



Beaver Creek Watershed Level I Study

Final Project Meeting Tuesday, October 16, 2018

Weston County NRD Office 1225 Washington Blvd. Newcastle, WY 82701



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WELCOME!

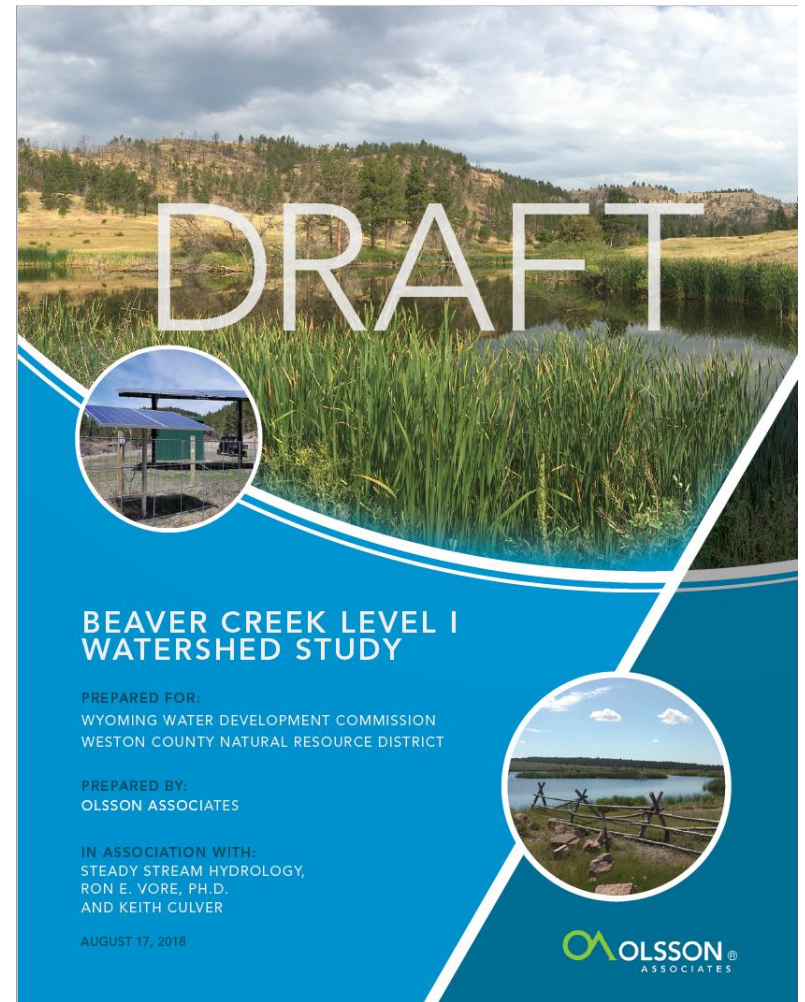
Watershed Meeting Topics

- Introductions
- Watershed Study Results and Recommendations

Wrap up

- Q&A - Open House Style

What's next?



What is a watershed study?

The objective of a Watershed Study is to evaluate an individual watershed's existing conditions.

And from collaboration with landowners, stakeholders, and public outreach:

- Develop a Watershed Management and Rehabilitation Plan
- To identify projects that are eligible for funding that may improve or maintain watershed function and systems



Who is completing the study?

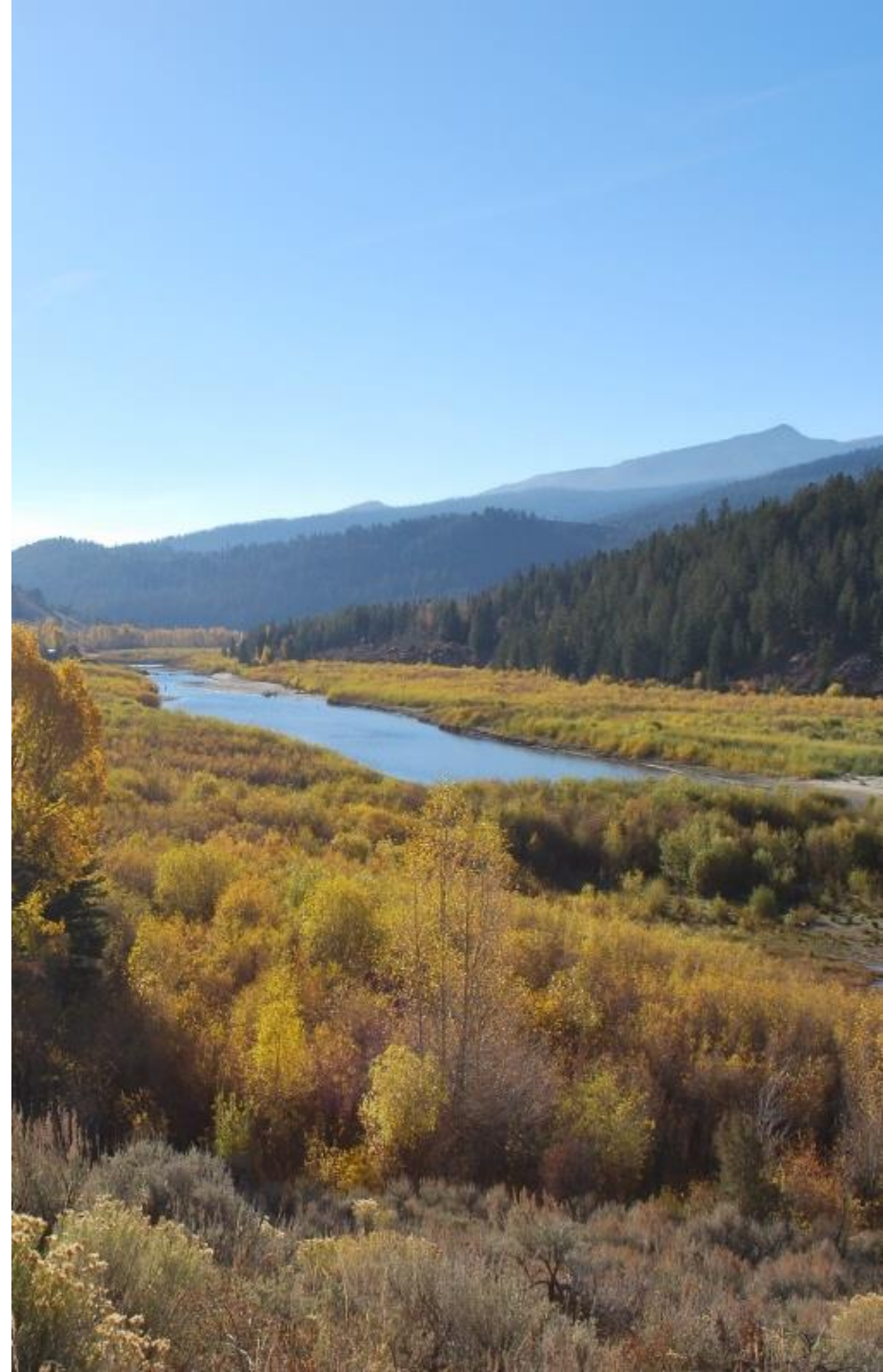
Wyoming Water Development Office
Funding and Project Management
Jodee Pring

