

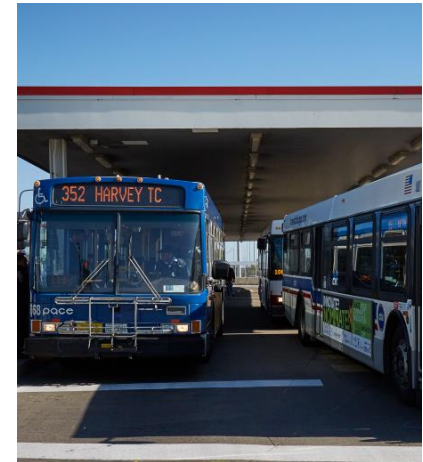


Chicago Metropolitan  
Agency for Planning



# NWPA Water Supply Sustainability Plan: Incorporation of TAC and Executive Committee feedback

NWPA TAC Meeting  
February 27, 2025



# Agenda

Plan feedback

Key revisions

Remaining project timeline

# Plan feedback

# Who we heard from

TAC and Executive Committee members

McHenry, Kane, and Kendall County representatives

ISWS staff

Municipal public water supply communities

Additional feedback/review:

- Illinois-Indiana Sea Grant
- NWPA TAC co-chairs

# What we heard

1. Need more explanation of ISWS's sustainable water supply estimates
  - **Additional clarification on the deep groundwater estimate**
2. Need for more emphasis on uncertainty and challenges water quality poses on water quantity
  - **Need to clarify water supply challenges vary by shallow aquifer type**
3. Interest in a clearer presentation of water demand and supply data
  - **More explanation of groundwater demand-to-sustainable supply ratio maps and tables**
4. Need for a stronger narrative prompting communities to take action
5. Need to modify/clarify assumptions and **timelines** for select water conservation and efficiency strategies
6. **Need for closing remarks on NWPA's commitment to monitoring new information/funding**

# Key revisions

# Reordering plan chapters

## *First draft (November 2024)*

1. Introduction
2. NWPA profile
3. Call to action
4. Water conservation framework for achieving sustainable supply
5. Water conservation strategies and potential water savings

## *Revised draft (January 2025)*

0. Executive summary
1. Introduction
- 2. NWPA profile**
- 3. Water conservation and efficiency framework**
- 4. Water conservation strategies and potential water savings**
5. A guide to local action in the NWPA region

# Chapter 2: NWPA Profile

## Demographic and development patterns

Outlines the NWPA region's characteristics relevant to water demand

### Feedback

November-January

February

### Revisions

January

February

### What we heard

- Could benefit from more data points and explanation around how community characteristic influence water use

### What we changed

- Further described relationship between community characteristics and water use
- Added demographic info (e.g., population and employment projections by county)
- Added land use and housing information for NWPA's 5-co region



# Chapter 2: NWPA Profile

## Water sources and sectors

Describes how water is being used and by whom

### Feedback

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February

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February

### What we heard

- Need for more description of sectors other than the municipal PWS sector
- Update source map (some communities inaccurately assigned to some sources)
- **Clarification of water sources used within each county**

### What we changed

- Further described other water sectors (in addition to municipal PWS sector)
- Updated municipal PWS systems count based on updated *Regional Water Demand Forecast for Northeastern Illinois, 2020-2050*
- Updated/clarified water source map
  - Further clarified sources through text edits and addition of endnotes



