



# Water Use Advisory Council Overview

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Christine Alexander  
Permits Section Manager

# Great Lakes Compact

- Compact among the 8 Great Lakes Basin states
- Parallel agreement with Ontario & Quebec
- Prohibits diversions outside the Great Lakes Basin
- Prevent adverse resource impacts
- Each member state & province must regulate its internal water resources
- Surface water and groundwater are interconnected parts of a single hydrologic cycle
- Part 327 is Michigan's statute to administer the Compact



# Part 327, Great Lakes Preservation

- Baseline capacity reported < 4/1/2009
- New or increased withdrawals > 100,000 gallons per day
- 70 gallons per minute rated pump capacity
- New or increased withdrawals register using Water Withdrawal Assessment Tool (WWAT)
- Site-specific reviews (SSR)
- Alternative analysis
- New or increased withdrawals > 2 MGD require permit
- Prohibits diversions
- Prohibits adverse resource impacts





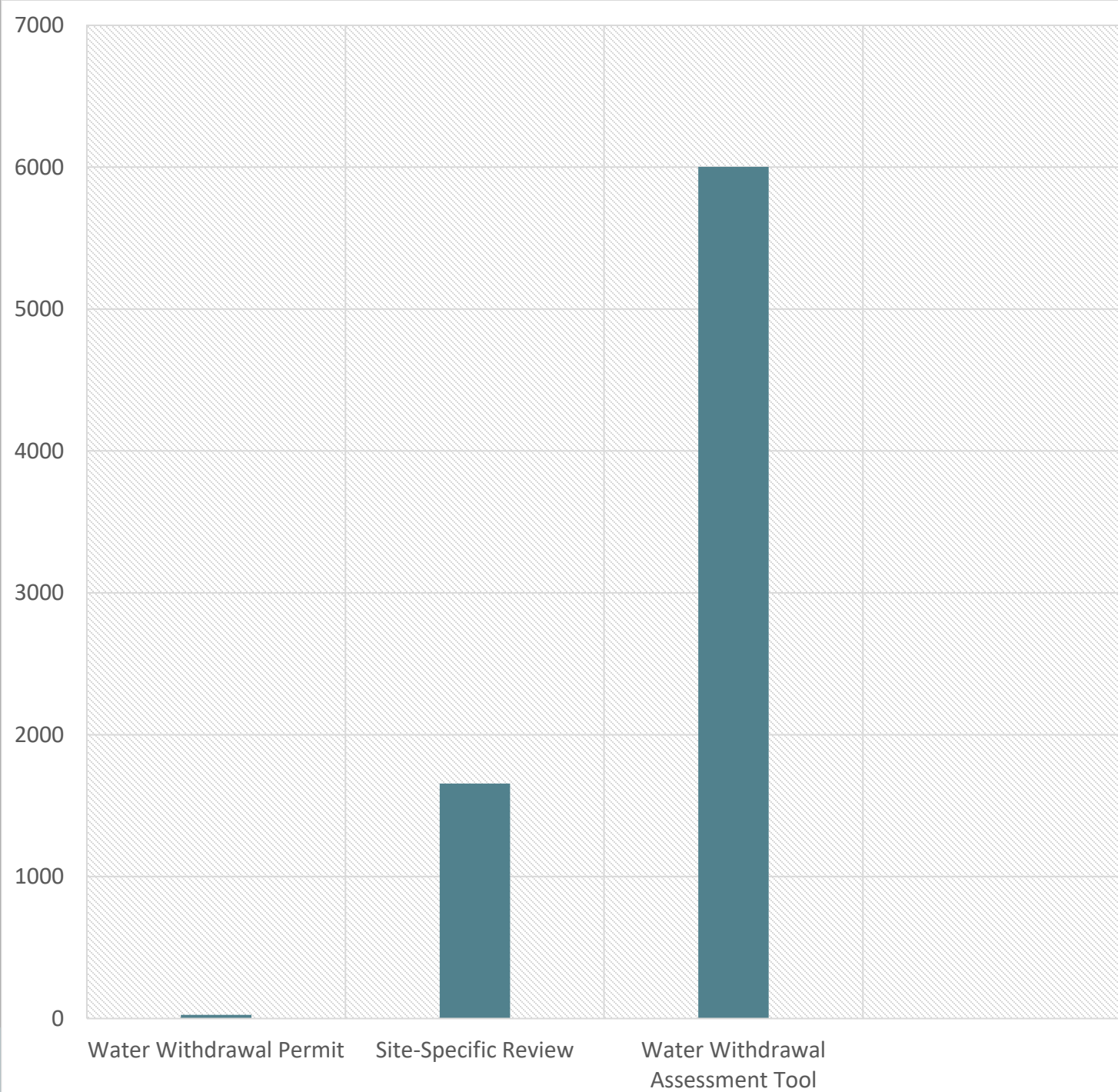
A large center pivot irrigation system is shown watering a vast field of green crops. The system consists of a long metal arm with multiple wheels and nozzles, curving across the field. Water is being sprayed from the nozzles onto the crops. In the background, there are several large industrial buildings and silos.

