HEA 1639 – Watershed Development Commissions

Provides that the executives of one or more counties may adopt ordinances designating their counties as members of a watershed development commission as a local unit of government with taxing, construction, and maintenance responsibilities and authority, to address specific water resource related issues. Further, the proposed watershed development commission may be established as a legal entity with the counties as its members if it is recognized by the natural resources commission



State of the Water Resource

Over the last year, Indiana received an average amount of precipitation, 91% of normal. The Standardized Precipitation Indices (SPI) show that the state experienced periods of severely dry to extremely wet conditions. July-August of 2022 and February-March of 2023 were wetter than average. September-November of 2022 and May-June of 2023 were drier than normal. The remaining months were near normal. Statewide, the lowest percent of normal precipitation (41.1%) was received in June 2023, and the highest (176.4%) was received in March 2023.

The US Drought Monitor (USDM) has had some amount of drought indicated within the state for 44

out of 52 weeks. Beginning July 2022, the drought coverage decreased through August and September before increasing again. The increase in drought coverage peaked in early January 2023 before decreasing through the winter months. March through April 2023 were the only 8 weeks with no drought indicated. The drought coverage and intensity has been increasing since early May 2023, and the end of June 2023 is at the highest of the year. Seasonal Drought Outlook from NWS Climate Prediction Center indicates drought improvement in the northern half of the state and removal in the southwestern portion of the state through the end of September.

FIGURE 1

Standardized Precipitation Index for the State of Indiana

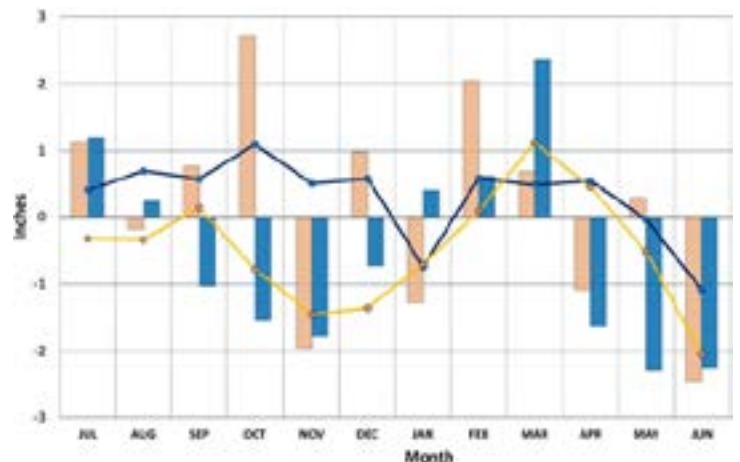
	CD1 (NW)	CD2 (NC)	CD3 (NE)	CD4 (WC)	CD5 (C)	CD6 (EC)	CD7 (SW)	CD8 (SC)	CD9 (SE)
Jul '22			Very Wet				Extremely Wet	Very Wet	
Aug '22				Moderately Wet					
Sep '22				Moderately Dry					
Oct '22						Severely Dry		Moderately Dry	
Nov '22					Moderately Dry	Moderately Dry	Moderately Dry	Moderately Dry	
Dec '22									
Jan '23									Moderately Wet
Feb '23	Very Wet	Very Wet	Very Wet						
Mar '23	Moderately Wet	Moderately Wet		Moderately Wet	Moderately Wet				Moderately Wet
Apr '23									
May '23	Moderately Dry	Severely Dry			Moderately Dry				Moderately Dry
Jun '23		Moderately Dry	Moderately Dry	Moderately Dry					Moderately Dry

LEGEND

- Extremely Wet
- Very Wet
- Moderately Wet
- Extremely Dry
- Severely Dry
- Moderately Dry
- Near Normal

