WEST BRANCH LITTLE SPOKANE RIVER WATERSHED COMMITTEE

Meeting Summary
September 22, 2008
Riverside Fire Station, 3818 E. Deer Park – Milan Rd., Riverside, WA

FINAL

Bryony Stasney (facilitator) opened the meeting at 6:00 p.m.

Attendees Present: Greg Sweeney (alternate for Mike Carney, Bill Harmon and Dean Fanara), Mary Sterling (alternate for Kathleen Werr and Darrell Johnson), Luke Short, Jill Short (alternate for Pam Zarko), Richard Stafford, Bonnie Stafford (alternate for Dolores Storms), John Harkness, Linda Cannon (alternate for Karen Averitt), Sandra Roath (alternate for Tammy Kirk, Howard Rowley and Bev Rowley), Josh Roath (alternate for Dick Anderson and Lynne Anderson), Jim Peterson, Tom Wimpy, Sheila Pearman, Dan Peterson, Walt Edelen (Spokane County Conservation District), Rick Noll (Spokane County Conservation District), Ben Brattebo (Spokane County), Rob Lindsay (Spokane County), Andrew Huddleston (POCD).

Introductions: Everyone introduced themselves. Bryony asked everyone to sign-in to the meeting and to check and edit the information on the sign-in sheet. Bryony introduced herself as the Committee's facilitator. Bryony's contact information is: Bryony Stasney, bstasney@golder.com, 208-676-9933 (office) and 208-755-1010 (cell).

Public Comment:

- Rob Lindsay and Ben Brattebo (Spokane County) updated the Committee on the WRIA 55 storage assessment that has just started and is being funded through WRIA 55/57 Watershed Planning implementation funds. Ben (the project manager) noted that the work will involve identifying wetland restoration opportunities and surface water storage opportunities in the West Branch Little Spokane River watershed. A representative from PBS&J will attend and present / solicit information at the October meeting. Mary Sterling offered her property to access the river.
- Mike Lithgow and Andrew Huddleston submitted an application to Ecology on September 12 for Terry Husseman funds to support bank restoration work at the Short property.

Membership:

- Max Smith is no longer interested in being a Committee member.
- Jim Peterson said that he is interested in continuing as a Committee member and will attend as he can.

August 25, 2008 Meeting Summary Review

The following corrections were discussed and agreed to by the Committee. The final August 2008 meeting summary will be posted on the web site at http://www.spokanecounty.org/wqmp/projects/ASP/WestBranch.asp.

- Page 1, Attendees:

- Tom Wimpy noted that he attended but is not listed as present.
- Jill Short said that she did not attend as an alternate for Max Smith.

Presentation on Little Spokane River Flow Data by Rick Noll and Walt Edelen (Spokane County Conservation District).

Rick passed out a handout showing the locations of the flow and lake level measurement sites within WRIA 55 (the Little Spokane River watershed) and the periods of record for these locations. The handout also includes a map of the TMDL sites that are being monitored by Washington State University (Mike Barber of WSU – 509-335-6633 - is the contact for the WSU data). Rick also provided a copy of the SCCD flow data to Bryony on a CD. The SCCD flow data has been reviewed through water year 2007 (i.e. through October 2007). Data later than October 2007 is provisional (i.e., has not been reviewed and corrected / shifted).

A copy of the presentation will be posted on the web site at http://www.spokanecounty.org/wqmp/projects/ASP/WestBranch.asp. The following points summarize Rick and Walt's presentation:

- A stream gage is used to collect water surface elevation (or stage). A stream gage can be a staff gage (which is read manually) or a pressure transducer / data logger (which automatically reads and records the height of water above the transducer).
- Depending on the amount of flow within the stream, water surface elevation is controlled by the stream section, channel or overbank configuration. Discharge (i.e. flow) measurements are made in the stream periodically and related to water stage to develop a rating curve. Depending on conditions in the stream (e.g., reed canary grass growth, icing, beaver dams, flooding), discharge measurements may need to be shifted to more accurately relate flow to water elevation.
- The water level elevation and flow information is used to develop a rating curve or stage – discharge curve. As the channel or control changes, the stage – discharge curve is shifted to represent the change. The shift is usually done manually on graph paper. Once the stage – discharge curve is confirmed, a stage – discharge table (or rating table) is created.
- At least one year of information (i.e., water elevation and flow data) for low, medium and high flows is needed to develop a rating curve and rating table. More elevation and flow data is needed for complex ratings.

Questions?

Contact: Rick Noll, Hydrologist, Spokane County Conservation District
509-535-7274 / Rick-Noll@sccd.org

Q: Are the ratings in the West Branch Little Spokane River complex?
A: The Harworth Road site is not complex because there is a weir at this site. The flow measurement sites that are associated with culverts (Eloika and Moon Creek) are not complex but are occasionally affected by beaver activity.

Q: Do your measurements tell you if someone is diverting water from the stream?
A: No.

