JOINT MEETING
Walla Walla River Bi-State Flow Study + Walla Walla Water 2050
Meeting Summary
Wednesday, December 16, 2020
12:00 p.m. – 4:30 p.m.

Time*	Agenda Item (Action items are marked with "!")	Reference Materials	Presenter(s)
12:00 *(15 min)*	**Introduction** • Welcome and Opening Remarks • Introductions and Agenda Preview • Minutes from 9/30 SC Meeting • Public Comment	• Agenda	• Dan Haller, Facilitator • Susan Gulick, Facilitator
12:15 *(45 min)*	**WW River Bi-State Flow Study Scope of Work** • Task 1. Facilitation • Task 2. Communication and Outreach • Task 3. O&M Funding Action Plan • Task 4. Columbia River Impact Study • Task 5. Columbia River Water Availability • Task 6. Coordination with WW Water 2050 • Task 7. Pine Creek Reservoir (Lower Site) • Task 8. WWBWC Coordination • Task 9: Warm Springs Reservoir	• Flow Study Brochure • Flow Study FAQs	• Dan Haller, Facilitator • Perrin Robinson, Jacobs • John Warinner, Aspect
1:00 *(30 min)*	**Irrigation District Roundtable** • Update on Various Issues of Interest to IDs		• Dan Haller, Facilitator • Teresa Kilmer, WWRID • Tim DeRuwe, HBDIC • Mike Ingham, GFD13
1:30 *(15 min)*	**Streamflow Protection** • Three Sovereigns Coordination Update • Bi-State Compact Update • Legal TWG Update		• Dan Haller, Facilitator • Chris Marks, CTUIR • Chris Kowitz, OWRD • Tom Tebb, Ecology
1:45 *(15 min)*	**Closure** • Roundtable • Next Steps • Closing Remarks • Public Comment		• Dan Haller, Facilitator
2:00	**15 MINUTE BREAK**		

Time*	Agenda Item (Action items are marked with "!")	Reference Materials	Presenter(s)
2:15 *(15 min)*	**Walla Walla Water 2050 – Flow Study Connections** • Little Walla Walla River • Groundwater MAR/ASR		• Susan Gulick, Facilitator • Dan Haller, Facilitator • Caroline Burney, Cascadia
2:30 *(15 min)*	**Walla Walla Water 2050 – Updates** • November Meeting Summary (review/approve) • Strategic Plan Updates • Working Group Updates	• November Meeting Summary	• Susan Gulick, Facilitator • Caroline Burney, Cascadia
2:45 *(90 min)*	**Walla Walla Water 2050 – Strategic Plan Strategies** • Review Water Use Matrices • Discuss Strategies for Further Development	• Water Use Matrices	• Susan Gulick, Facilitator • Caroline Burney, Cascadia • Amanda Cronin, AMP Insights
4:15 *(15 min)*	**Closure** • Public Comment • Next Steps • Closing Remarks		• Susan Gulick, Facilitator • Caroline Burney, Cascadia
4:30	**Adjourn**		• Susan Gulick, Facilitator

*** All times are estimates and subject to change.**

Introductions

Dan Haller, Aspect Consulting, convened the meeting. Tom Tebb, WA Department of Ecology, and Judith Johnson, WWWMP, welcomed attendees and thanked them for their ongoing participation. Dan led roll call. Attendees are listed in **Appendix A.**

Susan Gulick, Sound Resolutions, reviewed the agenda and the meeting's objectives.

Dan asked for approval of the 9/30 SC meeting minutes. All approved.

Walla Walla River Bi-State Flow Study Scope of Work

Aspect Consulting and Jacobs Engineering reviewed the Walla Walla River Bi-State Flow Study Scope of Work and provided an update on the schedule. A summary of the presentation is below.

