

Lower John Day

An aerial photograph of a vast, rugged canyon system. The terrain is characterized by deep, winding valleys and steep, eroded hillsides. A river flows through the center of the canyon, its path curving through the landscape. The colors range from light tan and beige to deep browns and greys, indicating different geological layers and soil types. The sky is a clear, pale blue with a few wispy clouds near the horizon. In the far distance, a line of wind turbines is visible against the horizon.

Co Conveners:

Herb Winters Gilliam County SWCD

&

Debbi Bunch Mid – John Day Bridge
Creek Watershed Council



Progress & Timeline

Step 1: Build a Collaborative Process

Completed: 2016

Step 2: Characterize Water Resources

Completed: January 2017

Step 3: Quantifying Existing and Future Needs

Completed: Out for Public Review

Step 4: Develop Integrated Solutions

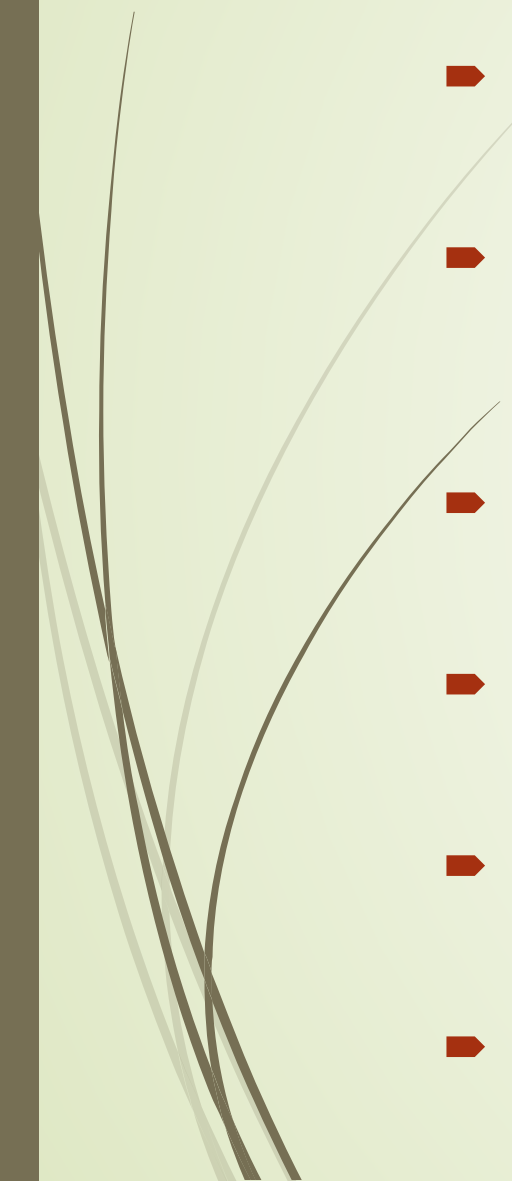
Completion: July 2020

Step 5: Develop & Adopt Plan

Completion: December 2020

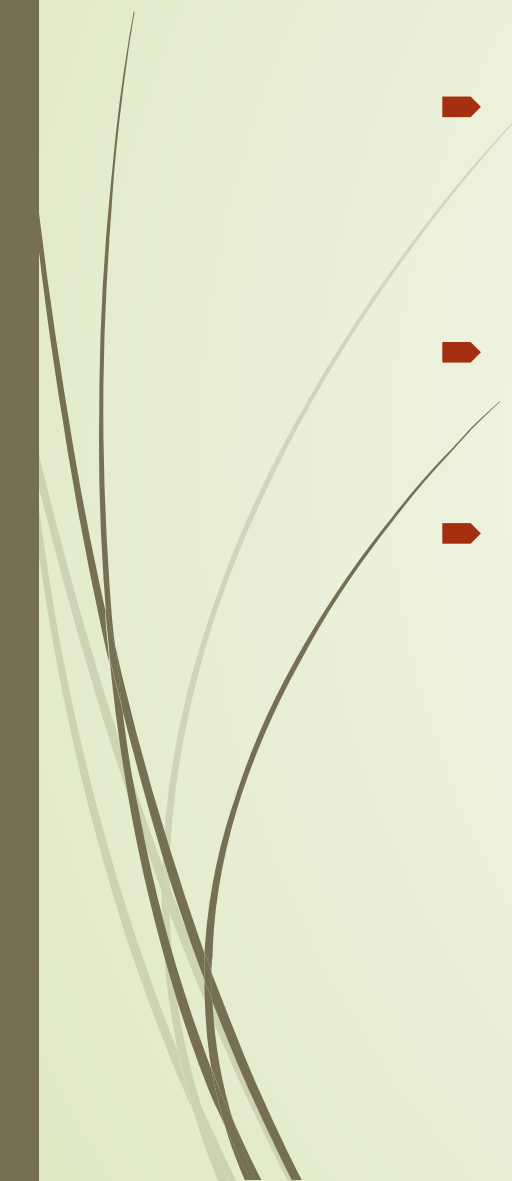


