

## Meeting Summary WRIA 54 & 57 Instream Flow Recommendation Work Group

Spokane County Fire District 9, Station 93  
9915 West Charles Road, Nine Mile Falls, WA  
Tuesday, December 11, 2007  
1:30 p.m.—4:30 p.m.

### Meeting Purpose

The purpose of the meeting was for Work Group members to establish a group decision-making process and to discuss with representatives of the Washington State Departments of Ecology (Ecology) and Fish and Wildlife (WDFW) the following instream flow issues:

- Setting control points
- Establishing instream flows
- Considering approaches for exempt wells, tributaries
- Establishing the geographic extent of the recommendation(s)

Meeting attendance is provided at the end of this summary.

### Action Items

- The Work Group will meet on January 29, 2008.
- The purpose of the meeting will be to develop recommendations for future water rights decision making for the following:
  - Control points to be used in the Spokane River
    - Barker Road has been agreed upon as a surface water gage
    - The Spokane Gage or the Seven Mile/Gun Club are options for gages related to regulating ground and surface water
    - The Little Falls Dam could serve as a lower river control point
  - Instream flows
- Pre-meeting activities will include the following:
  - The state delegation will provide recommendations on the recommended range of flows for fish habitat in the Spokane River by January 14.
  - Mike Hermanson will run the Bi-State Aquifer Model to consider the growth of water usage in Idaho and prepare a report.
  - Mike Hermanson and Bob Wheeler will draft a chart identifying pros and cons of different control points. Please see attached document.
  - The U.S. Geological Survey will be asked to provide the cost of operating a gage (i.e., at Seven Mile/Gun Club)
  - Work Group members will bring relevant data, reports, or materials for the discussion.

### Welcome, Agenda Review, and Meeting Summary Approval

Bob Wheeler welcomed the Work Group and reviewed the purpose of the meeting and the agenda.

The Work Group reviewed the draft summary of the October 23, 2007 meeting and approved it as submitted.

### **Draft and Final Decision-Making Agreement**

The Work Group reviewed, revised, and approved the draft “Decision Making Agreement for the WRIA 54/57 Instream Flow Work Group,” with the following changes:

- One individual was added to the Work Group, bringing the number of members to 27.
- The proposal to forward Work Group recommendations to the Planning Units for WRIA 55/57 and 54 was removed. If necessary, majority and minority reports will be provided to them present the Work Group’s rationale.
- See attached decision-making document.

### **Bi-state Aquifer Model Run Report**—*Mike Hermanson, Spokane County*

Mike provided the methodology for running the model and then provided the results.

- The model indicated that if all inchoate rights are pumped a significant reduction in August flows will result. The reduction in Spokane River flows ranged from 208-280 cubic feet per second (cfs) at the Spokane Gage.
- Additionally:
  - There is no change in the river from Lake Coeur d'Alene to Sullivan Road.
  - Significant changes in flows occur between Sullivan Road and Pines and the Upriver Dam when full inchoate rights are exercised.
  - In the West Arm there is no change in the aquifer/river interaction, largely because there is little groundwater pumping in the West Arm.
- In one scenario the locations of wells were moved to test hypotheses about the separation between the West Arm and the main aquifer. Some major city wells were relocated (City Well Electric was moved to the location of where the Baxter Well was and Park Waters Well was moved to near the Fort Wright Well that supplies Fairchild Air Force Base) and the results indicated that increased pumping in the West Arm does not significantly reduce flows at the Spokane Gage.
- In another scenario, wells were moved to the south side of the aquifer and there was virtually no change in Flows at the Spokane Gage.

Additional comments and questions about the Bi-State Aquifer model runs:

- In the primary model run there was little change observed in the Little Spokane flows.
- One comment noted that because Idaho is growing fast modeling water usage in Idaho is necessary to understand the future of surface and ground water in WRIAs 54 and 57.
- It was noted that funds in the instream flow grant to Spokane County allows for additional model runs to answer questions like those related to increased water usage in Idaho.
- In response to a question about an estimate of how many private wells are not included in this model run, it was noted that all wells included in the original model were in this model run. The original model contained an estimate of private well withdrawal and returns. The scenario modeled changes to municipal wells in the model, but other model inputs remained the same.
- It was noted that wells located in Idaho were included in the model, but the model run did not incorporate any change (increase or decrease) in the number of wells located in Idaho.
- Mike Hermanson reported that the Fairchild Well is considered in the model, but the Fairchild well’s consumption patterns were not altered in the model run.
- The Work Group requested that Mike do a model run that will consider population growth in Idaho.

