

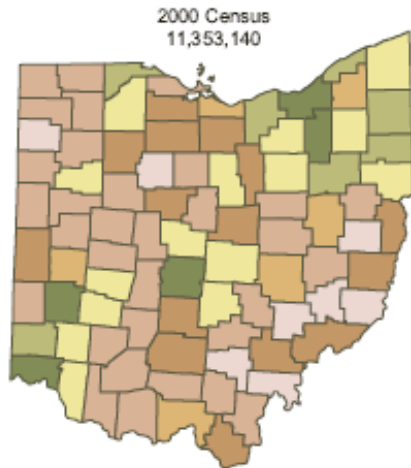
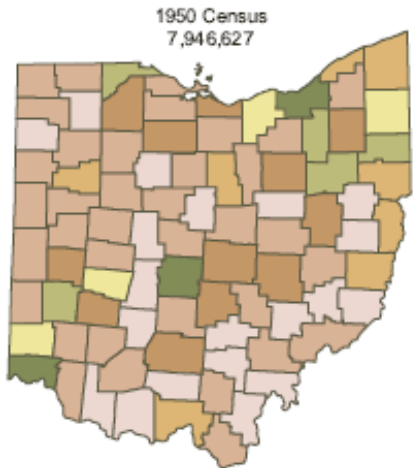
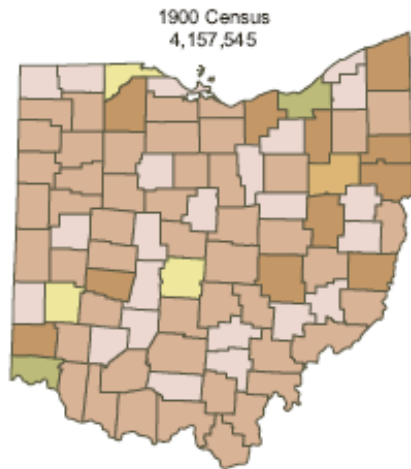
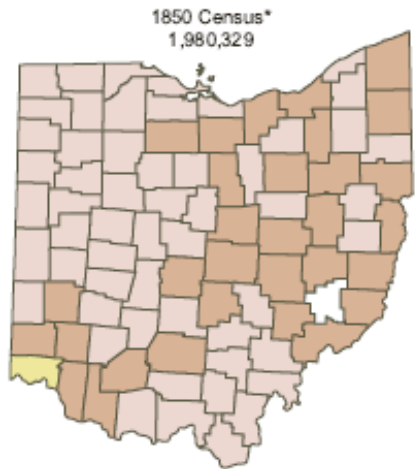
Ohio EPA-DEFA's Financial Resources for Communities

Operator Training Committee of Ohio
April 2, 2019

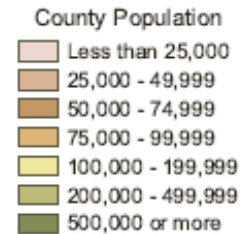
Ohio EPA
**Division of Environmental
and Financial Assistance**



Ohio Population 11.5 million



Ohio County Population History 1850 - 2000



*Noble County established in 1851

Prepared by: Ohio Department of Development,
Office of Strategic Research (December 2003)

R 12/03/03

100 years ago...

83% of the forest cover that existed in Ohio at the time of European settlement had been cut down – about 20 million trees.



100 years ago...

These species had been extirpated in Ohio: beaver, bison, black bears, elk, mountain lions, snowshoe hares, prairie chickens, Trumpeter Swans, wild turkeys, wolves, and... deer!



100 years ago...

Sewage treatment in Ohio:



50 years ago...

Sandhill cranes,
osprey and otters
had also been
extirpated in Ohio.

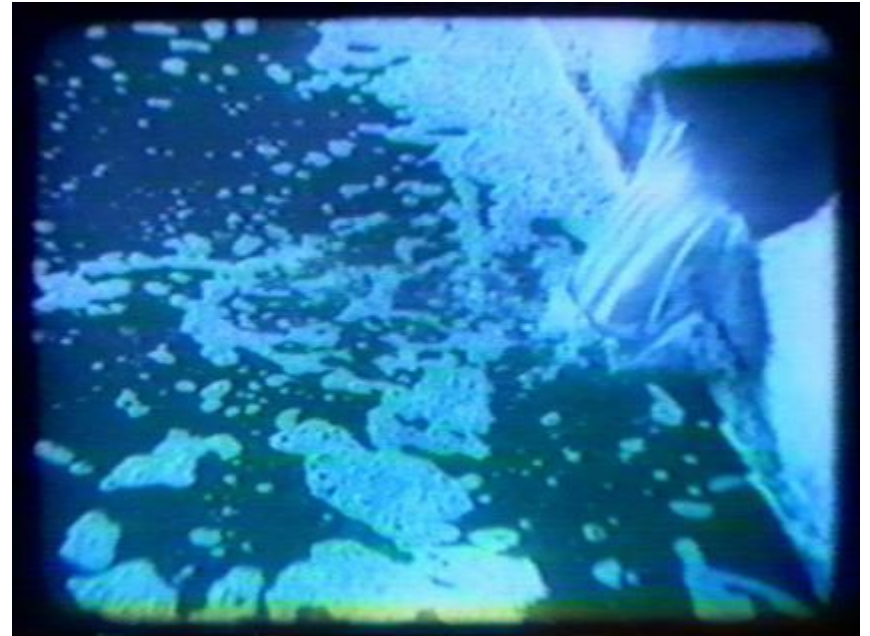


**By 1979, only four pairs of
Bald Eagles were nesting in Ohio...**



50 years ago...

Although primary sewage treatment was in place in most larger Ohio cities, dilution was still widely considered to be the solution to pollution...



Fish kills, Lake Erie pronounced dead



Cuyahoga River caught fire four times between 1952 and 1969.





Water quality then...

During the 1970s and 1980s only about 21% of Ohio rivers and streams fully supported aquatic life.



Drinking Water then...



Ohio is a Water Rich State

- 29,000 miles of rivers and streams
- 451-mile border on the Ohio River
- More than 5,000 lakes, ponds, reservoirs (greater than 1 acre)
- 236 miles of Lake Erie Shoreline



Stillwater River

Water Quality Improving

- Aquatic life in Ohio's large rivers has improved remarkably, from 21% of rivers meeting standards in the 1980s to 89% today
- \$6 billion spent to reduce pollution from sewage and industrial wastewater



Before the Rain



After the Rain



Storm water runoff to streams

- Trash and debris
- Illegal dumping
- Yard waste
- Motor oil, antifreeze
- Improper disposal of household chemicals



New issues: caffeine and pharmaceutical residues in rivers





Old issues: Coal
gob piles and acid
mine drainage in
southeastern Ohio



Cost Comparison

Avg cost/gallon in Ohio

- Shampoo \$37.83
- Gourmet coffee \$10.89
- Regular gasoline \$3.00?
- Bottled water \$5.89
- Ohio tap water less than \$0.01

Avg cost/day in Ohio

- Internet and cable \$2.67
- Electricity \$2.57
- Natural Gas \$2.00
- Basic cell phone plan \$1.33
- Sewer \$1.16
- Ohio tap water \$1.09



Current Issues – Drinking Water

- HABs loss of water to \$400,000 in Toledo 2014
- C8 contamination, spills along Ohio River
- Cost of compliance with new arsenic standard
- 2011 chemical fire at Marflex Middletown



Environmental Literacy: What do Americans think?

- That oil tankers are the biggest source of oil pollution in our rivers.
- That diapers are the largest single commodity in landfills.
- That aerosol cans are the biggest cause of depletion of the ozone layer.
- That starvation is the leading cause of childhood death worldwide.

Where Are We Today?