- Task 1: Steering Committee & Technical Work Group Meetings
  - Steering Committee Meetings:
    - September 30, 2020
    - December 16, 2020
    - February 24, 2021
    - April 28, 2021
    - June 23, 2021
  - Coordination with Irrigation Districts
    - September 9, 2020
    - October 6, 2020
  - Storage Technical Work Group (Warm Springs Reservoir)
    - October 13, 2020
  - Legal Technical Work Group
    - November 16, 2020
- Task 2: Communications and Outreach
  - This task includes developing outreach materials to help communicate a unified message on the Flow Study purpose, goals, and benefits, while also supporting communication with local stakeholders.
  - Deliverables:
    - 11x17 Flow Study Summary Brochure (Complete)

        - Frequently Asked Questions Flyer (Complete)
- Task 3: Operations & Maintenance Funding Action Plan
    - The goal of this task is to explore innovative ways to structure and fund Operations & Maintenance (O&M).
    - The consultant team has looked at three different case studies:
        - Umatilla Pump Exchange
        - Lake Roosevelt Incremental Storage Releases Project
        - WA Instream Flow Projects
    - A comparison of the three case studies is in the table below.

	Umatilla Pump Exchange	**Lake Roosevelt Incremental Storage Releases Project**	**WA Instream Flow Projects**
Primary Aim	Improve streamflow in Umatilla River from Three Mile Dam to the mouth (Columbia River confluence).	Improve water management in Columbia River for drought relief, municipal/industrial use, groundwater replacement, and instream flow improvement.	Improve instream flows led by groups like Trout Unlimited and Washington Water Trust.
Solution	Pump water from Columbia River in exchange for leaving water undiverted from Umatilla River.	Release additional water from Lake Roosevelt to meet objectives of the Columbia River Water Management Act.	Irrigation efficiency and downstream diversion moves.
Authorization	US Congress authorized modification of Umatilla Project in 1988 through Public Law 100-557.	Authorized by Governor Gregoire and RCW 90.90.060(2) and 90.90.070(3)(a)(b).	OCR, BPA, and other state and local sources.
Ownership	US Dept. of Interior (USDI).	USDI.	Local irrigation districts.
O&M Operator(s)	USDI and US Bureau of Reclamation (USBR).	USDI and USBR.	Local irrigation districts.
O&M Cost Payers	Power is paid by BPA. O&M paid by USBR.	Annual mitigation costs by Ecology Office of Columbia River (OCR). Annual payments paid by WA State Treasurer.	Local irrigation districts.
Pumping Volume	Annual Volume: 90,000 – 130,000 AFY.	n/a	n/a
Power Cost	$1.2 – $1.6 million per year.	n/a	n/a
O&M Cost	$525,000 - $635,000 per year.	n/a	One-time costs paid for negotiated time period (e.g., 20 years).
Total O&M Cost	$16 - $20 per AFY.	n/a	n/a
Annual Payments	$1.75 - $2.24 million per year.	$2.25 – $3.63 million per year.	Unable to break out as they were negotiated in overall capital costs.
Terms	n/a	Payments continue until replacement source is found. Agreements open to amendments after 10 years.	Variable.

Table 1: Comparison of O&M Costs Across Three Scenarios

    - The study examined a wide range of potential funding sources to fund ongoing O&M.
    - The consultant team looked at options to reduce the annual O&M costs for the Columbia River Pump Exchange to increase the appeal to prospective funding entities.
        - One option is additional investment in solar or wind with battery storage as a means to provide reliable electrical power that eliminates $2-4 million in annual pumping costs.
            - Additional study of battery storage and operation is needed to identify the added capital costs.
            - It may be advantageous to find a private partner to operate and maintain the electrical power.

O&M Funding Options	Findings	Applicability?
Federal or State Ownership of Project	Abundance similar facilities/programs in the West	Yes
Federal or State Grants	No federal programs found to fund ongoing operations.	Maybe for State grants
Hydropower Mitigation Partnerships (e.g., BPA)	Examples exist but further investigation needed	Yes
Endowment Funding for O&M	Examples exist but feasibility is tied to the magnitude of O&M funding	Yes
Tribal Payments	Programs vary greatly by region and likely involves Tribe Ownership	Maybe
Private Philanthropic Funding	Almost exclusively one-time allocations	Likely no
User fees/ local taxes	Difficult to establish nexus and authority	Likely no