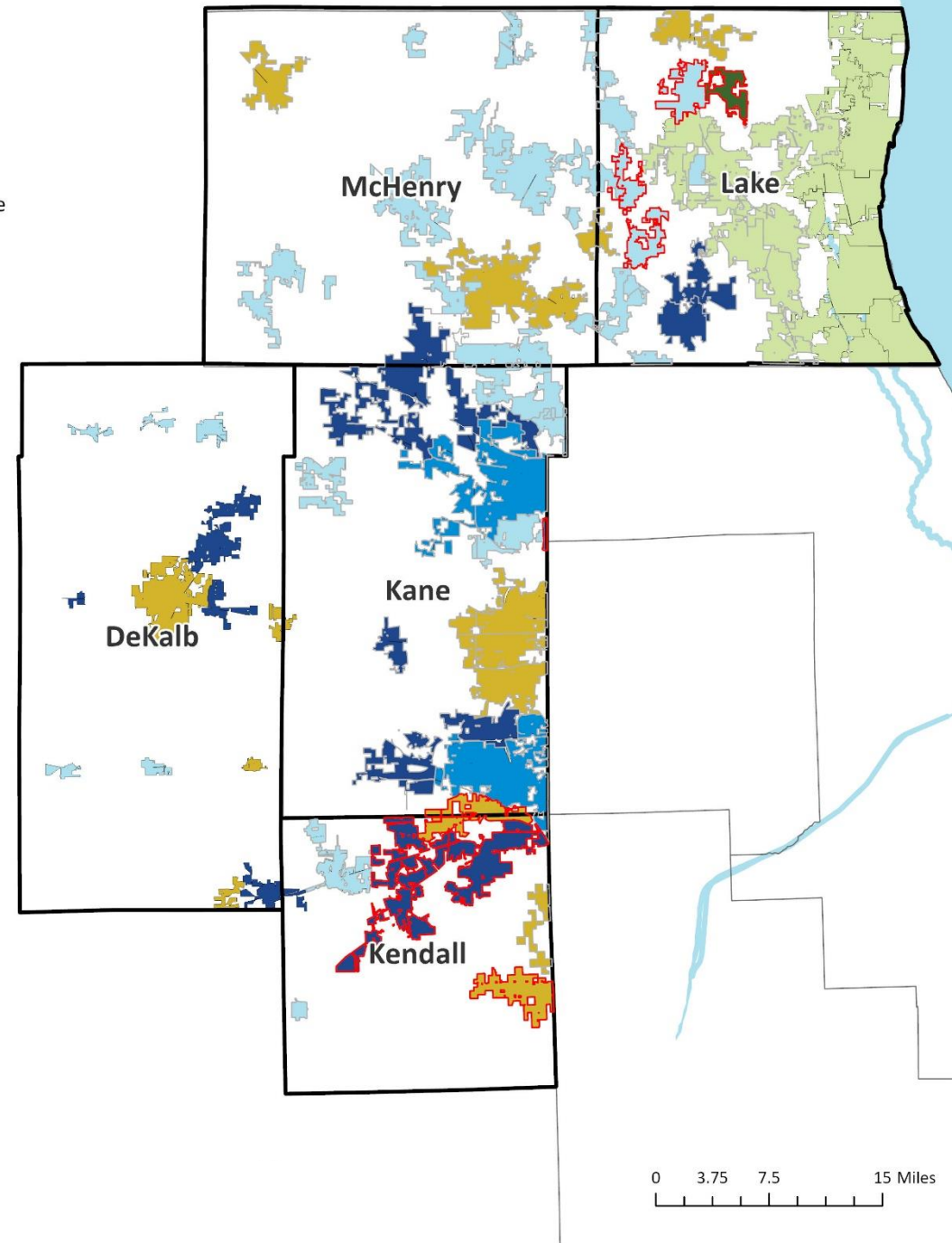
## Municipal water sources, average source mix, 2013-2018

- Groundwater, sandstone
- Groundwater, shallow bedrock/glacial
- Mixed groundwater sources, shallow/sandstone
- Mixed sources, Fox River/groundwater
- Mixed sources, Lake Michigan/groundwater
- Surface water, Lake Michigan
- Municipality with planned source switch

# Chapter 2: NWPA Profile

## Water sources and sectors

- Water sources used by NWPA PWS communities
- Based on a 2013-2018 historical average of water sources used
- *Does not convey water sources used in 2019-2025*



# Chapter 2: NWPA Profile

## Water supply challenges

Describes the supply challenges facing the NWPA region's water supply sources

### What we heard

- Key challenges were hard to decipher within previous content/formatting
- Challenges should focus on all water sources, not just groundwater
- **More nuanced water quality challenges**
  - Confined and unconfined aquifers
  - Contamination threats from mismanagement of solvents/fuels/hazardous materials

### What we changed

- Added subheadings clearly denoting key challenges
  - *Excessive drawdown*
  - *Degraded water quality*
  - *Regulatory and financial limitations*
- Expanded explanation of the challenges across all water sources (as applicable)
- Added additional content and clarification on water quality challenges