Weston County Natural Resource District
Project Sponsor
Lacey Sloan

Olsson and Steady Stream Hydrology
Engineering Support
Olsson Team



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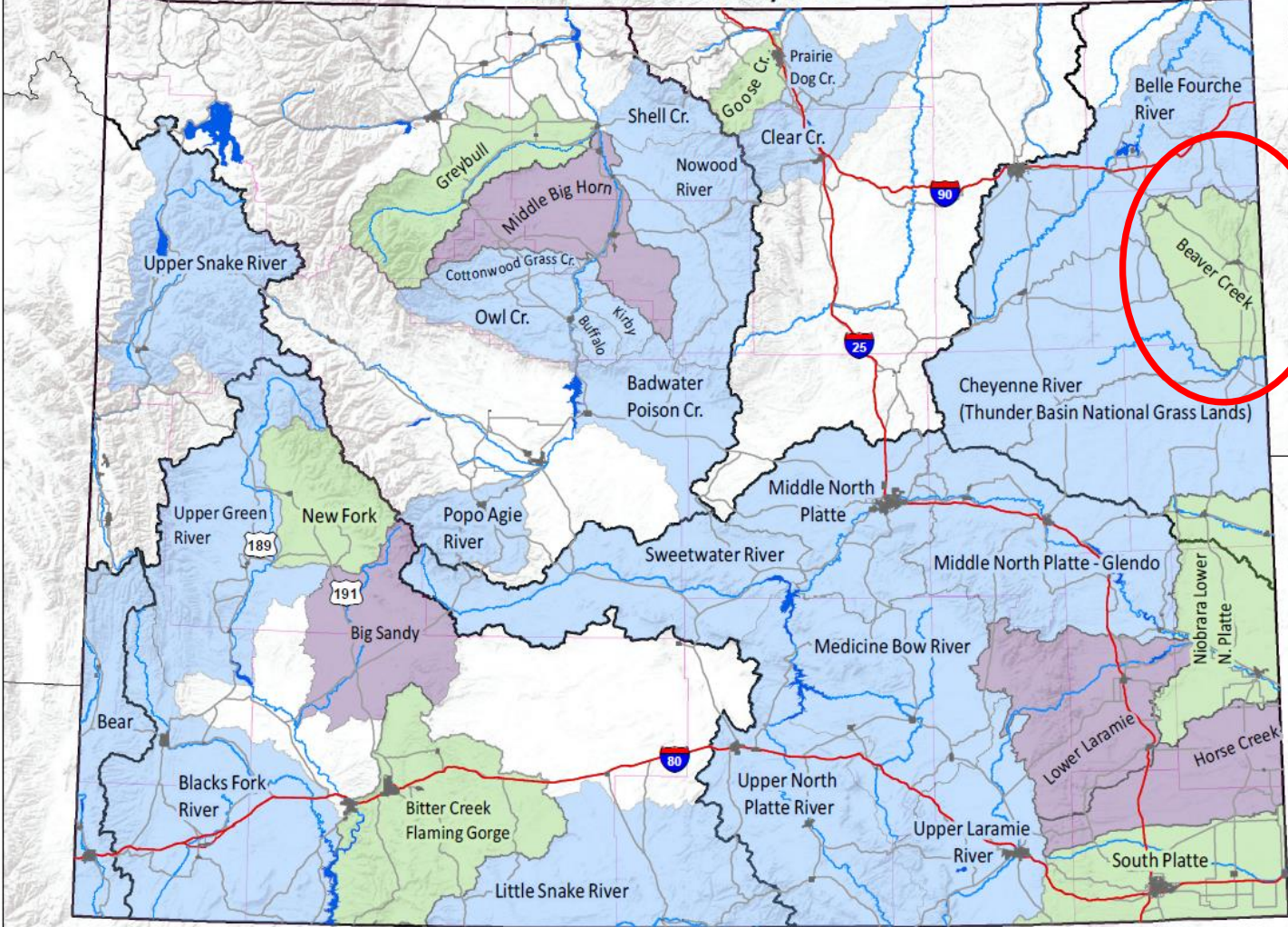


Holistic Approach to Watershed Management

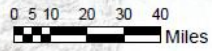
- Collect watershed information
- Document and map conditions
- Identify improvements
- Develop costs and funding options



WWDC Watershed Study Areas



2018 New Ongoing Completed



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Questions at the Last Meeting

What is your biggest water issue?

