

Southern Utah County Water Banking Strategy

Prepared for: Mount Nebo Water Agency Board of Directors Meeting
Project funding: USBR WaterSMART Water Marketing Strategy Grant

February 12, 2024

Water Bank Strategy Project

Project Background

- MNWA was interested in exploring water banking as a potential solution to:
 - Potential loss of supplemental water from CUP
 - Growth of municipal demands due to population growth
- MNWA was awarded a USBR WaterSMART grant to study and potentially create a water bank for southern Utah County
 - \$44,000 grant + \$44,460 in-kind contributions (MNWA, UDWR)
 - Third-party contract to WestWater: \$49,350
- Overarching goals of the project:
 - Define how water banking can best serve MNWA members
 - Support an application for a statutory water bank
 - Engage water users
- Project timeline:
 - January 2023: Contract with WWR completed
 - February 2023: Project kickoff meeting
 - March 2023: Started stakeholder outreach (survey)
 - June 2023: Completed hydrology & water balance analysis
 - August 2023: Completed prelim. diligence on LDS water right
 - September 2023: Completed survey results memo
 - November 2023: Discussed water bank concepts with tech. committee
 - January 2024: Inventory of water right priority dates for MNWA municipalities to further develop concepts

Scope of Work

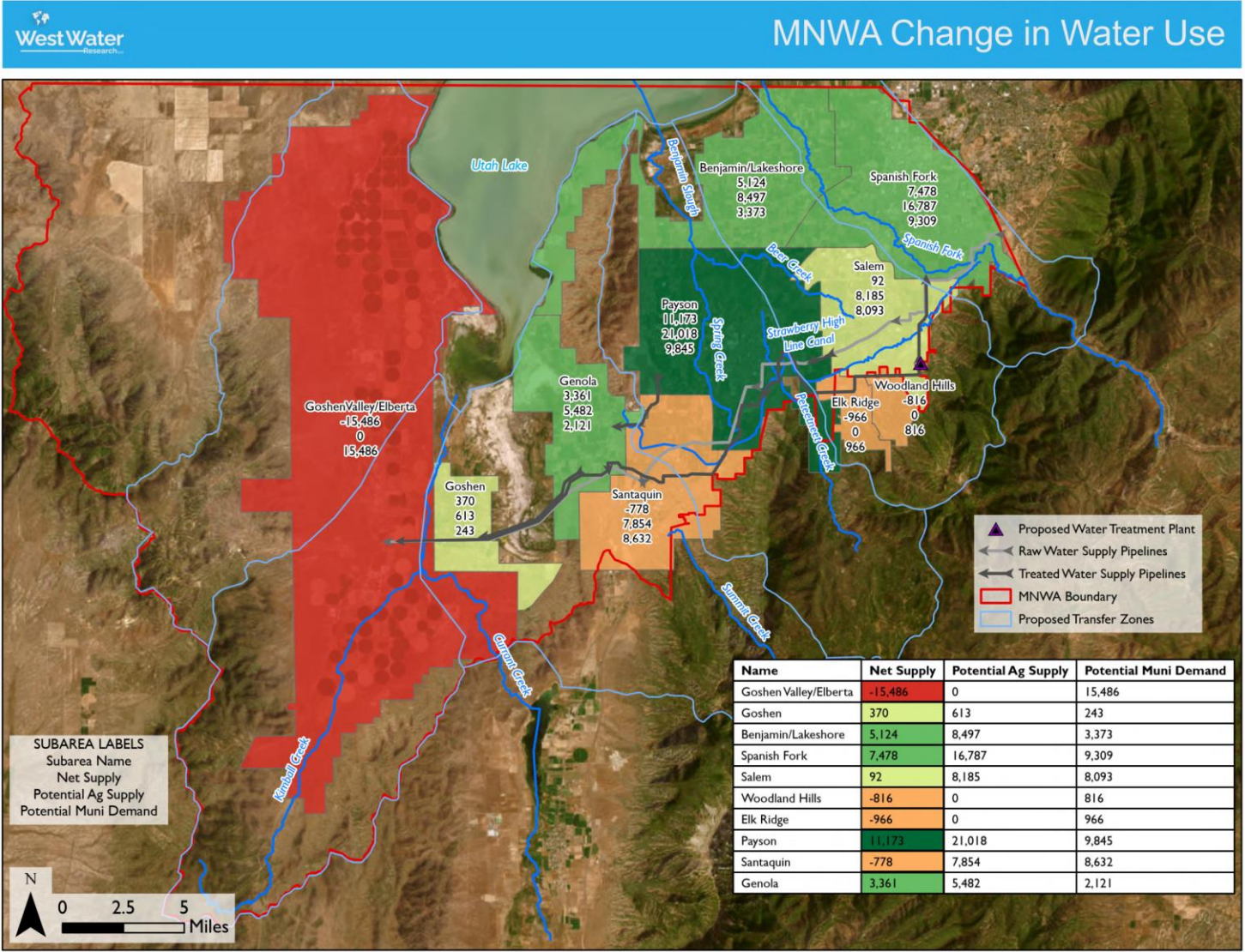
*Blue color represents
memo deliverable for task*