- Ohio ranks in the top ten of 50 states in the number of sites on the National Priority List for Superfund cleanups
- Ohio ranks #5 of 56 states and territories in total toxic releases per square mile (2013)
- Ohio is often #1 of the 50 states in trucking accidents involving hazardous materials



2014



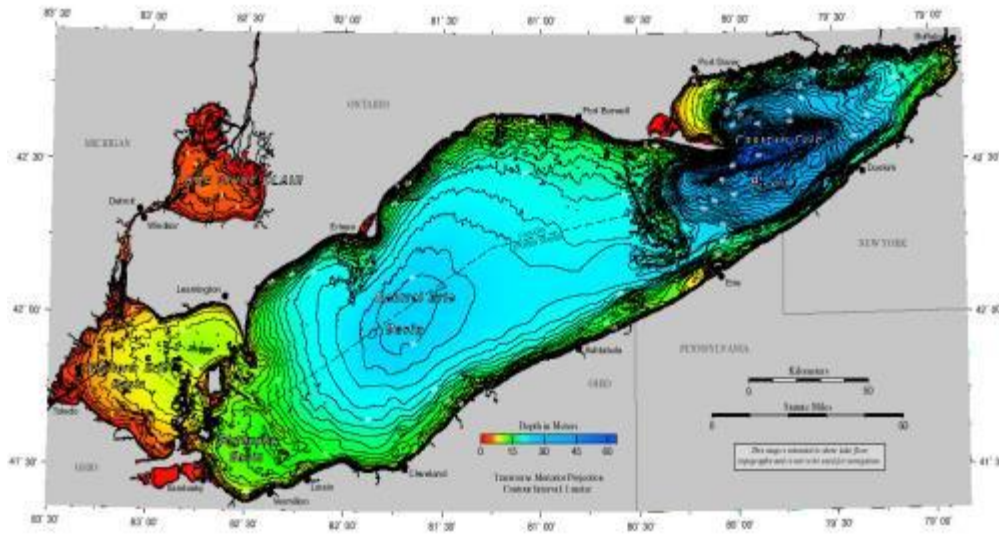
An estimated 347 eaglets fledged from 200 bald eagle nests (up from 4 nests in 1979). Nests are found in 62 of Ohio's 88 counties.

Today Lake Erie provides drinking water for 11 million people



Lake Erie Watershed Facts

- Shallowest, warmest and most productive
- 2.6 year retention vs. 191 years for Lake Superior
- 50-2 Rule (Erie has 50% of fish in Great Lakes, 2% of water – reverse for Superior)
- 30,140 sq.mi. (11,649 sq.mi. in Ohio)
- 11.5 million people (4.65 million in Ohio)
- 871 miles of shoreline (312 miles in Ohio)



BATHYMETRY OF LAKE ERIE AND LAKE SAINT CLAIR

1998

NATIONAL SCIENTIFIC ARCHIVE PAGE AND INFORMATION SERVICE
 NATIONAL GEOSPATIAL DATA CENTER
 1215 GREENBELT ROAD, SUITE 1202
 GREAT LAKES ENVIRONMENTAL RESEARCH LABORATORY

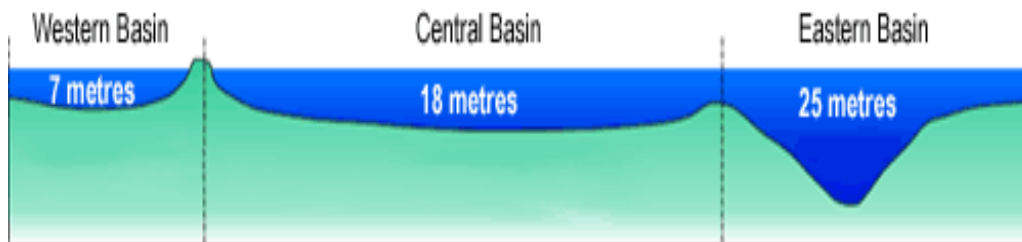


Published by the National Geospatial Data Center
 National Data Center for Marine Geology and Geophysics Report MGC-14
 Cook DR-03, 122 Brewster, Boulder, CO 80505-1128
 303-441-9000 ext. 200
http://www.ngdc.noaa.gov/govpubs/data/marine_geol/



DEPARTMENT OF ENVIRONMENT AND CLIMATE
 CANADIAN ENVIRONMENT SERVICE

Cross-Section of Lake Erie
 (mean depth per basin)



Ohio's Two State Revolving Loan Funds

Water Supply Revolving Loan Account (WSRLA)

WSRLA provides funding to public water systems for planning, design, and construction of drinking water systems.



Water Pollution Control Loan Fund (WPCLF)

WPCLF provides funding to public wastewater systems for planning, design and construction of wastewater systems.



Ohio's Two State Revolving Funds Program Histories

	WPCLF	WSRLA
Authorization (year)	CWA 1987	SDWA 1996
First Loan	Sept. 1989	Feb. 1999
Total Projects	2,218 projects - \$8.9 billion	642 loans - \$1.4 billion
Federal Seed Money	\$2.2 billion	\$563 million
State Matching Funds	\$441 million	\$112 million
Annual Capacity	\$600 million/year	\$150 million/year

Ohio's Two State Revolving Funds

Eligible Applicants

WPCLF	WSRLA
For wastewater treatment: any municipality or other political subdivision, or inter-municipal, interstate, or State agency	Community Water Systems Non-profit, Non-Community Public Water Systems
For Nonpoint Source Pollution Control Projects: Public or private entities	

Water Pollution Control Loan Fund

WPCLF

Eligible Projects

- New wastewater treatment plants (WWTP)
- WWTP upgrades and rehabilitation
- New sanitary sewers for unsewered areas
- Sanitary sewer rehabilitation or replacement
- **Stormwater Projects**
- NPS Projects:
 - Stream protection and stream restoration
 - HSTS replacement programs

Water Supply Revolving Loan Account WSRLA

Eligible Projects Include:

New water treatment plants

New waterlines

Water tanks/towers

Regionalization projects

Standby/back-up power

Emergency interconnections

Water treatment plant rehab

Waterline rehab/replace

Pump/booster stations

New water meters

New well fields

Asset Management Plans

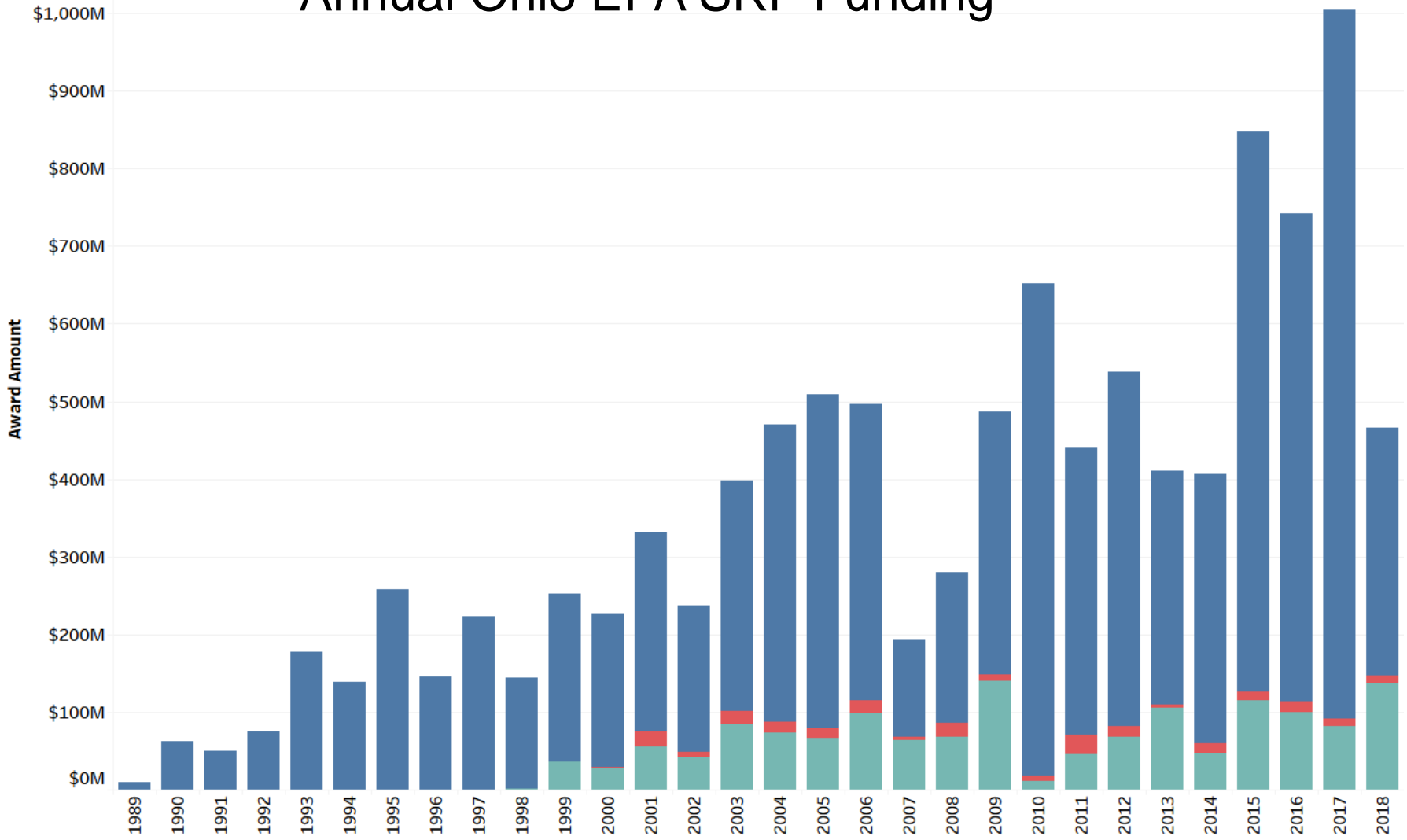
Funding Priorities for WPCLF

- **Regionalization**
- Unsewered communities
- Combined Sewer Overflow (CSO) projects
- Projects that Reduce “nutrient” discharges at municipal WWTPs
- Projects that will protect Lake Erie and other waters that experience Harmful Algal Blooms (HABs)

