



Central Indiana Water Study

and other water planning efforts

Indiana Finance Authority (IFA)

presentation to
Indiana Water Summit - 2019
August 15, 2019

IFA Environmental Programs

- State Revolving Fund Loan Program
 - Wastewater & drinking water infrastructure
- Water Resources & Infrastructure Planning Program
- Indiana Brownfields Program
 - Assessment and remediation of brownfield sites
 - Liability determinations

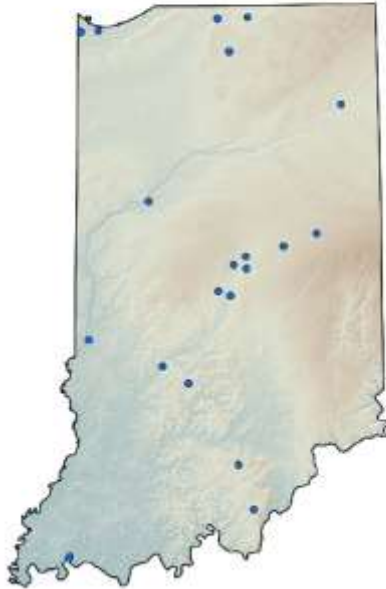


IFA Water Studies: 2015, 2016, 2017

Evaluation of Water Utility Planning in Indiana

A survey of best practices, challenges, and needs

October 2015



Evaluation of Indiana's Water Utilities

An analysis of the State's aging infrastructure



November 2016



Southeastern Indiana Regional Water Supply

Feasibility and cost analysis

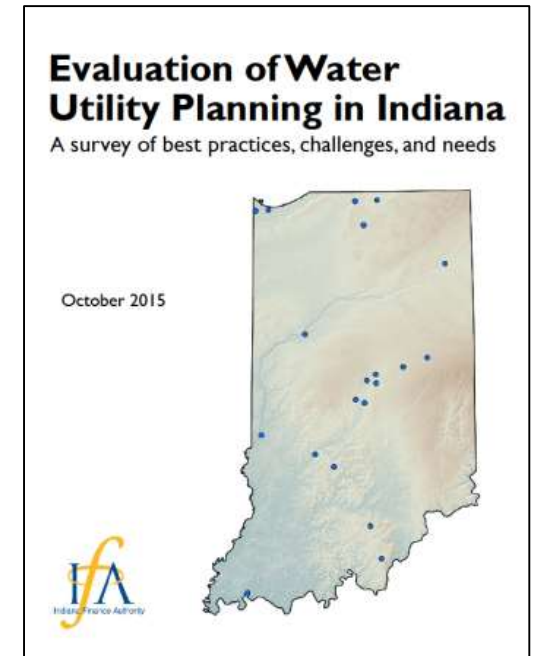


January 2018



“Evaluation of Water Utility Planning in Indiana” SEA 474 (2015)

- Purpose – to better understand how utilities plan for long-range supply and demand needs
- Utilities serving the 15 most populous cities
- Five additional utilities serving populations < 10,000
- State and federal agencies added to the study



2015 Study: Findings

- Nearly all utilities surveyed unable to invest adequately in infrastructure
- Surveyed utilities not replacing aging infrastructure at necessary intervals
 - Highest rate was 0.7% per year or 143 year cycle
- Only half of surveyed utilities monitored their source of supply
- Water quality may limit availability in some locations
- Operator recruitment and retainage is an ongoing challenge
- There is no obvious lead agency to coordinate State-wide water related activities



2015 Study Recommendations:

- The State should invest in state-wide water resource data collection and analysis
 - Continue to support the IDNR water withdrawal database
 - Continue to support the IDNR/USGS water monitoring network
- Water rate policies need to be altered to encourage water resource planning and fiscal sustainability
 - Short-term thinking keeps rates low, thereby risking long-term viability
- Regional discussions lead by the state would be a useful beginning point for planning

