



## Strategic Plan Advisory Committee (SPAC) Meeting Summary

Wednesday, February 24

1:00 p.m. – 4:30 p.m.

[WebEx](#) Meeting (See instructions on Page 2)

Time*	Agenda Item (Action items are marked with "I")	Reference Materials	Presenter(s)
1:00 (10 mins)	<b>Welcome, Introductions, Review Agenda</b> <ul style="list-style-type: none"> <li>Welcome</li> <li>Opening remarks</li> <li>Introductions</li> <li>Review agenda</li> <li>Review and Approve January Meeting Summary</li> </ul>	<ul style="list-style-type: none"> <li>Agenda</li> <li>January Meeting Summary</li> </ul>	<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> <li>Tom Tebb, Ecology</li> </ul>
1:10 * (15 mins)	<b>Updates</b> <ul style="list-style-type: none"> <li>Update on Strategic Plan               <ul style="list-style-type: none"> <li>Reminder about upcoming Informal Draft review period</li> </ul> </li> <li>Update on Working Groups</li> </ul>		<ul style="list-style-type: none"> <li>Caroline Burney</li> </ul>
1:25 (30 mins)	<b>Reminder of Strategy Development and Prioritization Process</b> <ul style="list-style-type: none"> <li>Review Desired Future Conditions (DFCs)</li> <li>Review and define strategy categories</li> <li>Preview strategy prioritization survey</li> <li>Adaptive Management approach</li> </ul>	<ul style="list-style-type: none"> <li>List of DFCs</li> <li>Strategy Prioritization Overview</li> </ul>	<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> <li>Caroline Burney</li> <li>Amanda Cronin</li> </ul>
1:55 (40 mins)	<b>Drought Management Strategies</b> <ul style="list-style-type: none"> <li>Current State and Local Management Actions</li> <li>Discussion of Strategies to Consider in the Plan</li> </ul>	<ul style="list-style-type: none"> <li>Current Drought Management Strategies from Working Group and SPAC discussions</li> </ul>	<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> <li>Eric Hartwig, Ecology</li> <li>Chris Kowitz, OWRD</li> <li>Frank Nicholson, City of WW</li> <li>SPAC members</li> </ul>
2:35 * (15 mins)	<b>WA Stream Gages: Desired Locations</b> <ul style="list-style-type: none"> <li>Review results of SPAC survey</li> <li>Next steps</li> </ul>		<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> <li>Caroline Burney</li> <li>Scott Tarbutton, Ecology</li> </ul>
2:50	<b>10 MINUTE BREAK</b>		
3:00 (75 mins)	<b>SPAC Discussion: Potential Climate Change Strategies for Inclusion in the Strategic Plan</b> <ul style="list-style-type: none"> <li>Presentation</li> <li>Discussion:               <ul style="list-style-type: none"> <li>Which of these strategies should we include?</li> <li>Do we have the right strategies to meet the DFCs around climate change/resilience?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Columbia River Supply and Demand Forecast: Executive Summary</a></li> <li><a href="#">WA State of Knowledge Report: Water Chapter</a></li> </ul>	<ul style="list-style-type: none"> <li>Guillaume Mauger, UW CIG</li> <li>Jennifer Adam, WSU</li> <li>Susan Gulick, Facilitator</li> </ul>

4:15* (5 mins)	<b>Review Schedule for Upcoming Meetings</b> <ul style="list-style-type: none"> <li>Overview of Upcoming SPAC Discussion Topics</li> </ul>	<ul style="list-style-type: none"> <li>Caroline Burney, Cascadia</li> <li>Susan Gulick, Facilitator</li> </ul>
4:20* (5 mins)	<b>Public Comment</b>	<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> </ul>
4:25* (5 mins)	<b>Updates and Next Steps</b> <ul style="list-style-type: none"> <li>Action items</li> <li>Updates/announcements</li> <li>Upcoming meetings <ul style="list-style-type: none"> <li>SPAC</li> <li>Working Groups</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> <li>Caroline Burney, Cascadia Consulting</li> </ul>
4:30*	<b>Adjourn</b>	<ul style="list-style-type: none"> <li>Susan Gulick, Facilitator</li> </ul>

### Summary of Action Items

- Review **Informal Draft of Strategic Plan** from March 1 – March 19.
- Complete **Strategy Prioritization Survey** by March 15.
  - Discuss results at March 24 SPAC meeting.