Table 2: O&M Funding Options

  - Deliverables:
    - O&M Options Memo and Action Plan (internal draft developed).
    - Convene 'Key Influencers' Meeting and Meeting Summary.
  - Next Steps:
    - Produce draft report of technical memo.
    - Meet with PAWG for detailed review.
    - Future next steps
      - Initiate NEPA/SEPA process to determine Federal nexus that could address O&M funding.
      - Identify a project champion among the project stakeholders to engage potential Federal or private partners.
      - Initiate/engage in meetings with prospective funding entities.
      - Further investigate wind, solar, and battery power.
- Task 4: Columbia River Impact Study
  - The goal of this task is to create a water budget for pump withdrawals from Columbia River relative to direct and indirect Walla Walla River discharges back to the Columbia River to ensure that new water rights do not impair Columbia River.
  - Next Steps:
    - Produce draft report.
    - Initiate Columbia River consultation letter.
    - Meet with PAWG for detailed review.
- Task 5: Columbia River Water Availability
  - This task seeks to investigate the availability of water in Columbia River to advance secondary objectives of the Flow Study by updating previous evaluations and biological opinions.
  - Coordinated with USBR regarding prior studies and reviewed potential constraints. The 'Historical Streamflow Data' database coordinated by BPA, USACOE, and USBR provides 90 years of historic data.
  - Findings: The figure below shows an average year (2014). Estimated pump volumes are in blue and surplus capacity is in green.
    - The surplus capacity is 87,000 AFY.
    - The percentages show the portion of historic days with available flow: 5 million AFY.

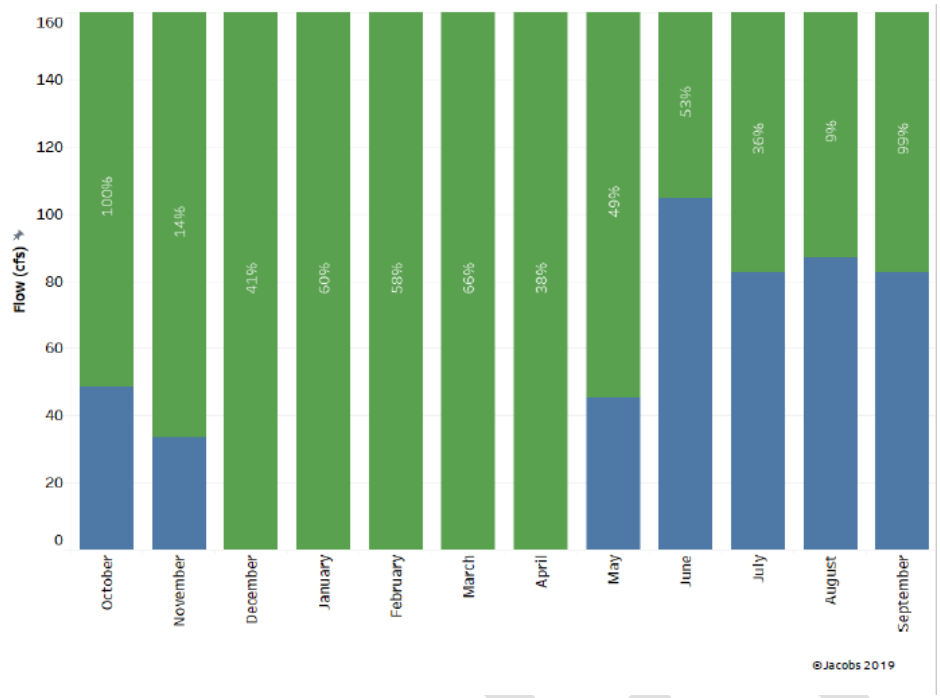

Figure 1: Columbia River Water Availability

- There are competing interests for available Columbia River water. Projects that are currently under consideration throughout the Columbia River system have a total volume of 330,000 AFY.
  - Water Availability: 5 million AFY
  - Walla Walla Columbia River Pump Exchange
    - Design capacity to meet primary objectives: 29,000 AFY
    - Surplus capacity to meet secondary objectives: 87,000 AFY
      - Consumptive uses
      - Little Walla Walla River flow augmentation
      - Declining groundwater (MAR/ASR)
      - Instream flows
  - Next Steps:
    - Produce draft report.
    - Initiate Columbia River consultation letter.
    - Meet with PAWG for detailed review.
  - Future considerations:
    - Clarify location, timing, and rates of competing projects.
    - Review opportunities to use surplus pump exchange capacity.
    - Prioritize additional uses, locations, timing, and rates.
    - Consider impacts on pipeline and booster pump sizing.
    - Consider impacts on financial strategy.

