South Fork Republican
Stream Management and Restoration Planning

Public Meeting

February 4, 2020

Meeting Goals & Agenda

Meeting Goals:

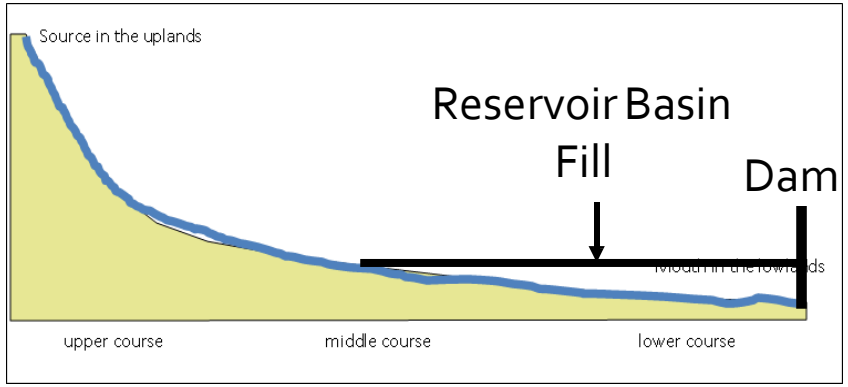
Update public on South Fork planning process
Describe Coalition's selected restoration concept
Gather feedback from the community

6 - 6:10	Welcome & Introductions	Rod Lenz & Robin Wiley
6:10 – 6:20	Where are we in the process?	William Burnidge
6:20 – 6:40	What restoration concepts has the Coalition considered & what did we chose?	William
6:40 – 6:50	Next steps	William
6:50 – 7:20	Public Question & Answer	MaryLou Smith
7:20 – 7:30	Wrap up	Rod & Robin

A Recap

Where Are We in the Process?

The Challenge



Reduced flow from:

- Low gradient
- Sedimentation
- High infiltration

Plan Goals

- Restore South Fork Republican River channel and connected floodplain ***in focus area.***
- Improve instream surface flows ***within the legal parameters of the Republican River Compact.***
- Restore wildlife and fish habitat – along the river and in the river channel.
- Identify recreation-based economic opportunities

Coalition Partners

- Republican River Water Conservation District
- Yuma County
- Kit Carson County
- Three Rivers Alliance
- Colorado Parks and Wildlife
- The Nature Conservancy

Key Partners

- Bureau of Reclamation
- Senator Cory Gardner
- Otak Engineers
- Stillwater
- Colorado State University

Restoration Planning Focus Area

Activities and Products

- Stakeholder Engagement Meetings
- Channel and Floodplain Engineering Concept Design
- Riparian Corridor and Riverine Habitat Restoration Plan
- Hydrology Assessment to Determine Surface Flow Needs
- Native Fish Population and Habitat Research

Track our progress!

http://www.republicanriver.com/SFRRC/tabid/284/Default.aspx

Timeline

Project Milestone	Date
Completion of initial technical assessments	March 2019
Public meeting	March 2019
Completion of recreational economy report	April 2019
Completion of 3 technical restoration alternatives	August 2019
Public meeting – right now!	February 2020
Completion of preferred technical restoration plan & recreation opportunity memo	May 2020
Final public update	Between May – June 2020

Restoration Alternatives

What did we look at and what was preferred?

Restoration Alternatives

- Channel modification and sediment management are in all alternatives
- Outfall alternatives
  - Concept 1: Increase flow capacity through dam
  - Concept 2: Lower existing inlet and add an upstream pipe or ditch
  - Concept 3: Lower dam inlet and excavate maintainable detention pond

Cost and benefit comparison

Key Considerations	RESTORATION OPPORTUNITIES UPSTREAM OF FORMER RESERVOIR*	CONCEPT 1: FULL CHANNEL RESTORATION	CONCEPT 2A: PIPE W/ ADDITIONAL UPSTREAM INLET	CONCEPT 2B: DITCH W/ ADDITIONAL UPSTREAM INLET	CONCEPT 3: LOWER EXISTING INLET
Increased Water Conveyance Through Dam		●●●●	●●●	●●●	●
Lower Intake & Reengineer Dam Outlet Infrastructure		✓	✓	✓	✓
Hale Ditch Reengineering		✓	✓	✓	✓
Invasive Vegetation Management	●●	●●●●	●●●	●●●	●●
Bioengineered Sediment Traps	●	●	●	●	●
Aquatic & Riparian Enhancement	●	●●●●	●●	●●	●
Potential Increase in Baseflow in and Downstream of the Focal Reach	●	●●	●●	●●	●
Channel Realignment to Modify Sinuosity	●●	●●●●	●●	●●	●●
Potential for Wetland and Waterfowl Ponds		●●●●	●●	●●●	●
Relative Maintenance Cost	$	$$	$$$$	$$$$	$$$
Rough Cost Estimate (Order-of-Magnitude)	$4M - $5M	**$20M - $24M** piped through dam **$25M - $35M** open dam	$9M - $10M	**$10M - $14M**	$1M - $2M

