

**FINAL**  
**Meeting Summary**  
**WRIA 54 - Lower Spokane River Watershed**  
**June 25, 2008**

**Location:** Airway Heights Community Center, Airway Heights, WA.

**Planning Unit members and guests recorded on the sign-in sheet were:**

|   |   |
|---|---|
| Mike Hermanson, Spokane County  | Sara Hunt, WA State Dept. of Ecology                  |
| Dick Price, Stevens County PUD #1   | Rob Lindsay, Spokane County                           |
| Lloyd Brewer, City of Spokane   | Charlie Kessler, Stevens County Conservation District |
| Hank Nelson, Avista Corporation   | Dave Jones, Spokane County Planning Commission        |
| Jim DeGraffenreid, Lincoln County Planning  | Craig Volosing, Landowner and Palisades Neighborhood  |
| Stan Miller, Citizen  | Sue Kahle, USGS                                       |
| Jon Rudders, GeoEngineers   | Cynthia Carlstad, TetraTech                           |
| Bryony Stasney, Golder Associates Inc.  |   |
| Wes McCart, Stevens County Farm Bureau and Stevens County Water Conservancy Board           |   |
| Jeanne Barnes, Spokane Association of Realtors and Lake Spokane Park Homeowners Association |   |

**Call to Order**

Bryony opened the meeting at 10:00 am. Attendees introduced themselves. Bryony requested that each attendee complete the sign-in sheet.

**Review and Approve June 2008 Meeting Summary**

The draft May 28, 2008 WRIA 54 Planning Unit meeting summary was reviewed with the following edits: 1) page 9, WRIA 54 and 55/57 Instream Work Group elected officials meeting has been rescheduled from 1:30 – 4:30 pm to 9 am – noon. Those present accepted this change and approved the summary as final. The final summary will be posted on Spokane County's web site at <http://www.spokanecounty.org/wqmp/wria54.htm>.

**Public Comment**

- Dick Price noted that the Stevens County PUD#1 has completed the 2 million gallon water storage tank for the Suncrest water system.
- Ecology is hosting a water exchange / water banking workshop on July 10, starting at 8:30 am at the Moses Lake Convention Center.

**Status Report – USGS Chamokane Creek Hydrogeologic Characterization Study**

Sue Kahle (USGS Tacoma) provided a brief update on the hydrogeologic study of the Chamokane Creek watershed. The study aims to characterize the groundwater system in the unconsolidated sediments of the Chamokane Creek watershed. A copy of the presentation will be posted on Spokane County's web site at <http://www.spokanecounty.org/wqmp/wria54.htm>.

***Chamokane Creek Basin***

The Chamokane Creek headwaters are in the Huckleberry Mountains. Chamokane Creek initially flows generally east towards Springdale and then generally south past Ford to discharge into the Spokane River. The Chamokane Creek watershed covers approximately 179 sq. miles. The unconsolidated sediments in the watershed include: glacial outwash sands and gravels and, thick clay and silts deposited in glacial lakes.

***Study Objectives***

The Bureau of Indian Affairs (BIA) asked the USGS to design a study to evaluate the potential effects of increased groundwater pumping on Chamokane Creek. The study started in August 2007. The work is being completed through the USGS Tacoma and Spokane offices. There are two main study tasks:

1. Describe the hydrogeologic setting and ground- and surface-water interactions in the basin and obtain an

- adequate data set to be used during the construction and calibration of a ground-water flow model.
2. Construct and calibrate a ground-water flow model and simulate the effects of different ground-water withdrawal and recharge conditions.

### ***Schedule***

#### **Task 1 – Conceptual Model**

- Existing Data, Data Collection, Hydrogeologic Framework, Water-level maps, Water use estimates: completed through 2009.
- Evaluation and Report: June 2010.

#### **Task 2 – Groundwater Flow Model**

- Model Input, Construct and Calibrate, Simulations: 2009 – 2011.
- Evaluation and Report: June 2011.

### ***Data Collection – Ground Water***

Data collection includes spring and fall 2008 measurements of water levels at most of the inventoried wells, measurements of spring flows, monthly groundwater monitoring at 25 wells, and continuous monitoring using vented transducers/data loggers at about 6 wells (downloaded monthly when possible).