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# Chapter 2: NWPA Profile

## Existing and project water supply and demand

Describes ISWS Tier 1 sustainable supply estimates and CMAP-IISG water demand forecast; compares the NWPA region's water demand and supply

### Feedback

November-January

February

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### What we heard

- Need for more details on water supply sustainability estimates and their constraints/limitations; emphasis on water quality uncertainties
- Clearer comparison of demand and supply estimates
- **More clarity/explanation of Tier 1 sustainable supply definitions and limitations**

### What we changed

- Added ISWS tiered approaches and definitions/assumptions for sustainable supply estimates
  - Further clarified deep groundwater
- Shifted to tables and maps to communicate regional water demand and sustainable water supply
  - Added clarifiers to maps and tables
  - Added case study

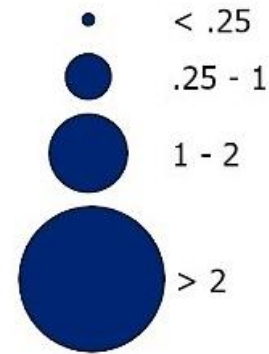


# Shallow groundwater demand compared to sustainable supplies

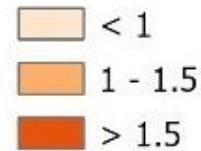
Demand exceeds supply in some areas

## Shallow groundwater, 2050

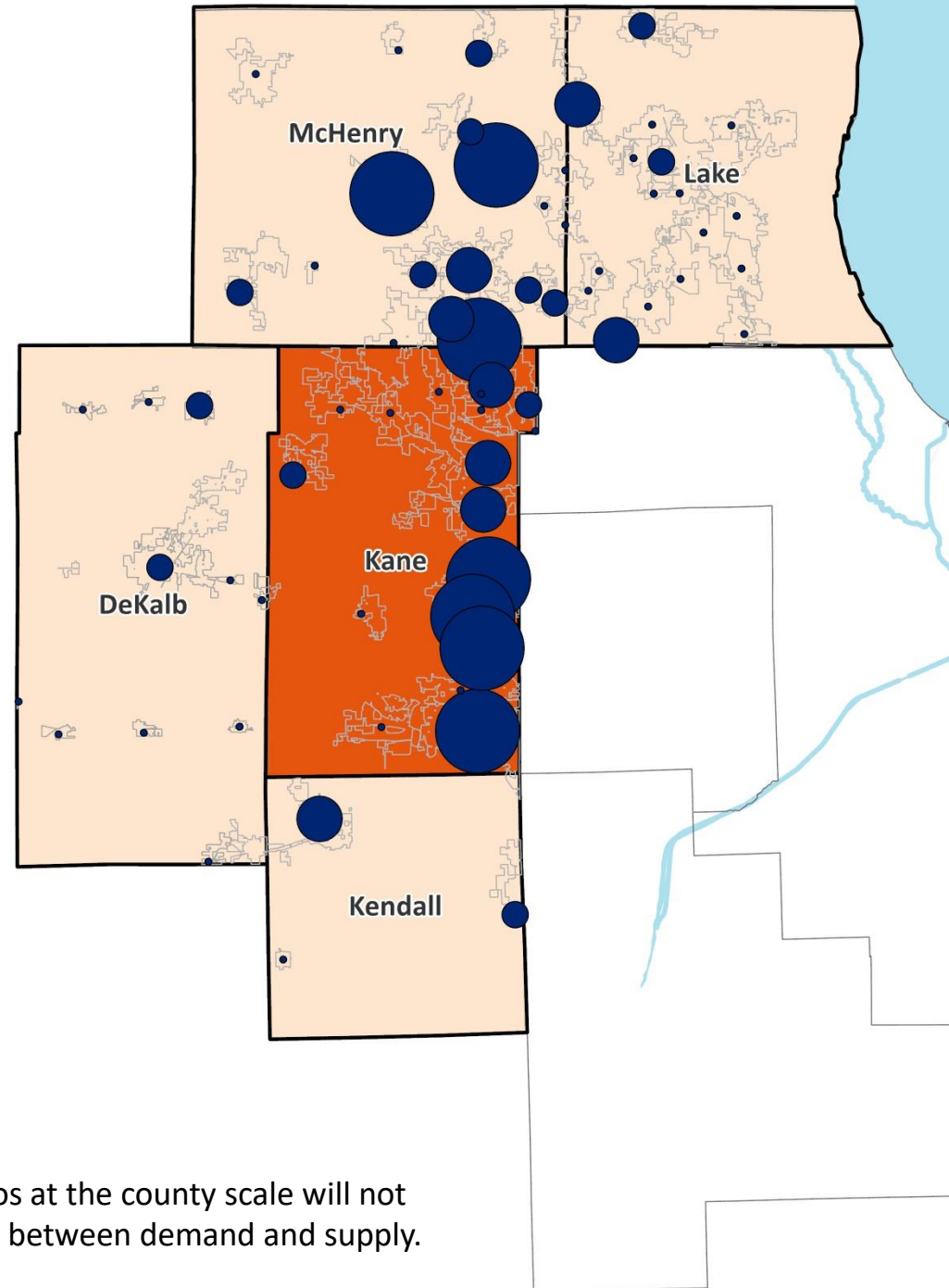
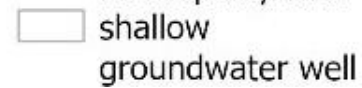
Municipal public water system demand