*Upstream restoration costs should be added to the cost of all other concepts

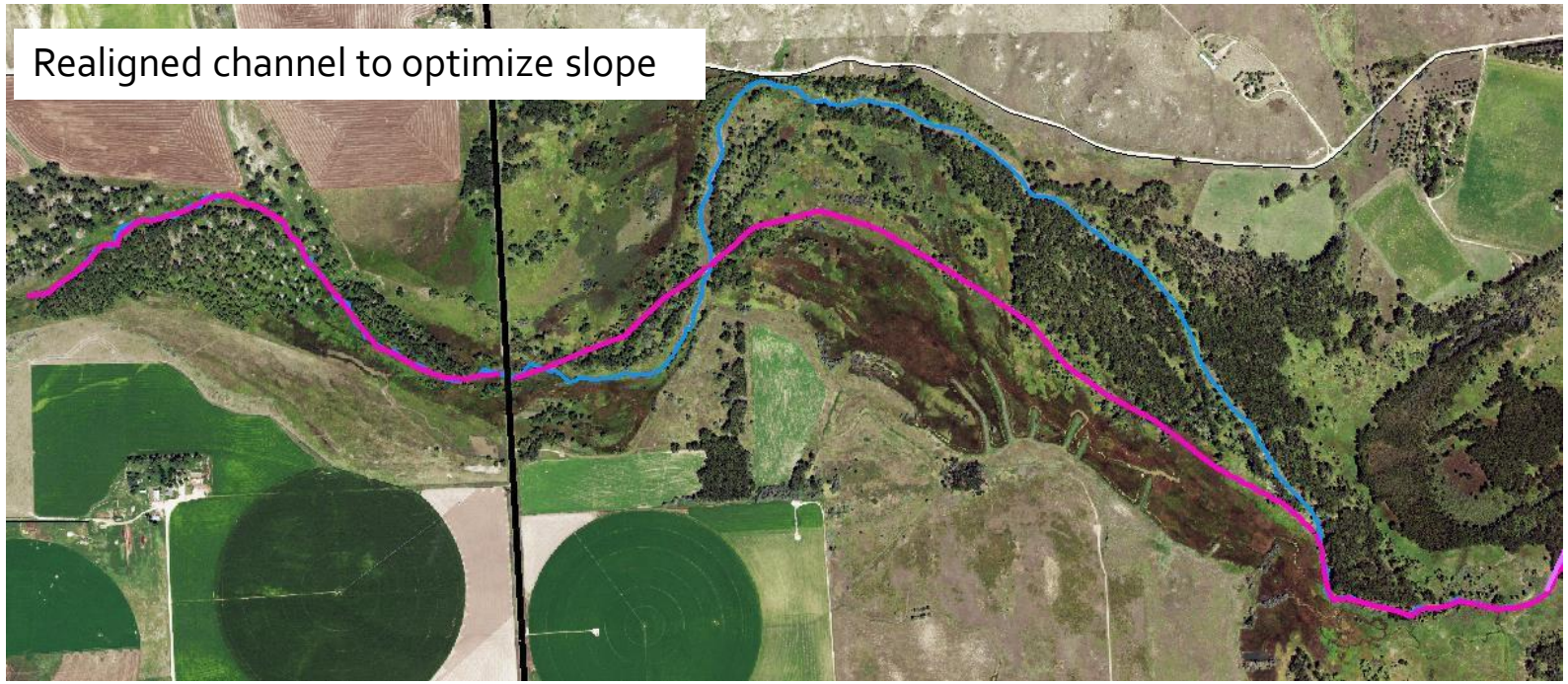
More dots (●) = greater improvement and/or level of effort

Check marks (✓) = required

Preferred Concept: Concept 3

Key Steps: Reestablish the Channel

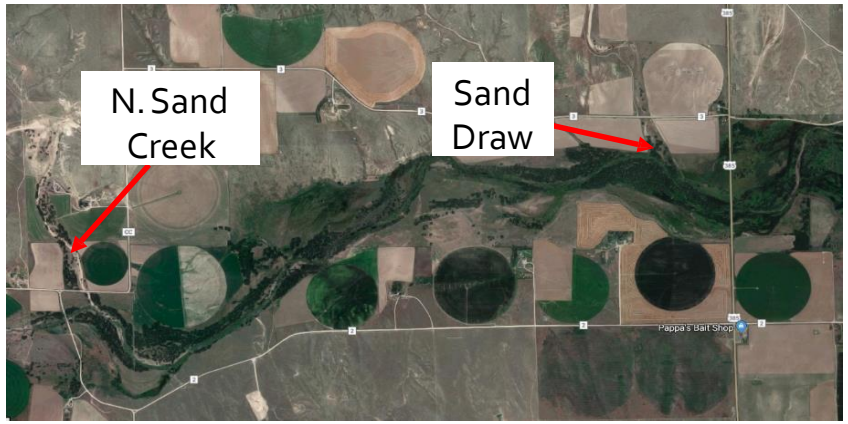
- Realign channel with more direct path to dam to support flow
- Reduce sediment inflows to the South Fork
- Reduce infiltration and absorption of water by vegetation (cattails)
- ***In combination these action create the potential for restoring a continuous channel***