- Quality, quantity, or something else

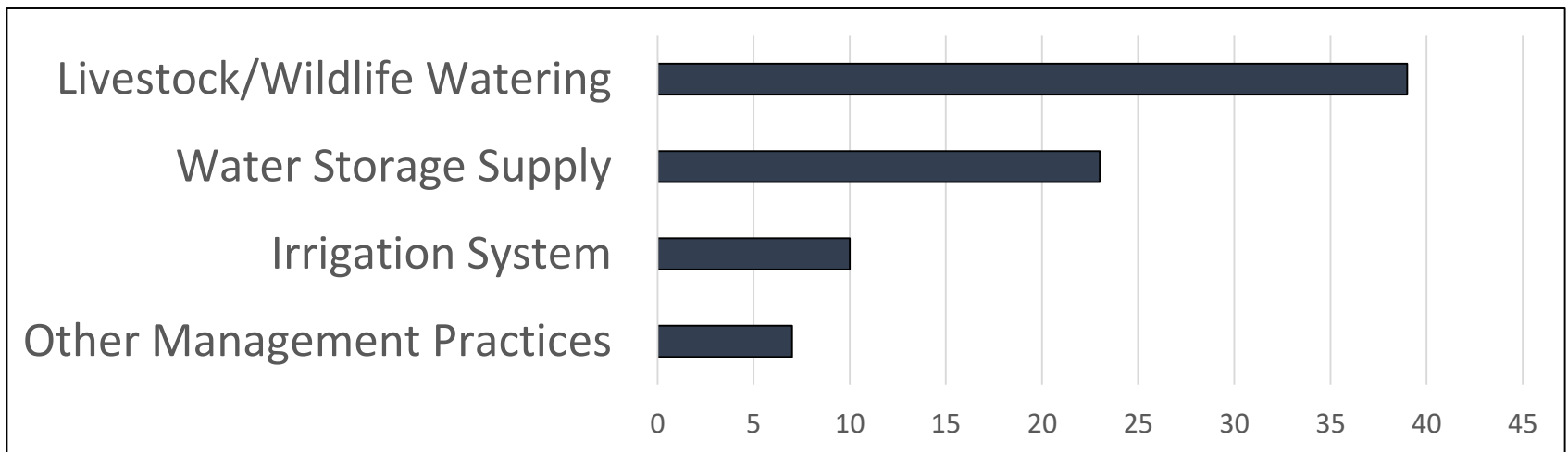
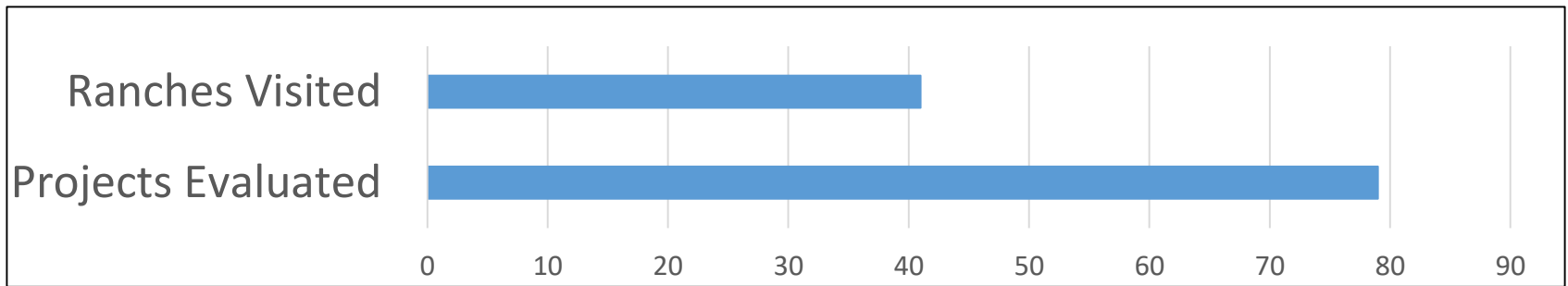
How would you fix it?

- Be specific, if possible

Example response presented in the watershed study:

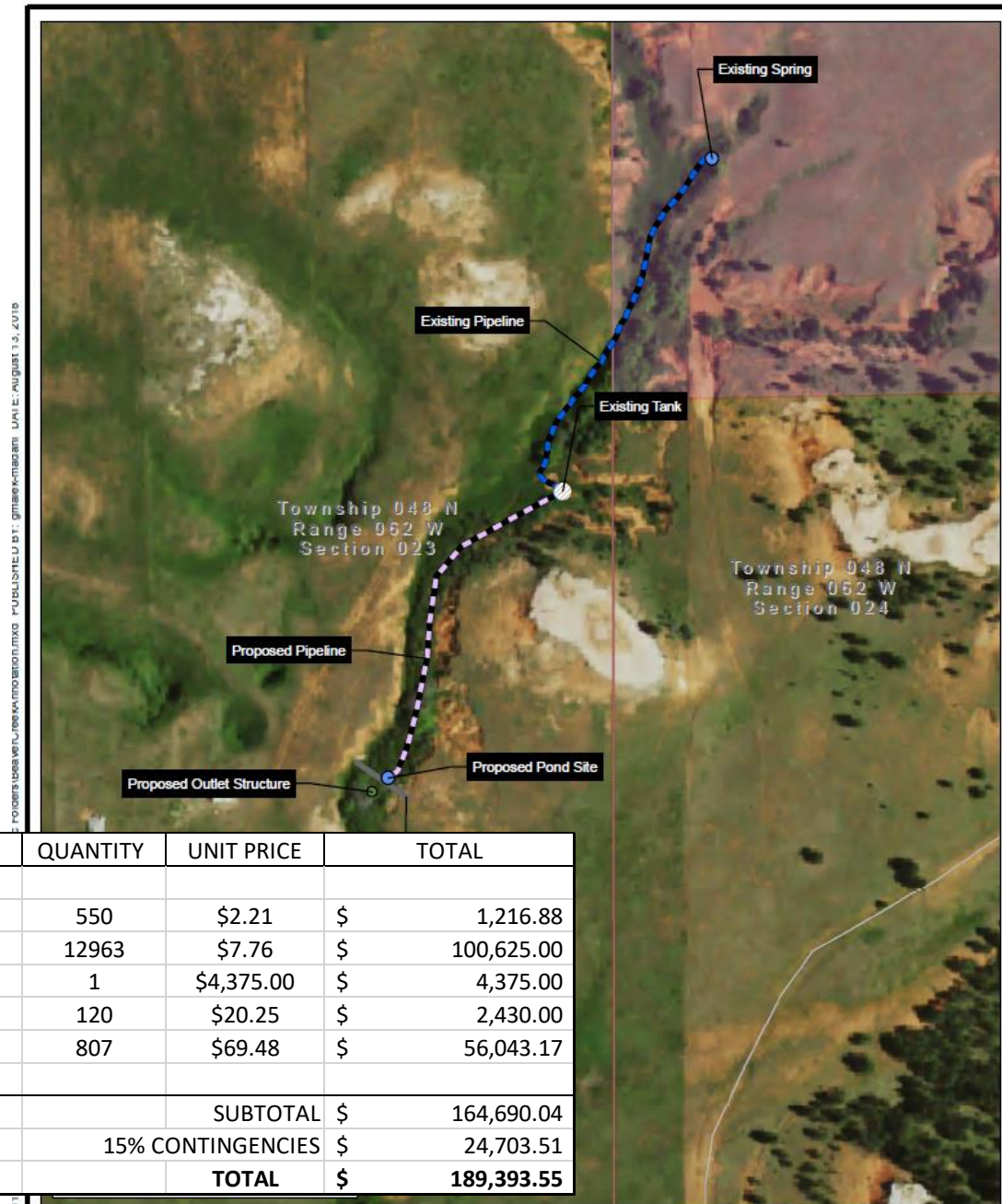
- There is a lack of water in specific areas - pits, ponds and solar wells are needed
- The best water source is deep and very expensive – wells and pipelines
- Across the watershed are breached dams, many have damaged galvanized pipes - repairs