- Task 6: Coordination with Greater WWW2050 Effort
  - This task is to coordinate the Flow Study project within the development and schedule of the WWW2050 Strategic Plan.
  - Deliverable: End-of-contract memo of work performed under this task.
- Task 7: Pine Creek Reservoir – Lower Site Conceptual Design
  - This task seeks to advance the concept for the lower site to match the upper site.
    - 24,500 AF available for irrigation (replace input flows back to irrigation).
    - Blue line (on Slide 29) simulates fill volume that's available for 42-years of record.
      - When you cross the blue line and reservoir size, that's the time that you meet the demand.
      - With smaller reservoir, can fill up more frequently.

- Deliverables:
    - Technical memo with concept design drawings, construction and O&M costs estimates, and other data.
    - Project alternative evaluation tool scoring.
- Task 8: WWBWC Technical Support
    - Passing money through to WWBWC to provide technical expertise and support, hydrological data, and related information.
    - Deliverable: Technical memo summarizing work performed under Tasks 1-7.
- Task 9: Warm Springs Reservoir – Conceptual Design
    - Storage TWG met and evaluated reservoir. Made recommendation that this should move forward for funding. Conveyed recommendation to OCR.
    - Deliverable: Findings Technical Memo.
- Discussion
    - Mike Ingham asked why the 160 cfs alternate for the Columbia River Pump Exchange was not included on the graph on Slide 31?
        - 160 cfs is on the graph. This scenario always meets the demand.
    - Ralph Perkins asked what was the volume used that created demand shortages?
        - Using criteria developed of what constituted replacement volumes. Replacing irrigation diversions and bypass flows.
        - Ralph asked whether the entire demand was based on decreed water rights? He added he did not hear in the discussion how demand through Spring Branches and Little Walla Walla River (LWWR) was incorporated.
            - Those flows are not a part of what the past design has evaluated in terms of exchange. Based on current diversions plus restoration of bypass flows.
    - How has the design team addressed the seismic issues at Pine Creek?
        - Teresa Kilmer added via the chat function that there are some seismic concerns at the lower reservoir similar to the concerns at the upper site.
        - The Jacobs Engineering team added that the Flow Study will take a closer look at the lower site by doing field trenching to look for evidence. There is funding for one incline boring to assess subsurface conditions and potential for faults.
    - Cindy Boen asked via the chat function whether the design team has considered how they would address the potential for introduction of aquatic invasive species (like quagga) with an inter-basin transfer?
        - At this point, no. The focus of the Flow Study has been on physical water supply opportunities. The place where invasive species will be addressed is in SEPA and NEPA.
    - Melissa Downes added via the chat function that she appreciates the O&M details associated with a large anchor project to increase flows on the Walla Walla River, but we should not lose sight of the construction costs.
        - Dan added that the Flow Study does not have an active part of scope to update the construction costs. In our tasks around the Lower Pine Creek Reservoir (Task 7) and Warm Springs Reservoir (Task 9) there will be new cost estimates.
        - Ron Fehringer added that they will conduct a brief analysis to compare and verify costs for these projects – will not look holistically from project to project. He added that the challenge is the need for answers to questions is outpacing the funding available. He asked whether there is a portion of OCR budget designated for Walla Walla for the next fiscal year, subject to the legislative process?
            - Tom shared that OCR has requested $3 million for the 2021-2023 budget. A portion of the funding is earmarked for completion of the 2050 process and moving through EIS. Additional money is intended to identify further work with USGS GW Study, the Bi-State Flow Study, and data gaps. Ecology will know more about the budget by the end of December.
    - Dale Bambrick asked if there's an opportunity to take a closer look at managing Bennington Lake differently, such as retrofitting it so it can be rerouted and retimed around Mill Creek and delivered into the Walla Walla River. He added this would provide supplemental flow for late Spring Chinook migration, increase baseflows, and provide other benefits.
        - Ken Hansen added that they looked at flows in discussions with USACOE. Any flow augmentation has to be new storage because all storage is allocated at Bennington Lake. This demonstrated that the times we'd like to fill for other storage, not feasible because we're not at a safe fill date to mitigate floods in Walla Walla River. This is not feasible unless we added additional storage above what is in the reservoir.
            - Dan to call Dale to discuss in more detail.
    - Scott Tarbutton asked whether the Steering Committee is actively considering additional reservoir locations? He added that there may be landowners who have not been engaged yet who may be interested.
        - Dan added that the technical work group developed screening criteria to determine if a project should be studied. He added he is unsure whether there are any new projects being considered. As we start on SEPA process, may get some exposure to additional project opportunities.