Work scope influenced by grant requirements

- **Outreach**
 - Kickoff Meeting ✓
 - Stakeholder Outreach (survey) ✓
 - State Agency Outreach ✓
- **Scoping**
 - Water Rights & Hydrology Analysis ✓
 - Due Diligence on Seed Water Right ✓
 - Develop Water Bank Concept ✓
 - Inventory of groundwater priority dates ✓
 - ~~Regulatory Analysis~~
 - Environmental Compliance ✓
- **Strategy**
 - ~~Water Bank Application Development~~

Projected Changes in Water Use

Estimated Balance from Agricultural Supplies and Municipal Demands



Agricultural Supply: land conversions
Municipal Demand: population growth

Projections indicate areas of surplus supply and areas of deficit in the future.

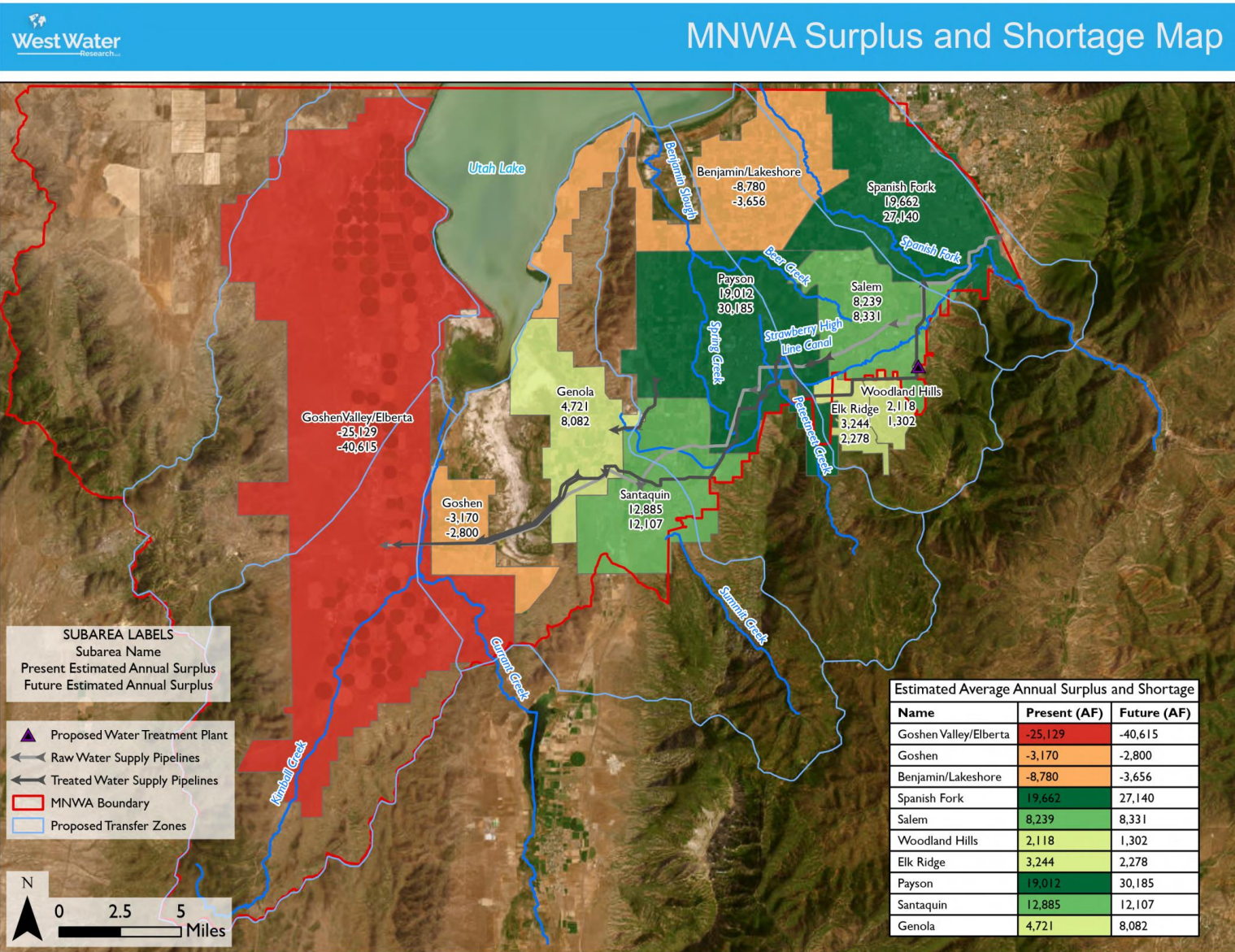
Deficit areas are those without an agricultural water supply to support municipal demand growth