Lessons

- Difficult to engage private landowners
 - Important engagement from cities, counties, natural resource agencies, agriculture and Conservation groups.
 - Data gaps inhibit the process
 - The process is taking more time than expected
 - Need for technical expertise
 - Participation, attrition, and staff turnover
- 



What we need to succeed

- ▶ Capacity funding for continued Place Based Planning through implementation
 - ▶ Fill data gaps
 - ▶ Cross agency participation and technical assistance
- 



Place-Based Integrated Water Resources Planning

Water Resource Commission Presentation

Upper Grande Ronde River
Watershed Partnership

Salem, Oregon
November 22, 2019





Mission Statement (Step 1)

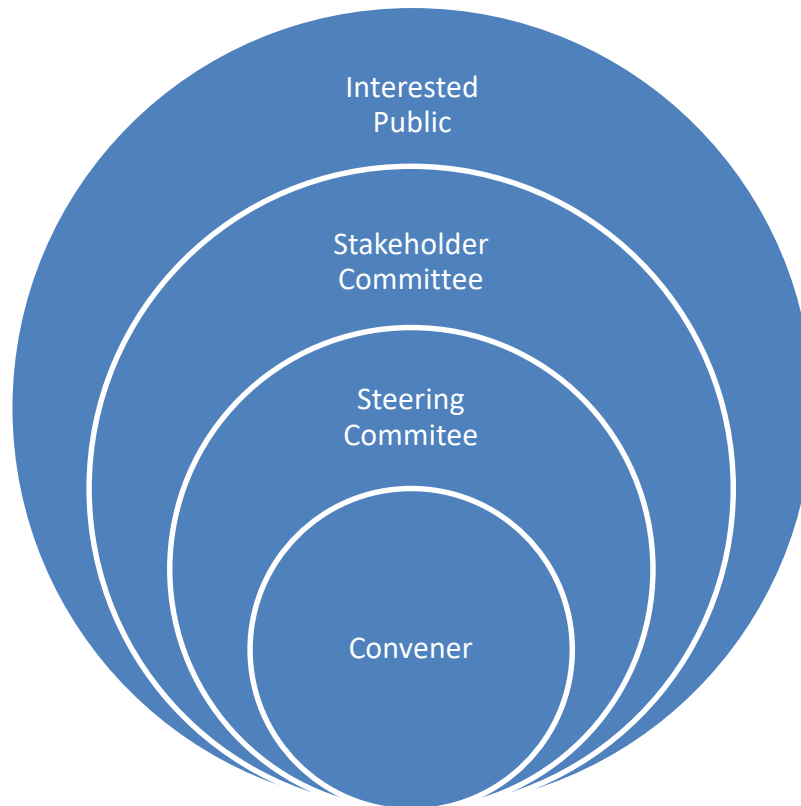
“Through this Partnership, we will work collaboratively to determine basin-wide water supply, analyze basin-wide water demands, and develop an Integrated Water Resources Strategy to improve the sustainable management of water supplies in the Watershed for all users for the future.”