Funding Priorities for **WSRLA**

- **Regionalization**
- Continued focus on small & disadvantaged communities
- Auxiliary power
- Asset Management Planning
- Improvements at surface WTPs to address Harmful Algal Blooms

Annual Ohio EPA SRF Funding



Build Your Support Team

CDBG

OPWC

OWDA

USDA

ARC

EDA

SCEIG

RCAP

OTCO

ORWA

Ohio EPA

Appalachian LDDs

Other Resources

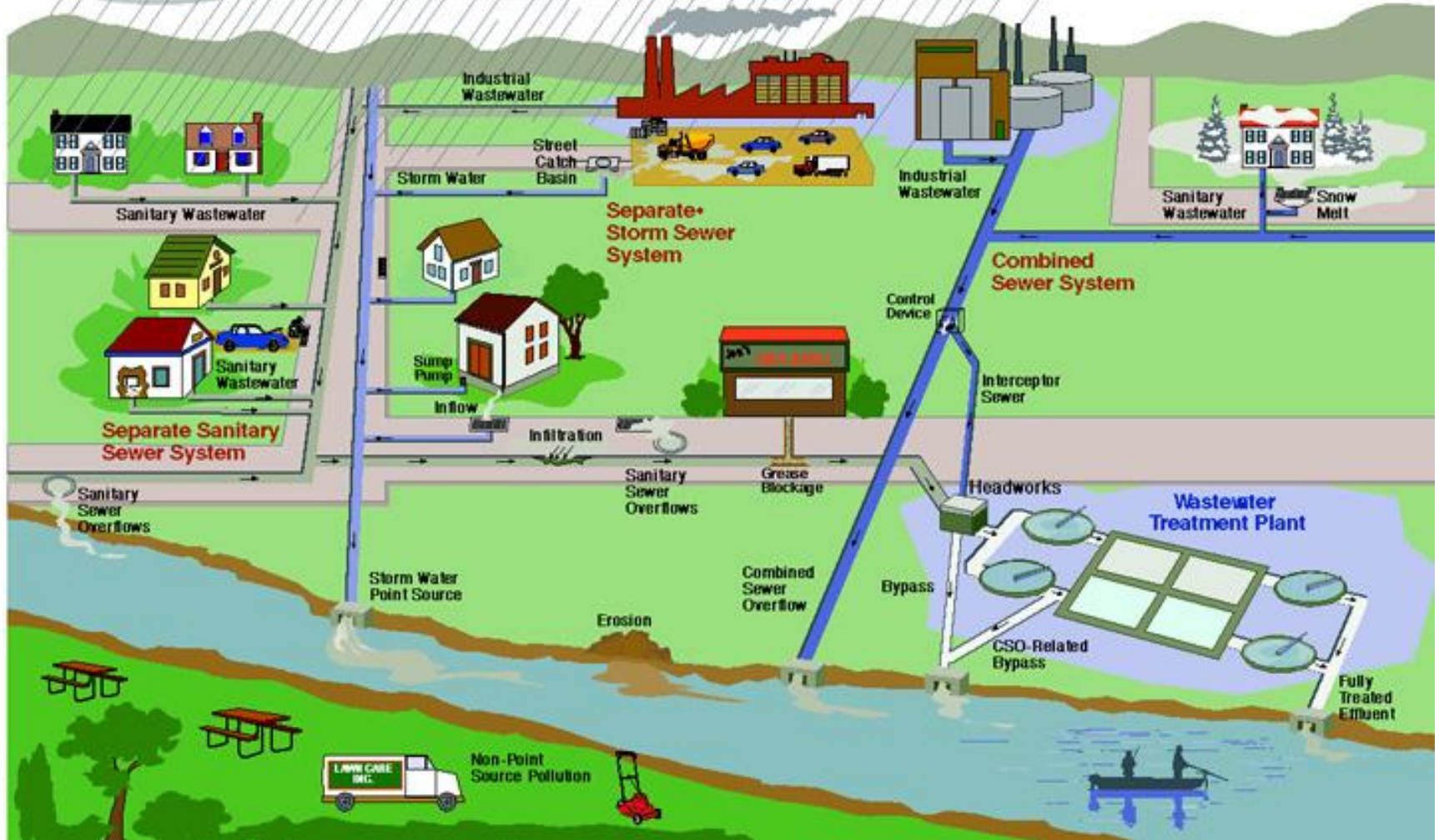


Small Communities Environmental Infrastructure Group (SCEIG)

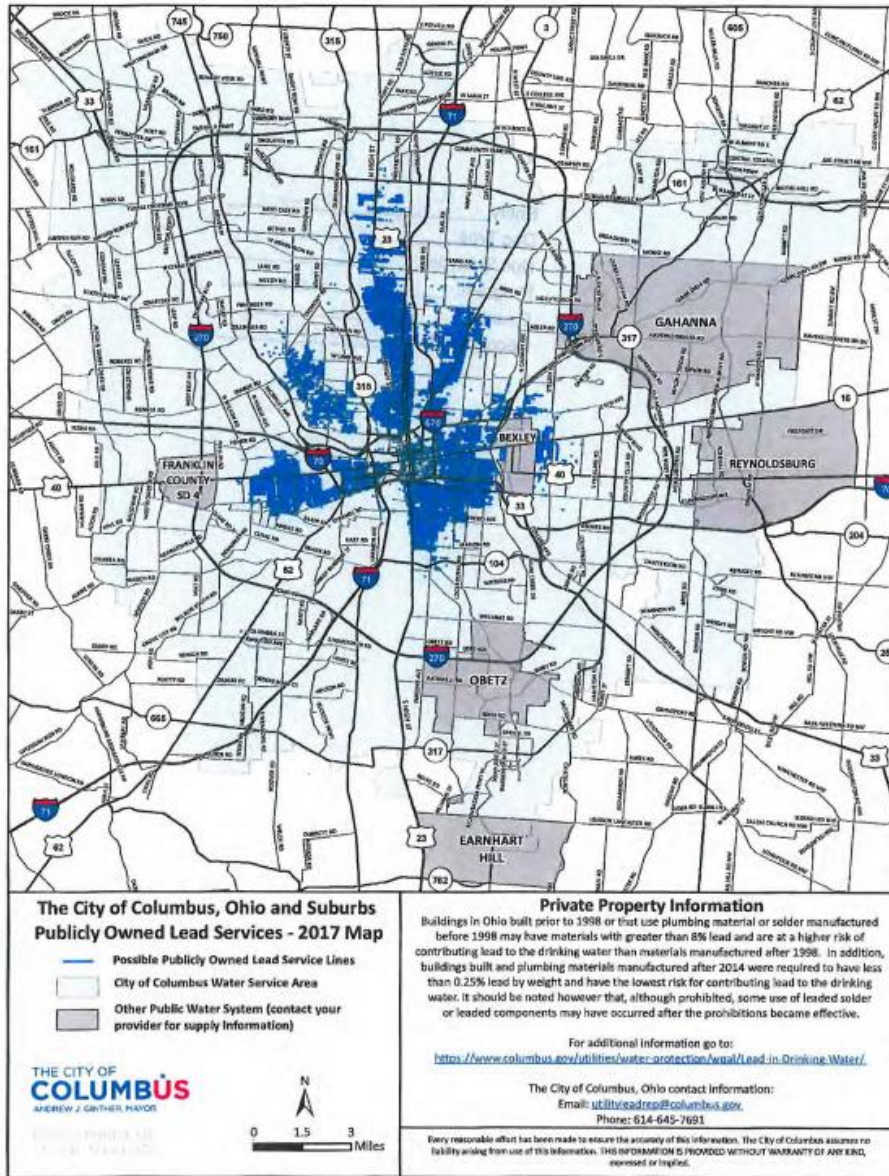
*Helping Small Communities meet
their Water & Wastewater
System Needs*