FIGURE 2

Precipitation Departure from Normal for 2021 and 2022

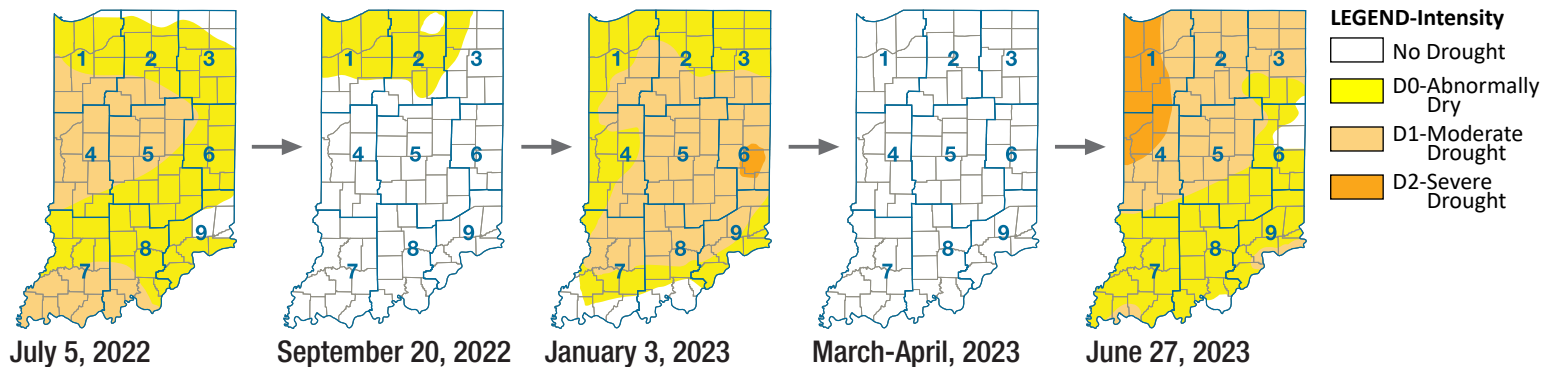


LEGEND

- July 2021-June 2022
- July 2022-June 2023
- 3 month moving average (7/21-6/22)
- 3 month moving average (7/22-6/23)

FIGURE 3

Time Series of Indiana Drought Monitor Conditions from July 2022 to June 2023





The Devastating Switzerland and Jefferson County Flash Flood and Fluvial Erosion Event of September 3, 2022

On Sept. 3, 2022, nearly 12 inches of rainfall fell over small watersheds in Switzerland and Jefferson counties in southeastern Indiana. The most heavily affected area was along the stream channels of Brushy Creek in eastern Jefferson County and Indian Creek and West Fork Indiana Creek in western Switzerland County. Between 1:30 p.m. ET and 7:30 p.m. ET, cumulative rainfall totals derived from radar composites estimate that between 10-11 inches of precipitation fell. This six-hour cumulative total is nearly double the six-hour 1,000-year recurrence interval (6.47 inches). The closest Community Collaborative Rain, Hail and Snow (CoCoRHAS) rain gauge north of the heaviest rainfall indicates more than 9 inches of rain fell on Sept. 3 at that gauge location. The 24-hour cumulative rainfall from this CoCoRHAS gauge is greater than 24-hour 1,000-year recurrence interval (8.34 inches).

The boundary between the Jefferson and Switzerland counties also serves as the service boundary for the Louisville District and the Wilmington, Ohio District of the National Weather Service, respectively.



Smith Ridge Road within the floodway of Indian Creek. High velocity water lifted the large piece of asphalt and carried it downstream.



Extensive damage to new bridge construction on Parks Ridge Road over Indian Creek in Switzerland County.



Flash flood warnings were posted for the affected areas by both districts during the event. Because of the combination of intense rainfall and rugged terrain, road and residential infrastructure were either severely damaged or completely destroyed.

DOW staff were on site within several days after the event to document the damage. Roads and bridges were severely damaged in multiple locations, cutting off escape and limiting response efforts. Multiple homes were severely damaged, and two homes were destroyed, resulting in one fatality. Numerous outbuildings, vehicles, and farm implements were also affected by the flood waters. Narratives from residents include running up hillsides to escape rising floodwaters, watching the rising floodwaters come perilously close to homes outside the mapped flood zones, and being able to hear the “wall” of floodwaters with debris racing downstream. Others described leaving their homes to try to save cattle, almost to be washed away themselves.