Group Structure and Process

Must live in the watershed to be a voting member



Outreach: website, newspaper, radio, presentations

Convener - Union County

Steering Committee - Administrative Team (Oregon Department of Fish and Wildlife, OWRD, Union County Farm Bureau, City of La Grande)

Stakeholder Committee - Local parties involved in planning who sign the Memorandum of Understanding (voting)

Interested Public - Parties who are involved in the effort (non-voting)

Ad Hoc Subcommittees - Voluntary technical groups composed of the above four groups



Upper Grande Ronde River Watershed Partnership

Over 25 Partners

- **Agencies** (OWRD, DEQ, ODFW, ODA)
- **Agricultural Groups** (NRCS, UCFB, UC seed growers, UC mint growers)
- **Municipalities** (La Grande, Union, Cove, Island City)
- **In-stream Groups** (GRMW, Union SWCD, TFWT, CTUIR)
- **Individuals** (politicians, funders, landowners, citizens)





Critical Issues (Step 2 and 3)

- Groundwater Uncertainty
- Surface Water Quality
- Surface Water Deficit
- Natural Hazards/Climate Change
- Data Gaps





Draft Strategies (Step 4)

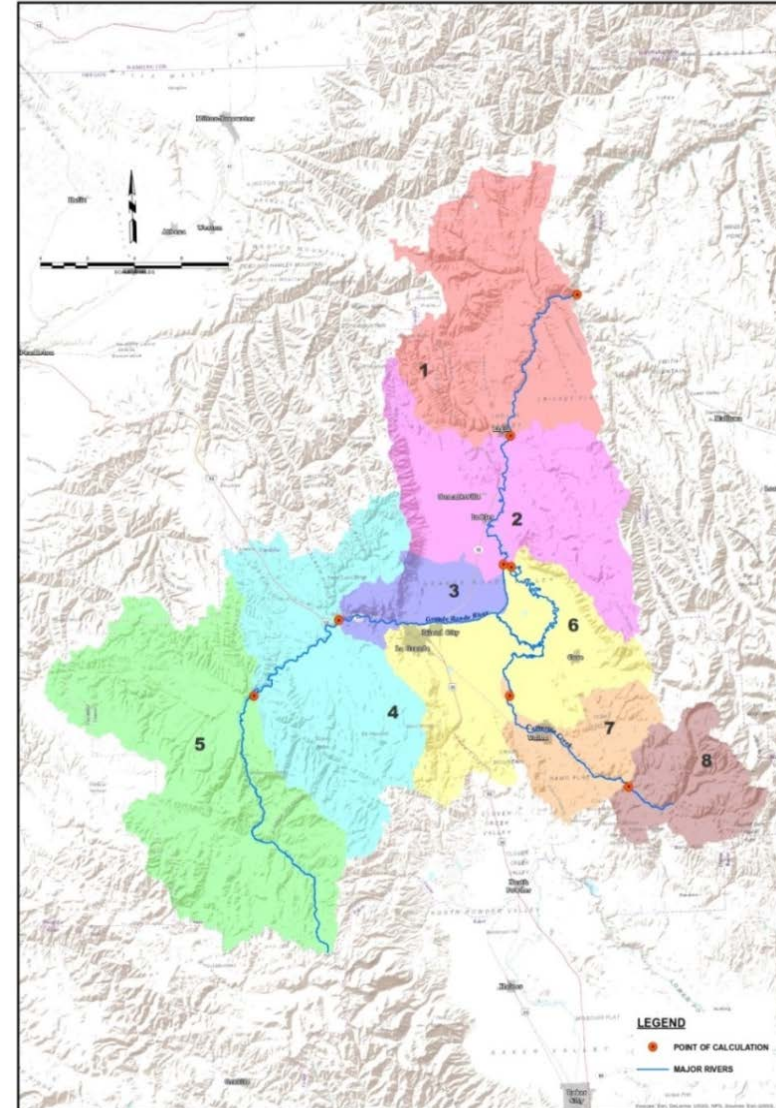
- 4 critical issues (groundwater uncertainty, surface water deficit, water quality, natural hazards/climate change)
- 12 Major Strategies to address group identified critical issues

Major Category
Data Collection & Monitoring
Research
Built Storage - Aboveground-Off Channel
Land Management – Municipal Land
Land Management – Public Land
Land Management – Agricultural Land
Non-Structural Water Storage & Habitat Management
Outreach and Education
Administrative Actions
Underground Storage
Infrastructure/Land Modification
Built Storage - Aboveground-On-Channel



Next Steps

- Complete Steps 4 and 5 (Strategic Action Plan) by end of 2019, early 2020
- Implementation funding (OWRD and potentially OWEB)
- Pilot Evaluation





Questions?



