

Cooperative Multi-Community Water Systems

Different Approaches

- Several models or approaches for multi-community water systems
- Key differences between them:
 - Degree of community autonomy
 - Extent of legal and formal institutional arrangements
 - Governance
 - Cost-sharing and financing
 - Potential cost-effectiveness (economies of scale)
- Examples of each approach from around the country

Two General Approaches

1. New (or expanded) Regional Utility

- One representative & independent board/commission, one integrated system of infrastructure owned by the utility, utility sells water to all customers within service area, no distinction between municipalities, utility can sell water to neighboring municipalities via contracts/leases

2. Cooperative Agreement for Regional Joint Investment or O&M

- Municipal utilities remain separate but jointly fund new infrastructure and/or O&M, have rights to a certain share of the water, formal coordination committee but decision authority remains with municipalities; municipalities usually continue to some infrastructure

OR...

3. No regional coordination, smaller agreements as needed

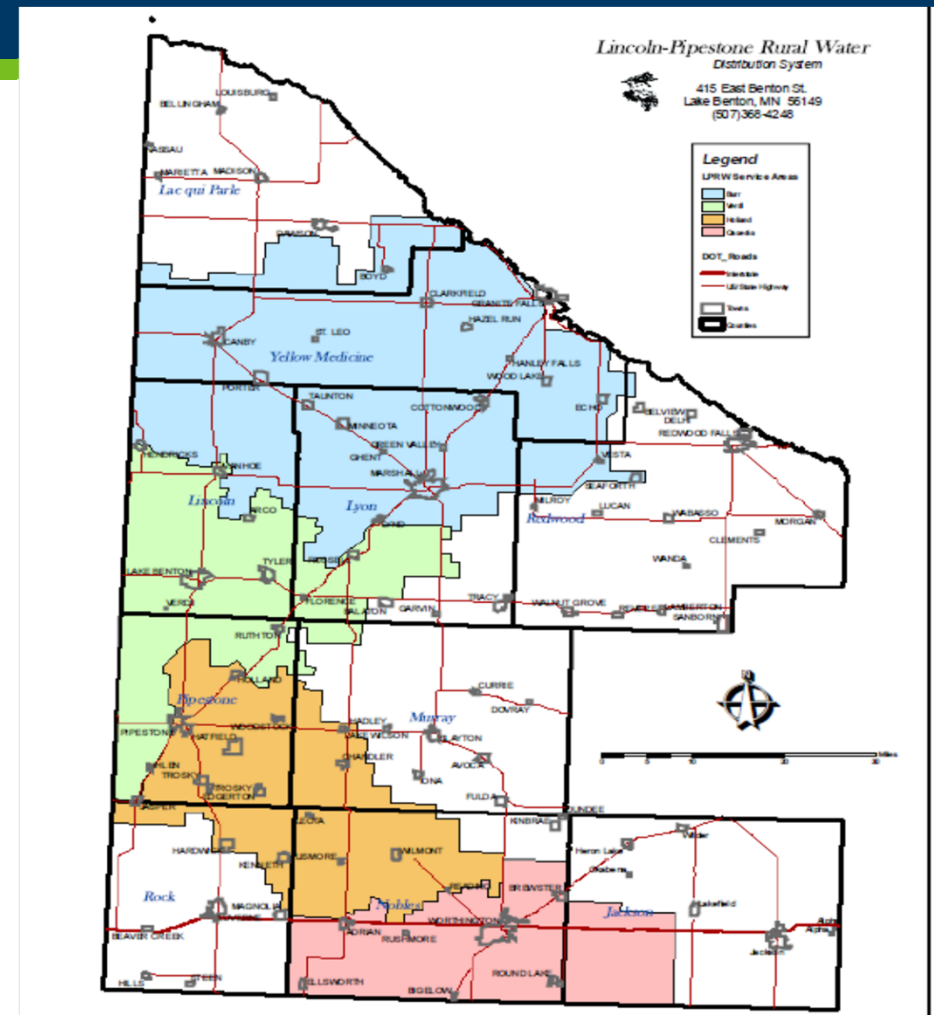


Case study: Lincoln Pipestone Rural Water, MN

Type 1: New Regional Utility

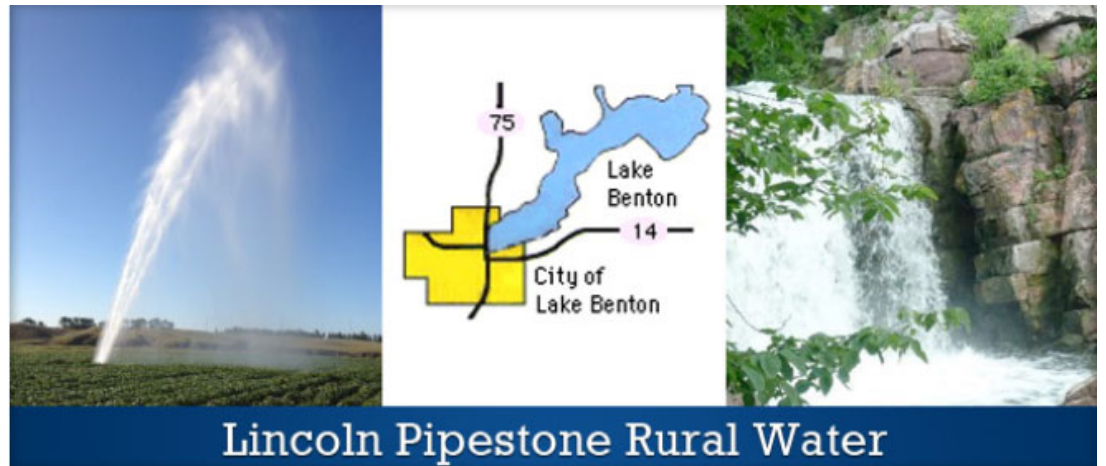
Lincoln Pipestone Rural Water (LPRW): Overview

- Created in 1970s to coordinate and meet needs of rural, largely agricultural users
- Established under MN Statute governing Public Water and Sewer Systems
- Service area covers parts of 10 counties
 - Jackson, Lac qui Parle, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Rock, Yellow Medicine
- Source water from 3 well fields



LPRW : Impetus

- Original need/desire of farmers for reliable source of water for operations
- Interest spurred because of shallow water table, hard water, and desire to address nitrate contamination
- Early support from federal government (USDA) and Rural Water Association
- Current LPRW Board Policy is to “provide water service whenever it is feasible to do so”
- Currently involved in long-range planning process



LPRW: Process

- Initial coordination in 1976 led by Lincoln County Planning and Development Commission
- Steering Committee formed and officers elected
- Committee solicited petitioners (landowners/farmers/cities) to form the system, and secured an attorney and engineer to prepare feasibility study
- Presented feasibility study to District Court (Marshall, MN) to establish a system and appoint a Water Commission
- LPRW established in 1979 as a multi-county water system

LPRW: Outcome

- Rural water system governed by a nominated Board approved by counties; members are active members or residents in served areas
- 11-member board with each seat linked to a coverage area
 - Nominations requested from coverage area when there is a vacancy
 - Board makes recommendation from nominees
 - County or counties in the coverage area must approve nominee
 - Board members serve 4-year terms before review
- System expanded through routine and major expansions in un-served areas; board reviews and votes on improvements and funding sources