### Introductions

Tom Tebb, Washington Department of Ecology, welcomed attendees. Susan Gulick, Sound Resolutions, reviewed the agenda and led roll call. Attendees are listed in **Appendix A**.

### Updates

- The Consulting Team will distribute the 'Informal Draft' of the Strategic Plan by March 1.
  - Reviewers should focus on content and identify any major gaps.
  - The review period is from March 1 to March 19.
- Working Groups
  - The Implementation Working Group (WG) held its first meeting on February 17 to review and refine all strategies. The Consulting Team is working on incorporating all edits and the WG will review as a full group during the next Implementation WG on March 3.
  - The Land Use WG met on February 19 to discuss stormwater management strategies.
    - The next meeting is on March 4 and will include a discussion on upland management strategies.

### Reminder of Strategy Development and Prioritization Process

#### Desired Future Conditions

Amanda Cronin, AMP Insights, provided an overview of the [Desired Future Conditions](#) (DFCs). This is a simplified list that will be used to determine what strategies are needed as well as assess the effectiveness of strategies.

#### Discussion:

- Floodplains, Habitat, and Water Quality
  - Tom added via the chat function to add a DFC: "Improving instream flow to support and restore fish and aquatic species in the basin."
  - Ralph Perkins added that there needs to be more emphasis on what is going to occur and how it's going to occur in the areas that are outside of the immediate stream area.
    - Amanda added that there are strategies and DFCs. We have strategies related to BMPs on agricultural and forested lands.
  - Dale Bambrick suggested being more specific about fish passage issues at Mill Creek and Nursery Bridge.
    - He added that if we do not address passage issues at Nursery Bridge or Mill Creek, we will not be successful.
    - He suggested refining the DFC to call out "human-caused fish passage barriers."
- Water Supply, Streamflows, and Groundwater
  - Steven Patten noted that there are no DFCs related to municipal supply.
    - He added that "restoring storage capacity in basalt aquifer" is a strategy to meet that DFC.
    - Chris Kowitz echoed Steven's suggestion and suggested we should acknowledge municipal, commercial, and industrial water use.
  - Chris Kowitz asked why the DFC specifically calls out protecting senior agricultural water rights.
    - Dan Dorran agreed with the suggestion to remove "senior."

- Chris Kowitz suggested expanding the DFC around “stabilizing aquifer levels” to make broader than surface water.
- Steven suggested refining the DFC to be “create climate resilience.”
- Monitoring and Metering
  - *No comments.*
- Other Comments
  - Jim Kraft added that the DFCs are currently framed as desired future directions rather than conditions.
    - Dale echoed Jim’s comments and noted that for sediment transport, we are chasing natural, whereas for the other DFCs we are just saying “do better.”

### Strategy Prioritization Process

Susan reviewed the proposed [process](#) to prioritize the strategies via a strategy prioritization survey. The intention of the survey is to serve as a tool to build consensus on a package of recommended strategies that will be included in the Strategic Plan.

- SPAC members will get the survey link the week of March 8 and will have a week to complete.
- Strategies will show how many DFCs are met in order to show if they provide multiple benefits and add up to a comprehensive package of recommendations.
- Responses will be discussed at the March 24 SPAC meeting.
- Susan added that the WGs have discussed adaptive management. Details of an adaptive management strategy will be included in Phase 2 of the Strategic Plan.

### **Drought Management Strategies**

The SPAC discussed existing policies used by Washington, Oregon, and local municipalities to manage drought. They reviewed potential strategies for inclusion in the Strategic Plan.