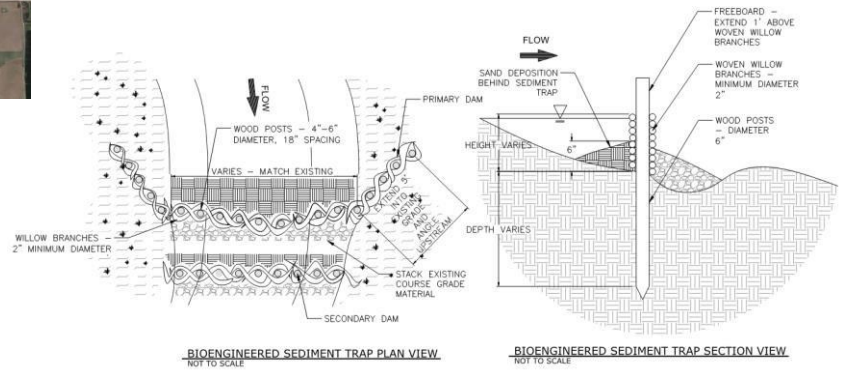


Preferred Concept: Concept 3

Key Steps: Create Sediment Traps

- Bioengineered sediment traps installed in tributaries, such as Sand Draw and Sand Creek, allow water to pass while trapping sediment
- This helps prevent sediment build-up in the main river channel
- It is also cost effective

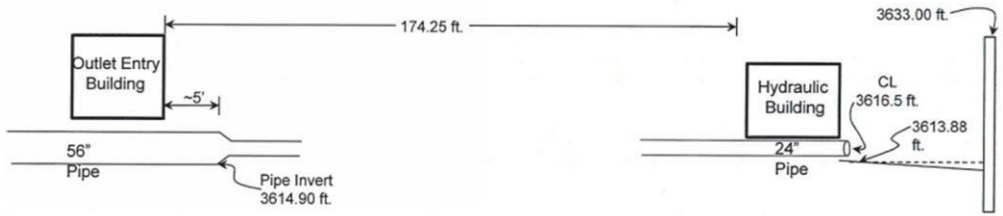




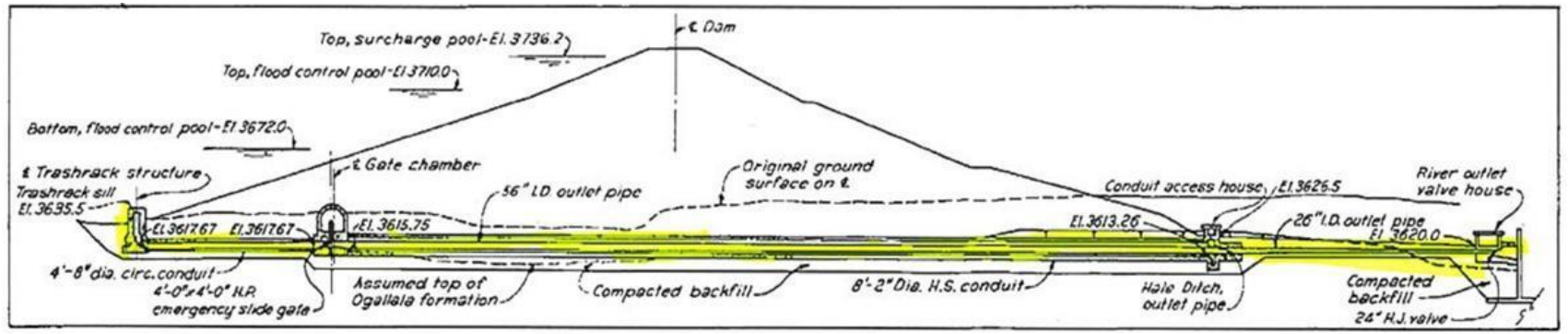
Preferred Concept: Concept 3

Key Steps: Modify the Outlet

- Our goal is to get water to and through the dam
- This requires lowering the outlet to increase gradient and continuing to use the existing outlet pipe to create improve flow rate and volume



Possible Discharge Through Pipe when WSE is 1.4' above existing inlet sill		
Existing 24" Pipe	120 cfs	Difference
Potential 56" Pipe	700 cfs	of 580 cfs



Recreation Analysis Summary

- An analysis was completed by CHM Government Services in April 2019
- The analysis explored recreation opportunities in the Restoration Planning Focus Area, including camping and biking.
- All these activities would be compatible with the preferred alternative.
- With further analysis in future phases of work, we will be able to determine the preferred locations for potential recreation activities.

Next steps

1. Complete analysis and preliminary plan for preferred restoration concept by May 2020
2. Define funding options for project implementation by end of 2020
3. Determine and secure approvals needed for the work to move forward