Water banking concept of allowing water right transfers from areas of surplus to areas of deficit. Estimated to be **18,000 AF** of transfers.

Underlying data & information
from HAL 2019 MNWA Regional
Water Supply Study

Projected Surplus & Shortage

Estimated Balance by Groundwater Area



Water balance for each of the 13 areas

MNWA Overall:

- Average year surplus: 32,800 AFY
- Dry year shortage: -43,400 AFY

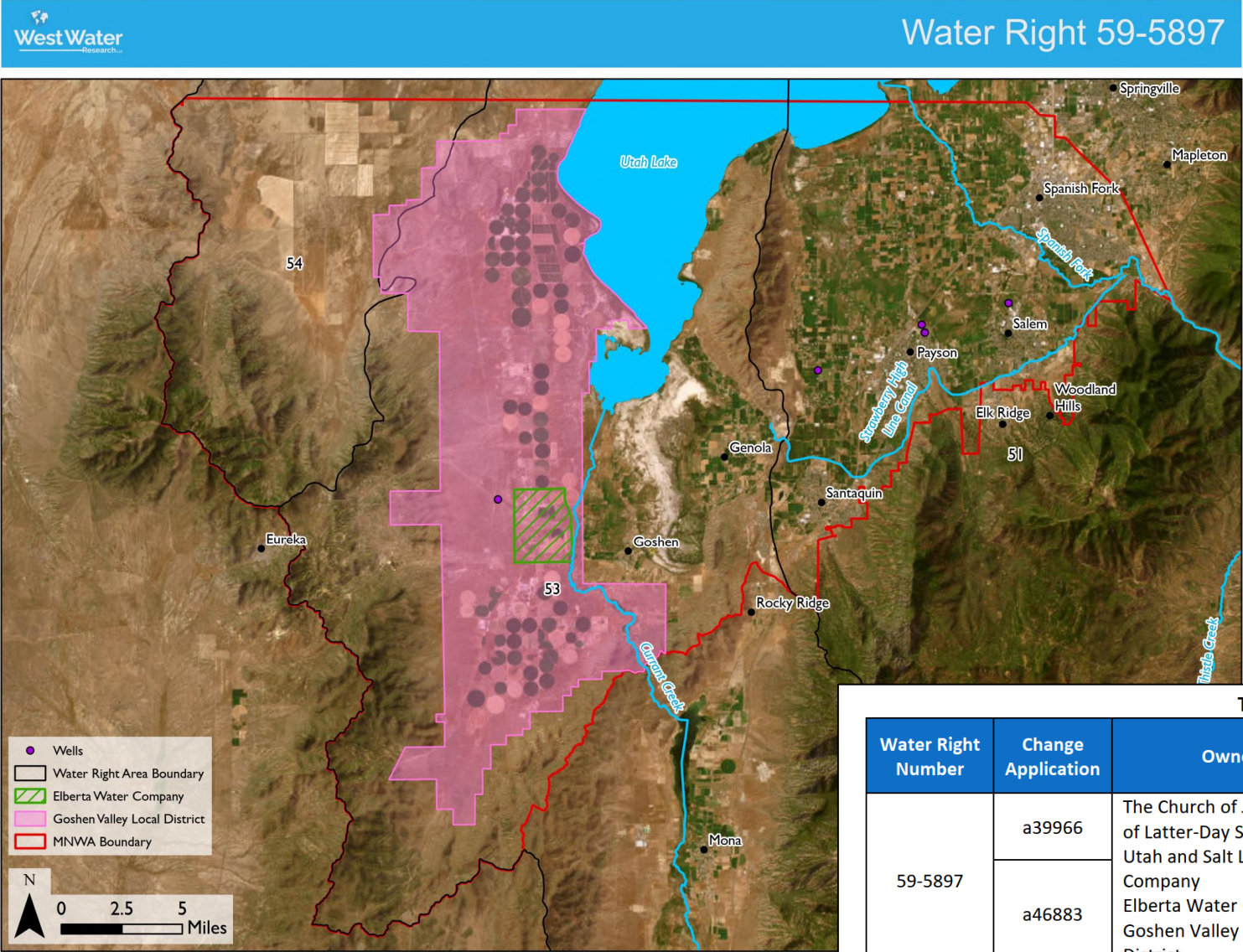
Shortages projected for Goshen Valley and 2 other areas near Utah Lake