# Water Use Program Purpose

- Register large quantity withdrawals
- Collect annual water use data
- Determinations on potential impacts to water resources as a result of proposed withdrawals
- Processing water withdrawal permits

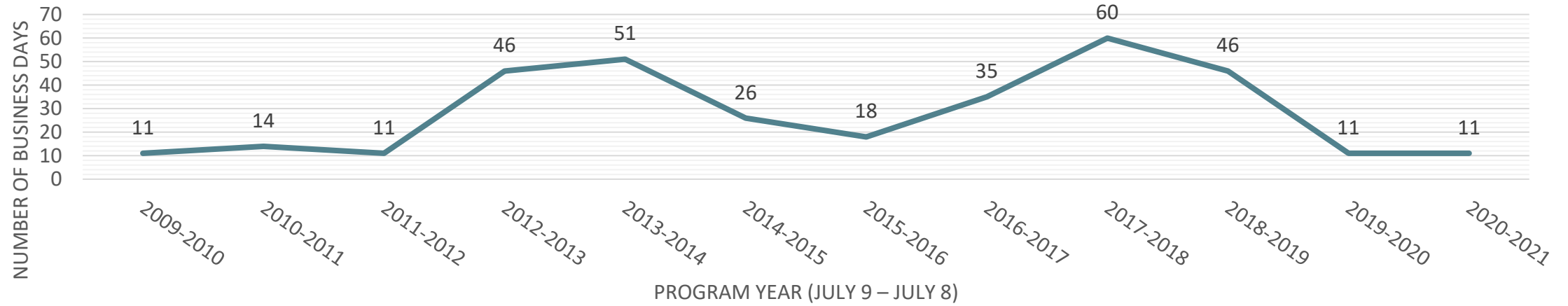
# Large Quantity Withdrawal Authorizations