**Q:** There don't appear to be many wells you are monitoring monthly in the Camas Valley area. Do you think you may be missing some information in this area? I live in the area and have an artesian well.

**A:** I hope that we are capturing the aquifers in the spring and fall monitoring events (when most of the inventoried wells will be sampled). We may not be capturing these aquifers in the monthly network – we are limited to unused wells and wells whose owners agreed to let us monitor monthly water levels.

### ***Data Collection – Streamflow***

Streamflow data has been collected at the Chamokane Creek gage since 1971. In addition, data is being collected for this study along other Chamokane Creek sites and tributaries: low-flow mid-Sept thru early Oct 07; high-flow mid-Apr 08; and, low-flow late Aug 08.

### ***Data Collection – Meteorological***

The Bureau of Reclamation (BOR) installed (in Nov 2007) and will maintain an automated meteorological station for the project. The station is located near Swamp Creek. The approximate cost for the station is \$12,000 for installation and operation for a year.

### ***Hydrogeologic Framework***

The USGS has just started working on the framework and has entered all the inventoried wells into RockWorks and is currently working on the geologic mapping.

### ***Water Use***

The USGS has just started working on compiling the water use data, including: certificate and permit data from Ecology (ground- and surface-water rights); population distribution (census data); and, pumpage data.

### ***Modeling***

USGS will simulate ground-water and surface-water flow with GSFLOW, a new USGS model which couples MODFLOW-2005 (GW) and the Precipitation-Runoff Modeling System (SW). The new model is a much better model to address groundwater – surface water interconnection. This model will be transient.

### ***Contacts***

|               |  |              |
|---------------|--|--------------|
| Sue Kahle     | <a href="mailto:sckahle@usgs.gov">sckahle@usgs.gov</a>   | 253-552-1616 |
| Bill Taylor   | <a href="mailto:wataylor@usgs.gov">wataylor@usgs.gov</a> | 509-353-2633 |
| Steve Sumioka | <a href="mailto:ssumioka@usgs.gov">ssumioka@usgs.gov</a> | 253-552-1645 |
| Matt Ely      | <a href="mailto:mely@usgs.gov">mely@usgs.gov</a>         | 253-552-1622 |

**Q:** Will this work answer the unresolved question from the WRIA 59 (Colville) work as to where the groundwater divide is in the Springdale area?

**A:** I hope we get closer to answering this but do not know for sure yet.

**Q:** Do you have to be certified to be a well driller in Washington?

**A:** Yes and certification includes continuing education. Some well logs are very good quality, others are not.

**Q:** What is the project budget?

**A:** \$1.2 million with most of the money being spent on data collection, processing and interpretation.

**Q:** Did you consider new wells?

**A:** We did, but decided not to drill new wells and instead to focus on collecting information from existing wells.

**Q:** There are springs that emanate above the fish hatcheries. Do you know the source of water for the springs?

**A:** Yes. There is an Eastern Washington University Masters Thesis that characterizes the upper Chamokane Valley aquifer in this area. Above the springs, the surface water loses to the coarse grained unconsolidated aquifer. At the bluffs in the vicinity of the hatcheries, the unconsolidated aquifer daylights and discharges water as springs. We do plan to look at the springs in more detail for this project.

**Q:** Is there anything that the WRIA 54 Planning Unit can do to help the USGS with this study?

**A:** I will think about this as the project progresses and will contact the Planning Unit and Spokane County. For example, Spokane County and the Planning Unit could help with public outreach.

**Q:** Are you still looking for wells to monitor?

**A:** Yes.

Wes noted that few residents in the area knew that this project was going on. There was no public outreach. There may have been better participation / cooperation from landowners if the USGS had conducted more outreach. Wes said that he would talk to Sue after the meeting about setting up a public meeting. Sue noted that the USGS could have done a better job with public outreach on this project. The USGS were asked by Bureau of Indian affairs to complete this project and the project did not include community outreach as a project component. The USGS did work through the Tribal Council to develop a letter to show landowners. Sue said that she is open to ideas such as mailings and a public meeting if this would be helpful.

**Q:** The Stevens County Conservation District will be contacting landowners in July / August / September in the Chamokane Watershed about surface water issues. Maybe we could include some information on this project in our communication?

**A:** Yes, we can talk about this.

**Q:** The Watershed Planning Unit is interested in the information on the lower aquifer, for example for aquifer storage and recovery.