Water banking concept of allowing water right transfers from areas of surplus to areas of deficit. Estimated to be **32,000 AF** of transfers

*Underlying data & information
from HAL 2019 MNWA Regional
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Potential Seed Water Right

LDS Water Right transferred to Groundwater PODs in MNWA



Transferred from Utah and Salt Lake Canal Co. to various groundwater PODs in MNWA area

Extension on proof of use until November 2024
Approved Non-Use through June 2028

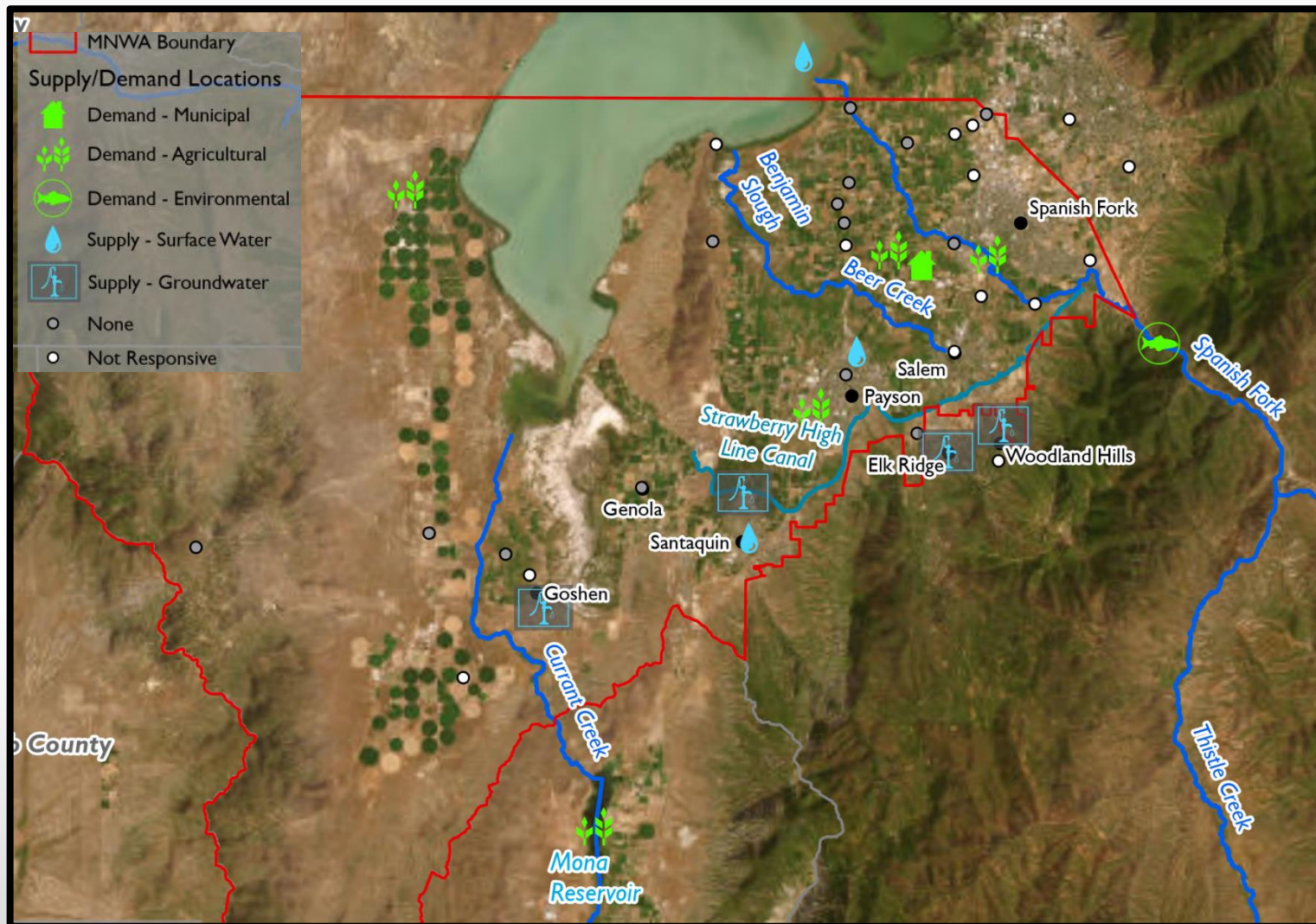
No use in new location since 2014 transfer