The steep and rugged terrain of this area played a critical role in driving the catastrophic damage. The affected streams are relatively small with very steep stream channels. They drain directly into the Ohio River. The three most heavily affected stream channels have an average fall of 48 feet per mile of stream channel in the areas of heaviest impact; for context, the Whitewater River, considered Indiana’s fastest falling river, averages a drop of 6 feet per mile. The soils in these watersheds are thin, and there is little to no stormwater infrastructure, providing limited storage to slow the rainfall before

reaching the stream channels. Furthermore, the floodplains are relatively narrow, with little capacity for the floodwaters to spread out and dissipate energy. Thus, the floodwaters were very high energy, resulting in extensive fluvial erosion. In many places, extremely large quantities of bedrock, sediment, trees, and other debris were entrained in the floodwaters, completely reworking the channel and adjacent floodplain to a very different condition, and severely damaging buildings and road infrastructure.

Multiple factors came together on Sept. 3, 2022, to cause this catastrophic flooding and fluvial hazard event. The very heavy, yet highly isolated, precipitation event was embedded within a much larger and very slow-moving low-pressure system, and these smaller embedded storms remain very difficult to predict until they start occurring. Furthermore, floodplain management and infrastructure choices, combined with the isolated and steep nature of the watersheds limited the awareness of residents as the event was occurring and their ability to reach safety. Under expected changing climate conditions, local, state, and federal agencies and first responders, as well as homeowners, business owners, residents, local planning officials, and community leaders, situated in or near flood plains, will continue to face challenges in reducing risk from extreme flooding events. Studies to better understand future climate and weather patterns and continued coordination among agencies and first responders will improve the resilience of at-risk communities to extreme flood events.



Remains of a house on Brushy Fork in Jefferson County (Brushy Fork Road).