**Control Points** – *John Covert, Department of Ecology*

Department of Ecology hydrogeologist John Covert introduced himself. He gave a background about control points and how they help managers control water rights. John explained that he would suggest using three control points for WRIs 54 and 57. He proceeded to provide his rationale for choosing the control points in three locations across the WRIs 54 and 57: (1) the Valley; (2) west of Downtown Spokane; and (3) near Little Falls.

(1) Valley Control Point from Stateline to Sullivan Road

The surface water control point for the purpose of future water rights decision making in this area could be the Barker Road Gage.

(2) West of Downtown Control Point

Three sites could be used where flows are or have been measured before: Spokane Gage, Seven Mile Bridge/Gun Club, and below Nine Mile. Historically records show that flows at these gages have been relatively consistent.

- Data shows that the flow measurements at Nine Mile have been “bouncy,” largely because flow management has been dictated by dam operations. Even though it seems like a good place (the lowest of the three gages for this portion of the Spokane River) for a control point, the data indicates that flows are unstable. This instability would create problems for interruptible water rights holders who could be shut off frequently due to “bouncy” flows.
- Seven Mile Gage or the Downtown Spokane Gage are both more stable control points than Nine Mile, but using both would be too complex for the water management rule—simplicity is better so as to avoid disputes when determining use restrictions.
- Instream values via the fish habitat studies conducted at the Spokane Gage provide a baseline to consider additional criteria, such as recreation and hydropower.
- Potential methods for analyzing flows were discussed. The Work Group discussed the importance of having a defensible rationale for setting flows and control points.

(3) Nine Mile Dam to Little Falls Control Point

- The Little Falls Agreement was made between Avista and the Spokane Tribe—at all times discharges from the Little Falls Dam will be between 200 and 500 cfs.
- Since the Little Falls Agreement eight water rights have been issued by Ecology that are conditioned on the minimum flows set in the agreement.
- The Work Group asked if the existing minimum flow (200-500 cfs) is an acceptable flow.

Control Point Conclusions

John Covert closed his presentation by suggesting the use of Barker Road for the Valley control point (Stateline to Sullivan Road). This control point would only be used for surface water rights for the West of Downtown control point he would lean toward using the Spokane Gage (because it would be cheaper to run and builds on 115 years of existing data). Finally for the reach that extends from below Nine Mile Dam to Lake Roosevelt a control point around Little Falls would be adequate.

Questions about control points

- In response to a comment that using the Spokane Gage would not account for contributions from paleochannels, it was noted that picking one gage to maintain simplicity in water management is important when setting instream flows.
- In response to a question about whether the Barker Gage is needed as a control point for the purpose of future water rights decision making with the modeling that exists, it

was noted that if a surface water right is needed, it is important to manage it with a control point.

- In response to a question about how to regulate water rights since the Little Falls Agreement uses water elevations from Grand Coulee Dam as a baseline, it was acknowledged that the biggest concern is that flow data there does not exist. There is not a lot of information, and maybe more research needs to be done to better understand that control point.
- What is the long term status of the Trinity Trough? It might be important to monitor the status of the Trinity Trough. Why not locate a monitoring point below the Trinity Trough (such as Nine Mile)? The changing flow at Nine Mile is bouncy, and while it may be good to monitor the flows there, it would prove difficult to manage instream flows at that location. A solid and consistent flow is important for water users who want predictability for their water rights. The bounciness of Nine Mile does not support this necessary predictability.
- Can the Spokane Gage account for the disconnect between withdrawals in the Spokane Valley Rathdrum Prairie West Arm and Spokane River flows measured at the Spokane gage indicated by results from the Bi-State Aquifer Model? An instream flow rule can be written to account for this disconnect. The goal should be to keep the rule simple and there is likely some relationship and impact between the Spokane River at the Spokane gage and West Arm even if it is not that noticeable in the model runs. In summary, this led to conclusions that:
  - Simplicity combined with a defensible position is important in establishing control points for water management rules.
  - It is important when crafting this rule to avoid a battle between models and experts.
- Bob Wheeler and Mike Hermanson will develop a table that discusses the advantages and concerns of the possible sites and the Work Group agreed it needs to make this decision at its next meeting. *See Attachment #2 for this table.*