Irrigation District Roundtable

Teresa Kilmer, Walla Walla River Irrigation District (WWRID), Tim DeRuwe, Hudson Bay Ditch Improvement Company (HBDIC), and Mike Ingham (Gardena Farms Irrigation District (GFD13) provided updates on various issues of interest to their ID.

Teresa Kilmer: WWRID

- Teresa provided an overview of the LWWR system.
    - Historical documents estimate that the LWWR carried 58% of the flow of the Walla Walla River.
    - There is a history of litigation over division of water between landowners on LWWR and the mainstem (Tumalum branch).
    - Oregon Water Resources Department determined that any water in the LWWR beyond the ID boundaries was "spill" and considered a waste of water. The state began regulating the LWWR in 2005. Letters were sent to landowners north of the ID's boundaries, regulating water rights back to the early 1890s every year.
    - Additionally, OWRD determined that the LWWR could not have water in it in the winter unless it was being used for irrigation.
    - As water decreased in the lower end of the LWWR system, shallow wells and spring branches began to dry up. Due to the lack of water, OR and WA users of the LWWR north of the ID boundaries suffered crop failure, property damage, and loss of habit for fish and wildlife.
    - The numerous channels of the LWWR have a decreed year-round flow of 68.75 cfs per the 1888 and 1898 water right. They now flow at approximately 45 cfs in recent summers.
- Discussion:
    - Dan added that originally, we were not talking about restoring bypass flow quantities. Jacobs team put 10-15 cfs back into the original design.
        - Teresa added that 14 cfs will go a long way to helping the LWWR system. The larger question the WWRID is concern with is the regulation of the LWWR system.
        - She added that the WWRID takes 22,000 af minimum. She doesn't feel like the volume of exchange or storage reservoir has been thoroughly vetted.

Mike Ingham: Gardena Farms Irrigation District

- Mike shared that GFD13 is focused on the anchor projects.
- GFD13 would like to move towards the preferred alternatives and not get sidetracked on other issues.

Tim DeRuwe: Hudson Bay Ditch Improvement Company

- Tim shared that with climate change and decreasing snowpack, we need to bring in water from the Columbia River or construct a reservoir.
- HBDIC has had to give up water for fish and have learned to live with it.
- He posed the question to the group of at what point does it make sense to start narrowing in on a project champion, even if we do not have the specific projects identified yet. He added that we need supporters from both states.
    - Ralph added that if we're going to try to determine a place to pump or store water, we ought to have some idea of the demand for water in basin that's been allocated by ECY or OWRD to decreed water rights.

Streamflow Protection

Legal TWG

Chris Marks provided an update on the Legal TWG. There was a request to convene the Legal TWG to further the conversation and identify potential next steps. Developed several recommendations:

- Develop list of known flow protection gaps.
- Identify necessary components of OR legal mechanism to protect exchanged water.
- Ongoing discussions with OR users on the LWWR system and other issues.

Chris Kowitz, OWRD, added that there are distinct issues to work through including if a reservoir or Pump Exchange is built in order to meet the objectives of the group. Need to engage in these legal discussions early and often.

Three-Sovereigns Update

Tom shared that the three-sovereigns are continuing to meet (since mid-2019). Key updates include:

- Determining how the two states and tribe can share legal analysis without losing attorney client privilege.