Demand-to-supply ratio



Municipality with shallow groundwater well



Note: Demand-to-supply ratios at the county scale will not capture localized mismatches between demand and supply.

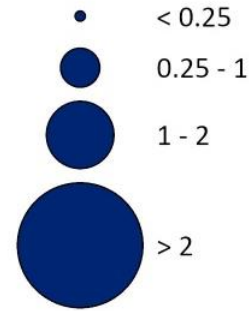


# Deep groundwater demand compared to sustainable supplies

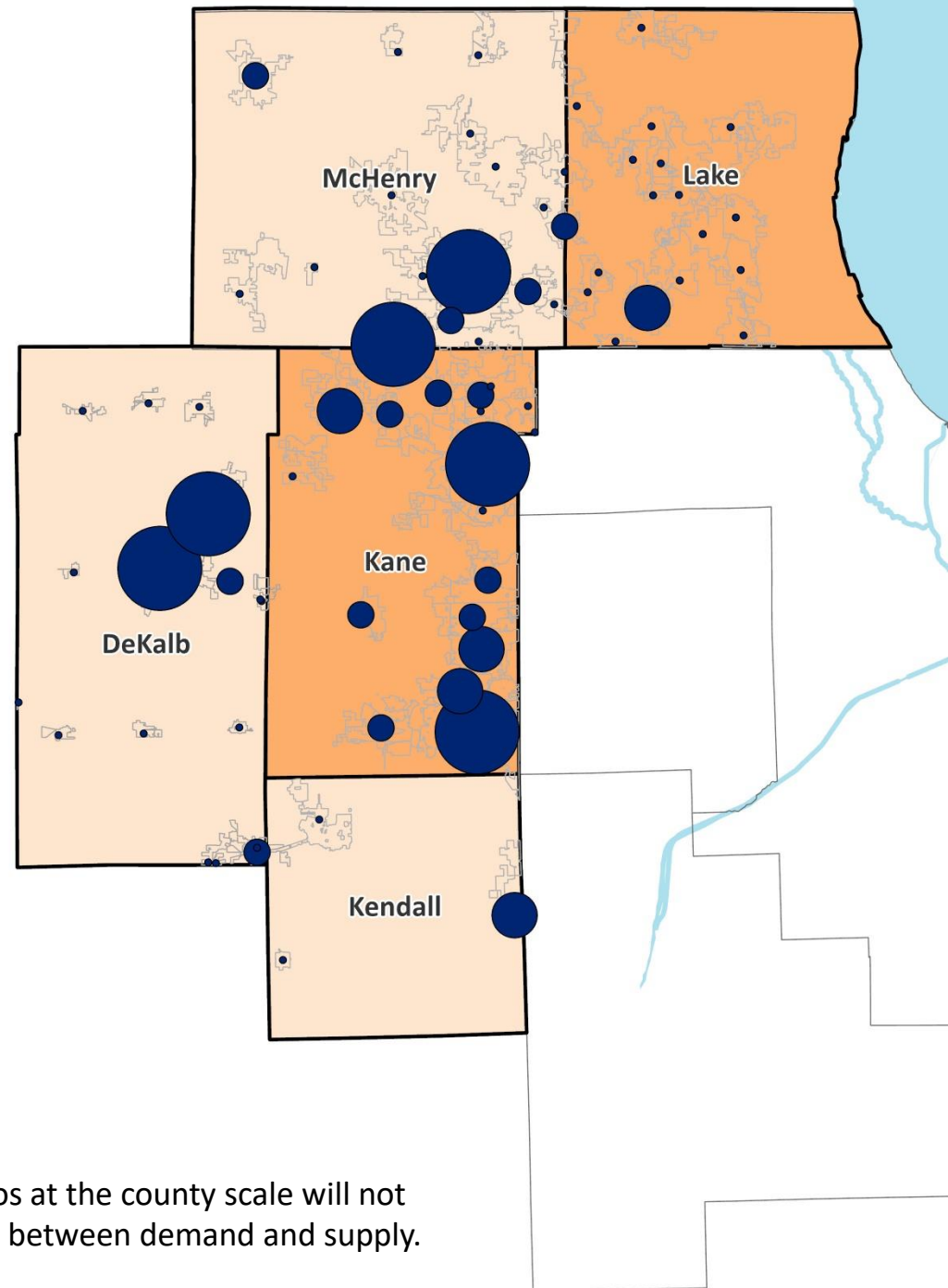
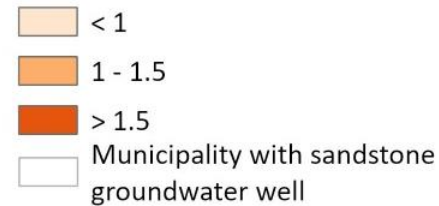
Demand exceeds supply in some areas