#### Washington: Eric Hartwig, WA Department of Ecology

- Background:
  - WA declares a drought when the following criteria are met (See [WAC 173-166](#)):
    - Water supply conditions for an area that is projected to receive less than 75% of normal water supply as the result of natural conditions..
    - The deficiency causes, or is expected to cause, undue economic hardship.
  - A group of local stakeholders begin meeting the second week of March to assess the streamflows and water supply. They meet every week or as needed as issues change.
    - Stakeholders include Ecology, National Weather Service (NWS), United States Geological Survey (USGS), and United States Army Corps of Engineers (USACOE).
    - He added it would be beneficial to have farms, cities, and other state agencies at the table.
  - Eric begins looking at the snowpack the second week of February.
  - Eric added that we need to be monitoring for drought conditions year-round because there are instances of drought in October.
    - Eric added that it is beneficial to be in close coordination with irrigators. Last year, Eric curtailed priority dates before 1984 on the Touchet River. He was able to notify them two weeks before they were going to be curtailed to reduce impacts to farmers.
    - Dale added via the chat function that the instream conditions in the mainstem Touchet and elsewhere are drought-like every year.
  - Tom shared an example of the [Water Supply Outlook reports](#) from the NWS.
- Strategies used by WA:
  - Pulse flows. Example: Worked with CTUIR and Lowden diverters to do a pulse flow.
  - Work with irrigators. Example: State paid irrigators to fallow their fields for a year.

#### Oregon: Chris Kowitz, Oregon Water Resources Department

- Background
  - OWRD’s state drought declaration process is available [here](#).
    - County Commissions are the entities that request drought declaration. Send to Office of Emergency Management.
    - The Committee for Water Availability meets to look at conditions on water availability and makes recommendations to the Oregon Drought Council. The Council then makes a recommendation to the Governor’s office.
    - The Governor has the final say in a drought declaration and can issue a number of drought emergency orders.
    - Drought declaration typically happens at a county scale.
  - OWRD distributes its water conditions [report](#) which provides a comprehensive monthly update on snowpack, drought conditions, reservoir conditions, and climate considerations.
  - Chris agreed with Eric’s suggestions to be more proactive and communicate with user community more broadly if things are looking to be in a significant deficit.
- Common tools
  - Emergency water use permits. Cities that rely solely on surface water may apply to use groundwater temporarily.

- Temporary transfers.
- Temporary leases.
- Temporary substitutions
- Water Resources Commission can give preference to human consumption and stock water.

#### City of Walla Walla: Frank Nicholson

- Tools
  - City of Walla Walla looks at water conservation first.
    - In the last 20 years, city has grown 20% but water usage has decreased.
    - Strategies include:
      - Outreach to schools.
      - Customer leak detection – installed smart meter system to meter water usage and detect leaks.
      - Irrigation efficiency, zero-scape parks, and native landscaping within Parks department.
      - Water bills show consumption.
  - Water supply
    - In the 1980s and 1990s, the aquifer was dropping 1 foot per year.
    - In the 2000s, the City of Walla Walla initiated Aquifer Storage and Recovery (ASR) to inject surplus winter water down wells. Restored water levels back to historical levels to improve resiliency to drought.
  - Drought ordinance
    - If the City starts running out of water; City Council enacts a drought ordinance.
    - The City has not had to enact the ordinance.
  - Other
    - City has water tanks that need to be drained and has discussed draining them in the spring to help with the outflow of salmon smolts.
- Discussion
  - Amanda asked for clarity on the toggling between groundwater and surface water?
    - The City of Walla Walla would like to expand ASR. If they are able to do so, they will be able to use more well water to help local creeks.
    - There is a pilot with Washington Water Trust (WWT) to run well #1 during critical low flow periods in the summer to see if it supplements streamflows.
  - Dale expressed gratitude to the City for all it has accomplished and its willingness to help fish.
  - Jon Campbell asked how ASR impacts city wells?
    - ASR raised the water table 20-30 feet. ASR has rebuilt the aquifer to its pre-development state.
  - Jamie Gardipe added that all public water systems are supposed to have a plan that includes a section on drought response and water shortages.
    - Chris Kowitz added that Oregon has a similar requirement to develop a drought and water curtailment plan. Municipal water suppliers have to have one or both of the following:
      - Water system master plan (administered through OR Health Authority).
      - Water conservation management plan (administered through OWRD).
  - Ralph asked how the Flow Study fits into this strategy?
    - Tom shared that there is a great opportunity to coordinate the different activities between entities on an annual basis.
    - Additionally, depending on what project is selected and its size, could augment the instream flow values or recharge aquifers during times of drought.
  - Tom noted that when Washington declares drought, it feels like the surface water users share the biggest brunt of the impact by either being curtailed or being asked to reduce water use. He expressed appreciation for the work by the City of Walla Walla and is surprised that there are no reductions during times of drought. He asked whether there is a more strategic way to respond to drought to provide clear, phased steps depending on the severity of droughts?