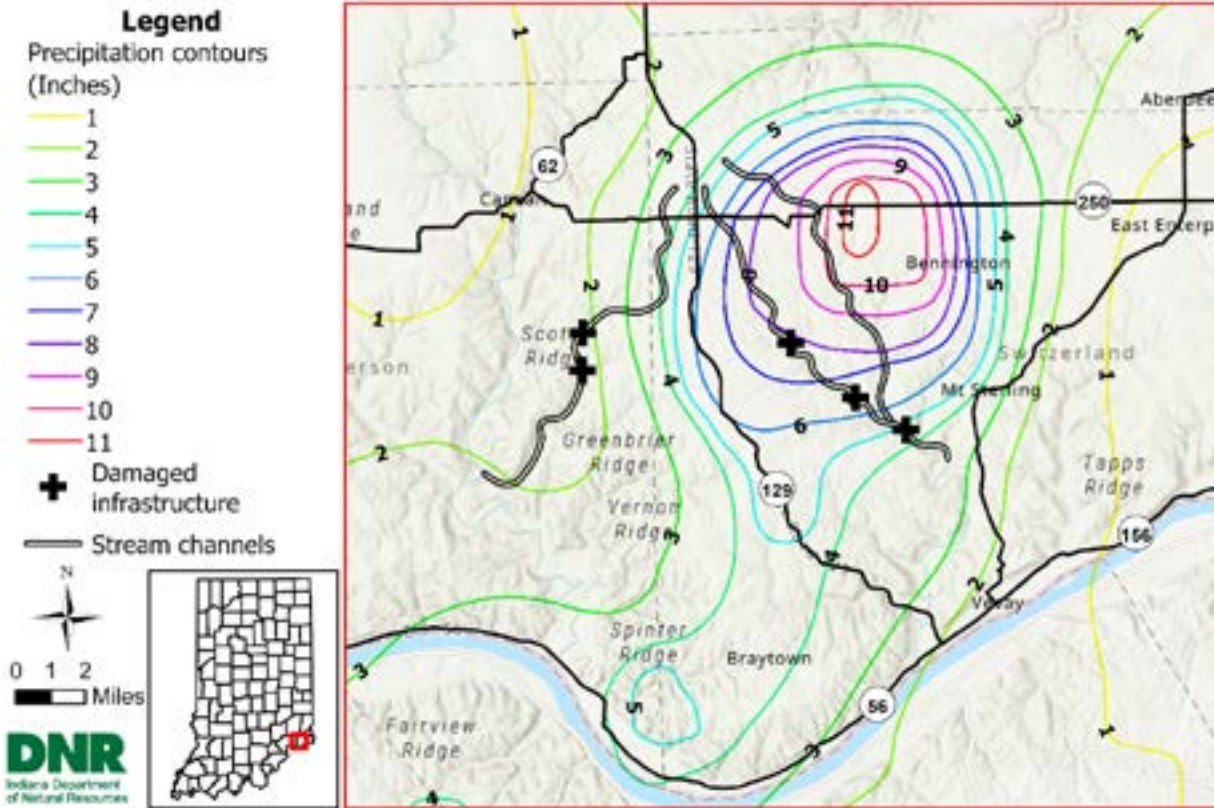


West Fork Indian Creek in Switzerland County returned to its banks in the days following the flood event.



FIGURE 4

Cumulative Precipitation Totals for September 2022 Flood



6-hour cumulative precipitation totals, derived from radar composites. The most heavily impacted stream channels are noted as the dark buffered lines, with Brushy Creek to the west, West Fork Indian Creek centrally located, and Indian Creek to the east. The documented locations of heaviest infrastructure damage (road and residential) are noted with the black crosses. Base layers from ESRI.



Home damaged on West Fork Indian Creek in Switzerland County.



West Fork Indian Creek floodwaters undermined a bridge along Brown Road in Switzerland County.