## Sandstone groundwater, 2050

Municipal public water system demand



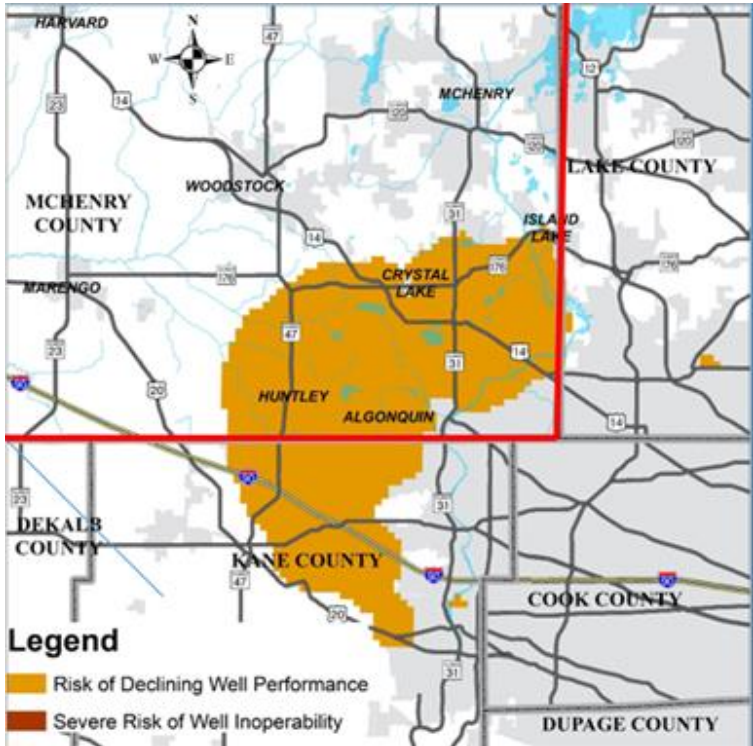
Demand-to-supply ratio



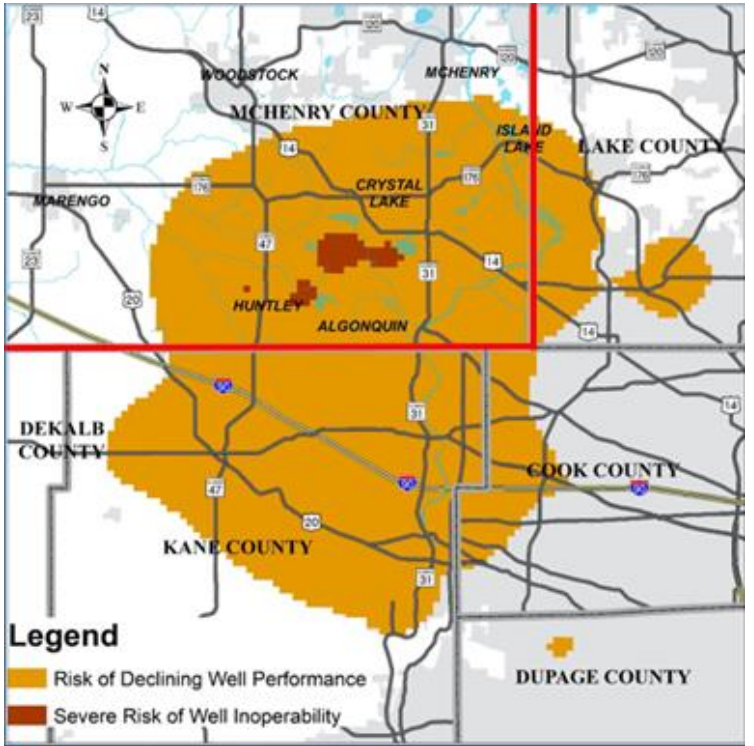
Note: Demand-to-supply ratios at the county scale will not capture localized mismatches between demand and supply.

# Risk of declining well performance and well inoperability, 2020 and 2050

Risk zones, 2020



Risk zones, 2050



Based on modeling results from the 2020 Illinois State Water Survey contract report, Analysis of Risk to Sandstone Water Supply in the Southwest Suburbs of Chicago (CR-2020-04) <https://www.ideals.illinois.edu/items/116861>

# Chapter 3: Water conservation and efficiency framework

## Feedback

November-January

February

## Revisions

January

February

Outlines plan vision, water source goals, benefits of water conservation, water conservation strategies, comparison of sustainable supply and combined savings, and need to act locally

## What we heard

- State vision and goals of the plan earlier
- Improve communication around the need for water conservation action
- **More clarity around select benefits of water conservation**
- **More clarity of the call to action**

## What we changed

- **Flipped order of chapters**
- **New subsection: Comparison of sustainable supply and combined savings**
- **New subsection: Act locally (preview to chapter 5)**
  - **Clarified messaging**
- **Clarified benefits of water conservation**



# Chapter 4: Water conservation strategies and potential water savings

Summarizes potential water savings that can be achieved by strategies; provides detailed overview of the five prioritized strategies, their savings, and implementation resources