Q: Is there a different shift curve for each station?
A: Yes. Every gage station will have a different shift curve. If the station is located on bedrock (e.g., the Spokane River gage at Spokane), there will likely not be a shift curve since the channel and flow control are unlikely to change over time.

Q: Have you seen a shift in the East Branch data since the spring 2008 flood?
A: We have not worked up these numbers yet.

Q: How will the West Branch Little Spokane River flow data be used?
A: The flow data is typically used to estimate stream flow statistics e.g., 100-yr flood information, 7-day low flows. Flow data is also used to size culverts and bridges and to estimate how much water could be impounded for storage. Flow data can also be used by habitat biologists to estimate habitat / flow needs for fish.

The purpose of this presentation is to describe how flow measurements are taken and how the data is processed to provide estimates of flow. You cannot simply download data from a transducer-datalogger and have flow information. The data needs to be plotted on a graph with previous measurements, compared to previous measurements and maybe shifted to provide reasonable estimates of flow. The SCCD is still working on 2007 flow data. The SCCD does most of this work manually.

Q: How can a layperson obtain information to figure out if and why flows have changed (e.g., if data supports the observation / anecdotal information that flows into a lake have reduced over time)?
A: You can review the flow data available at various gage stations over the period of record, being careful to note whether the data is final or provisional – and see how the flows have changed. You can also go out and manually take flow measurements over a period of time – this will provide you instantaneous estimates of the flow at that time. You can also float the stream and note locations where there are impoundments or where water is diverted from / discharged into the stream.

Rob noted that the WRIA 55/57 meeting, Rick stated that the SCCD is collecting flow data but that the ultimate goal may be to develop a predictive surface water flow model. Rob said that he felt that the WRIA 55/57 WIT seemed to be supportive of this concept.

Q: The Committee has included an action in their draft plan to prepare a gaging strategy. Has the SCCD reviewed the West Branch Little Spokane River gages and made any determinations on whether or not new gages are needed or the existing gages should be continued, moved or discontinued?
A: Yes. This work is ongoing. The SCCD has 5 gages on the Little Spokane River that now have 10 years of data. This is the period of record that I like to see before we make decisions on a gaging strategy for a stream. I have recommended that 2 of the gages on the Little Spokane River are discontinued and that the remaining 3 are upgraded to real-time capable gages. The West Branch Little Spokane River gages only have 1 to 2 years of flow data – so we do not have enough data to make determinations at this time.

Q: How can Ecology use the gaging information on the Little Spokane River at Dartford to regulate water rights upstream?
A: Ecology's logic is that if the instream flow is not being met at the downstream gage (e.g., Dartford) but the flow is being met at the upstream gage (e.g., Elk) – you are still not able to remove additional water upstream of Elk. The logic is that if you remove additional water upstream of Elk, you may still meet instream flow needs at Elk but you will reduce flows at Dartford (and this makes the problem worse at this downstream location).

Q: What could a flow model / hydrologic model be used for?
A: A flow model could be used to answer questions on what would likely happen under various scenarios. For example, if we increase storage in the watershed in the winter / spring, how will this increase flow / water elevation downstream and over what timeframe will this flow increase occur. It is important that a flow model is calibrated to make the results meaningful. It is also important to understand what types of questions you want to answer with a model so that the model can be designed to answer these questions. Rob noted that a hydrologic model can help to better understand flows at the subbasin level and support water storage efforts. The Little Spokane River watershed is closed to further appropriation. However, the instream flow rule for the Little Spokane River watershed is silent on groundwater. Rob noted that in terms of new permit exempt wells, the Little Spokane River watershed is one of the fastest growing watersheds in the State.

Q: About how much would it cost to develop a hydrologic model for the West Branch Little Spokane River and over what timeframe could this model be set up?
A: Depending on the type / detail of the model, about $100,000 - $200,000. The model could be developed over a year or two. It would be important that the model be improved over time as additional information is available and as the weaknesses of the model are better understood. A hydrologic model over a watershed scale may not be the suitable tool to answer questions for a specific reach – such as the reach between Sacheen Lake and Harworth Road. A spreadsheet model to route flows through a specific reach may be more appropriate to better understand the impacts of beaver dams and beaver dam maintenance activities.

Q: Has a model been developed in the past for the Little Spokane River watershed?
A: Yes. A groundwater – surface water flow model was developed for the Little Spokane River watershed as part of Phase II Watershed Planning in WRIA 55/57. The model was developed in a program called MIKE-SHE which was the best modeling option at the time to link surface water and groundwater interactions. Rob noted that the MIKE-SHE modeling program was very difficult to use and has not been used since its development. Bryony noted that the recent Bi-State aquifer study, which developed a groundwater – surface water flow model for the Spokane Valley Rathdrum Prairie aquifer, included improvements to the USGS's MODFLOW package – so that this modeling package now includes a dynamic link between surface water and groundwater flow. The USGS is now using and further improving the MODFLOW package to develop a groundwater – surface water flow model for the Chamokane Valley. The data

sets used to develop the MIKE-SHE model could potentially be used to develop a MODFLOW model for the Little Spokane River watershed. Rob noted that Spokane County is planning to expand the USGS's MODFLOW model to encompass the Little Spokane River watershed. Dan Peterson noted that it would be shame to spend significant funds and develop a model that is not used. Rob noted that models are not perfect but can be useful tool from a regulatory perspective and to understand the likely impacts of development.