Urban Wet Weather Flows



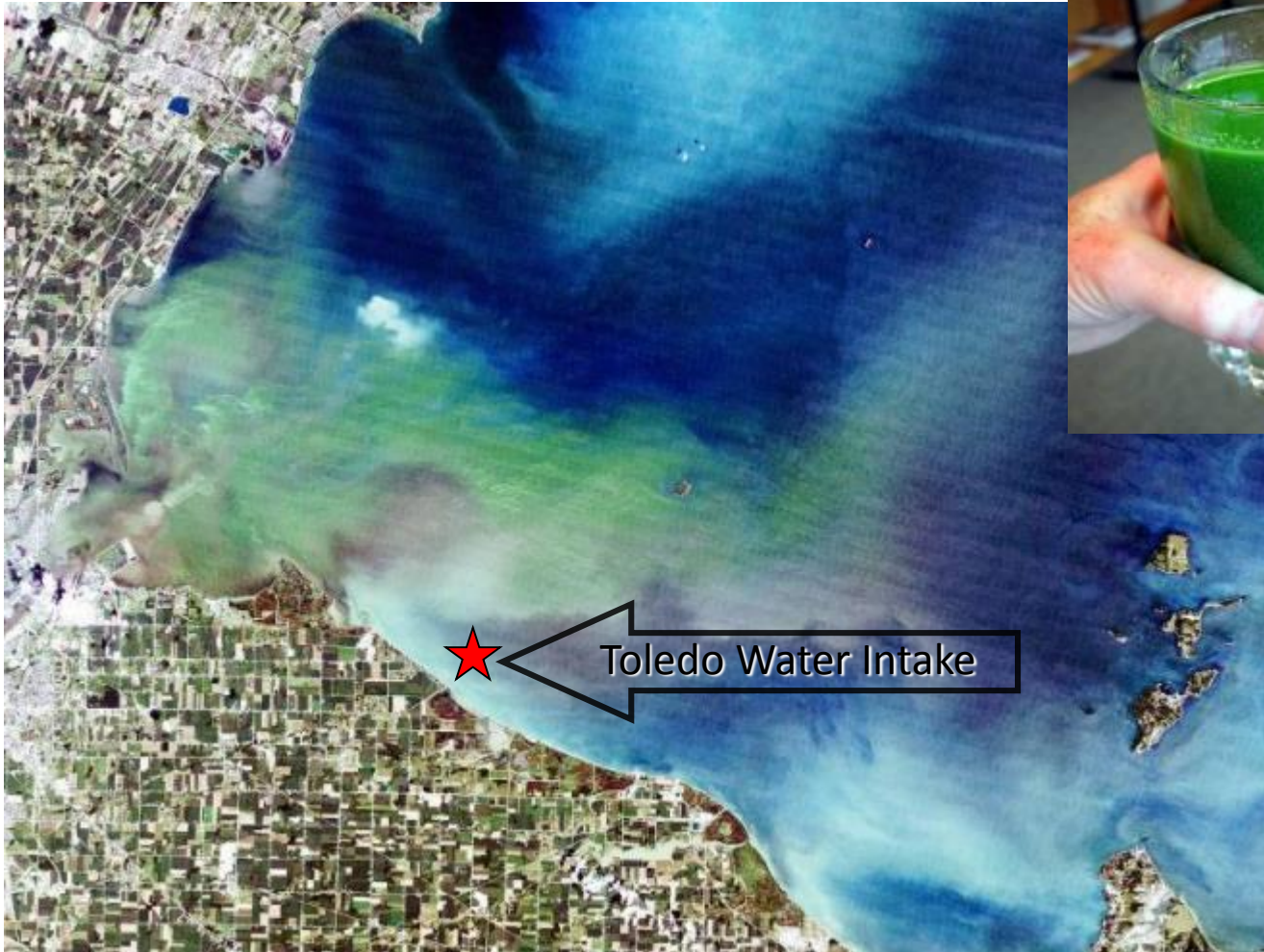
Lead Service Lines



Cladophora in East Basin, benthic mats in the West Basin



Microcystis bloom August 2003, August 2014





Ohio Inland Lakes

- Extreme event in Grand Lake St. Mary's 2010
- 2009 Microcystin level 84 ppb
- 2010 level: >2000 ppb
- Anatoxin-a, saxitoxin and cylindrospermopsin also detected





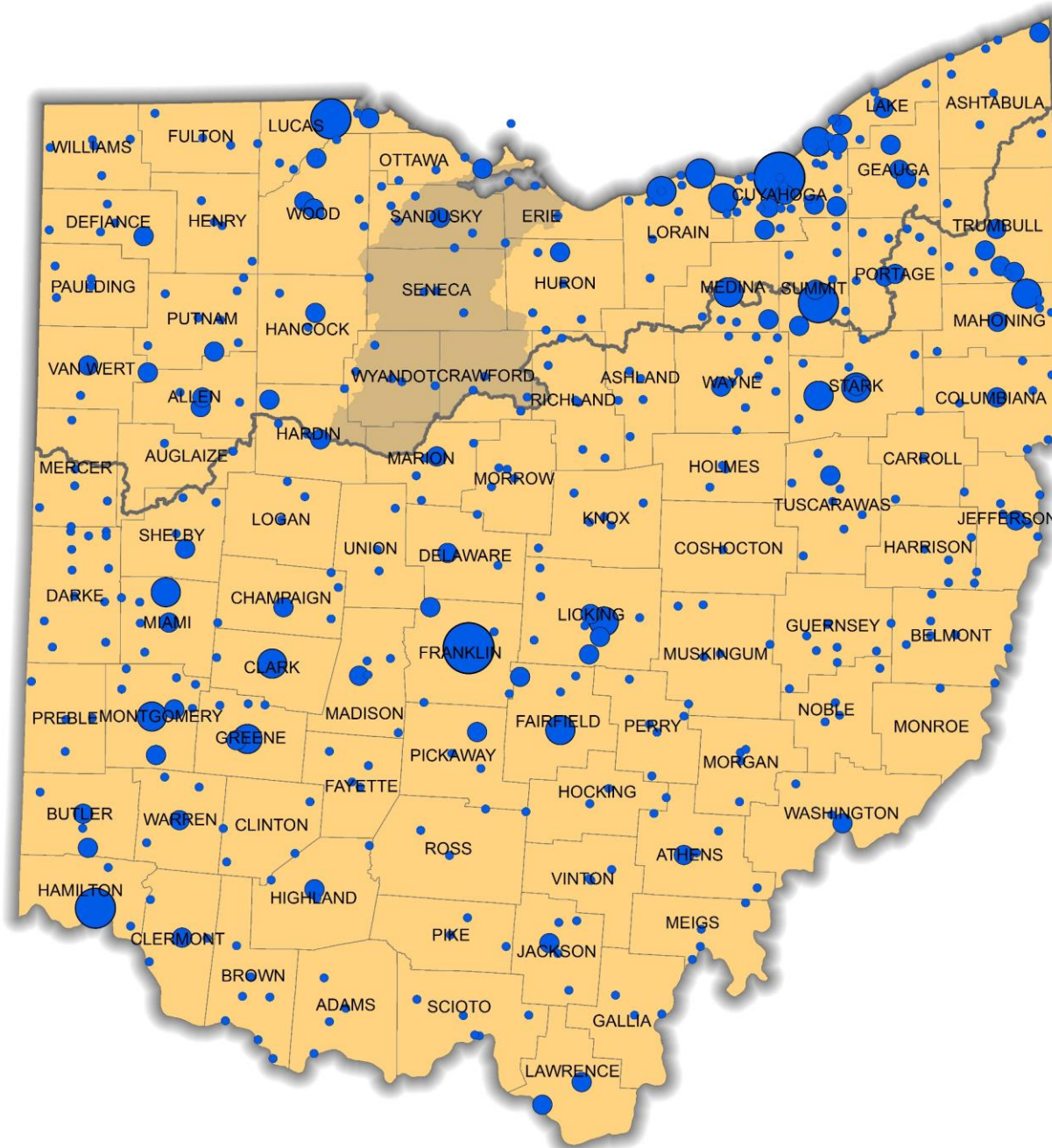
Ohio's Results

Drinking Water Protection

- **Cyanotoxin test kits** - \$1.5 M awarded via 87 grants to 60 public water systems
- **Harmful Algal Bloom Discount** – \$150 M awarded via 19 DWSRF loans (including \$44 M to Toledo)