2009-2021

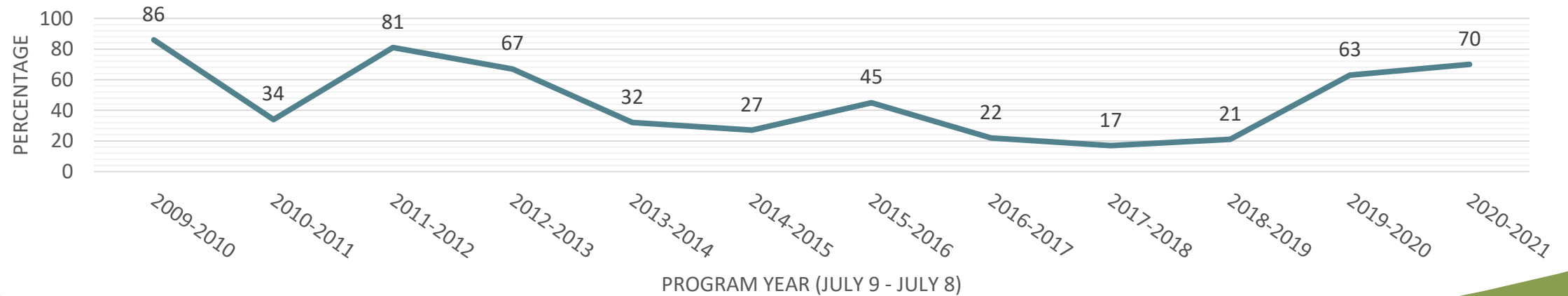




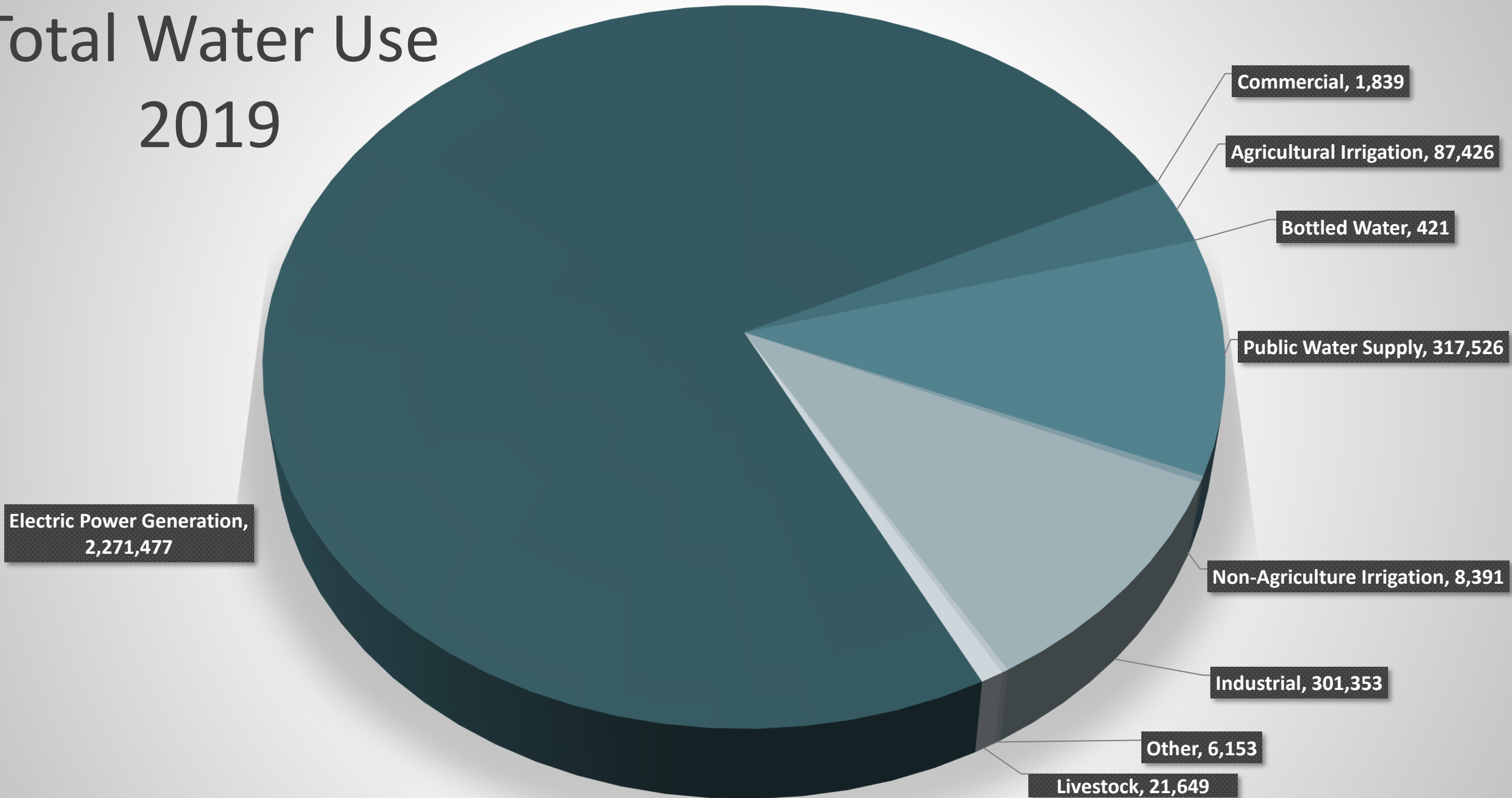
## Average Number of Business Days from Receipt of SSR Request