**Instream Flows and Habitat Values** – *Hal Beecher, Washington Department of Fish and Wildlife (WDFW), and Brad Caldwell, Department of Ecology*

A handout was presented of the results of the two flow studies used in the study of the lower Spokane River. It was explained that the habitat studies conducted on the Spokane River were well done, and if one spent more money for additional studies, one will run into a problem of diminishing returns. Additional comments provided by Beecher and Caldwell included:

- The fish habitat studies are more accurate at the low flows because low flows typically denote shallower depths making the streamflow velocity more consistent through the entire water column.
  - At river depths of 3 feet or more the variance of velocity through the water column is more pronounced (e.g. the average velocity could be 5 ft/sec but near the river bed the velocity could be 3 ft/sec) and adds to model uncertainty.
- Available habitat is probably reduced when water flows faster.
- Rainbow trout habitat suitability criteria have been developed in smaller streams than the Spokane River.
- Mountain whitefish are big river fish and the habitat suitability criteria for this species have been developed in larger rivers. The habitat suitability criteria used for mountain whitefish was developed in Alberta and not in Washington.
- The velocity distributions are likely better predictors for mountain whitefish habitat than for rainbow trout habitat. This is because the habitat suitability criteria for mountain whitefish were developed for larger rivers, such as the Spokane River. The Spokane

River's flows are less applicable for the habitat suitability criteria developed for rainbow trout.

- Because fish habitat studies were conducted around the Spokane Gage it would be easiest to develop recommendations for fish habitat by using the Spokane Gage.
- Nine Mile is hard to manage because of its pool habitat, but Little Falls could be acceptable as a control point. Using an Agreement like Little Falls is something the Department of Ecology has done in other instream flow rules.
  - Measuring elevation as a proxy for instream flow is harder than when one uses streamflow gages.
- Because the hydrograph is so flat in the Spokane River there is a degree of flexibility with what flow best protects the habitat.

#### Questions and Comments about Habitat Values

- In response to a question about whether the habitat suitability criteria from the fish studies treat each fish species equally, or one species is favored according to its sport fishing potential, it was noted that:
  - Rainbow trout are more sensitive at the lower end of stream flows,
  - Whitefish are sensitive for a broader range of lower stream flows,
  - Ecology/WDFW is not dictating what the river flow will be.
  - The agencies are simply looking at if there is a point to limit further human-caused impacts.
- It was noted that fish have not been monitored to determine their numbers during the past five years of lower flows.
- In response to a question about the relationship between suitable habitat and Total Maximum Daily Loads (TMDLs) it was noted that the analysis conducted is habitat related and is not linked to TMDLs. Habitat criteria doesn't constitute all the information that goes into the consideration of instream flows because there are additional considerations—like TMDLs—that need to be included.
- In response to a question about the accuracy of the IFIM study and whether uncertainty exists because of the size and complexity of the system modeled, it was noted that models do have their limitations. Reservations always exist about how good any model is. It is important to be cautious about allowing for irretrievable uses of water when using the models.

#### State Instream Flow Recommendations

In response to numerous questions about whether or not state agencies have recommendations for instream flows, it was noted that WDFW is working with Ecology to develop a bracket, or range of flows, acceptable for fish habitat, but no conclusions have been made.

- Agency staff cautioned that if the state generates a range of instream flows then the number of options that Work Group can arrive at could be reduced.
- It was suggested that it is more productive to have the Planning Unit work with the state rather than having the state provide a number alone.

Bob Wheeler recapped that the Work Group is interested in having the state provide the range of recommended flows for fish habitat. It was noted that the state provided some concerns about providing a range of instream flows.

- Additionally, it is important to consider if a reservation comes out of the instream flow rule if there is a reservation for human needs.