Tally of Proposed Project Evaluations



For Each Proposed Project

- Project description
- Conceptual site map
- Cost estimate

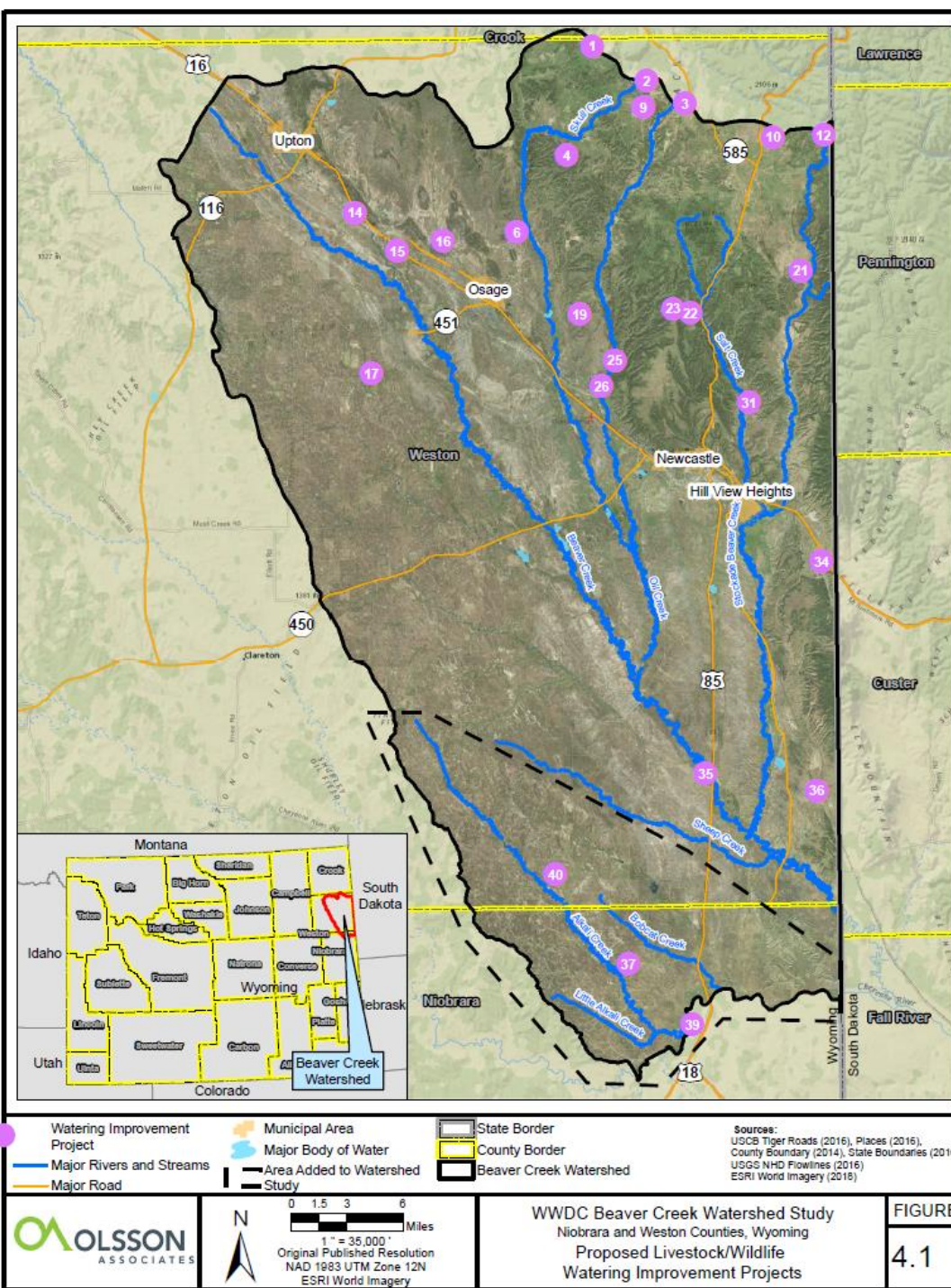


ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
Pond and pipeline development				
1.5" PE pipeline (installed below frost line)	LF	550	\$2.21	\$ 1,216.88
Dam Earthwork embankment	CY	12963	\$7.76	\$ 100,625.00
Outlet structure	LS	1	\$4,375.00	\$ 4,375.00
12" HDPE Outlet pipe	FT	120	\$20.25	\$ 2,430.00
Install Pond liner	CY	807	\$69.48	\$ 56,043.17
			SUBTOTAL	\$ 164,690.04
			15% CONTINGENCIES	\$ 24,703.51
			TOTAL	\$ 189,393.55

Livestock / Wildlife Watering Improvements

- 39 LWW projects identified
- Goals include:
 - Dispersed grazing
 - Reduced trampling pressure
- Projects included:
 - Developing springs
 - Windmill conversions
 - New groundwater wells
 - Solar powered pumps
 - Stock tanks
 - Piping and fencing
- Project cost estimates ranged from \$5,000 to convert a well to solar power to \$700,000 to install a piping water supply pipeline.

F:\2017\1501-2000\017-163740-Design\GIS\2018-07-19_BeaverCreekWatershed\LocationMap.mxd PUBLISHED BY: gmalek-madani! DATE: August 07, 2018