#### Discussion of Strategies to Include in the Plan

Susan reviewed the [Current Drought Management Strategies from Working Group and SPAC Discussion guide](#). SPAC members discussed additional strategies to include. A summary of the discussion is below.

- SPAC members agreed that the burdens for drought are not being equitably born. Fish and junior water rights holders bear the burden all years because of the over-allocation of water.
- Chris Marks added that managing floodplains for watershed health should also be a focus in the uplands.
  - He added that the Flow Study changes the conversation a bit. As we move forward, and there are increased instream flows, there should be a strategy that provides flexibility in terms of making water available.
- Tom added that we need to have an annual planning forum to coordinate the following:
  - Outreach to the public to increase awareness of drought.
    - Frank added that the City of Walla Walla has 11,000 water customers who receive a conservation newsletter. This is a good tool for outreach.

- Coordinated action based on severity amongst entities including cities, counties, and other surface and groundwater users..
  - Strategize and phase actions based on severity of drought.
  - Proactive tools including financial incentives for irrigators.
- Chris Kowitz added that there are opportunities to increase coordination on a variety of levels that are outside of traditional drought declaration processes. He expressed support for an annual planning forum.
- Chris Marks added that the drought management strategies need to be looked at in the near and long-term.
  - As we are successful in growing the pie of available water, it adds more flexibility to address the issues.

### **Washington Stream Gages: Desired Locations**

Scott Tarbutton, Washington Department of Ecology, shared that there is the possibility for Ecology's Office of Columbia River (OCR) to allocate money in the next biennium to address data gaps in the Walla Walla basin, which includes stream gages. There is a March 1 deadline for OCR to internally submit specific streamflow gaging requests so that Ecology can prioritize workload across the state. After March 1, Ecology will evaluate the requests and, if approved, the work can begin any time after July 1. OCR does not know exactly how many stream gages can be funded at this time, since the OCR 21-23 biennium budget is not finalized, but OCR is hoping that at least 2 or 3 will make the cut. OCR sought local input on the streamflow gage locations; SPAC members provided input via a survey.

### Discussion:

- SPAC members reviewed the survey results and came to consensus around the top three priority locations:
  - Walla Walla River at Pepper Bridge
  - Yellowhawk Creek at Hwy 125
  - East Little Walla Walla River at mouth
- SPAC members provided input on additional potential locations.
  - Cindy Boen suggested Touchet River at Davis Hollow, or Blue Creek at the Confluence with Mill Creek.
  - Mark Wagoner suggested Beet Road because the gage has operational issues.
    - Eric added that there is often not enough flow for the meter to measure. WWBWC used to manage a low flow gage just downstream a couple years ago.
    - Ecology can work on improving operations at this site – this funding request is for new gages.
  - Eric suggested small tributaries at the state line so we have increased knowledge of what water we are managing.
    - Scott added that the priority locations should include:
      - Confined channels where most flow is in that channel versus a braided channel.
      - Bridge crossing to get the top end of the rating curve.
    - Cindy expressed support for gages at the state line.
    - Sarah Dymecki echoed the support for gages at the state line. She added that WWT is doing several projects on the Touchet so would like to see a gage below the one at Bolles, such as the Touchet River at Luckenbill Road site. She added it would be beneficial to have something closer to the Touchet Westside Irrigation District diversion.
  - Marty Hall suggested a gage in the upper Touchet, such as at Wolf Fork.
  - Steven added that McDonald Road could be a good location because it is before inputs from other creeks.
    - Eric shared that WWBWC has data on that reach.