LPRW: Additional Information

Overview

<https://www.lprw.com/home>

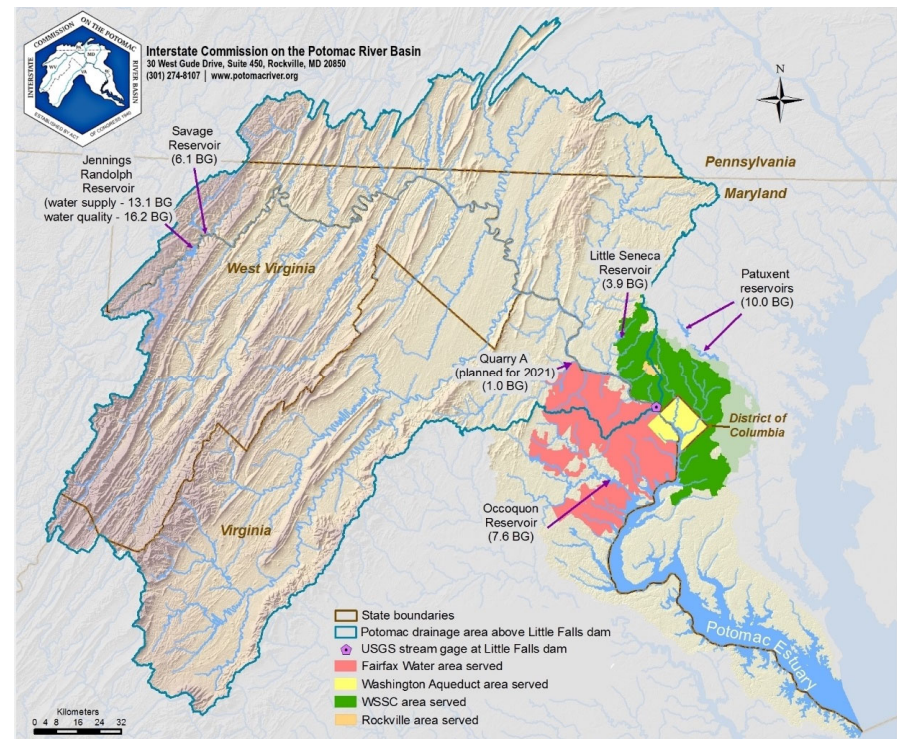


Case study: Cooperative Water Supply for the Washington, DC Metro Area

Type 2: Cooperative Agreement for Regional Joint Investment or O&M

DC Case Study: Overview

- Three utilities using Potomac River:
 - Washington Suburban Sanitary Commission (Maryland)
 - Fairfax Water (Virginia)
 - The Washington Aqueduct (Federal entity, serves D.C.)
- Water Supply Coordination Agreement (1982)



DC Case Study: Impetus

- Studies through the 1960s and 1970s recommended up to six new dams & reservoirs on the mainstem Potomac River
- Environmental controversy about new dams
- Low flow allocation agreement (1979)
 - Codified a minimum in-stream flow of 100 MGD (~166 cfs) just above D.C.
 - Allocates shortages to each of the three utilities based on prior years usage

DC Case Study: Challenges

- Not enough safe yield to supply growing suburbs and meet in-stream flow
- Too much environmental impact and opposition to mainstem dams
- Utilities preferred to work independently
- Two states plus DC, different regulations etc.

DC Case Study: Process

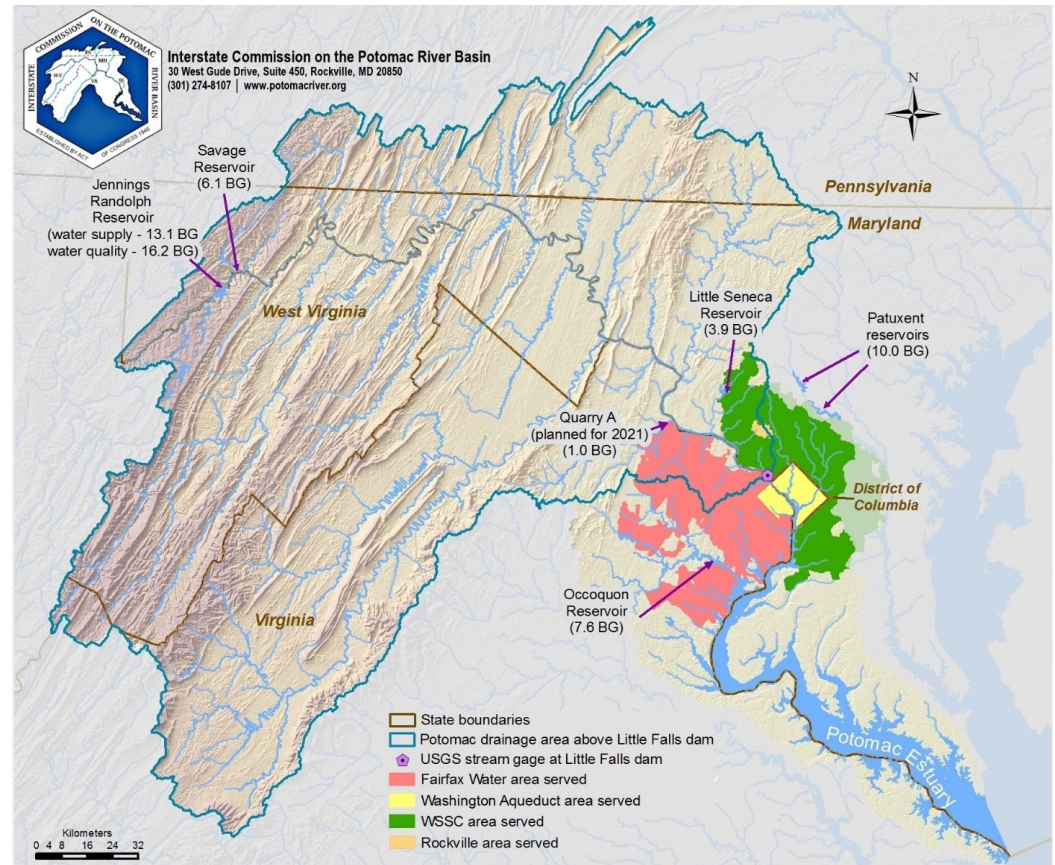
- Studies showed they could meet future demand and in-stream flow with fewer new reservoirs **IF** they integrated their systems
- Utilities were skeptical
- JHU convened and facilitated a collaborative modeling process
- Utility engineers gained confidence in the models and the benefits of cooperative, integrated planning and operations