**A:** We do hope to find out more about this lower system, including a better understanding of interactions between the lower and upper aquifers and Chamokane Creek. Work being done by Indian Health Service indicates that the lower aquifer in the Ford / Martha Boardman area does appear to have arsenic levels just above the new Maximum Contaminant Level (MCL) of 10 ppb.

**Supplemental Water Quality Update - Water Quality Palaeochannel & Ninemile (Lake Spokane) QAPPs**

Cynthia noted that these two Quality Assurance Project Plans (QAPPs) are out in draft for review. There are a few hard copies available and the electronic files are posted on the WRIA 54 web site at <http://www.spokanecounty.org/wqmp/wria54.htm>. Comments on the QAPPs are due by July 23.

**Ninemile (Lake Spokane) QAPP**

***Ninemile (Lake Spokane) QAPP - Goals***

The purpose of this study is to get a better handle on non-point source contributions to Lake Spokane. The study goals are:

- 1) Evaluate potential impact of non-point sources of nutrients from land use types on surface water quality within Lake Spokane.
- 2) Evaluate potential impact of stormwater runoff within the study area on surface water quality within Lake Spokane.
- 3) Establish baseline water quality and long-term monitoring program to evaluate deviation from background concentrations.
- 4) Identify the source for any elevated levels of non-point source pollutants identified through this or other monitoring programs.
- 5) Evaluate the effectiveness of water quality BMPs in protecting downstream water quality.
- 6) Describe an educational component, such as a volunteer monitoring program.

***Ninemile (Lake Spokane) QAPP – Objectives***

- 1) Determine the magnitude of nutrient input from leaching septic system nutrient input (e.g., multi-spectral imaging).
- 2) Estimate the mass loading for nutrients from major tributaries.
- 3) Evaluate extent and source of non-point pollutants from tributaries.
- 4) Characterize magnitude of seasonal loading.
- 5) Determine if internal loading of TP is significant on the Riverine Zone of the lake and Transition Zones of the lake and estimate magnitude by simple mass balance model.

***Ninemile (Lake Spokane) QAPP – Recommended Sampling***

- 1) Transect Sampling
- 2) Stormwater Sampling
- 3) Background and Long-Term Sampling
- 4) Sources of Nonpoint Nutrient Pollution
  - Internal Loading
  - Multi-Spectral Imaging
  - Groundwater Sampling

***Ninemile (Lake Spokane) QAPP – Transect Sampling***

Transect sampling at seven sites will be completed over course of a year to establish baseline and to better understand the how the water quality changes through the lake (see web site for transect locations).

**Q:** Dick Price noted that the Stevens County PUD#1 has purchased about 160 acres in the Suncrest area for future water treatment site to support urban growth. Will this study give us an idea of pollution from septic systems in this area?

**A:** Yes, it should do.

**Q:** What about the influence of Big Sandy Creek and should the second downstream transect be moved downstream to account for impacts from this tributary?

**A:** Big Sandy Creek is not a year round stream. This is a draft QAPP. Big Sandy Creek could be considered in the final QAPP if nutrient contribution from this creek is considered significant.

***Ninemile (Lake Spokane) QAPP – Stormwater Sampling***

General areas are identified by sampling. Specific sample sites will need to be identified when the project is implemented.

Dick Price noted that the Stevens County PUD#1 wells in this area appear to have similar water quality to the SVRP aquifer wells. Lloyd asked Dick if he had seen the new SVRP aquifer report and if these wells are located in the SVRP now delineated in this area. Dick said he did not know. Sue said that she could provide Dick with a copy of the recent SVRP aquifer report.

***Ninemile (Lake Spokane) QAPP – Background and Long-term Sampling***

This sampling will be conducted once a year over the long term at the same transects as the year-long transect sampling to document any water quality changes over time.

***Ninemile (Lake Spokane) QAPP – Internal Loading***

This will involve sediment sampling at the transects and analysis for phosphorus.

***Ninemile (Lake Spokane) QAPP – Multi-Spectral Imaging***

This involves remote sensing of the shorelines to assess where there may be non-point contributions. This type of sampling will help focus, for example, other types of sampling and BMP implementation.