Shortages projected for Goshen Valley and 2 other areas near Utah Lake

Concerns with transferring water use to Goshen Valley due to exceedance of GMAP pumping thresholds since 2011

Table 1: Subject Right Summary						
Water Right Number	Change Application	Owners	Priority Date	Diversion Volume (AF)	Consumptive Use Volume (AF)	Place of Use
59-5897	a39966	The Church of Jesus Christ of Latter-Day Saints	6/25/2014	982.26	443.98	Goshen Valley Local District
	a46883	Utah and Salt Lake Company Elberta Water Company Goshen Valley Local District	3/11/2021			Elberta Water Company

Supply & Demand Survey Results



50 stakeholders identified
41 stakeholders selected as relevant
28 entities actually surveyed

Out of the 28 surveyed:

- **15** have no supply available or demand need
- **5** have need for leased water (4 ag. & 1 enviro.)
- **7** have excess supply available to lease (mostly muni.)
- **1** has both supply available and demand for water depending on the year type
- Municipal entities have surplus supply available for leasing, mostly through Strawberry Project. Agricultural entities have demand for leased water.

Water Banking Concepts

- ✗ 1. **Water Bank for the exchange of surface water rights**
 - Most “river water” in MNWA is tied to farms that have comingled Strawberry Project water. Difficult to parse out water rights for change application and bank deposit
 - Municipal demands have no present way to treat surface water supplies so use would be limited to non-potable systems

- ✗ 2. **Water Bank for the exchange of groundwater rights**
 - There is no shortage of “paper” water right for groundwater. The constraint is the physical supply of groundwater in some areas in MNWA
 - The exchange of water rights through a Water Bank does not address the supply constraint
 - UT Division of Water Rights would likely have difficulty approving a groundwater right change application to deposit water into water bank without a known new (transfer to) POD defined

- ✓ 3. **Rental Pool for the flexibility to transfer Strawberry Project water supplies**
 - Could be beneficial and formalize a trading process that already occurs
 - Could follow from current negotiations between SPWUA and USBR (shares detach from land parcels)

- ✓ **Alternative Concept: Exchange Strawberry Project water for reduced groundwater pumping**
 - See next slide