Examples of Livestock/Wildlife Watering

Proposed Spring Development



Examples of Livestock/Wildlife Watering

Portable storage and stock tank



Examples of Livestock/Wildlife Watering

Windmill proposed for conversion to solar power



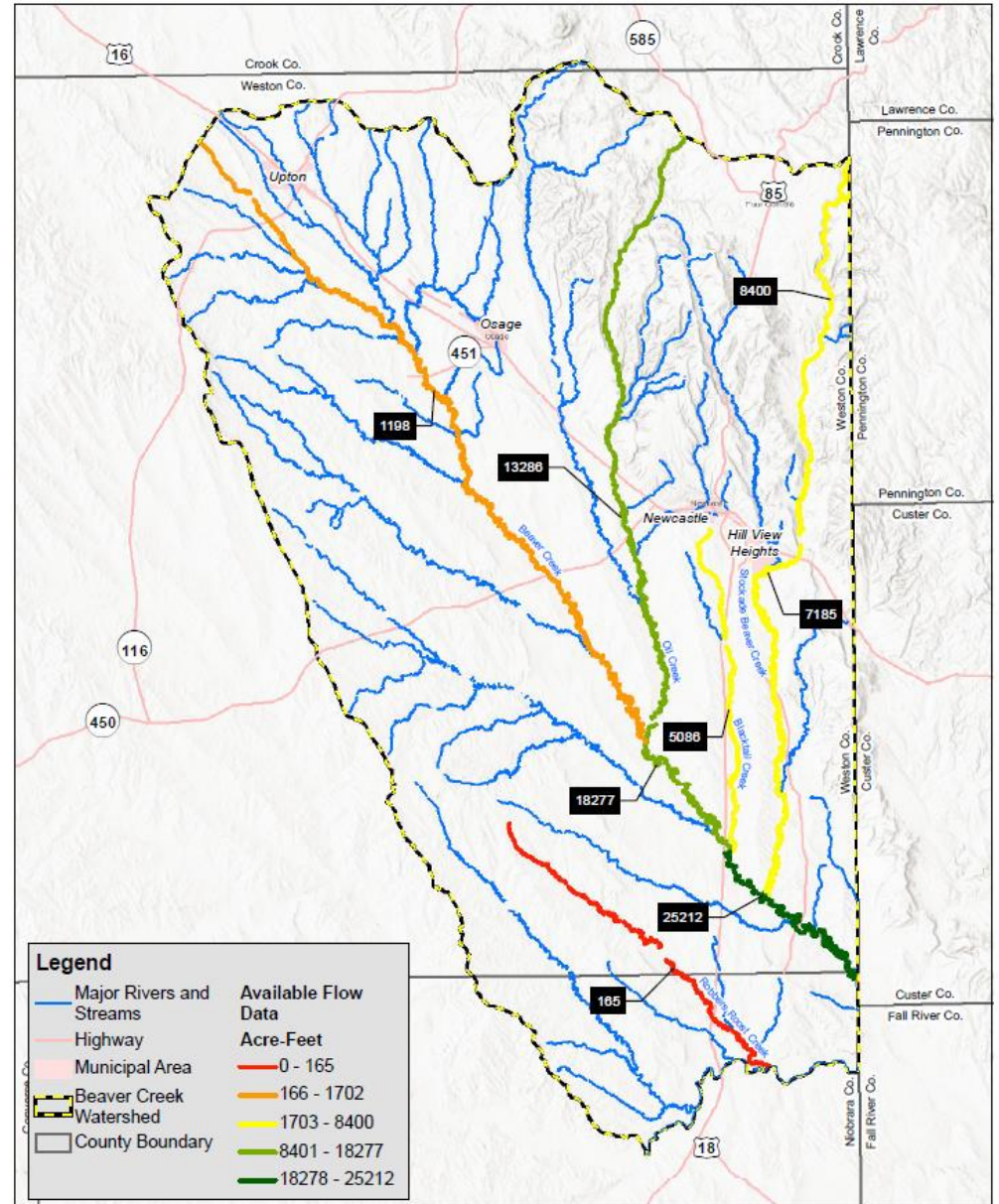
Surface Water Storage

Identify potential water storage sites that could provide agricultural, wildlife, flood control, recreational, and/or environmental benefits

- Site selection based on:
 - Previously identified sites
 - Sponsor suggested sites
 - Storage evaluation requests