## Percentage of SSRs Completed within 10 Business Days

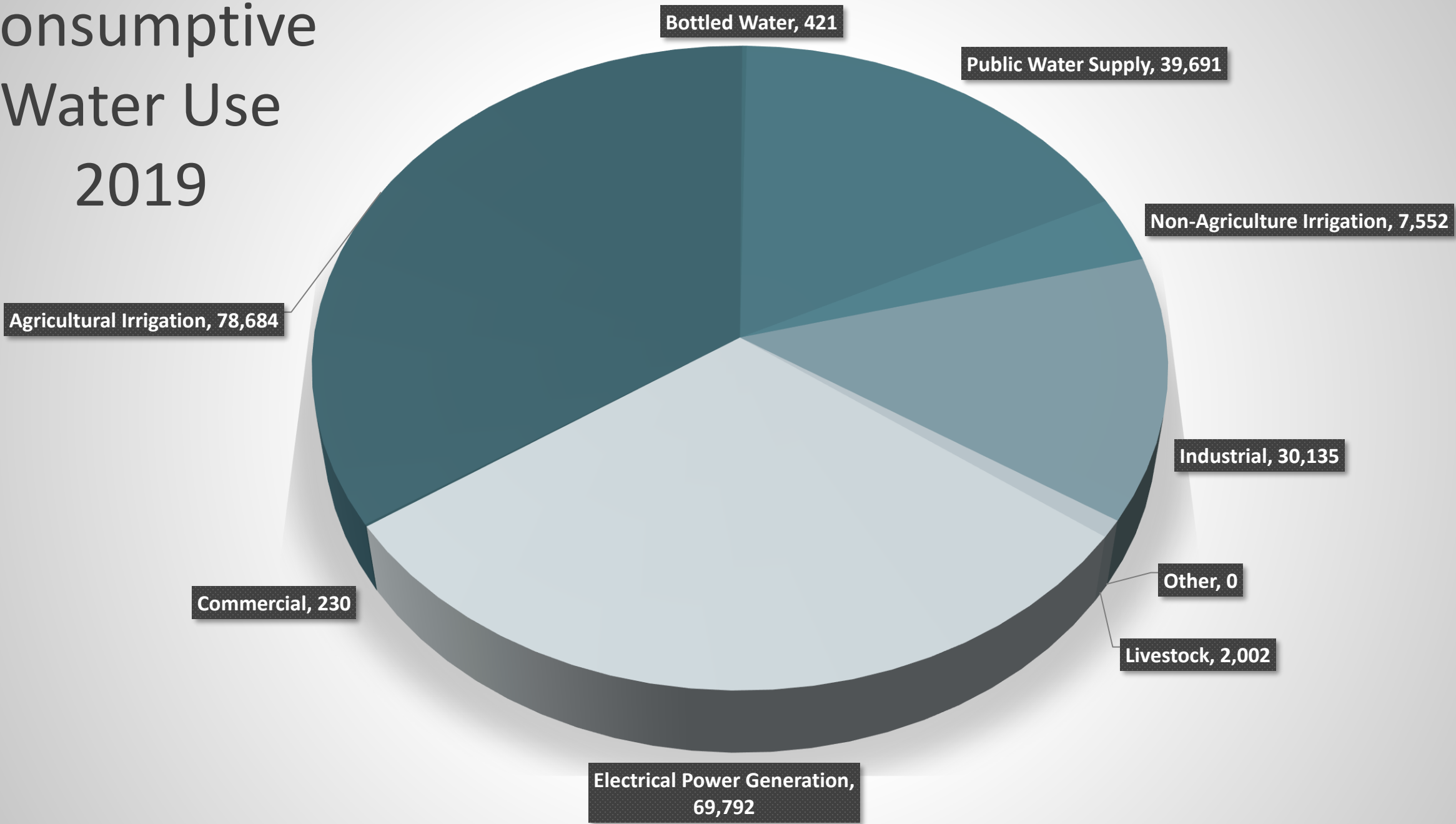


# Total Water Use 2019



\*Pumping volumes = millions of gallons per year

# Consumptive Water Use 2019



\*Pumping volumes = millions of gallons per year



# Water Use Advisory Council

- External Stakeholder Group
- Advises Quality of Life Agencies on Water Use Program
- Previous Versions Convened by DEQ Director
- Part 328 codified WUAC in 2018
- Advises legislature & state agencies
- Comply with the Open Meetings Act for transparency
- Biennial reports to legislature
- First biennial report presented in December 2020

# **Michigan Water Use Advisory Council**

*(PA 509 of 2018, Part 328 NREPA)*

Biannual Report to the Legislative and Executive Branches

## WUAC Co-Chairs:

Laura Campbell – MI Farm Bureau

Brian Eggers – AKT Peerless, representing MI Chamber of Commerce

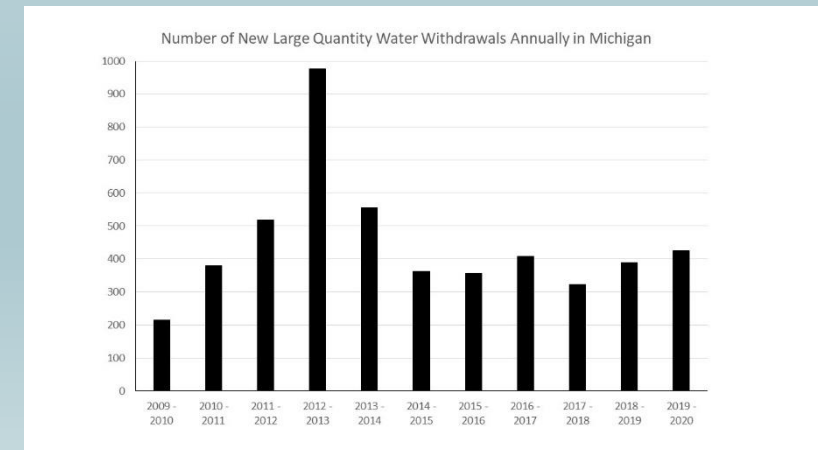
Bryan Burroughs – MI Trout Unlimited

Presentation to Senate NR Appropriations Committee

March 2, 2021

# WUAC Background

- WUAC called for in original statute, several iterations through time, reconvened in 2018 by PA 509.
  - **Charged with** making recommendations to advance and improve conservation, data collection, modeling, research, refinement, and administration of the water withdrawal assessment process
  - **Appointments made by** Governor, Senate Majority Leader and Speaker of the House
  - **Representatives from** water user sectors, conservation & environmental organizations, first nations, inland lake associations, and relevant agency representatives. Also technical advisors.
  - Charged with reaching **consensus**.
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- The program created in 2008, was a good sound start, used limited data well, but had to evolve and improve.
  - ~12 years later, program has been underinvested in, and stresses to program are growing...