- Understanding surface and groundwater users by investing in Bi-State USGS Groundwater study.
- Ecology staff researched bi-state water compacts across the nation.
    - Conclusions:
        - Examples were typically 70-100 years old.
        - No current relevant blueprints that consider surface and groundwater or tribal treaty rights.
        - May need to create something new.
- WA State Adjudication Assessment Update: Submitted a report to the legislature recommending adjudications now that the Yakima Plan is concluding. The Walla Walla Basin was considered in that preliminary short list but was not selected.
    - Selected: Upper Columbia and Nooksack.
- Next meeting: Q1 2021.
- Chris Kowitz added that the OR Gov's budget was released. Allocated a certain number of positions for the Basin GW Study and those recommendations have been carried forward in the budget.
    - He assumes that OWRD will likely bring on more staff in the 2021-2023 budget cycle.
- Chris Marks stressed that conversations at these meetings, Legal TWG meetings, and WWW2050 meetings are being communicated to the three-sovereigns process.

Discussion:

- Mike Ingham added that there are regulatory discrepancies across the states. For example, in WA, if Gardena Farms were to take exchange water and leave it in the river, through the trusts system, they can designate it for instream in use and protect from everyone but senior water users below Gardena Farms. That mechanism is not in place in OR.

WWW2050 – Flow Study Connections

- Caroline Burney and Amanda Cronin provided updates on connections between the Flow Study and the WWW2050 Plan, specifically providing details on where issues that are not included in the Flow Study are included in the WWW2050 plan. See Figure 2.
    - LWWR – will reflect issues with LWWR in habitat, agricultural water supply needs, and streamflows and groundwater sections. LWWR issues will be addressed through the Current Conditions, Desired Future Conditions, and Strategies.
    - Declining Groundwater – will reflect impacts to habitat, water supply needs, and streamflows. Will address through Current Conditions, Desired Future Conditions, and Strategies.
    - The 2050 Plan is also looking at other tributary issues (e.g. Mill Creek and Touchet River) in full detail.

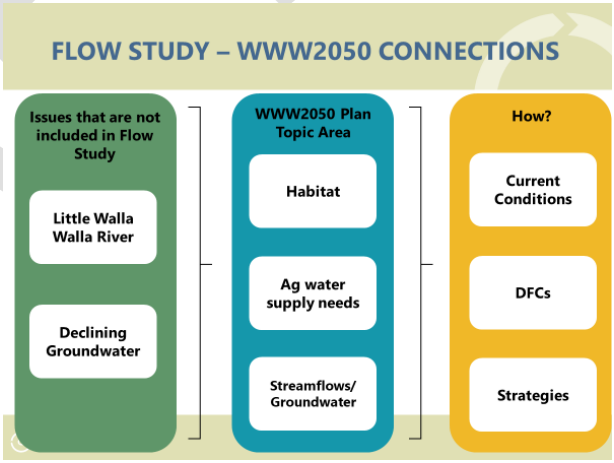

Figure 2: Flow Study – WWW2050 Connections

- Amanda added that the 2050 Plan is the umbrella that a lot of these efforts are nested in. Strategies to look at water supply in the basin are nested in the Flow Study but other strategies to supplement those ideas are under the WWW2050 plan.

WWW2050 – Updates

- November Meeting Summary: There were no comments on the November meeting summary. All approved.
- Strategic Plan Updates:
    - The writing team is taking a sequenced approach to writing the strategic plan. The Floodplains and Flood Control section of the Strategic Plan was distributed to the Working Groups (WG) on 11/16. This includes Current Conditions, Desired Future Conditions, Gap Identification, and Strategies. The goal of this sequenced approach to the Strategic Plan is to confirm whether we are hitting the mark regarding the level of technical detail while also keep Plan content moving forward.
    - The writing team will circulate the Streamflows and Groundwater Topic Area Drafts in January 2021.
    - The writing team will share an Informal Draft of the Strategic Plan with the SPAC in late February 2021.
    - Please continue to share any specific comments and general feedback on the Strategic Plan with Angela Pietschmann at angela@cascadiaconsulting.com.

- Working Group Updates:
    - The Ecological Function WG met on 12/9 to provide input on the floodplains draft of the Strategic Plan, refine the habitat matrices, and begin building out implementation details for the strategies.
        - The next Ecological Function WG meeting is on 1/6 from 1-3:00 pm.
        - A sub-group will meet to add detail to the Ecological Function sections of the Current Conditions. The intention of the subgroup is to serve as an additional working body to provide a succinct, bulleted list of current conditions and/or past work, and the citation for each bullet, so that we can incorporate this content into the Strategic Plan.
            - Please email Caroline at caroline@cascadiaconsulting.com if you'd like to join the subgroup.
    - Land Use WG: next meeting is TBD. A Doodle Poll will be distributed to determine the best time.
    - Implementation WG to begin meeting in late January or early February. A Doodle Poll will be distributed to determine the best time.
        - This WG will build out the implementation details for the strategies and conduct a multi-criteria analysis to prioritize strategies.