## What we heard

- Savings estimates appeared low
- Need clarity on timeline used in the water efficiency in new development strategy

## What we changed

- Shifted from showing 10-50% to 50-100% program participation
- Water loss strategy savings method adjusted to reflect IDNR's goal for non-revenue water
- New development strategy timeline, 2020-2050

### Feedback

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### Revisions

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# Executive summary

Synthesizes plan and outlines key findings

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## Main sections (included in January 2025 draft)

- Water supply and demand across the NWPA region – *edited based on feedback*
- Plan vision and goals
- Impact of water conservation and efficiency strategies – *edited based on feedback*
- Benefits of water conservation and efficiency strategies – *edited based on feedback*
- Call to action
- Moving forward – *new section added based on feedback*

# Questions?

# Remaining project timeline

Final draft plan presented to Executive Committee, Jan 30 - *complete*

Received written feedback from Executive Committee, Feb 14 - *complete*

CMAP incorporated feedback into plan, Feb 20 - *complete*

Begin adoption process (Feb – Mar)

- Discussed plan feedback/edits with Executive Committee, Feb 27 - *complete*
- TAC to meet in March and consider plan approval (March 25) - *upcoming*
- Executive Committee to meet in March to consider plan adoption (March 27) - *upcoming*



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# Thank you

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