DC Case Study: Outcome

- Water Supply Coordination Agreement, 1982
 - Legally binding agreement
 - The three systems are treated as one for purposes of long-term water supply capacity planning and operations during drought conditions
 - Integrated system run by Interstate Commission on the Potomac River Basin
 - Jointly funded by the three utilities
 - Overseen by Utility General Managers
- Jointly invested in storage in a new USACE reservoir and one new dam/reservoir (Little Seneca)

DC Case Study: Outcome

- Under direction of ICPRB:
 - Shift load between Potomac and other reservoirs
 - Make releases from USACE and Little Seneca reservoirs to augment Potomac flow
 - Jointly fund O&M



DC Case Study: More Info

Overview

<https://www.potomacriver.org/focus-areas/water-resources-and-drinking-water/cooperative-water-supply-operations-on-the-potomac/>

History

<https://www.potomacriver.org/focus-areas/water-resources-and-drinking-water/cooperative-water-supply-operations-on-the-potomac/co-op-history/>

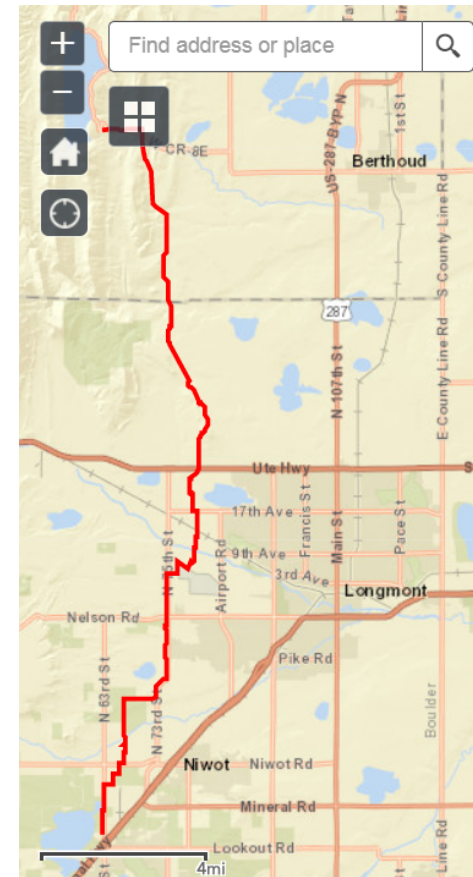


Case study: Southern Water Supply Project II for Select Locations in the Colorado Front Range

Type 3: Small focused investment agreement requiring minimal coordination for a focused outcome

Southern Water Supply Project II (SWSP-2): Overview

- Multiple CO front range entities :
 - City of Boulder, Town of Berthoud, Left Hand Water District, Longs Peak Water District
- Cost sharing agreement to increase water supply by 50 cfs with new pipeline
 - Boulder: \$32M for 32 cfs
 - Left Hand: \$8M for 12 cfs
 - Berthoud: \$4M, 3 cfs
 - Longs Peak: \$4M, 3 cfs



SWSP-2 : Impetus

- Currently rely on source water delivered from seasonal, open canals
- Intermittent water quality issues that prevent use
- Seek more reliable, year-round supply source to address growing populations/demand



SWSP-2: Outcome

- Pipeline allows for pooling of resources to realize economies of scale with project
- Draws on prior history of partnerships including an earlier pipeline project completed in 1999 that included some of the same parties
- Cost share agreements for construction (and presumably maintenance)
- No need for complicated management agreements
- Local utilities maintain control for treatment, use, and delivery

SWSP-2: Additional Information

Overview

<https://www.northernwater.org/sf/swspii/home>

Cost and delivery details

http://www.dailycamera.com/top-stories/ci_32106725/work-starts-20-mile-pipeline-protect-water-quality