WWW2050 – Strategic Plan Strategies: Water Supply Needs

Susan introduced the discussion around water supply strategies. The intention of the discussion is to provide input on which strategies the Working Groups (WG) should consider and build out with more technical detail.

Amanda reviewed the matrices. Detailed edits are available on the linked document. SPAC members provided comments out loud, via the chat function, and a Google document. A summary of the conversation is below:

- General Comments:
    - Need to consider how we envision funding strategies as well as large scale anchor projects.
        - Who will own? Who will operate? WGs to consider these questions.
        - The notion that local governments are engaged has been a powerful tool to leverage political and financial support in the Yakima Basin.
    - Need to consider viability of strategies given existing regulations. For example, may consider an evaluation of OWRD regulatory controls and consider alternative regulatory strategies.
    - Multiple strategies will be needed to address the issues in the basin, as well as short and long-term strategies.
- Agricultural Water Use/Supply Comments:
    - Conservation Strategies:
        - WWT noted that their focus in the basin has been on increasing instream flows through the irrigation efficiencies, WA trust water program, floodplain and habitat restoration, MAR, and conservation strategies.
        - SPAC members noted we should be cognizant of any unintended consequences associated with conservation projects (e.g., lack of groundwater infiltration).
    - Augmentation Strategies:
        - Many SPAC members noted that augmentation is a high priority strategy and has important benefits for instream needs and consumptive uses.
        - Efforts to improve water supply intersect with habitat, floodplain, and other strategies. Potential for multi-benefits with augmentation projects.
        - Several SPAC members noted that developing forecasting tools is important for managing water use in wet and dry years.
    - Recharge/Storage Strategies:
        - SPAC members recommended adding a strategy around enhancing the upper watershed through retiming and infiltration projects.
    - Metering Strategies:
        - SPAC members noted that increased use of telemetry and gauging can help keep track of water use in real time to ensure efficient management of water.
    - SPAC members noted that a key roadblock to implementing the strategies are the bi-state flow challenges, including regulating and protecting bi-state flows.
- Municipal/Commercial Water Use/Supply
    - Conservation Strategies:
        - SPAC members noted that a key limitation to municipal conservation is the lack of funding. It is expensive to fix pipes under streets and sidewalks. May be good to prioritize these strategies.

        - SPAC members suggested deleting the reclaimed water strategy for municipal water supply as most reclaimed water is being put to beneficial use.
    - Growth Management Strategies:
        - SPAC members noted that the City of Walla Walla had an ordinance to protect the shallow aquifer. This may be a useful strategy for other municipalities in the Basin.
        - There may also be opportunities to supply water to developments outside of the city limits to benefit the shallow aquifer and instream flows.
        - SPAC members suggested land use planning to limit development to have a smaller footprint.
    - Recharge Strategies:
        - There is competition for winter water from a variety of projects (MAR, ASR). Need to be aware of competition for limited resources.
        - SPAC members noted that unless the 'Groundwater Management District' strategy is focused on the basalt aquifer, it is more appropriate for agricultural water users.
    - Outreach and Education Strategies:
        - SPAC members suggested adding Walla Walla Community College Water Center as a potential implementer to help with outreach and education.
    - Other Strategies:
        - SPAC members added there may be long term opportunities similar to the City of Walla Walla ASR project, and diversions of streams during the irrigation season could be exchanged with stored winter water, to meet municipal water demands.
    - Performance Measures:
        - SPAC members suggested the following additional performance measures:
            - Percentage of lost water in system.
            - Total water use (in addition to per capita).
            - New miles of main line installed.
            - Basalt water levels – monitoring.
        - SPAC members suggested removing the land area irrigated with reclaimed water since this has already happened (may not be a good measure of success).
- Industrial Water Use/Supply
    - *No comments.*
- Rural-Domestic Water Use/Supply
    - SPAC members noted that the USGS Groundwater Study is looking at projected growth in rural areas. There is a need to understand how much water is being used, even if it is a small portion of the water use in the basin. Additionally, there is not currently a program in place that ensures that new development that relies on Permit Exempt Wells (PEWs) are not potentially using water that others rely on. USGS Study to help fill these gaps.
    - Mitigation and Enforcement Strategies:
        - SPAC members noted that mitigation is an important strategy. These programs can be about broadly looking at other sources of supply (e.g., through MAR programs).
        - OR representatives noted that there have been meaty conversations on mitigation. There are difficult decisions to be made with regards to mitigation over the next years.
            - There is potential for multi-benefits by coupling conversations around PEWs with onsite sewage systems to address water quality issues.
        - SPAC members added that there is potential to minimize use of rural water out of the shallow aquifer.
    - Metering Strategies:
        - SPAC members noted that telemetry is an important strategy for metering and reporting to increase compliance.
    - Land Use Strategies:
        - SPAC members noted that land use strategies are important to protect ecosystems, water quality, quantity, and floodplain health.