Lake Michigan Water Level Monitoring

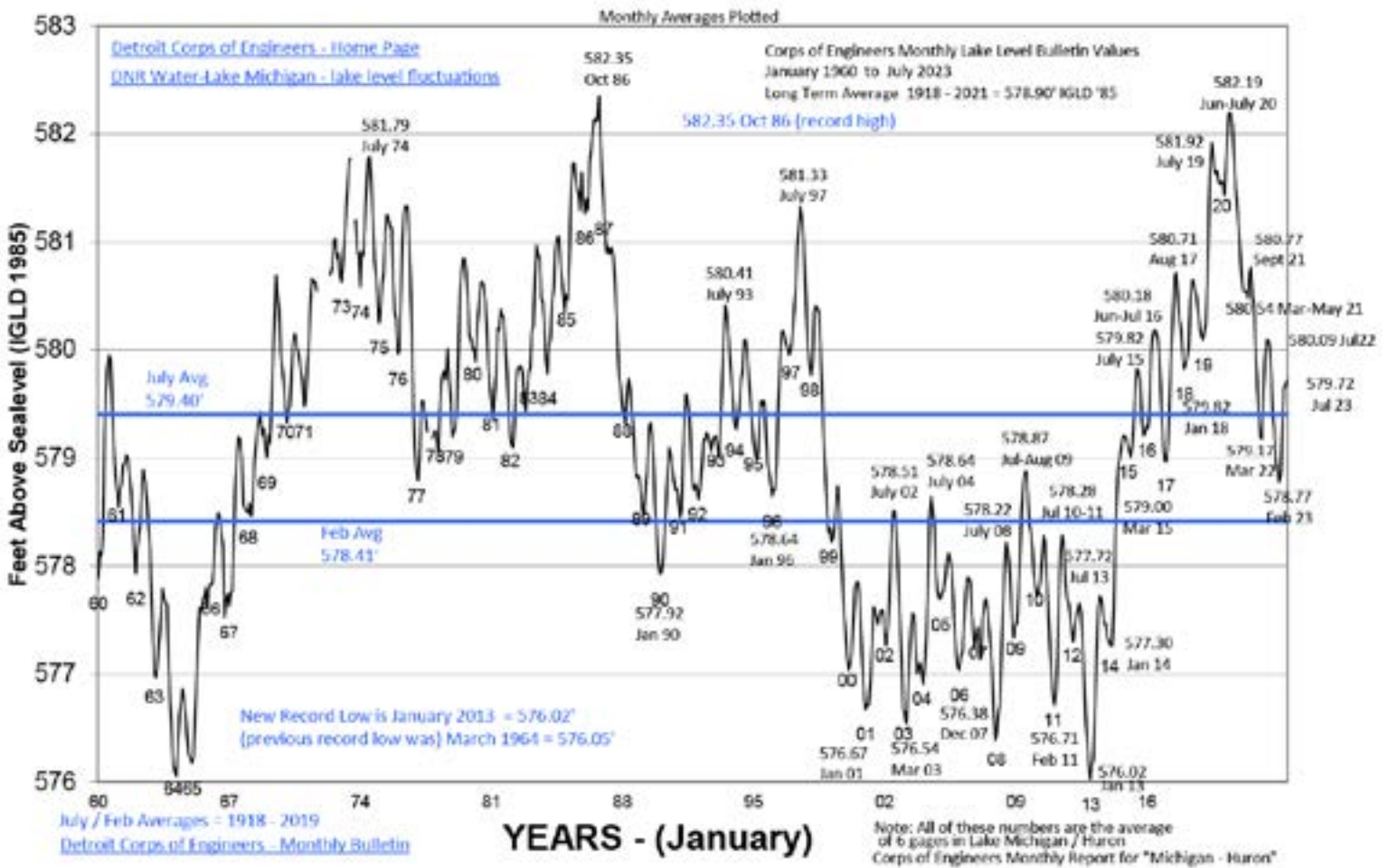
The DOW continues its efforts for monitoring and researching water levels in Lake Michigan. During the past decade, there has been significant variability in these levels, ranging from a historic low in the summer of 2013 to a record high in the summer of 2020. More recently, water levels have rapidly returned to near-average levels.

These fluctuations, in conjunction with destructive storm wave events, have had a notable impact. They have led to erosion along the beaches and dune bluffs and have

caused damage to various man-made coastal structures. In areas where the eroded sand has accumulated near the shore, we now see the formation of wider beaches. Additionally, the yards of coastal residents have seen the gradual accumulation of small sand dunes, a result of wind-blown sand. As water levels drop, there is an increasing need to dredge navigation channels to maintain adequate water depth for navigation purposes.

FIGURE 5

Lake Michigan Lake Levels 1960-2023



Lake Michigan Water Level Monitoring Website

To learn more about the lake level fluctuations, visit

[IN.gov/dnr/water/lake-michigan/lake-level-fluctuations/](https://www.in.gov/dnr/water/lake-michigan/lake-level-fluctuations/)



State of Floodplain Mapping

The DOW is actively engaged in floodplain mapping efforts as a Cooperating Technical Partner (CTP) in collaboration with FEMA, alongside partners from The Polis Center and various engineering firms. In fiscal year 2022, the grant award exceeded \$1,375,000 to support this initiative. With FEMA's funding, we have enlisted the expertise of an external project management consultant to enhance the operational efficiency of the division's CTP program.

In 2022, the DOW's Engineering Services Section assumed responsibility for processing Letter of Map Revisions (LOMRs) on behalf of FEMA for projects within the state.

Collaboratively with The Polis Center, we have finalized reports addressing flooding concerns in various watersheds, including St. Mary's, St. Joseph (OH), Maumee, Flatrock, Upper East Fork White, Whitewater, and Driftwood. These reports form an integral part of the discovery process and will serve as the foundation for future mapping updates.