# WUAC 2020 Report

- The first of at least biannual reports
- All recommendations were reached by unanimous consensus
- As a whole, the recommendations represent the most critical investments needed for the program to be developed and improve
- We can't well-manage what we do not well-understand
- Most are based on data and data management and use needs
- Have benefits to all state water management issues
- Approximate investment needed:  
\$5.2 million needed in 2022, and \$4.9 in 2023

MICHIGAN WATER USE  
ADVISORY COUNCIL  
2020 REPORT

DECEMBER 2020



# RECOMMENDATIONS

## CONTINUE & IMPROVE CURRENT OPERATIONS AND DATA COLLECTION

1. Michigan Integrated Water Management Database. A database to facilitate geologic and hydrologic data collection and modeling by making current data accessible and available in a common geospatial format. \$250,000 over two years (\$125,000 each year)

2. Well Driller Trainings for Improved Data. Information collected for the water withdrawal assessment program depends on accurate and consistent subsurface data input to the Wellogic database submitted by well drillers, who must be trained to accurately identify and submit subsurface and well data. \$4,000 over 2 years (\$2,000 each year)

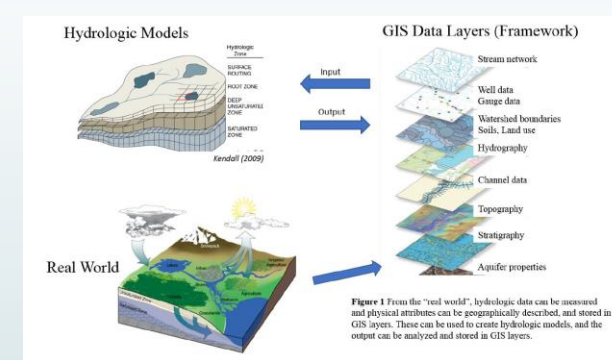
3. U.S. Geological Survey (USGS) and EGLE Streamflow Gages. This program is funded from several local, state and federal sources; however two of the state sources: the Clean Michigan Initiative (CMI) and the Renew Michigan Program, will no longer provide funding after fiscal year 2022 and will need to be replaced. \$350,000 annually



# RECOMMENDATIONS

## NEW OPERATIONS TO IMPROVE DATA COLLECTION AND MODELING

1. Michigan Hydrologic Framework. Facilitate the creation of groundwater/surface water models to improve water management decision making through centralized access to up-to-date hydrologic data, comprehensive hydrologic analysis, and other models. The framework will incorporate new data and analysis, and link GIS databases and the Michigan Integrated Water Management Database to help create regional models.
  - Creates three regional models to more accurately assess water withdrawal impacts within the Framework, and to assess its functionality
  - Assess metamodeling processes on a regional model to develop a rapid method to evaluate potential water use impacts
  - \$2,100,000 over three years (\$900,000 in year 1, \$700,000 in year 2, and \$500,000 in year 3)
2. Geologic Data Collection and Mapping in up to 25 targeted areas of Michigan. Michigan Geologic Survey will conduct data collection to expand geologic information with data from drilling, soil sampling, seismic and gamma ray logging to produce accurate geological maps, static groundwater levels, and bedrock topography. This data can be used in multiple program areas including the water withdrawal assessment program, PFAS tracking, waste leachate tracking, sand and gravel assessments, and others. \$3,000,000 annually
3. Groundwater Monitoring Well Network Development. Install monitoring wells and join the National Groundwater Monitoring Network. EGLE and U.S. Geological Survey to partner on effort. \$259,000 for first year and then \$226,000 thereafter.