### Next Steps:

Scott submitted the request for the following sites:

- Walla Walla River at Pepper Bridge.
- Yellowhawk Creek at Highway 125.
- Touchet River at Sims Road.
- East Little Walla Walla River at Mouth.
- Wolf Fork Touchet River at Mountain Home Park.

### **Climate Change:**

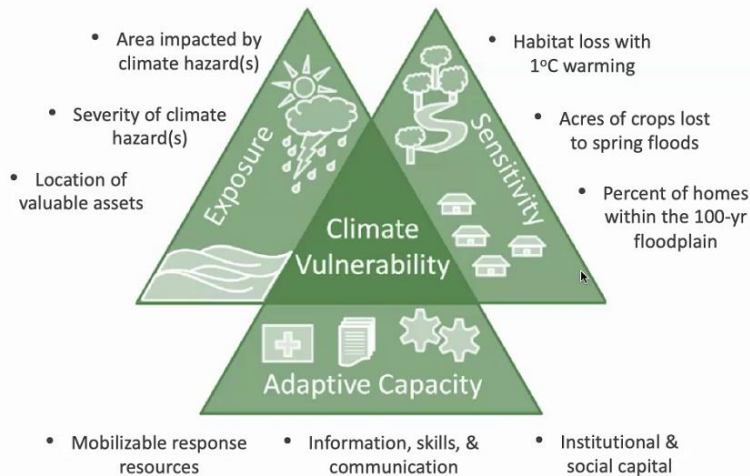
Caroline Burney, Cascadia Consulting Group, introduced the discussion to incorporate climate change and climate resilience strategies into the 2050 Plan. A recording of the presentations is available [here](#).

### Guillaume Mauger, University of Washington Climate Impacts Group

Guillaume provided an overview of observed and projected changes in the Walla Walla Basin and Pacific Northwest due to climate change. The presentation is available [here](#).

- Observed Changes:
  - Seen about 2 degrees Fahrenheit warming since 1895 – less than what we anticipate over the next 80 years.
    - Example: The coldest day of the year is 4.78 degrees warmer. This has impacts on things like winter tilling requirements for fruit crops, icy road conditions, and others.
    - The frost-free season is 16 days longer.
  - Washington Cascades snowpack decreased 25% between mid-20<sup>th</sup> century and 2006.