In response to a question about whether the state agencies feel it is important to consider other factors beyond habitat needs when considering instream flows, it was noted that it is not a good idea to have a drinking water supply based on an instream flow rule that can be cut off a month every other year. Some solutions from other state watersheds led to creating reserves so that one is exempting a small amount of water from the instream flow requirement. The effort is to minimize the impact of the reserve on fish.

#### Issues Surrounding Water Use in Idaho

Numerous Work Group members asked questions about how water usage in Idaho would affect the instream flow recommendation process for the purpose of future water rights decision making. Comments and questions included:

- Someday Idaho and Washington will become involved in negotiations or litigation over interstate allocation. One of the factors in considering interstate allocation is the extent to which water is being claimed and used by the different states. Establishing an instream flow rule for Washington establishes a solid margin of safety that could be a very positive move when the time comes for future interstate negotiations.
- Would it be good to have a contingency reserve to account for increased water use in Idaho?
- What part or portion of Spokane River flow originates in Idaho and what comes from Washington? It is important to not forget about that aspect of this issue.

#### Additional Questions and Discussion Items

- In response to a question about whether the proposed wastewater treatment plant will have any impact on flows in the Spokane River, it was noted that 1 million gallons a day equates to 1.55 cfs. For a plant that will be producing 10 million gallons of effluent a day, the impact is negligible.
- It was noted that there is a difference between the upper and lower portions of the Spokane River.
- One Work Group member questioned the working assumption that the Spokane River will ultimately drop to the minimum flows proposed. It was noted that it is possible for the Work Group to look at restoration activities in the Spokane River instream flow, or water management rule. A suggestion was made to also look at how to restore flow in the Spokane River.
  - Ecology has been studying the potential to recharge aquifers with high winter flows as a form of mitigation.

#### Additional Criteria to Consider in the Recommendation Process

- It was noted that aesthetics, recreation, hydropower, and other criteria mentioned by the Work Group have been addressed in Avista's FERC relicensing process. Information germane to the instream flow recommendation process can be found within the Avista relicensing application.
- In response to a question about how other instream flow rules have integrated criteria beyond habitat issues, it was noted that criteria such as recreation and hydropower are listed as the beneficial uses to be protected by instream flow rules.

#### **Tentative Decisions**

The Work Group discussed how to move forward in developing an instream flow (water management) rule and wondered about the steps for getting to a recommendation for the purpose of future water rights decision making. They mentioned that there are steps such as (1) control points; (2) flows, or a range of flows; and (3) criteria, or issues to consider in addition

fish habitat (**recreation, aesthetics, water quality, hydropower, reserve water use, interstate issues, federal reserve water rights, precipitation, using the Little Spokane River instream flow rule as a precedent, and climate change**). Because of the number of issues to consider, the Work Group was asked to respond to how they plan to incorporate these differing criteria into what an instream flow rule will be at their next meeting.

#### Control Points

The Work Group discussed adopting Barker Road Gage and Spokane Gage as control points and then to seek further input about using the Little Falls Dam as a control point (additionally to consult with the Spokane Tribe, Avista, and other parties for more information about Little Falls).

- The Work Group agreed to have Barker as the upriver control point. Advantages to the Barker Road Gage: further downstream for the upper river section and the instream flow studies were conducted there.
  - The existing WRIA 55/57 Watershed Plan recommends 500 cfs at Barker Road. This number has already been approved and Spokane County would suggest not altering that flow recommendation.
- The Work Group expressed that they were not opposed to having at least two control points: one upriver and one mid-river. This decision did not exclude having a third downriver control point (possibly at Little Falls).
- It was noted that the Work Group designating the Spokane Gage in the instream flow rule does not restrict the Work Group from recommending a monitoring gage at Seven Mile. A gage at Seven Mile was noted to be important to gather more data at the West Arm. An inquiry was made to how much an additional gage would cost.
  - One member explained that their support for Seven Mile Gage was not in opposition to using the Spokane Gage, but instead in the interest of having additional data points.
- Spokane Gage would regulate groundwater from Stateline to Seven Mile Bridge.
- It was noted that one could set the number at Seven Mile so to best respond to the effects of the Spokane Gage.
- In response to a question about whether a habitat rationale existed to use either the Spokane Gage or Seven Mile as a control point, it was noted that the Spokane Gage will respond to flows earlier than the Seven Mile Gage, so biologically the Spokane Gage would be more responsive.
  - Spokane Gage is the baseline for habitat studies, so it is much easier to use when analyzing data for instream flows.