Dkurtz@andersonperry.com



An Update On Our Work: Harney Community-Based Water Planning

Water Resources Commission Meeting
November 22, 2019
Salem, Oregon

WHAT TO REMEMBER:

- **Trust** among *diverse* stakeholders is continuing to strengthen
- The **Collaborative** is writing the **water plan** in real-time, together
- **Implementation is being explored** for some of the proposed water strategies (i.e., how would this idea *actually* work?)

BUILD A COLLABORATIVE

July 2018 Collaborative Meeting & BBQ



LEARN ABOUT OUR WATER



Pivot Irrigation Tour, August 2018

LEARN ABOUT
OUR WATER



LEARN ABOUT OUR WATER

We understand that there may be more than one residential well on the property that is indicated in the cover letter. Please think about the residential well that you consider the primary well when answering the survey questions. Residential wells are those that you mainly use for general household and outdoor uses. We will ask about any secondary wells at the end of the survey.

Q1. Does the property indicated on the cover letter currently have a residential well on site?

- ₁ Yes
- ₂ No → Please go to question 15 to add a comment and return your survey in the envelope provided.
- ₃ Don't know → Please go to question 15 to add a comment and return your survey in the envelope provided.

Q2. About how many people rely on the primary residential well at this property for general household and outdoor use? (Please mark Don't Know if you are unsure)

_____ People rely on this well Don't know

Q3. Please indicate whether or not this well is used for each of the following purposes.

	<u>Yes, used for this</u>	<u>No, not used for this</u>
Drinking/cooking	<input type="radio"/> ₁	<input type="radio"/> ₂
Other indoor use	<input type="radio"/> ₁	<input type="radio"/> ₂
Irrigation of any lawn or noncommercial garden of ½ acre or less	<input type="radio"/> ₁	<input type="radio"/> ₂
Livestock	<input type="radio"/> ₁	<input type="radio"/> ₂
Other (describe _____)		

Q4. Does this well provide enough water to meet the needs indicated in question 3?

- ₁ Yes
- ₂ No
- ₃ Don't know

Q5. Thinking about the last 10 years, has this residential well experienced a decline in yield (volume pumped) or rate (e.g., gallons per minute)? Evidence of this could include sucking air or sand.

- ₁ Yes
- ₂ No → (After marking 'No', go to question 6 on the next page)
- ₃ Don't know → (After marking 'Don't know', go to question 6 on the next page)

Domestic Well Questionnaire

Using surface energy balance principles

ET as a Residual:

$$R_n = LE + H + G$$

$$H = \frac{\rho C_p (T_s - T_a)}{r_a}$$

$$LE = R_n - H$$

$G \approx 0$ for daily estimate

SSEBop: Pre-defined dT
Varies in space and season
but constant from year-to-year
under clear-sky conditions

RS-ET possible under "clear sky"
conditions only.

ET Direct, SSEBop:

$$\lambda ET = ET = ET_f * ET_o$$

$$ET = \frac{T_h - T_s}{dT} * ET_o$$

$$dT = \frac{R_n r_a}{\rho C_p}$$

$$ET = \frac{\rho C_p (T_h - T_s)}{R_n r_a} * ET_o$$



Using surface energy balance principles

ET as a Residual:

$$R_n = LE + H + G$$

$$H = \frac{\rho C_p (T_s - T_a)}{r_a}$$

$$LE = R_n - H$$

$G \sim 0$ for daily estimate

EVAPOTRANSPIRATION!

ET Direct, SSEBop:

$$\lambda ET = ET = ET_f * ET_o$$

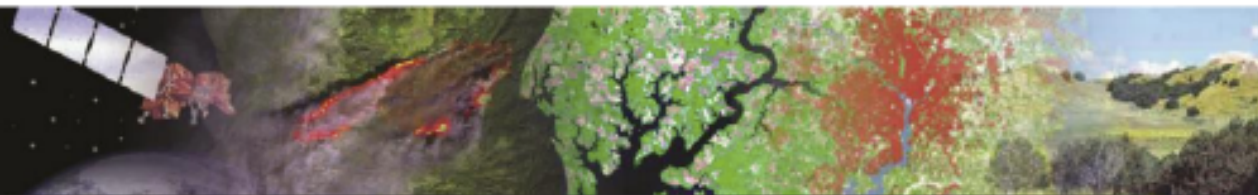
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UP!