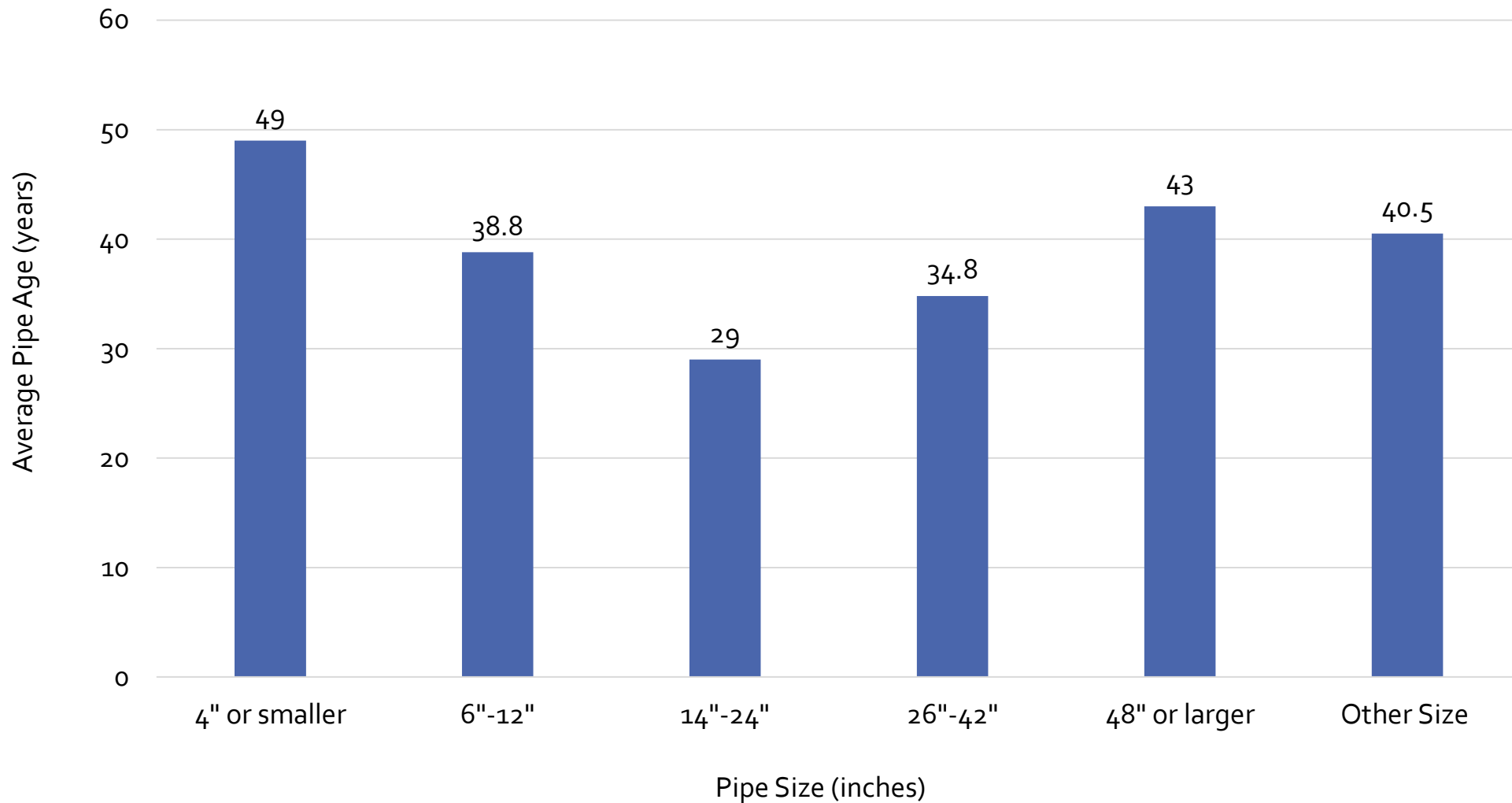


“Evaluation of Indiana’s Water Utilities” SEA 374 (2016)

- Purpose – to better understand water loss and drinking water infrastructure needs
- Utilized a straight –forward model to assess infrastructure needs based on age of asset
- Utilized industry-standard AWWA Water Loss Audit tool
- 100% participation from Indiana’s targeted Community Water Systems (~500 systems)



2016 Study Finding: Many water lines in Indiana have or will exceed useful life soon



2016 Study: Findings and Recommendations

- \$2.3 billion needed to immediately remedy Indiana's aging infrastructure
- Over 50 million gallons of water is lost each year at a cost of over \$54 million
- Prioritize replacement of water mains that have exceeded useful life
- Cultivate and standardize asset management
- **A new water infrastructure program needs to be funded**



“Southeastern Indiana Water Supply” SEA 416 (2017)

- Purpose – to evaluate the viability of a regional drinking water utility in Southeastern Indiana
- Assessed the economic development opportunities and future supply and demand needs
- 75-targeted utilities in the 14-county area
- Three alternatives considered
- Each alternative evaluated by affordability, cost to construct and maintain, regulatory compliance, and support of economic development



2017 Study: Recommendations

- Effective long-term solutions involve multiple regions
- Scope and scale collaboration varies by region
- Indiana should begin planning in other regions