Preliminary Flood Insurance Rate Maps (FIRMs) were issued for Grant, Howard, Fountain, Parke, and Clinton counties. Our Engineering and Floodplain Management staff actively participated in open houses, providing the public with opportunities to comment on the maps. Additionally, FEMA has released new Flood Insurance Rate Maps (FIRMs) for Bartholomew, Lake, La Porte, and Porter counties.

In addition to our role as a Cooperating Technical Partner for FEMA, the DOW continues its efforts to map floodways for Indiana streams, contributing to the Best Available Floodplain layer on the Indiana Floodplain Information Portal (INFIP). We've now successfully mapped floodways for more than 80% of Indiana streams, and we remain responsive to public requests and identified needs for further floodway development.

FIGURE 6

Indiana Floodplain Information Portal 2.0 Screenshot



In collaboration with the American Council of Engineering Companies (ACEC), the DOW is actively working on updating the Modeling Guidelines for the Hydrologic-Hydraulic Assessment of Floodplains in Indiana to align with current standards. These guidelines delineate methods acceptable to both the Indiana DNR and the Federal Emergency Management Agency concerning hydrologic and hydraulic modeling as well as floodplain mapping.

Furthermore, the DOW is in the process of crafting new guidelines and factsheets to align with FEMA's "no adverse impact" policy. This initiative aims to better assist the public when applying for permits in FEMA-designated floodways.

Letter of Map Revision Review Process

More information about the new LOMR review process is at

[IN.gov/dnr/water/surface-water/indiana-floodplain-mapping/fema-lomr-review-partner/](https://www.in.gov/dnr/water/surface-water/indiana-floodplain-mapping/fema-lomr-review-partner/)



Program Accomplishments and Highlights

Water Rights and Use

Coordinated the collection, processing, and review of annual water-use reports submitted by registered Significant Water Withdrawal Facilities (SWWFs) for the 2021 year with more than 90% reporting compliance. About 3,830 of 4,200 registered SWWFs submitted reports for 2021, and about 2.1 trillion gallons of water withdrawals were reported, primarily from surface water sources for energy production and industrial purposes.

Readoption of Final Rules by the Natural Resources Commission

- 312 IAC 11.5 (Surface Water Rights)
- 312 IAC 12 (Groundwater Rights)
- 312 IAC 13 (Water Well Driller/Pump Installer)
- 312 IAC 11 (Lake Preservation Act)

Conducted on-site investigations of approximately 200 water rights complaints during fiscal year 2022.

In accordance with provisions of the Groundwater Rights Act under IC 14-25-4:

- Conducted on-site investigations of approximately 105 water well failures in the Sunshine Gardens neighborhood (south side of Indianapolis) during the past three years. Approximately 25 new wells were installed during fiscal year 2022, and more than 85 domestic wells were upgraded or installed since June, 2020. *Costs for well replacements and upgrades paid by Hanson Aggregates and/or Martin Marietta Aggregates.*
- Conducted on-site investigations of 77 domestic water well failures in the Mill Creek subdivision and surrounding area of Hamilton County since June 2022. *Costs associated with installation or upgrade of 46 wells paid by Citizens Energy and/or Martin Marietta Aggregates.*



Continuing Education

Conducted and/or approved more than 33 in-person and online continuing education courses for well drillers and pump installers.

Resource Assessment

Resource Assessment staff delivered a presentation, History, Hydrology, and Geology of Hudson Lake Indiana at a public meeting in Hudson, Indiana. Meeting attendees included members of the Hudson Lake Association, Hudson Lake and community residents, La Porte County Drainage Board members, and DNR management staff.

Resource Assessment staff participated in the 18th Annual Geology Internship and Career Fair at Ball State University in February of 2023. The event was sponsored by the BSU Department of Environment, Geology, and Natural Resources, The Geological Society at Ball State University, and the Ball State Geology Alumni Board.