- Peak streamflow from snowmelt is occurring up to 20 days earlier.
- Increase in area burned. Like with many issues, climate change is not the only factor. One factor among many that is driving the change.
- Projected Changes:
  - Rapid warming – temperature change.
    - By 2050s – WA is projected to see warming of:
      - 5.8 degrees under high emissions scenario.
      - 4.3 degrees under low emissions scenario.
  - More intense heavy rains: Heaviest rain events (top 1% daily) are projected to become 22% more intense by the 2080s.
  - Snow
    - Snowpack in Southeast Washington peaks in February.
    - By the 2040s the Walla Walla watershed will have a significant decrease in snowpack.
  - Current vs future flooding
    - FEMA models for Skagit Valley: Fairly simple exercise where map was already created – plugged in numbers to see what was projected mid-century and by the end of the century.
    - Once models are created, it would be fairly straightforward to assess climate impacts to flooding for the Walla Walla Basin.
  - Salmon impacted across full life-cycle
    - Larger and more frequent floods impact early life stages.
    - Early peak flows.
    - Warm, low streamflows impacts spawning and migration.
    - Big unknown around what happens to salmon in the ocean.
  - Increased wildfire risk
    - Could be a tripling in the area burned by the Columbia River Basin by 2040s.
    - 50% more very high fire danger.
    - Longer fire season and greater risk, which impacts hydrology.
  - Food & agriculture
    - Higher summer temperatures.
    - Longer growing seasons.
    - Decreased summer water availability.
    - Invasive species.
  - Health & well being impacts due to increased heat and smoke and decreased water quality.
  - Infrastructure
    - Flooding.
    - Impacts on transportation.
  - Climate impacts on water resources
    - Wetter winters.
    - Heavier winters – bigger floods in winter.
    - Declining snowpack – lower water supply in summer.
    - Drier summers – decrease in precipitation in summers.
    - Longer growing season.
    - Wildfire can exacerbate flooding.
- Guillaume introduced climate vulnerability as a tool to assess effectiveness of strategies:
  - Exposure – how much is it changing?
  - Sensitivity – how much would it have to change to matter?
  - Capacity – do we have the institutions to bounce back?



- Discussion

- James Kraft asked how we stay optimistic?
  - There are a lot of things that affect water supply that may actually have a bigger impact than climate change. For example, many rivers have been straightened and leveed which has impacted water supply and increased flood risk.
- Tom asked whether the upper Columbia River Basin in British Columbia is experiencing the same shift as Washington? We are seeing an increase in discharge of water at the Dalles – is it more glacial melt or precipitation?
  - Jennifer Adam, Washington State University, shared that we are seeing a slight increase in British Columbia as it's a snow dominant system.
  - Tom added that there is more water in the Columbia River now than ever before – people ask why there are not more permits issued. As we are looking at large projects to replace irrigation diversions, the Columbia River is a place where we are looking to do a pump exchange – but that will largely be bucket for bucket. Want to ensure we are thinking about the system that we are tapping into.
  - Guillaume added that on an annual basis, water supply will be impacted by how much water rains. In Washington, the long-term projection by end of century is for there to be about 4% more rainfall on average by 2080s. The year-to-year variability in rainfall is 15-25% so it may be hard to tell the difference in the year 2085.

Jennifer Adam, Washington State University

Jennifer leads the development of the [Columbia River Basin Long-Term Water Supply and Demand Forecast](#).

- Jennifer and her team of modelers take an integrated approach to overlay hydrology and crop data with water right information, economic data, climate impacts, and water capacity scenarios to develop the forecast. The forecast includes the following components:
  - Water supply
  - Water demand
    - Irrigation water demand
    - Municipal water demand
    - Hydropower demand
  - Where water supply and demand intersect
    - Interruption of water rights
    - Drought impacts
- Key Findings: Water Supply
  - Snow/Rain supply determined by temperature.
    - There is higher sensitivity in places with more snow. (e.g., Wenatchee: historically 84% snow; under high emission scenario will be 62%).
    - Walla Walla Snow/Rain Supply:
      - Historical: 32%
      - Low Emissions Scenario: 20%
      - High Emissions Scenario: 12%
  - Shift in hydrograph.
    - Low flows are going lower; High flows are going higher.
    - Shift in hydrograph to the left because reduced snowmelt influence. As more precipitation falls as rain, it comes out of the system immediately.
    - Walla Walla
      - Can see shift of water coming out earlier in the system.
      - Note that this does not include the contributions from Oregon.