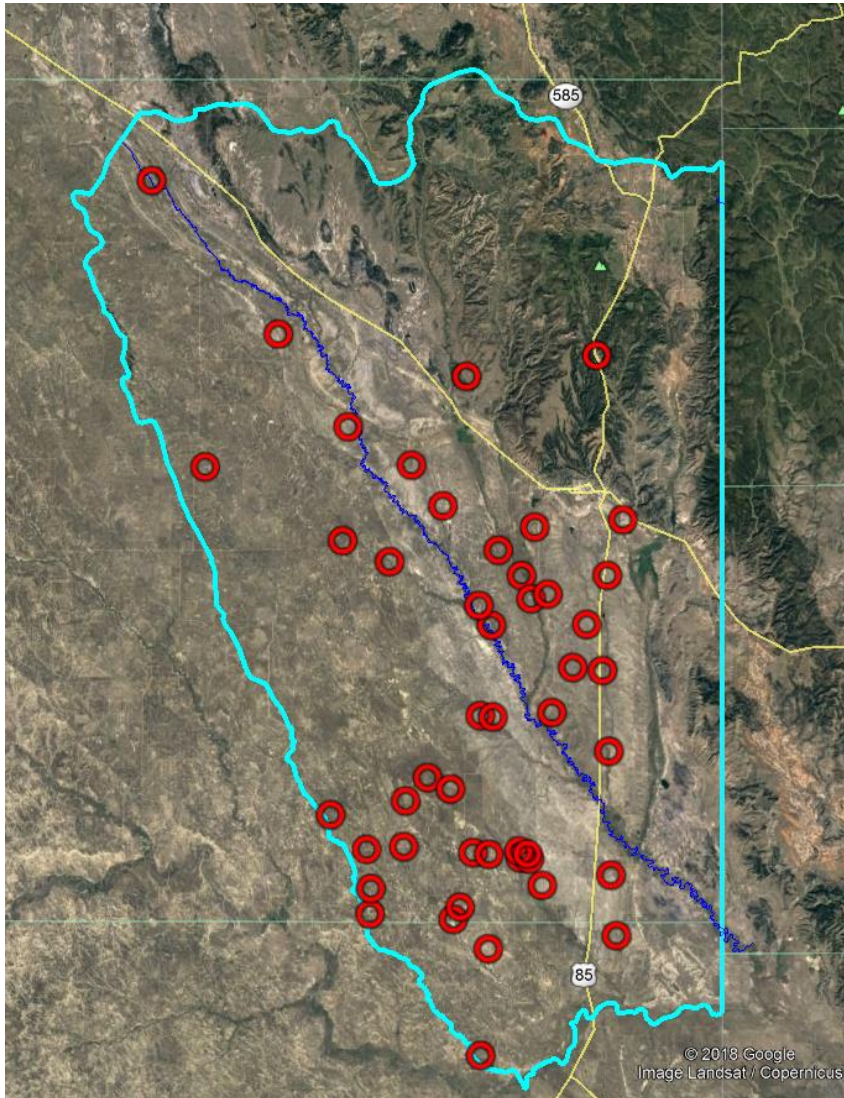


Surface Water Availability



Surface Water Storage - Breached Dams



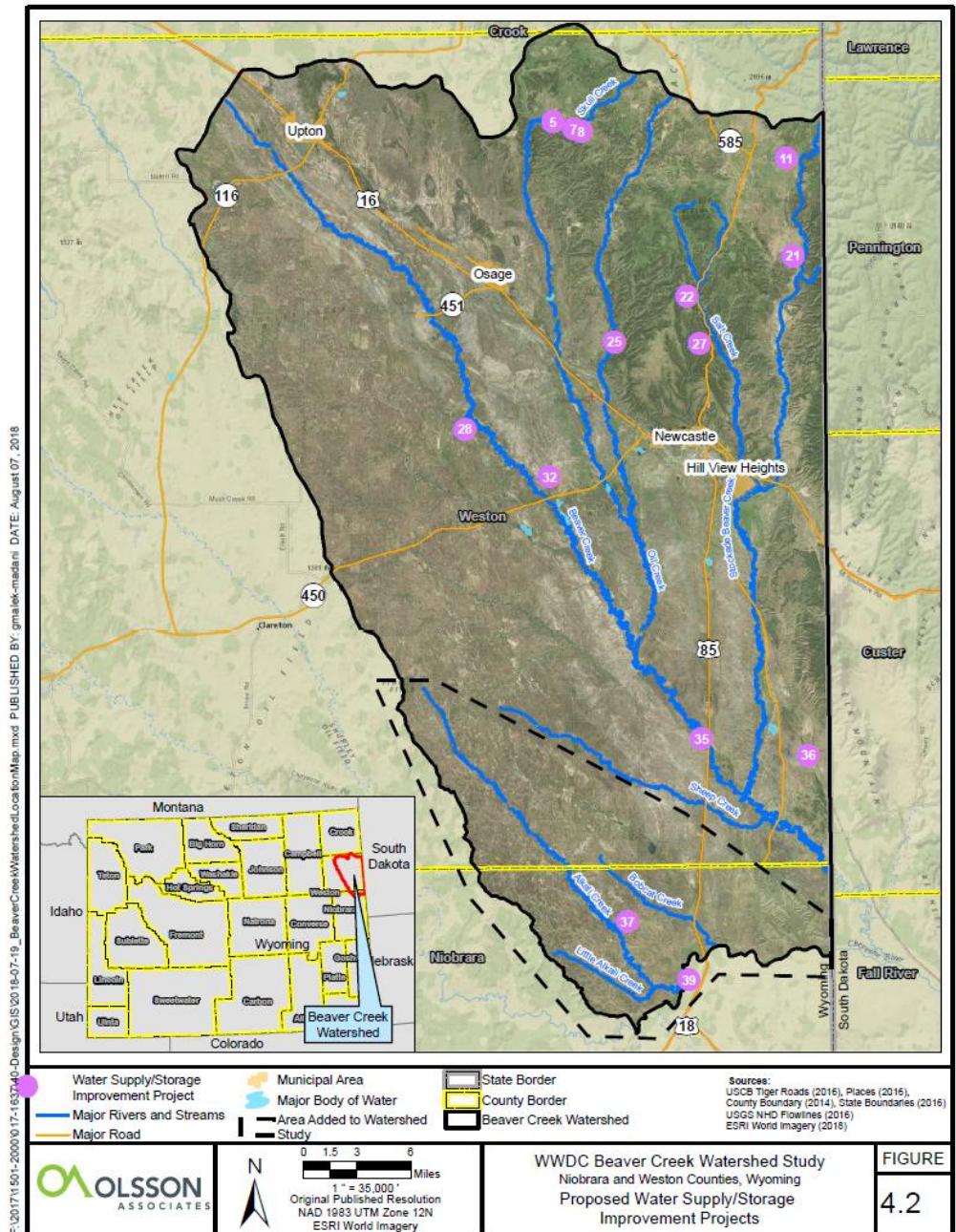


Surface Water Storage - Breached Dams

- 47 identified locations
- Permitting is potentially easier for an existing structure
- Compare to stock pond locations to find desirable locations

Water Supply and Storage Improvements

- 23 WSS projects identified
- Goals include:
 - Increase water storage
 - Prevent seepage
- Projects included:
 - New Construction
 - Rehabilitation
- Project cost estimates ranged from \$15,000 to rehabilitate one small pond to \$350,000 to rehabilitate 12 ponds on one property