Alternative Concept

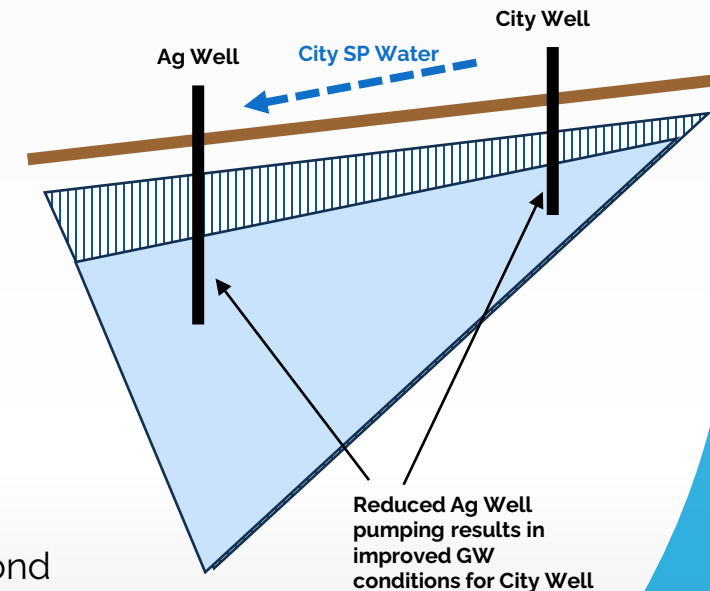
Exchange Strawberry Project water supplies for reduced groundwater pumping by agricultural users

- Enhances local groundwater aquifer conditions to support existing municipal water supplies (wells) while surface water treatment plant is being considered
- Allows municipalities to better exercise their existing groundwater rights without requiring significant new infrastructure
- Addresses the pending change in Strawberry Project water assessments

Anticipated Steps

1. Cities contact canal companies to secure agreements that would allow:
 - (1) Strawberry Project water can move anywhere within City service area
 - (2) Strawberry Project water can move outside of City to farmers in canal system
2. Canal companies contact SPWUA to secure agreement that would allow:
 - (1) Strawberry Project water can move between municipal and agricultural use
 - (2) Strawberry Project water can move outside of specific lands to any SPWUA lands
3. SPWUA contacts River Commissioner (UDWRi) to provide notice of agreements
4. Cities develop a program to contract with farmers to exchange water supplies:
City provides Strawberry project water, farmers reduce groundwater pumping
Possible programs:
 - (1) Annual bulletin board program where cities post available SP water and farmers respond
 - (2) Annual city option agreement over contract term, city has option to exercise with notice

Requires USBR approvals (pending changes). Does not require any water right change application.
Could be expanded to include “river water” component of company shares