# RECOMMENDATIONS

## ADVANCE WATER CONSERVATION

1. Advance Michigan's Water Conservation and Efficiency Efforts through State Climate, Energy, and Water Infrastructure Initiatives. Assess current climate, energy, sustainability, and water infrastructure policies and programs to identify gaps and opportunities to incorporate water conservation and efficiency, technological improvements, other state and national programs, and education. \$50,000 for one year
2. Increasing Water Efficiency and Conservation Practices in the Agriculture Industry. Provide funding for two Full-Time Equivalent (FTE) positions through Michigan State University Extension (MSUE) to develop and launch an educational program for agricultural water use efficiency for both plant and animal industries. \$600,000 over three years (\$200,000 per year)



# RECOMMENDATIONS

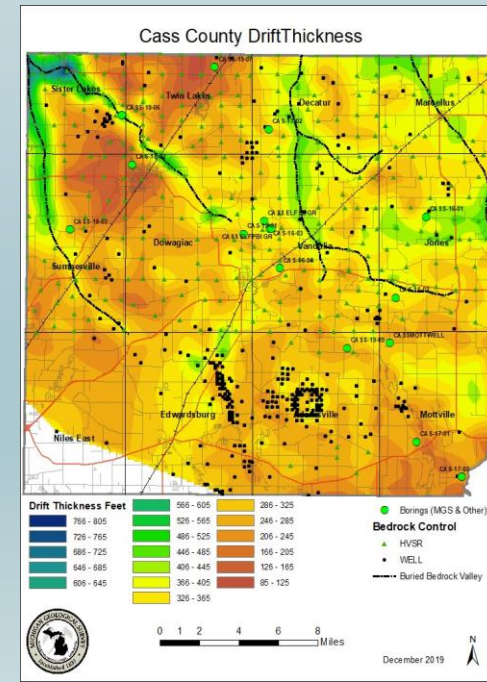
## ADDITIONAL ACTIVITIES TO IMPROVE DATA COLLECTION AND MODELING AS CONTINUED AND NEW OPERATIONS ARE UNDERWAY

1. Long-term data acquisition planning. Analysis of streamflow, groundwater, and geologic data to identify critical gaps and needs, and identify data collection priorities. \$100,000 over two years (\$50,000 each year)
2. Water Withdrawal Assessment Tool (WWAT) user interface update. Display registration information and current status of water management areas. \$50,000 single expense in one year
3. Compiling Key Aquifer Properties for use in the WWAT. Update statewide estimates of transmissivity, and identify water management areas where storage coefficients may be changed to more accurately reflect geologic conditions. \$110,000 over two years (\$55,000 each year)
4. 3D Glacial Aquifer Mapping in Two Counties. Use transition probability geostatistical mapping in two Michigan counties: Cass and Calhoun, to assess the ability of this mapping process to identify glacial aquifer properties and compare with Geological Survey 3D interpretations. \$80,000 over two years (\$40,000 each year)

# RECOMMENDATIONS

## NEW AND ONGOING ACTIVITIES THAT DO NOT NEED ADDITIONAL STATE FUNDING

1. Develop Water User Committee (WUC) User's Manual. This manual will equip WUCs with information, tools, and resources to develop realistic shared solutions to sustainably manage water use. \$250,000 will be provided by the EGLE Office of the Great Lakes through the Michigan Great Lakes Protection Fund to develop this manual and convene one to two WUCs as case studies to inform the manual development
2. Develop standards & protocols for collection and use of new data within the program. This process is ongoing with EGLE staff and the Water Use Advisory Council (WUAC).
3. Well-owner outreach on registration completion requirements. This process is ongoing with EGLE staff and the WUAC.
4. Continue review and work on Cass County water use pilot study model. This process is ongoing with EGLE staff, partners, and steering and technical committee members for the pilot project.





# Summary

- Water is Michigan's strongest asset going into the future
- Our knowledge of our groundwaters is incredibly sparse, and we need to have a better understanding of them to manage them and get all the benefits from them
- All of WUAC have reached consensus that these recommendations are the most critical, needed, and cost-efficient
- We think the needed investment is modest, and should be viewed as backlog from 12 years of underinvestment
- Most of the recommendations will not only benefit this program, but all of our water management issues, including water quality issues.