Technical Services

The Technical Services Section received

- 787 permit applications
- 154 permit amendment requests
- 62 CTS requests (letters of authorization, other letters)
- 342 Waterways Inquiry Requests
- 1,967 phone calls (approximately)

The division responded to 179 requests for

- discharge determinations
- general floodplain inquiries
- other permitting-adjacent topics

Hydrologic Conditions Weekly Summary

The Resource Assessment Section produces a weekly summary of the hydrologic conditions throughout the State of Indiana. This summary is provides relevant information to the diverse variety of stakeholders in the water sector in Indiana. To read the summary, visit

[IN.gov/drought/home/water-availability/](https://www.in.gov/drought/home/water-availability/)



The Technical Services section resumed commenting on early coordination requests and received approximately 291 requests from mid-March through June 2023.

The Division of Water Online Research Center (DoWORC) had a data source migration. The public web app averaged 21 hits per day.

The IN Floodplain Information Portal (INFIP) had a migration of data sources and an upgrade to the FARA (Floodplain Analysis and Regulatory Assessment) Report Request tool. This web application, launched in its current form in January 2022, averages 216 visits per day.



Administering Licenses

Licensed 713 water well drillers and pump installers, representing 337 businesses.

Dams and Levees

In cooperation with the Association for State Dam Safety Officials (ASDSO), the division, along with a team of private sector volunteers in the dam safety profession, planned the annual Dam Information, Resources, and Training (DIRT) conference on June 6, 2023, which provided information to dam owners and others.

The Dams and Levees section tracked inspections of privately owned dams and reviewed proposals to modify or build dams and levees. They continued the development of dam failure inundation models, conducted inspections of low and significant hazard dams, conducted inspections for state-owned high hazard dams.

The Dams and Levees section continued to establish the low-head dam program as directed by IC 14- 27- 7.3, in effect since 2020. Specifically, staff worked with DNR attorneys in the rule drafting process. Staff further reviewed matters related to the modification of and the creation of new conservancy districts.

Floodplain Management

The Floodplain Management section developed and offered a “New Administrators Workshop”, which covered basic NFIP information, mapping, fundamental duties of the floodplain administrator, building protection standards, Indiana’s flood control act, post flood responsibilities, increased cost of compliance, mitigation measures, the Indiana Floodplain Information Portal (INFIP), Best Available Floodplain Layer (BAFL), and DOW’s Online Research Center (DoWORC). The workshop was offered once in-person and three times virtually.

The Floodplain Management Section conducted topical in-person and virtual workshops for local Floodplain Administrators. Topics included:

- Violations and the NFIP: “Inspecting Non-compliant Development and Giving Notice” and “Meeting with Property Owners and Resolving Issues”
- The National Flood Insurance Program Substantial Damage (SD) and Substantial Improvement (SI) processes and guidance for local officials implementing the associated NFIP requirements.

With the establishment of the new biennium budget, the division has been allocated \$1,300,000 for revising the current database system. In anticipation of this funding, the division has collaborated with the MIS Division to research potential solutions and outline requirements for the new system. The focus is on implementing a “low code/no code” solution, which will enable DOW staff to readily adapt the database to meet their needs, unlike the current system. It is expected that the funding will be in place and development will begin in earnest at the start of calendar year 2024.

Floodplain Management Training Videos

The DOW now offers Floodplain Management Training videos. To watch, visit

[IN.gov/dnr/water/events-and-training/](https://www.in.gov/dnr/water/events-and-training/)



During the past year, staff from the divisions of Water and Fish & Wildlife have collaborated to draft language for three new general licenses. This effort stemmed from legislation passed in the 2022 session that added a section to IC 14-28-1, focusing on tree removal, channel maintenance, and bank reconstruction/repair/stabilization in floodways. The staff met regularly to discuss and formulate criteria and conditions for each license. They also visited a local farmer’s property to observe real-life challenges and hardships of the permitting process.