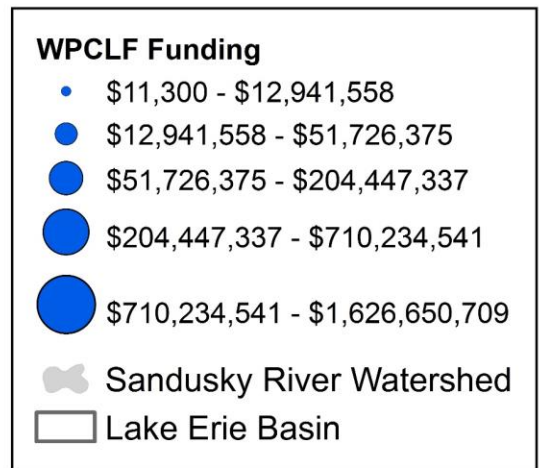
Reduction of Nutrients

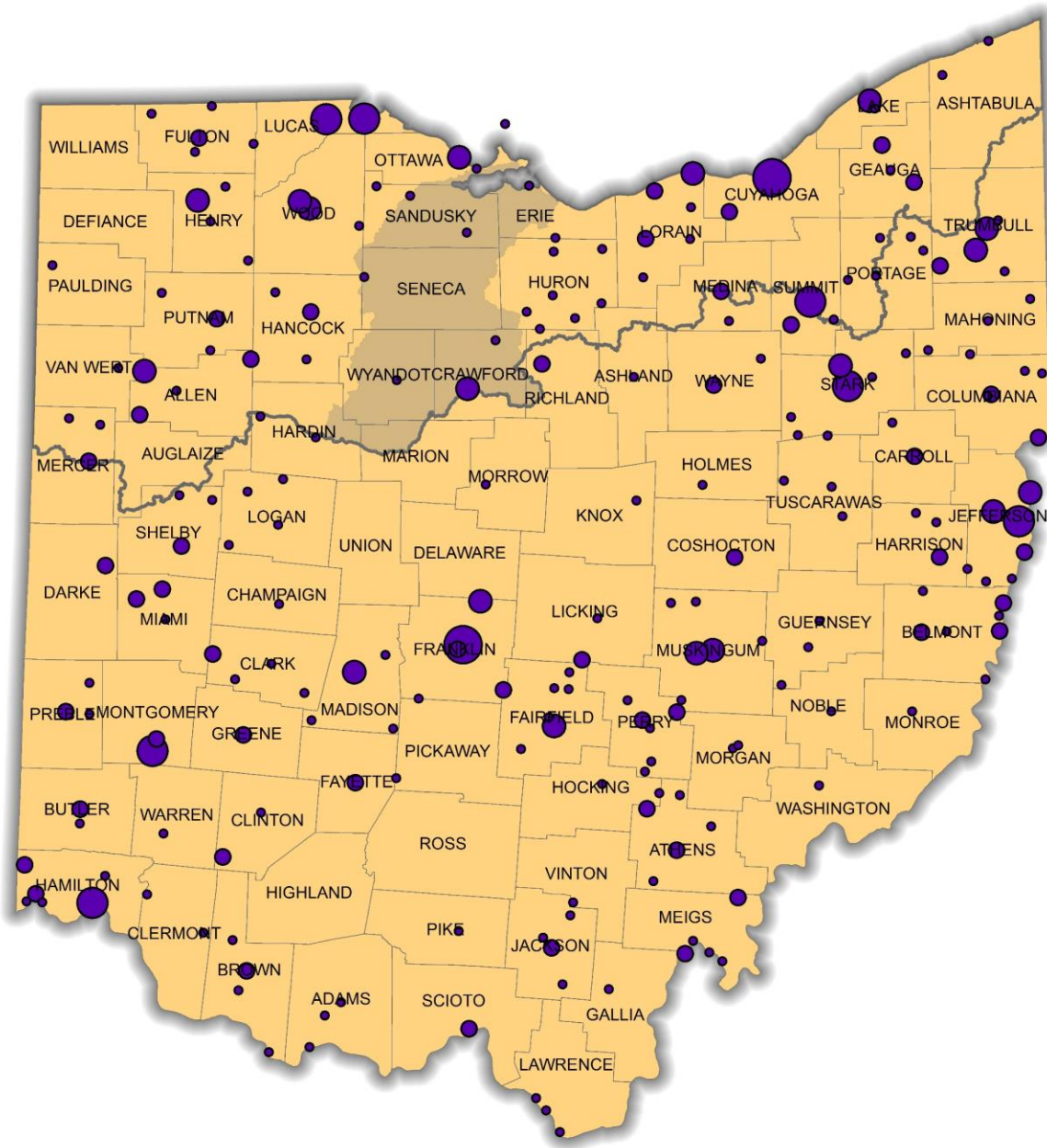
- **Targeted PF funding to Lake Erie Basin** Provided \$12.6 M in PF funds to 7 municipal WW projects in Western LE Basin
- **Nutrient Reduction Discount** - \$311 M awarded via 37 CWSRF loans
- **Home Sewage principal forgiveness** – \$39 M awarded to 72 counties
- **CSO Discount** - \$1.6 B requested. \$780 M in CWSRF loans awarded to 27 projects thus far (\$129 M at the 0% discounted rate).



WPCLF Funding

- Lake Erie Basin - ~\$4.5B
- Ohio River Basin - ~\$4.5B
- Sandusky River - ~\$97M





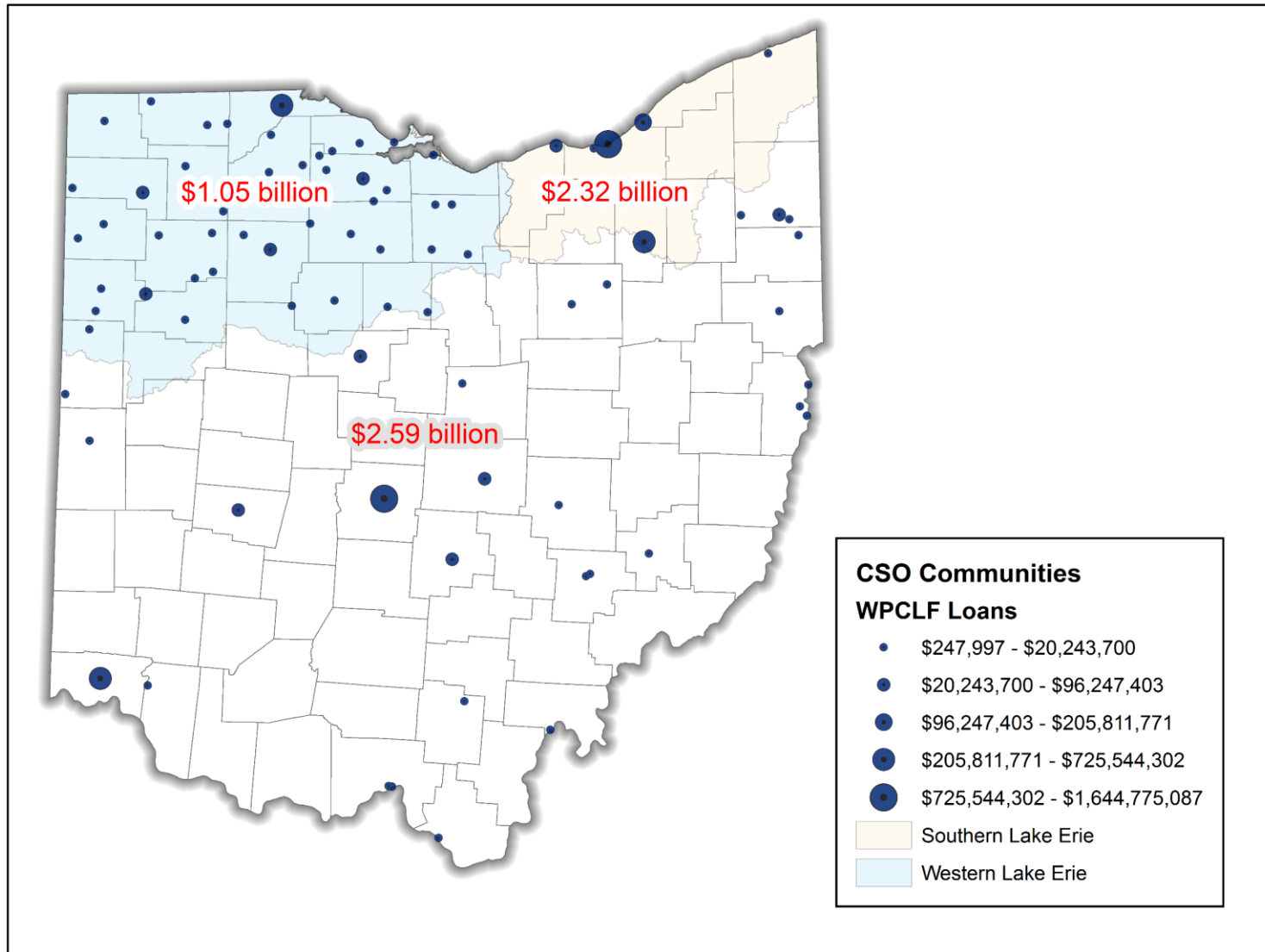
WSRLA Funding

- Lake Erie Basin - ~\$600M
- Ohio River Basin - ~\$900M
- Sandusky River - ~\$36M