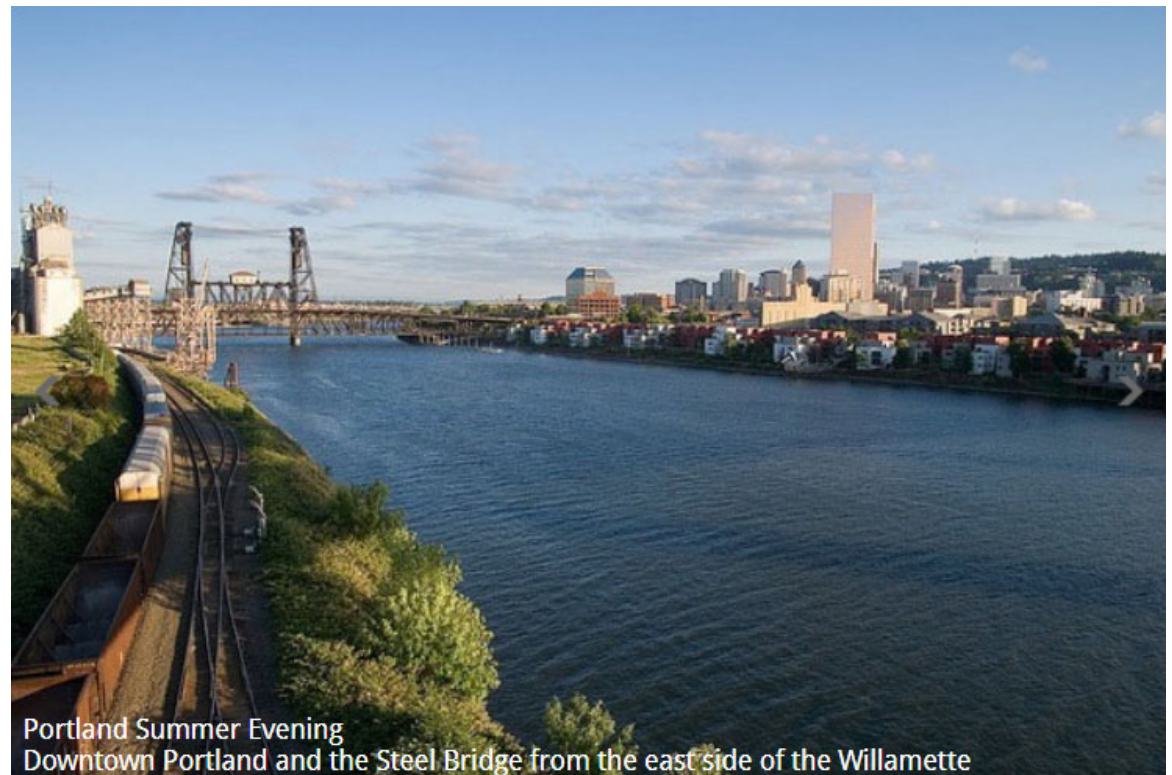


Case study: Willamette River Water Coalition, OR

Type 2: Cooperative Regional Agreement

WRWC: Process

- *Still researching*
- *We have reached out to WRWC*
- *But here is what we know...*



Portland Summer Evening
Downtown Portland and the Steel Bridge from the east side of the Willamette

Willamette River Water Coalition (WRWC): Overview

- Created to preserve access to the Willamette River as a potential future source for M&I water needs
- Established under ORS Statute 190
- Members include 3 cities and a water treatment district:
 - City of Tigard
 - City of Tualatin
 - City of Sherwood
 - Tualatin Water



LPRW : Impetus

- Concern about growth and future needs for water
- Proactive arrangement can protect future options and address future needs in face of anticipated population growth:
 - Anticipate ~50% growth among members over next 30 years (289K to 430K)
 - Leverage existing member water rights for a greater voice in river's future with state



Willamette River Summer, Eugene, OR

WRWC: Outcome

- Structure in place to administer current planning and allow for growth
- Goals: maintain water rights (130 MGD) and water quality
- 4 member board with each seat linked to a current member
- Details being developed regarding:
 - Voting processes
 - Potential weighting of votes
 - Board and voting structure changes if new members brought into the WRWC
- Conclusions
 - WRWC is a planning/coordination organization
 - Regional investments may come later

WRWC: Additional Information

Overview and link to specific resources

<http://www.willametterriver.org/index.shtml>

Other Cases

- Type 1: New Regional Utility
 - There are many large utilities that serve multiple counties or municipalities; not aware of any that have been formed recently
 - St Paul Water, Washington Suburban Sanitary Commission
- Type 2: Cooperative Joint Investment O&M
 - South Florida Water Management District, Northern Colorado Water Conservancy District, River Basin Authorities in TX
- Type 3: Examples of more limited sales/contracts