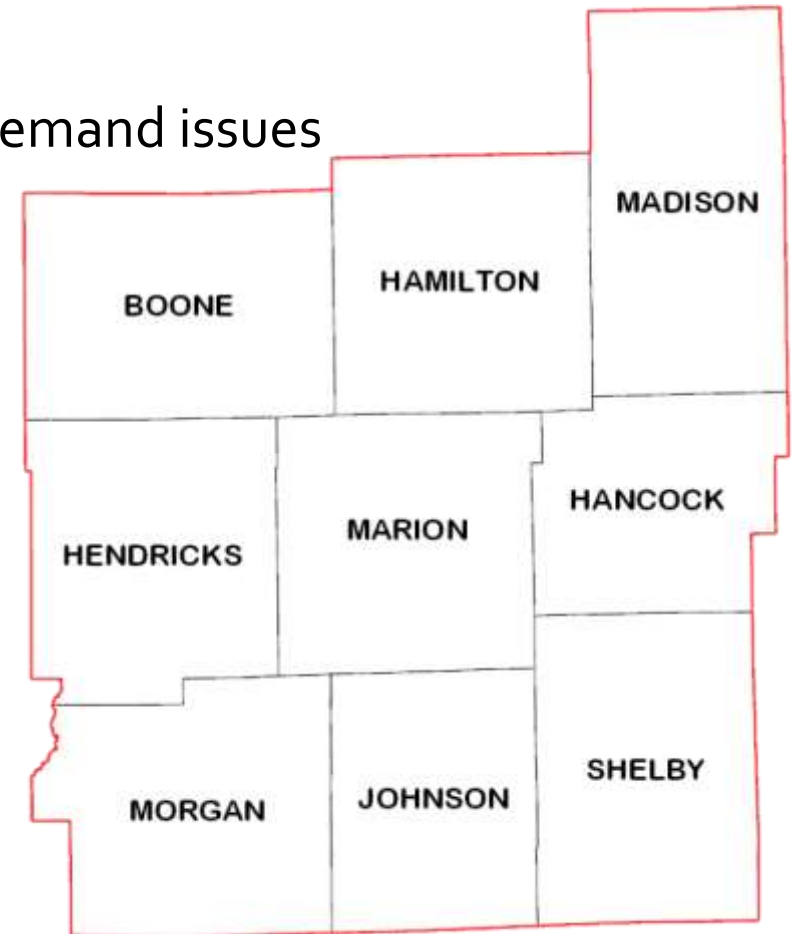
Senate Enrolled Act 4 (2019): IFA efforts

- Regional Meetings
 - Meetings will start in 2020
 - Participation required for funding assistance from SRF
- Water Loss Audits
 - Validated audits due August 1, 2020, and every other year thereafter
- Asset Management Plans
 - Required for funding assistance from SRF
- Continue Regional Water Studies
 - Central Indiana Water Study



Regional Water Studies: IFA efforts in 2019

- Which part of the state?
 - Existing group of engaged utilities considering supply & demand issues
- What study area boundaries to use?
 - Central Indiana Drinking Water Collaborative
- What to study?
 - Central Indiana Drinking Water Collaborative
 - IDNR
 - IDEM
 - USGS



2019 Central Indiana Water Study

- Phase I – Regional Water Demand
- Phase II – Regional Water Supply
- Phase III – Water Availability Modeling and Optimization
- Phase IV – Infrastructure and Cost Analysis
- Phase V – Public Education and Outreach



Phase I – Regional Water Demand

Tasks:

- Determine baseline use
- Consider all sectors: residential, commercial, industrial, and agricultural
- Forecast water demand in the study area out to the year 2070
- Evaluate multiple overlapping growth and drought scenarios
 - Standard summer
 - Drought of Record
 - Future climate change scenarios
 - Water conservation
 - Lawn irrigation



Phase II – Regional Water Supply

Tasks:

- Identify and collect data necessary to have a better understanding of groundwater and surface water supplies in central Indiana, including aquifer levels and stream flows
- Install/update monitoring wells
- Install stream gauges
- Upgrade weather stations



Phase III – Water Availability Modeling and Optimization

Tasks:

- Construct a regional water model
- Define areas of aquifer stress and potential limitations and/or surpluses under various operational and climate scenarios
- Collect localized data needed to understand the effects of utility water withdrawal operations on groundwater and surface water systems
- Tool that will allow utilities to add wells and change pumping rates for predictive purposes



Phase IV – Infrastructure and Cost Analysis

Tasks:

- Evaluate potential infrastructure needed to address deficits forecasted in Phase III, including a cost benefit analysis, environmental siting, regulatory, and permitting conditions
- Evaluate potential interconnections, and the technical, regulatory and operational issues that would need to be addressed
- On hold until 2020



Phase V – Public Education and Outreach

Tasks:

- Identify topics that would aid the utilities in the study area to better communicate water supply and demand issues with the residents of Central Indiana
- Work with utilities in the study area to develop a regional public education message regarding the water supply and demand issues
- Develop needed public education materials
- Develop outreach implementation plans that include timelines and estimated costs



Central Indiana Water Study Timeline

		CY 2019				CY 2020			
Phase	Topic	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Phase I	Regional Demand		█	█					
Phase II	Regional Supply		█	█	█	█	█		
Phase III	Water Availability Modeling and Optimization			█	█	█	█	█	
Phase IV	Infrastructure and Cost Analysis								█
Phase V	Public Education and Outreach								█

Central Indiana Water Study: next steps

- Engage professionals and begin work
- Post updates on website
- Give updates at the Central Indiana Drinking Water Collaborative's meetings



Questions?

IFA website: <https://www.in.gov/ifa/3006.htm>

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Central Indiana Water Study email list for updates