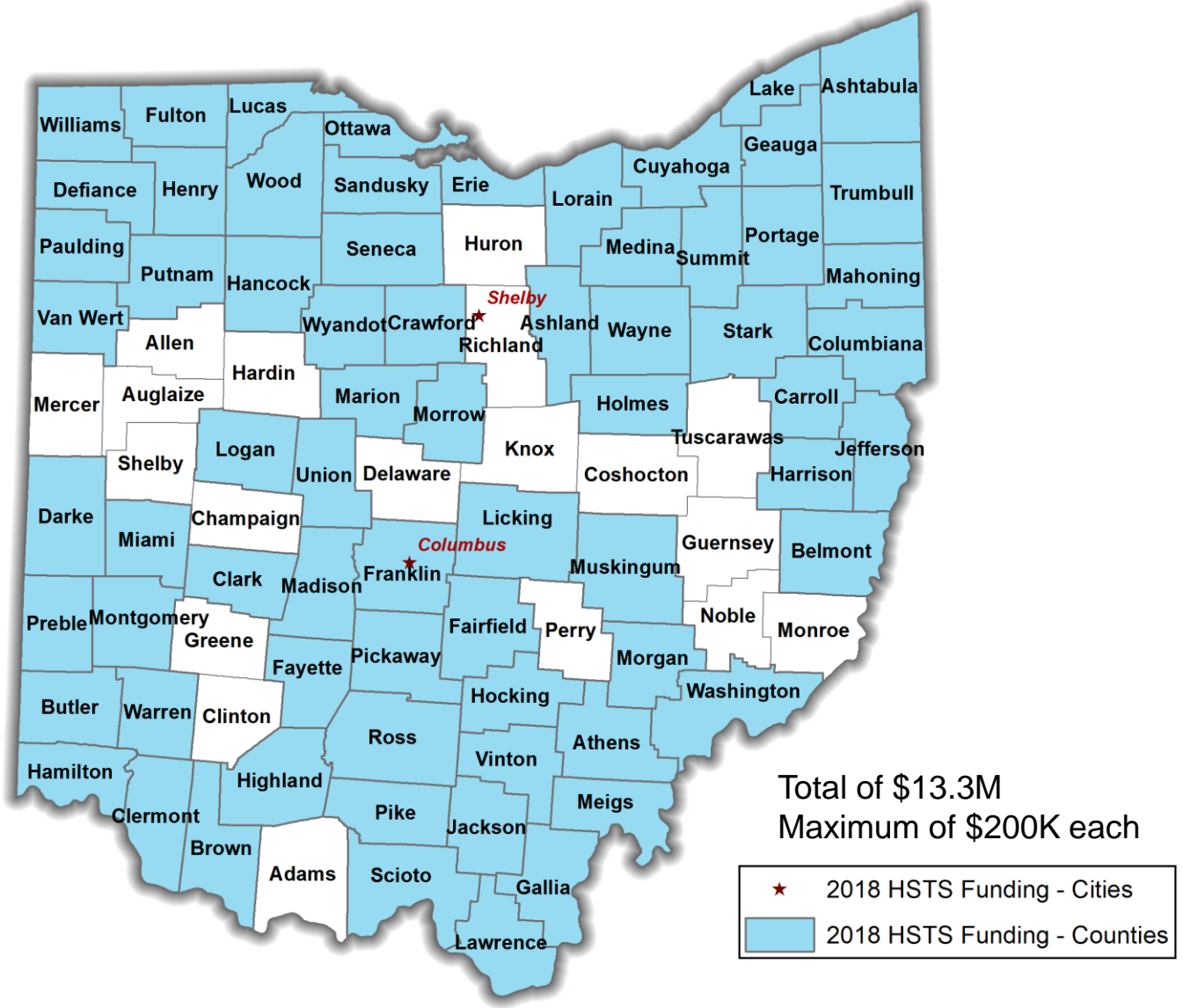
WSRLA Funding

- \$7,270 - \$3,105,800
- \$3,105,800 - \$10,061,249
- \$10,061,249 - \$29,152,550
- \$29,152,550 - \$67,381,308
- \$67,381,308 - \$166,906,700
- Sandusky River Watershed
- Lake Erie Basin

WPCLF Loans to CSO Communities through July 2017

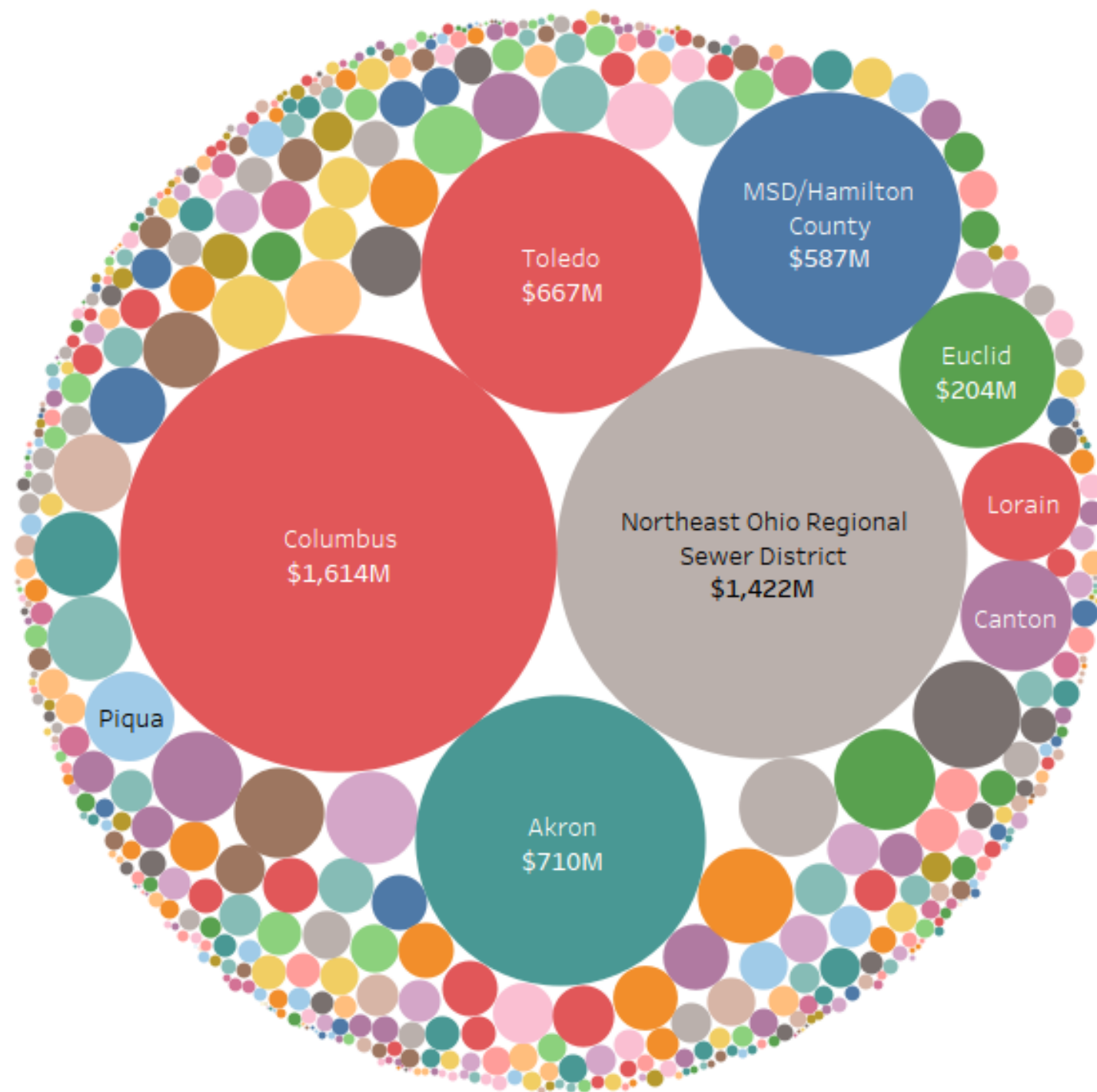


Entities Receiving WPCLF HSTS Principal Forgiveness Funding (2018)