WRAPPING

Water Planning Summit, January 2019

INNOVATIVE STRATEGIES



INNOVATIVE STRATEGIES

Water Planning Summit, January 2019



PHASE I: FOCUSED ON GROUNDWATER MANAGEMENT

Revisit Domestic Well Issues considering info learned from the feasibility study and mailed questionnaire (and any other available information)

Does the Collab want to try to reach agreement on anything related to **REDUCING AGRICULTURAL GROUNDWATER USE** (outside of a local governance system)? **If yes**, move here (and include discussion on MEASURING & REPORTING) and when ready, follow the arrow. **If no**, follow the arrow.

- Proposed strategies submitted
- 12- Clarify legal protection for conserved water
 - 14 & 26- Establish a voluntary groundwater market
 - 23- Improved irrigation technology
 - 27- Develop a groundwater CREP
 - 30- Alternative crops & precision ag professor/position

- 2 & 53- Metering and reporting of groundwater irrigation use (smart metering, not specified who would implement/regulate)
- 6 & 11- Metering and reporting of groundwater irrigation use (implemented/regulated by OWRD)
- 55- Install on-farm weather stations
- 56- Assess fees for groundwater use
- 59- Develop a drought contingency plan
- 63- Improve coordination between land use and water
- 64- Develop a mechanism for “in-situ” groundwater lease/purchase (could relate to CREP, groundwater market, and conserving GDEs)

Begin Workflow Here

REDUCING AGRICULTURAL GROUNDWATER USE + MEASURING & REPORTING

MANAGEMENT + MEASURING & REPORTING

Does the Collab want to try to reach agreement on anything related to **LOCAL GOVERNANCE**? **If yes**, move here (and include discussion on MEASURING & REPORTING within a local governance system), and when ready, follow the arrow. **If no**, follow arrow.

- Proposed strategies submitted:
- 33- Establish a “Water Users Association”
 - 37- Establish a community water bank (land bank, longer-term strategy)
 - 42- Water “waste watch”
 - 2- Metering and reporting of groundwater irrigation use (smart metering, not specified who would implement/regulate)
 - 58- Develop groundwater management plan

IMPROVING STANDARDS & ENSURING COMPLIANCE

Does the Collab want to try to reach agreement on anything related to **IMPROVING STANDARDS & ENSURING COMPLIANCE**? **If yes**, move here and when ready, follow the arrow. **If no**, follow arrow:

- Proposed strategies submitted:
- 8 & 22- Ensure all permit conditions and groundwater use follows legal procedures
 - 10- Placing limits on well deepening

- 39- Develop a well clean-up and safe harbor program
- 48- Improve enforcement of well standards
- 50- Cease permits for transfers and new wells
- 51- Ensure plan includes legal enforcement
- 52- Ask Harney County Commission to ask OWRD to enforce
- 57- Update and maintain water rights

DRAFT

Does the Collab want to try to reach agreement on anything related to **COLLECTING OTHER INFORMATION**? **If yes**, move here and when ready, follow the arrow. **If no**, follow arrow.

- Proposed strategies submitted:
- 16- Compile information on groundwater dependent ecosystems
 - 18- Evaluate age of groundwater being used
 - 7, 24, 40 & 41- Develop better information about aquifer structure

COLLECTING/SHARING INFORMATION

- 44 – Community comms. & information program to inform the public about conditions & planning effort
- 49- Identify and monitor indicator species
- 60- Maintain and update groundwater model
- 61- Support OWRD groundwater investigation
- 62- Support DEQ groundwater quality program
- 65- Improve water resource data collection and monitoring
- 66- Identify and conserve “paleo water”

CONSERVING GROUNDWATER-DEPENDENT ECOSYSTEMS

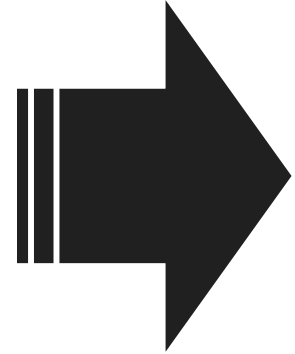
Does the Collab want to try to reach agreement on anything related to **CONSERVING GROUNDWATER-DEPENDENT ECOSYSTEMS**? **If yes**, move here and when ready, follow the arrow. **If no**, follow arrow:

- Proposed strategies submitted:
- 54- Protect and restore groundwater-dependent ecosystems

= Ideas submitted since the Summit & April 3 meeting

= There is relevant work currently underway

PHASE II:



FOCUSED ON SURFACE WATER MGMT & THE INTERSECTION OF SURFACE AND GROUNDWATER

Filling out a template of the draft plan, in real-time...