The proposal for the new general licenses includes:

- A new general license for removing trees from the floodway using hand-operated equipment.
- Another for rural streambank protection up to 300 feet long, requiring pre-notification and department approval within 20 days.
- Modifying the existing creek rock removal license, increasing the no-notification amount from 25 to 50 cubic yards while eliminating the 50 cubic yard with-notification license.

The three general licenses await pre-adoption by the Natural Resource Commission to begin the review process towards finalization, anticipated in summer 2024.

Drainage Task Force

During the 2022 Legislative Session, the Drainage Task Force was created and charged with reviewing statutes and procedures pertaining to agricultural drainage practices. Specifically, the task force was asked to examine the Indiana Drainage Code (Title 36), Indiana Wetlands Law, and Flood Control Act, and provide recommendations to the Governor and General Assembly. The task force met before and once after the 2023 legislative session. Additional meetings were scheduled, with the final task force recommendations due by end of October 2023. DOW director David Knipe is a member.

To learn more, visit the Indiana General Assembly website

iga.IN.gov/2023/committees/interim/drainage-task-force

The division is still addressing the issue of No-rise Certifications required by FEMA for development in a FEMA-mapped floodway without going through the Letter of Map Revision process. Division staff have established a triage process to identify Construction in a Floodway permit applications that may also need evaluation under this requirement. Additionally, staff have drafted guidance documents and procedures to direct engineers and property owners on considerations for these cases.

Workshops

Participated in and presented workshops hosted by our office and other organizations on various topics for the public, floodplain administrators, lake associations, dam owners, realtors, and others, including presentations for the following:

- DOW staff coordinated with Lake Michigan Coastal Program (LMCP) to plan and conduct workshops on Coastal Hazards Needs Assessment and the Coastal Atlas.
- An initial launch of a Fluvial Erosion Hazard Workshop, sponsored by the DOW and presented by the IUPUI Center for Earth & Environmental Science, was attended by 50 DNR and partner agency staff at the Government Center. This workshop was followed up with seven similar workshops and presentations around the state.
- DOW staff worked with the Indiana Silver Jackets to produce a series of public workshops and an ArcGIS Storymap on Indiana Wetlands, as well as a series of dam education events. Silver Jackets is a partnership of federal, state, and local entities devoted to developing comprehensive and sustainable solutions to all natural hazards and risks.



Indiana Silver Jackets collaborative Wetlands workshop at Prophetstown State Park in July 2022.



Wetlands workshop participants at Bloomfield Library in August 2022.



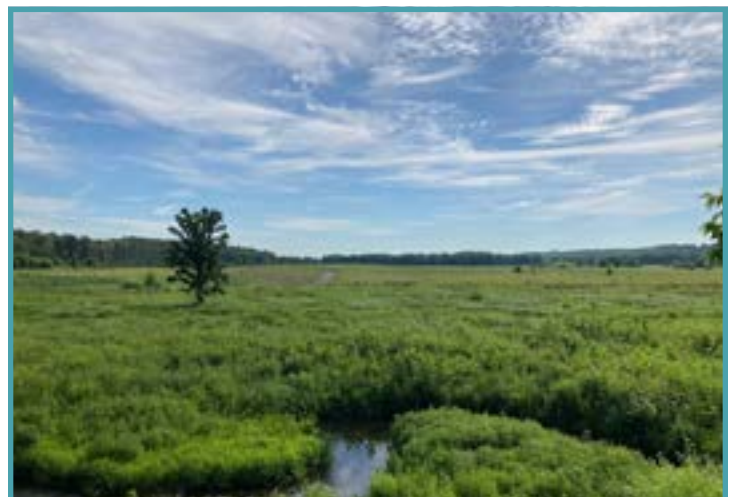
Indiana Silver Jackets collaborative Wetlands workshop participants explore Goose Pond Fish & Wildlife Area in Greene County.



The wetland at Goose Pond Fish & Wildlife Area.



Purdue University hosts a classroom portion of the Silver Jackets collaborative Wetlands workshop in July 2022.



View of the wetland at Prophetstown State Park in Tippecanoe County.

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