Inventory of Groundwater Risk due to Priority Administration

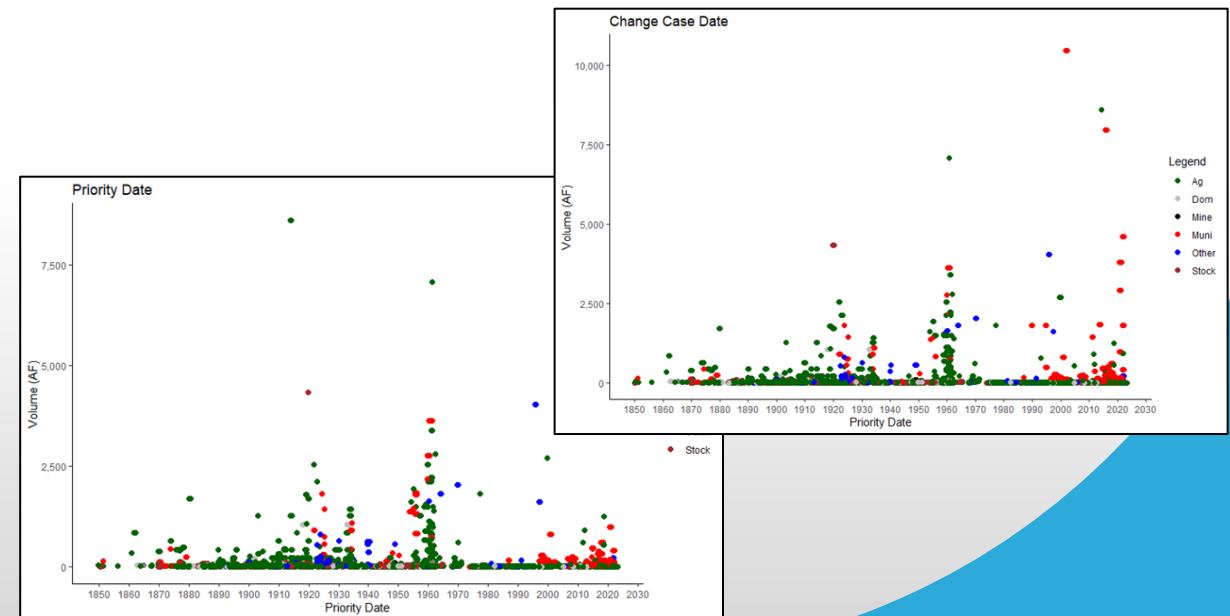
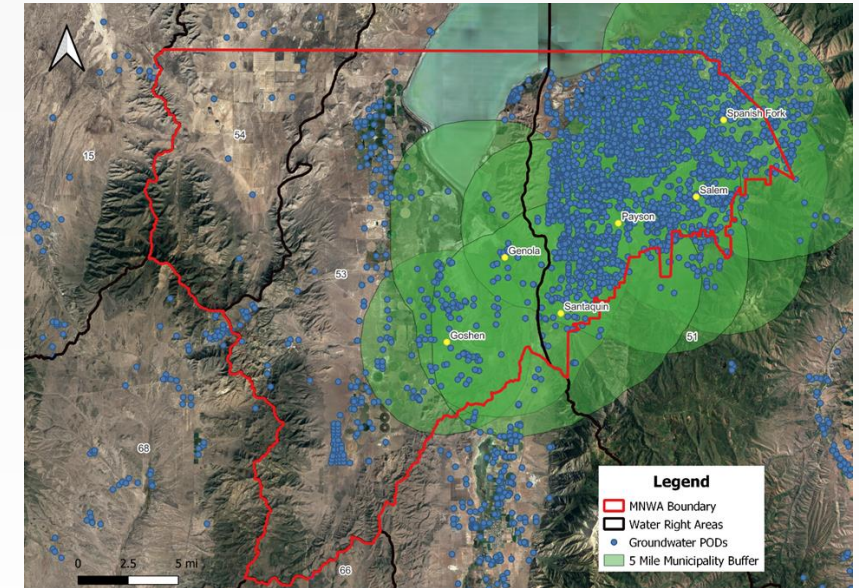
Background

- Alternative Concept (previous slide) reduces agricultural groundwater pumping by providing a replacement water supply (or possibly funding) for the overall objective of sustaining local aquifer health / sustainability
- Municipalities have concerns about their drinking water supply wells being curtailed due to priority administration if aquifer health is not achieved. This prompted questions about the priority of municipal wells vs. agricultural wells.
- Inventory analysis provides perspective on: (1) relative risk of well curtailment and (2) specific parties to engage in Alternative Concept

Results

- Mapped groundwater PODs within 5-mile buffer of each MNWA municipality
- Organized data by both water right and change case priority dates
 - Original priority date represents original decree or permit date
 - Change case date represents date of water right change
 - Municipal wells shift later under change case dates
 - *Administration is unique to each water right & circumstances*
- Municipalities face senior priority agricultural rights in all cases, varying by priority or change case date administration.

Municipality	Number of Senior Top Ten Large Groundwater Rights		Volume of Senior Top Ten Groundwater Rights (AF)	
	Priority Date	Change Case Date	Priority Date	Change Case Date
Genola	6	10	16,028	25,315
Goshen	NA	NA	NA	NA
Payson	3	10	12,007	24,890
Salem	3	3	4,669	4,669
Santaquin	4	10	12,564	22,734
Spanish Fork	4	5	10,796	12,735





Project Findings

1. Current supply & demand projections across Southern Utah County indicate that some form of water reallocation will be needed.
2. Survey of local water users indicates a municipal surplus of surface water and an interest by agricultural sector in leasing water.
3. Water Bank formed under state statute and focused on surface water or groundwater transfers is not likely to be a good tool to address the needs of Southern Utah County.
4. Alternative concept of operating a surface water exchange for reduced groundwater pumping could alleviate stress on the local aquifer.
5. MNWA member municipalities should decide if they want to pursue the alternative concept and initiate discussions with groundwater users who pose both risk and opportunity.