Q: Is wetland delineation more valuable than a hydrologic model for the Little Spokane River watershed?
A: A hydrologic model does not include wetland delineations per se. The model will include the hydrologic characteristics of the wetland – including bank storage capacity, roughness coefficient etc. So knowing where the wetlands are and the types of wetlands are important for developing a hydrologic model.

Q: Dan Peterson asked if there is a control structure between Sacheen Lake and the beaver dams.
A: No. However, there is a rock ledge at the outlet that may act as a control structure at low levels. The issue at Sacheen is needing the water to flow out of the lake more effectively at times of high flow / lake elevation. Currently the beaver dams downstream are controlling the flow of water out of the lake at these times.

Q: Greg asked if we start to develop a model for the Little Spokane River watershed – will this mean that everything else will be put on hold until the model is up and running? I am concerned that other useful projects such as water storage feasibility studies and wetland delineation studies will be put on hold.
A: Bryony noted that if the WRIA 55/57 WIT decide to develop a hydrologic model, it will be important for the Committee to be involved and support this effort. Important, on the ground projects and data collection can occur concurrently.

Q: Bryony asked the Committee if they wanted to include an action to develop a hydrologic model for the West Branch Little Spokane River watershed.
A: The Committee said they did and ranked the project as: medium priority to be completed over the mid-term. Rob said that the WRIA 55/57 WIT is likely to include a request for funding to complete additional hydrologic studies for the Little Spokane River watershed that will likely lead to development of a hydrologic model. Rob said that he would like the support of the West Branch Little Spokane River Committee for this.

Review Draft Watershed Action Plan

Bryony handed out the latest version of the draft action plan. The Committee discussed the following changes for incorporation into the draft action plan:

- Page 2, WB.SW2-6: Committee confirmed the action to develop a surface water – groundwater flow model for the West Branch Little Spokane River watershed. Greg asked that this action be linked to the action that involves assessing the impacts of permit exempt wells.

- Page 3, WB.SW3-2: Committee confirmed wording for the action as, "Identify options for flood control in addition to beaver tubes (which are difficult/dangerous to keep clear of debris, not totally effective at maintaining lake level). Options may include installation of a water control structure or dredging to increase lake storage volume."
- Page 5, WB.WQ1-3: Committee confirmed that they did want to include the action for a watershed manager and that the Committee could take on this role. Bryony said that she would develop the wording for this action for discussion and approval at the next meeting. The Committee agreed.
- Page 9, WB.WQ10-1: Committee asked that wording be added to this action to note that no wake zones be established during times of high water. Bryony said that she will confirm with Mike that this could be included within the Shoreline Management Program update for Pend Oreille County.
- Page 9, WB.WQ10-3: Committee agreed to remove this action.
- Page 9, WB.WQ10-4/6: Committee agreed to combine these actions.
- Page 9, WB.WQ10-5: Committee agreed to maintain this action.

Public Comment:

- Sheila noted that the trash screen has been installed at beaver Dam #2 and is working well to keep the tube from clogging.
- John with the Diamond Lake Improvement association contacted Brook Beeler (Ecology outreach) to establish a watershed pledge. Brook Beeler wants to know if the Committee would like to extend the pledge throughout the watershed and if she could speak to the Committee about this over the next few months. The Committee agreed to consider this in 2009, once the action plan is complete and to include this concept in the action plan.
- John Harkness said that he will update the Committee next month on data being collected / considered for collection at Diamond Lake.

Next Meeting (agenda, tasks and announcements):

The next Committee meeting will be at the Riverside Fire Station, 3818 E. Deer Park – Milan Road, Riverside, WA at **6:00 – 8:30 pm on Monday October 27, 2008**. Committee meetings are also scheduled for November 17 and December 15. Bryony will bring coffee for the October meeting. The October meeting will include:

- Presentation by PBS&J and discussion on possible water storage and wetlands restoration options within the West Branch Little Spokane River watershed.
- Continued work on the draft watershed action plan.

Additional ideas for workshops / educational presentations:

- Work Plans and Quality Assurance Project Plans (QAPPs).
- WDFW on WB LSR wildlife habitats and Corridors (contact Jeff Lawlor / Steve Zender).

Adjourn:

Bryony adjourned the meeting at 8:35 pm. Digital recording file (WBLSR Committee 092208.wav) for this meeting will be mailed to the POCD.