Example Draft:

DRAFT Strategy 6: Research and evaluate voluntary groundwater market approaches

DRAFT Objective 6.1: To explore the potential of a voluntary groundwater market to reduce groundwater use in the Harney Basin, with declining allocation of shares overtime.

DRAFT Recommended Actions for achieving Objective 6.1

- **Recommended Action 6.1.1-** CBWP partners, such as The Nature Conservancy, secure funding for a scoping assessment to determine potential implementation pathways of a voluntary groundwater market approach in the Harney Basin.
- **Recommended Action 6.1.2-** The CBWP Collaborative reviews the results of the assessment and evaluates different approaches.
- **Recommended Action 6.1.3-** The CBWP Collaborative determines whether it supports the establishment of a groundwater market in the Harney Basin.

Strategy



Objectives



Recommended
Actions

Harney Basin Groundwater CREP Concept

Technical Team Meeting #5

November 13, 2019

Harney County Community Center
450 N. Buena Vista
Burns, OR

Dial-in: 1 971-256-0996
Conference Code: 891890

10:00 am – 11:30 am

Meeting Purpose: Discuss the Harney County Groundwater CREP and develop proposed incentives and potential costs to complete the proposal.

Agenda

Introductions

Welcome

Jillian McCarthy

Review of Meeting 4

everyone

Incentive Concepts (handout)



United States Department of the Interior

BUREAU OF RECLAMATION
PO Box 25007
Denver, Colorado 80225-0007

IN REPLY REFER TO:

WMSG-001
84-27814
1.3.11

VIA ELECTRONIC MAIL

Harney County Court
Attn: Mr. Mark Owens
450 N. Buena Vista #5
Burns, OR 97720-1533

Subject: Funding Opportunity Announcement No. BOR-DO-19-F006 – WaterSMART: Water Marketing Strategy Grants for Fiscal Year 2019 – Application Review Status, Your Application Titled, “Harney Basin Groundwater Marketing Development Evaluation” (WMSG-001)

Meeting Dear Mr. Owens:

propose

Introduc

Welcom

Review

Incentiv

Thank you for submitting a WaterSMART Water Marketing Strategy Grant application. The Bureau of Reclamation is pleased to inform you that your application was among those receiving the highest ratings and is now being considered for award of a financial assistance agreement. Your application included a request for \$50,000 to complete your proposal titled, “Harney Basin Groundwater Marketing Development Evaluation.” Reclamation anticipates awarding Federal funds in the amount of \$50,000 for your proposed project. In working with you to develop your financial assistance agreement, Reclamation will closely review the activities outlined in your proposal to ensure that all activities are eligible for funding and that the proposed costs are allowable under financial assistance regulations. If some costs or activities are determined to be ineligible or unallowable, Reclamation will work with you to refine the scope of work and budget for the project.



United States Department of the Interior

BUREAU OF RECLAMATION
PO Box 25007
Denver, Colorado 80225-0007

IN REPLY REFER TO:

WMSG-001
84-27814
1.3.11

Blockchain: FW: Smart metering

Inbox x



CBWP, Rianne BeCraft

Thu, Oct 24, 12:18 PM

----- Forwarded message ----- From: Mark Owens <mark.owens@co.harney.or.us> Date: Wed, Oct 23, 2019 at 1:21 PM Subject: FW: Smart metering To: z...

Subject: Funding Opportunity Announcement No. BOR-DO-19-F006 – WaterSMART: Water Marketing Strategy Grants for Fiscal Year 2019 – Application Review Status, Your Application Titled, “Harney Basin Groundwater Marketing Development Evaluation” (WMSG-001)

Meeting Dear Mr. Owens:

propose

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Introduc

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