Closure:

Public Comment

No comments.

Closing Remarks:

Judith thanked everyone for their ideas, participation, and information. She wished everyone a happy and healthy holiday to the extent possible. Tom added appreciation for the good conversation and added that we are getting closer to a list of strategies.

Upcoming Meetings:

- SPAC
    - January 27 from 1 – 4:30 p.m. | Critical Species, Habitat, and Surface Water Quality
    - February 24 from 1 – 4:30 p.m. | Land Use & Strategies Part I
- Working Groups
    - Ecological Function: January 6 from 1 – 3:00 p.m.
    - Land Use: Doodle Poll to be distributed soon.
    - Implementation: Doodle Poll to be distributed soon.

Appendix A. Attendance

SPAC Members in Attendance:

Name	Affiliation
Bambrick, Dale	NMFS, NOAA
Boen, Cindy	USACE
Byerley, Annie	WA Irrigation at-large
Dymecki, Sarah	WWT
Johnson, Judith	WWWMP, *Ex-Officio*
Kilmer, Teresa	Walla Walla River ID
Kimball, Todd	Walla Walla County
Kowitz, Chris	OWRD
Marks, Chris	CTUIR
Newhouse, Allie	Little River Group
Patten, Steven	City of Milton-Freewater
Perkins, Ralph	WWBWC
Talbott, Mike	Columbia County
Tebb, Tom	Ecology, *Ex-Officio*
Wagoner, Mark	Gardena Farms Irrigation District

SPAC Members Not in Attendance:

Name	Affiliation
Shafer, John	Umatilla County
Wachtel, Mark	WDFW

Other Attendees:

Name	Affiliation
Baker, Troy (alternate)	WWBWC
Beeler, Brook	Ecology
Birdsall, Doug	WWWMP
Burney, Caroline	Cascadia Consulting
Campbell, Jon	DWWF
Chiono, Anton	CTUIR
Dengel, Jeff	WDFW
Downes, Melissa	Ecology
Fagan, Colleen	NMFS, NOAA
Fazio, John	
Fehringer, Ron	Jacobs Engineering
Grandstaff, Mark	WDFW
Gulick, Susan	Sound Resolutions
Hadley, Renee	Walla Walla County Conservation District
Haire, David	CTUIR
Haller, Dan	Aspect Consulting
Hansen, Ken	Jacobs Engineering
Hyland, Chris	WWWMP
Ingham, Mike	Gardena Farms Irrigation District
James, Gary	CTUIR
James, Nate	
Knowles, Shareen	Little River Group
Kraft, James	WWT
Martin, Luke	
Mattson, Larry	Jacobs Engineering
Neve, Bill	Water Right Solutions
Rea, Dennis	
Redfield-Wilder, Joye	Ecology

Reid, Molly	GeoEngineers
Reser, Yancey	
Reynecke, Brandy	Ecology
Robinson, Perrin	Jacobs Engineering
Sater, Chet	US Bureau of Reclamation
Scrafford, Michael	
Short, Jaime	Ecology
Tarbutton, Scott	Ecology
Warriner, John	Aspect Consulting
Woods, Paul	Jacobs Engineering