The Work Group clarified what each control point would regulate for the purpose of future water rights decision making:

- Barker Road Gage would regulate surface water.
- Spokane Gage would regulate water rights for both surface and ground water.
- The control point at Little Falls would regulate for both ground and surface water.

Bob noted that at this stage he did not hear the Work Group coming to agreement on finalizing control points. He provided a chart highlighting some of the advantages and disadvantages between using some of the different control points. The Work Group then discussed several action items to be completed prior to the upcoming January 29 meeting (see Action Items).

**Bob thanked the Work Group for their time. He noted that the next meeting will be held on Tuesday, January 29, 2007, 1:30—4:30pm. He adjourned the meeting at 4:30pm.**

**Work Group members and observers recorded on the sign-in sheet included:**

<b>Name</b>	<b>Representing</b>
B. Walker	<i>The Lands Council</i>
Bart Haggin	<i>Lands Council</i>
Bea Lackoff	<i>Citizen</i>
Brad Caldwell	<i>Washington State Department of Ecology</i>
Brian Crossley	<i>Spokane Tribe</i>
Brian Farmer	<i>Washington State Department of Ecology</i>
Charlie Peterson	<i>Spokane County Conservation District</i>
David Luders	<i>Fairchild AFB Civil Engineering</i>
Doug Robison	<i>Washington Department of Fish and Wildlife</i>
Hal Beecher	<i>Washington Department of Fish and Wildlife</i>
John Covert	<i>Washington State Department of Ecology</i>
John Patrouch	<i>Northwest White Water</i>
Kristine Graf	<i>City of Spokane</i>
Lloyd Brewer	<i>City of Spokane</i>
Marie Mangold	<i>Washington State Department of Ecology</i>
Mark Wachtel	<i>Washington Department of Fish and Wildlife</i>
Mike Hermanson	<i>Spokane County</i>
Rachael Pascal Osborn	<i>Sierra Club &amp; Center for Environmental Law and Policy</i>
Reanette Boese	<i>Spokane County</i>
Rob Lindsay	<i>Spokane County</i>
Sara Hunt	<i>Department of Ecology</i>
Stan Miller	<i>Consultant to Spokane County</i>
Steve Skipworth	<i>Vera Water and Power</i>
Tim Vore	<i>Avista Corporation</i>
Ty Wick	<i>Spokane Aquifer Joint Board</i>
Wes McCart	<i>Stevens County Farm Bureau and Water Conservation Board</i>
Bob Wheeler	<i>Triangle Associates</i>

**Attachment #2: Advantages and Disadvantages of Using Specific Sites as the Control Point for Instream Flow Monitoring**

<b>Spokane River at Spokane</b>		<b>7 Mile (Gun Club)</b>		<b>9 Mile</b>	
<b>Advantages</b>	<b>Disadvantages</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Advantages</b>	<b>Disadvantages</b>
Existing gage with long history/record and funding mechanisms in place	SVRP Model demonstrates that groundwater withdrawals from the aquifer west arm do not significantly impact flows at Spokane Gage	Captures aquifer flows in the aquifer west arm	No gauge exists now and likely expensive to install one. No funding identified to fund such a project (Need to check with USGS on feasibility and funding opportunities)	Lowest down in Spokane system of identified sites for controlling groundwater from Stateline and surface water from Barker to 9 mile	Results seem to vary significantly (results are “bouncy”) on a daily basis even though the Dam is considered a “run of river” operation
Could be used to regulate down to 9 mile dam operating pool		Desire to have gage as low as possible in basin	No long term record at this location		Most directly impacted from dam output of all sites identified
John Covert noted that these control points would be used to regulate groundwater withdrawals from the entire aquifer, though he was still unsure how to deal with the Hillyard Trough and Little Spokane Arm.					