WPCLF

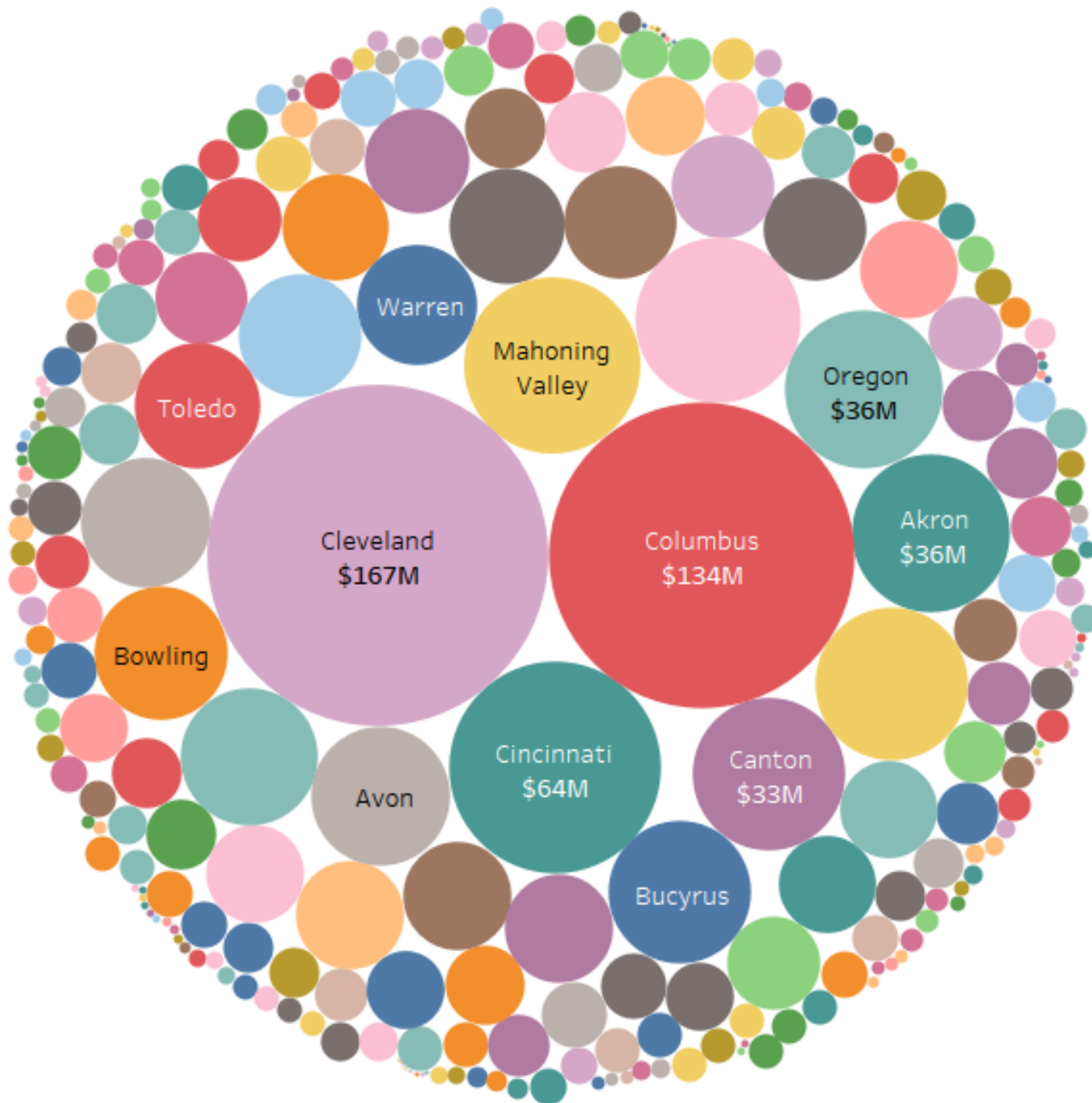
547 Entities
\$8.9 Billion



WSRLA

265 Entities

\$1.4 Billion



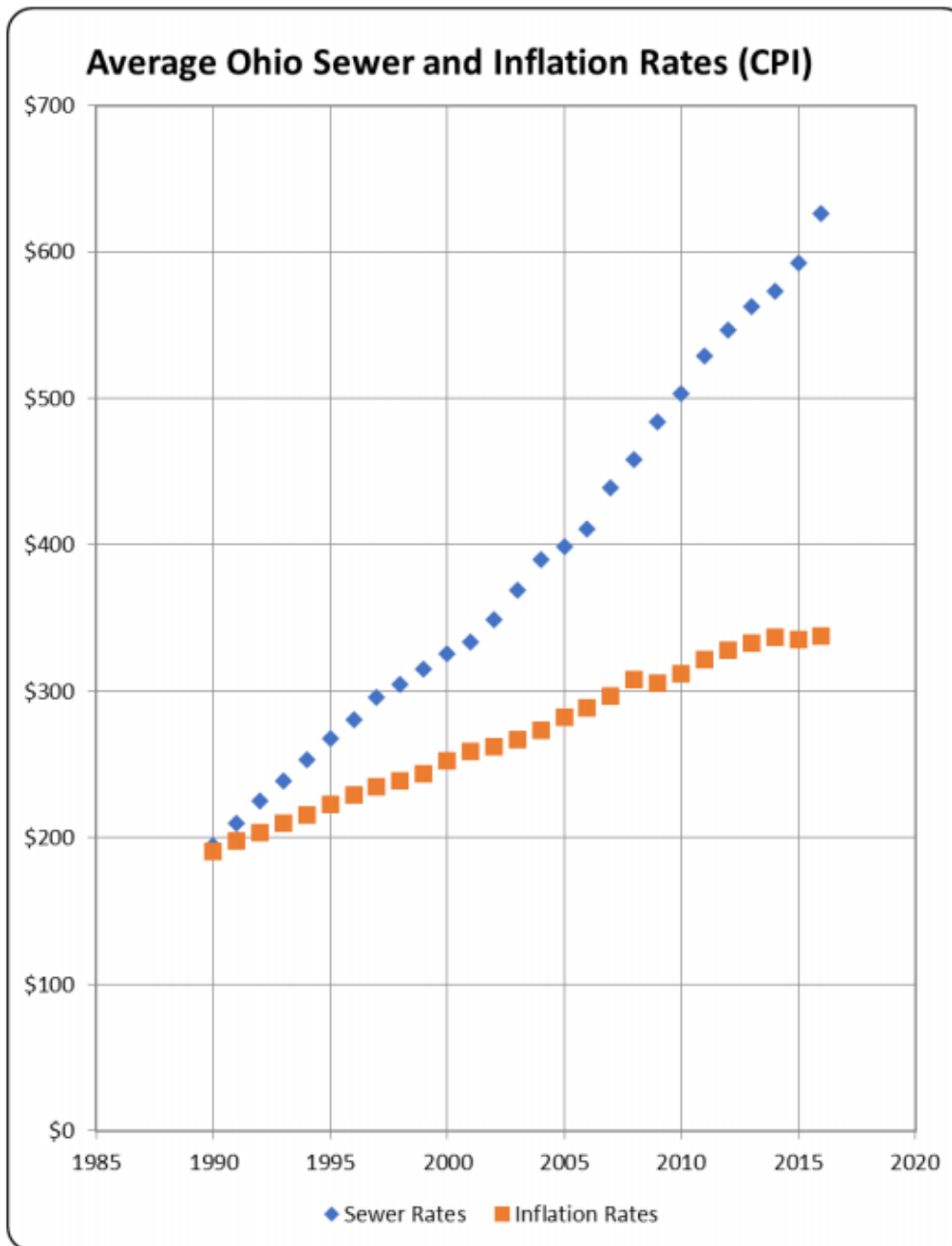
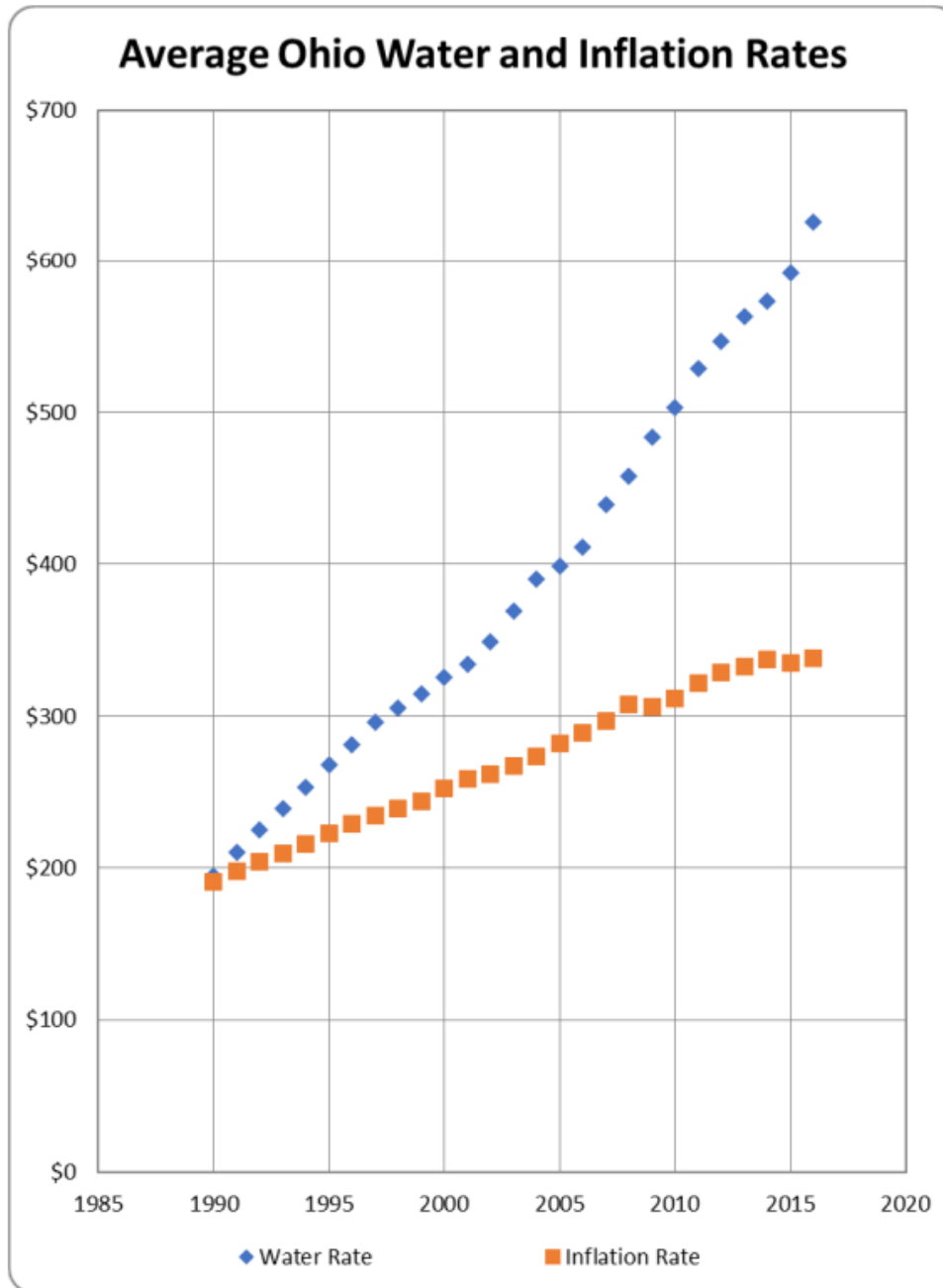
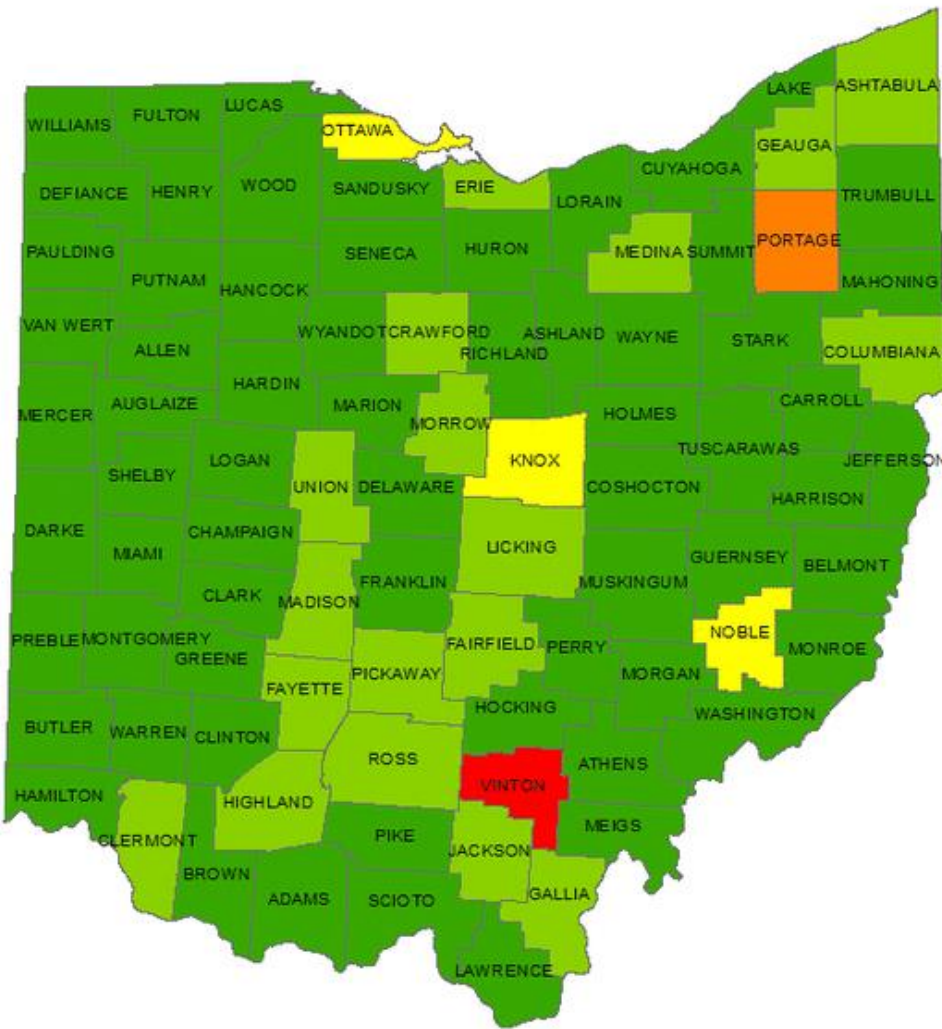


Figure 1: Annual Average Sewer and Inflation Rates 1990-2016

Figure 3: Annual Average Water Rates and Inflation 1990-2016



2015 Ohio EPA Sewer and Water Rate Survey



County Average Sewer Rate

2004



Lower Interest Rates = **Big Savings**

Compared to market rates, savings are substantial
Example: \$1 Million Loan, 20 Year Term, April 2019 Rates

Interest Rate	Total Repayments	Savings vs. Market
Market (3.34%)	\$ 1,378,938	-----
Standard (2.09%)	\$ 1,228,659	\$ 150,279
Small (1.59%)	\$ 1,171,349	\$ 207,589
Hardship (1%)	\$ 1,105,820	\$ 273,118
Hardship (0%)	\$ 1,000,000	\$ 378,938

Financial Incentives

WPCLF

~\$30,000,000 in Principal Forgiveness (PF)

- PF Loans to Local Health Districts for **HSTS repair and replacement** programs
- PF for **back-up power** (\$50,000 per project)
- PF for **unsewered areas, CSOs, sewer/WWTP repair and replacement** (**must meet Affordability Criteria**)
- 0% funding for **Nutrient Reduction Projects**
- 0% funding for **Planning/Design loans**

****Call for Nominations: month of August****



Financial Incentives

WSRLA

~\$10,000,000 in Principal Forgiveness (PF)

- PF for LSL Replacements
- PF for **disadvantaged communities, regionalization, and human health projects**
- Possible grants for **leak detection equipment**
- 0% funding for **HAB projects**
- 0% funding for **full lead service line replacement**
- 0% funding for **Planning/Design loans**

Questions?

Contact

Jon Bernstein

Loans and Grants Manager

Ohio EPA - DEFA

614-644-3715

Jonathan.Bernstein@epa.ohio.gov