- Key Findings: Water Demand
  - Net decrease in irrigation demand
    - Multiple reasons:
      - Annual crops go through phenological stages faster – plants harvested before driest part of summer occurs.
        - Primarily for annual crops.
        - Can be planted earlier and mature faster so harvested earlier.
        - Growing season is shorter than historic.
      - Winter precipitation increasing.
      - With higher Co2 levels, some crops will use less water.
      - Future crop mix.
      - More potential for farmers to do double cropping – this has a large potential to increase irrigation demand because irrigating in late summer when there is hardly any precipitation, so all comes from groundwater sources.
    - There are planned projects that will increase the irrigation extent – added those in to adjust demand.
      - This results in positive irrigation demand.
  - Water rights curtailment
    - Seeing more early season interruptions than historically.
- Discussion
  - Dale added via the chat function that water users expect the same amount of water, or at least most of their allocated amount in every year. Appropriation should be based on what is available in the driest years.
  - Todd Kimball asked whether Jennifer has seen earlier harvests due to the climate changes than 30 years ago? Harvest date not the same as I was a kid.
    - Jennifer's colleague is interested in moving forward with this analysis. It might involve some survey work.
    - Roland Schirman added that we are not growing the same varieties as 50 years ago either.
  - James Kraft added that this underscores the need to capture high flow, winter events, whether it is through aquifer recharge or natural systems storage.
  - Tom thanked Jennifer and Guillaume for all of their work. He emphasized that we need to take advantage of high flow events to store in the alluvial and basalt aquifer while recognizing that there are going to be challenges in some years.
  - Jeff Dengel added that there is a balance to strike between channel maintenance flows and storing high winter/spring flows.
  - Dale added that we need to be rethinking existing levee systems.
    - Guillaume added that his focus is on floodplain management. There is value to conduct a back of the envelope calculation in terms of where water can go during a flood event, or where water is going in the summer months in terms of water supply. This can clarify where there is potential for floodplain management to be effective.
  - Chris Marks added that the presentations highlighted the importance of integrating the outcomes into the plan.

### **Public Comment**

*No comments.*

### **Closing Remarks**

Brook Beeler, Washington Department of Ecology, thanked all for their input.

### Upcoming Meetings:

- SPAC
  - March 24 from 1 – 4:30 p.m.
- Working Groups
  - Implementation: March 3 from 1-3 pm
  - Land Use: March 4 from 10:30-11:30 am



## Appendix A. Attendance

### SPAC Members in Attendance:

Name	Affiliation
Bambrick, Dale	NMFS, NOAA
Boen, Cindy	USACOE
Byerley, Annie	WA Irrigation at-large
Dorran, Dan	Umatilla County
Dymecki, Sarah	WWT
Grandstaff, Mark (alternate)	WDFW
Hall, Marty	Columbia County
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
Tebb, Tom	Ecology, <i>Ex-Officio</i>
Wagoner, Mark	Gardena Farms Irrigation District

### SPAC Members Not in Attendance:

Name	Affiliation
Johnson, Judith	WWWMP, <i>Ex-Officio</i>

### Other Attendees:

Name	Affiliation
Baker, Troy	WWBWC
Beard, Chris	Ecology
Beeler, Brook	Ecology
Birdsall, Doug	WWWMP
Burney, Caroline	Cascadia Consulting
Cabbage, Patrick	Ecology
Campbell, Jon	DWWF
Coe, Arnold	WWWMP
Cronin, Amanda	Amp Insights
Dengel, Jeff	WDFW
Downes, Melissa	Ecology
Foltz, John	Snake River Salmon Recovery Board
Gardipe, Jamie	DOH Office of Drinking Water
Gulick, Susan	Sound Resolutions
Hartwig, Eric	Ecology
Hyland, Chris	WWWMP
Kernan, Megan	WDFW
Kraft, James	WWT
Melcher, Austin	Ecology
Neve, Bill	Water Right Solutions
Nicholson, Frank	City of Walla Walla
Redfield-Wilder, Joye	Ecology
Ribellia, Kristina	Western Water Market
Schirman, Roland	Columbia County
Short, Jaime	Ecology
Spangrude, Gene	
Tarbutton, Scott	Ecology
Thurston, Sean	Columbia County
Trumbull, Travis	WWRID
Walters, Bret	USACOE