Surface Water Storage - Repairs



Surface Water Storage - Repairs



Surface Water Storage - Seepage

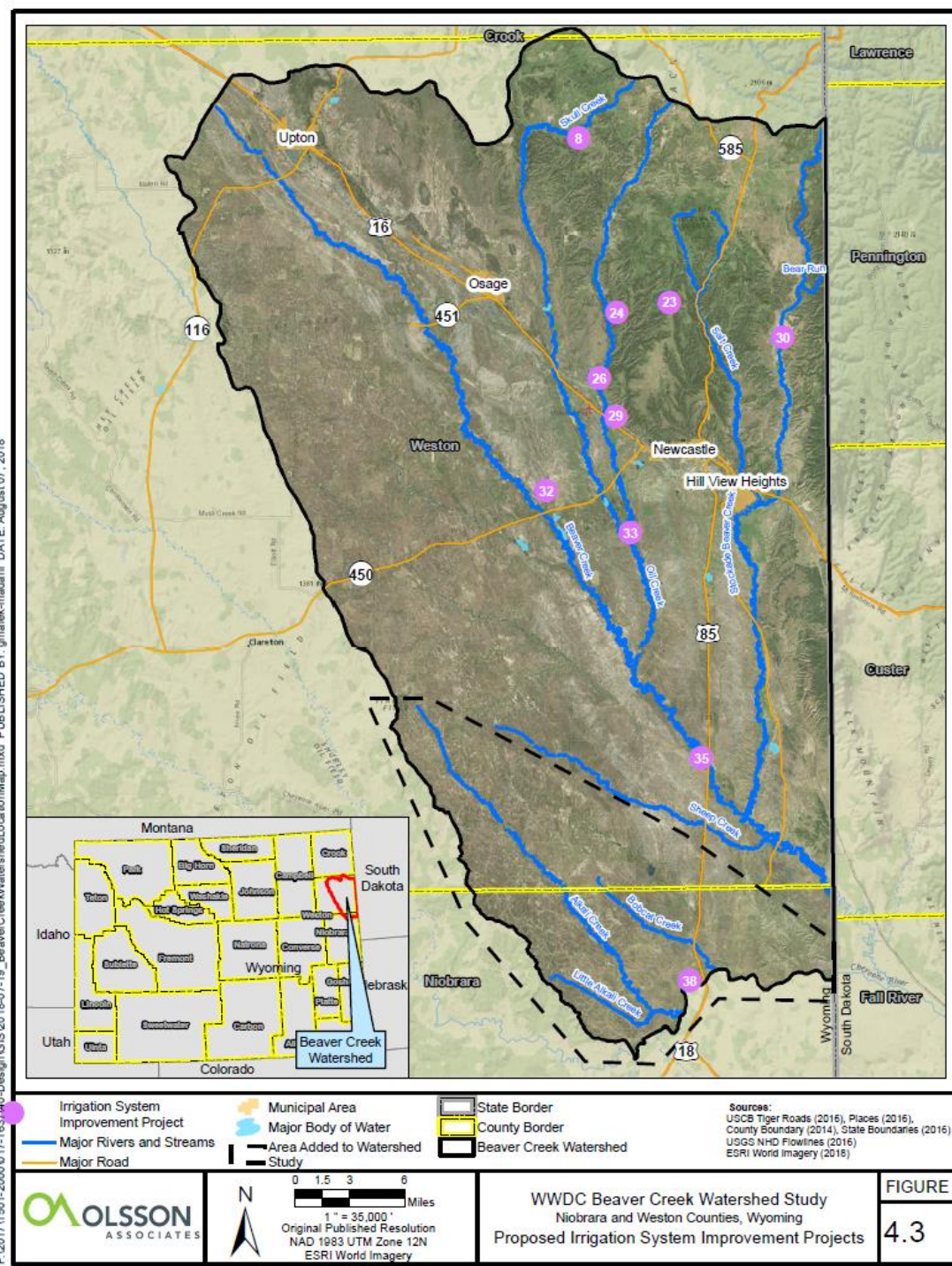


Surface Water Storage - New



Irrigation System Improvements

- 10 ISI projects identified
- Goals include:
 - Enhance delivery of water
 - Enhance operation of system
 - Improve efficiency and conservation
- Projects included:
 - Spreader dike repairs
 - Diversion structure replacements
 - Regrading ditches
 - New irrigation systems
- Project cost estimates ranged from \$1,000 to \$120,000 to replace a diversion pipe to \$120,000 to install a new irrigation system



Example Irrigation Improvements

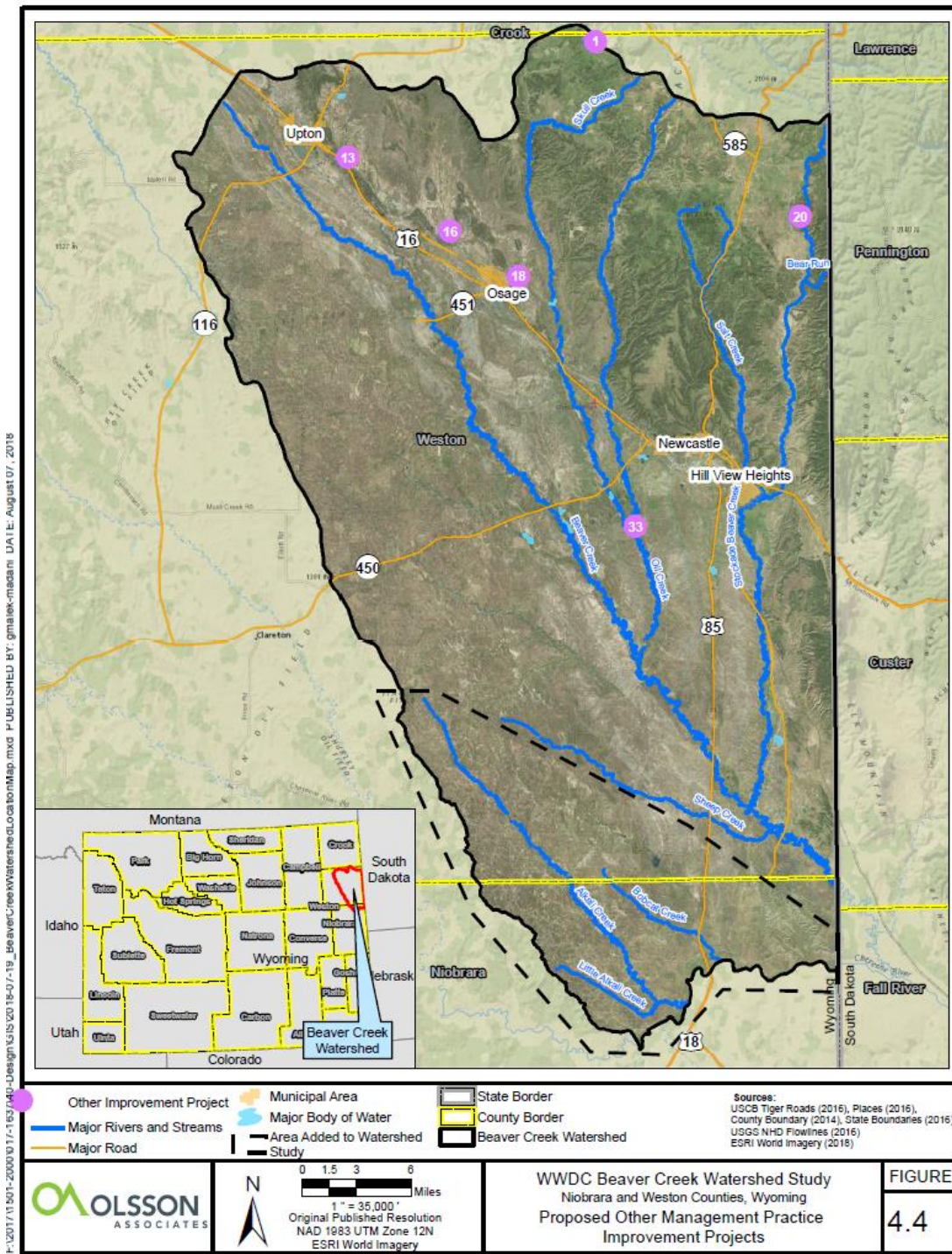


Example Irrigation Improvements



Other Management Practices

- 7 OMP projects identified
- Goals include:
 - Vegetation restoration
 - Habitat enhancements
 - Improve efficiency and conservation
- Projects included:
 - Repair head cutting along streams
 - Plugging abandoned wells that are seeping at surface
- Project cost estimates ranged from \$1,000 for revegetation to \$150,000 to construct a sediment basin



Examples of Other Management Practices



Reduce erosion and sedimentation



Beaver reintroduction to area

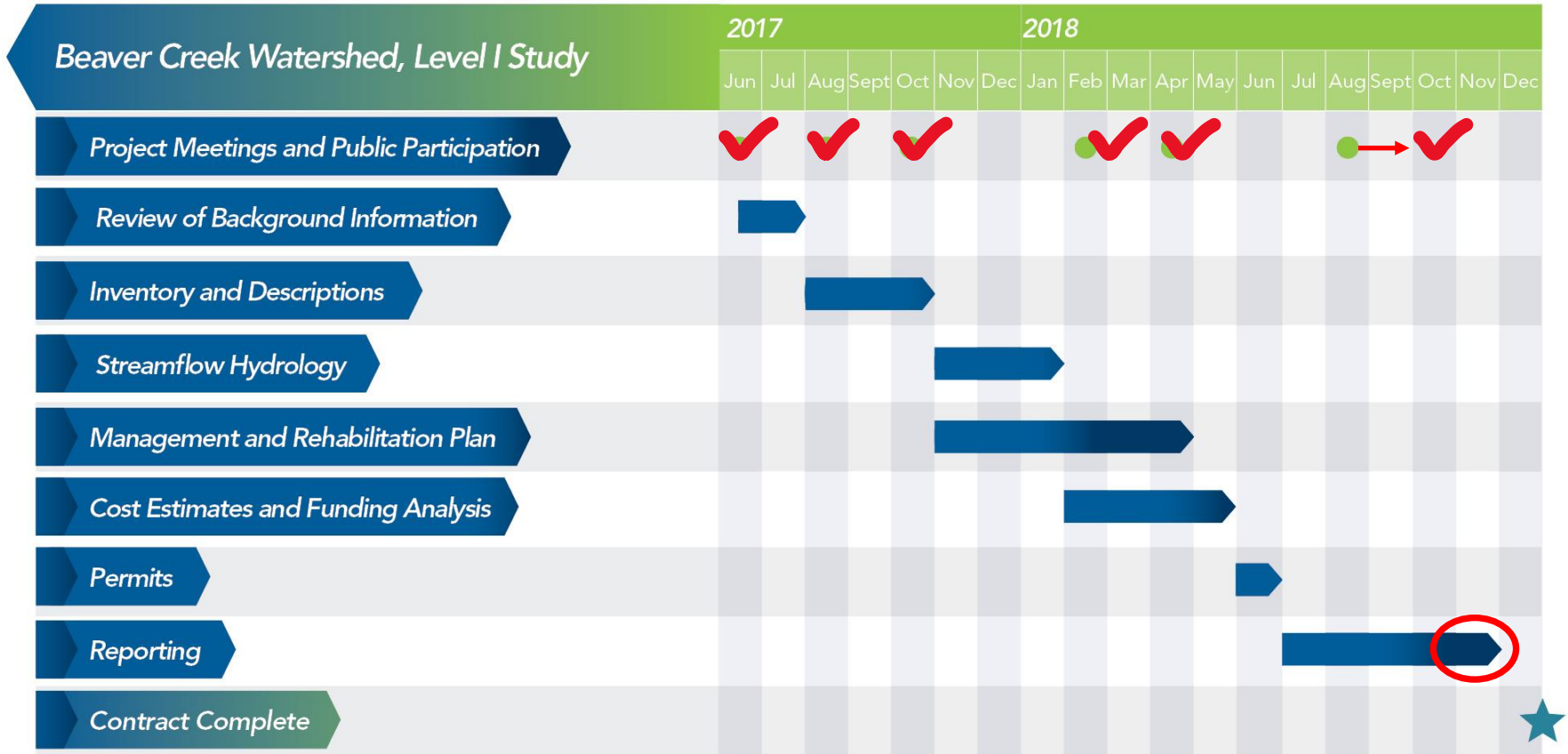


Questions?



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What's Next



What's Next

- Report Preparation Finalization
- Funding Applications
 - Applications are submitted to Weston County Natural Resource District – Lacey Sloan

Funding Applications

APPLICATION FOR THE SMALL WATER PROJECT PROGRAM

WYOMING WATER DEVELOPMENT COMMISSION

6920 Yellowtail Road
 Cheyenne, Wyoming 82002
 Telephone: (307) 777-7626

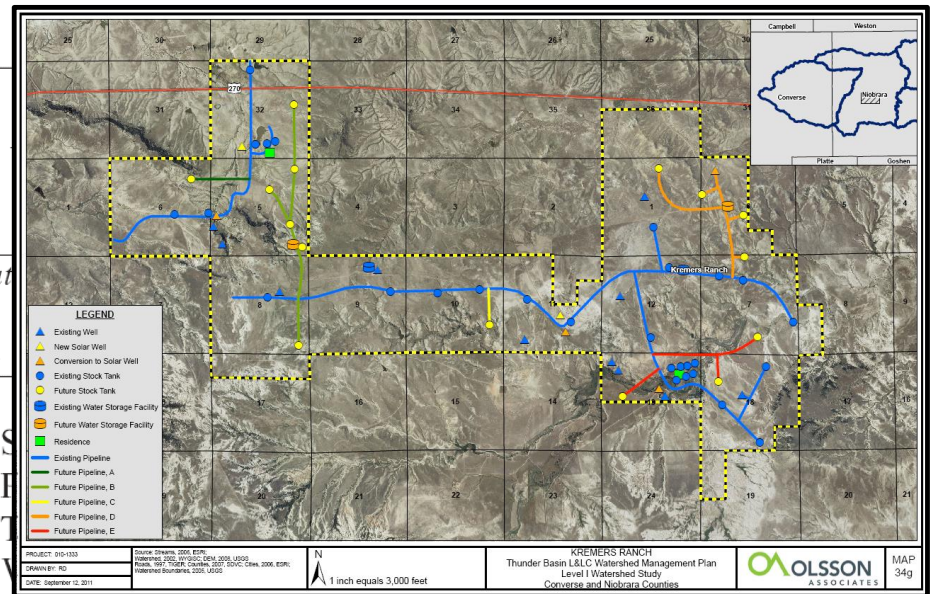
Project Name: KREMERS RANCH

THUNDER BASIN GRAZING ASSOCIATION
(Applicant – Name of Entity)

DOUGLAS CONVERSE WY
(City) *(County)* *(State)*

Type of Development: _____ Rehabilitation _____

- Solar Platform
- Pipeline
- Spring Development
- Well – Drilled and Cased
- Wetland



- S
- I
- T
- V
- Irrigation Diversion/Conveyance