**Q:** Would multi-spectral sampling be most effective in late summer?

**A:** One sampling event would occur in late summer / early fall.

***Ninemile (Lake Spokane) QAPP – Groundwater Characterization***

This involves limited sampling to understand the impacts of, for example, new developments. No specific wells have been identified; only general areas.

***Ninemile (Lake Spokane) QAPP – BMP Evaluation***

Implementation and evaluation of BMPs will be based on the results of the sampling efforts described above.

**Palaeochannel QAPP**

This work is being completed by Jon Rudders of GeoEngineers.

***Palaeochannel QAPP - Background***

The study area is the West Plains and includes the palaeochannels, ancient channels in the basalts that now contain unconsolidated sediments (sands, gravels and boulders with clay and silt interbeds). These are interesting since they have greater permeability and infiltration capacity than the surrounding basalts and may provide opportunities for stormwater disposal, reclaimed water infiltration, water supply and aquifer storage and recovery. These aquifers are also susceptible to water quality impacts and currently have no water quality monitoring program in place.

***Palaeochannel QAPP – Data Gaps***

Data gaps include: palaeochannel geometry; well distribution; hydraulic properties; and, groundwater quality.

***Palaeochannel QAPP – Project Description***

The QAPP supports the following components:

- New well siting and drilling (6-inch holes with two-inch pvc wells), testing and analysis
- Baseline groundwater monitoring
- Long-term groundwater monitoring
- Hydrogeologic analyses
- Geophysical investigation
- Source water monitoring (e.g., existing and future stormwater sources)

**Q:** Can we use remote techniques, rather than drilling new wells?

**A:** Geophysics can be used cost effectively with borehole control as a way to map the subsurface without drilling new wells. However, wells located in key locations are needed to characterize groundwater quality. Dick Price noted that recent costs for drilling a 6-inch well are about \$40 per foot.

## **Work Group Updates**

### **Technical Work Group**

The Technical Work Group (TWG) met on June 24. The TWG has compiled the technical data needs identified by the other work groups. The TWG plans to organize these data needs into projects and also focus on implementation of the two completed water quality QAPPs.

### **Land Use Work Group**

Draft issue paper submitted to the work group and comments received and addressed. Bryony will provide the draft issue paper to Cynthia at the end of June for incorporation into the draft Watershed Plan.

### **Education Work Group**

Draft matrix documenting the work group meeting submitted to the work group and comments received and addressed. Bryony will work with Brook Beeler (Ecology) and then provide the draft issue paper to Cynthia at the end of June for incorporation into the draft Watershed Plan.

### **Water Management Work Group**

Components of water management include:

- Water allocation / water rights (including permit exempt wells);
- Water supply (including water demand and supply issues); and,
- Water use (including conservation, reclamation, reuse).

### ***Water Allocation / Water Rights***

Issues:

- Amount of water allocated is uncertain
- Over appropriation in localized areas
- New water rights limited
- Water rights processing unreasonably long

Potential solutions:

- Streamlined adjudication
- Potential water use permits through Spokane Tribe of Indians
- West Plains hydrogeologic characterization and coordinated planning
- Water storage projects
- Water rights trust and banking
- Instream flows, including reservations for growth
- Staff and funding to Ecology for water rights processing

### ***Permit-Exempt Wells***

Issues:

- PEWs have the potential to reduce water available to senior water rights
- Do not know impact of PEWs in WRIA 54
- Insufficient management
- Volume limit of 5,000 gpd may be excessive for single home for domestic indoor use

Potential solutions:

- Collect data and evaluate where are concerns
- Consider GWMA designation for West Plains
- Water conservation incentives

- Spokane County consider model MOA
- Enforce against illegal permit-exempt well use
- Education

Jim noted that in Lincoln County permit-exempt wells are important to support growth since there are no public water systems. Group B water systems may supply homes using permit exempt wells and use engineering and conservation measures to stretch water so that as much as possible is used as efficiency as possible with fewer holes in the ground. Jim noted that Lincoln County is not in favor of allowing development densities that are not supported by water resources. Lincoln County has funded a few small hydrogeologic studies and is hoping that the GWMA work will extend northwards. Lincoln County also requires hydrogeologic studies to support development projects.

### ***Water Supply***

Issues:

- Water demand is anticipated to be high in the West Plains & downstream of City of Spokane.
- West Plains purveyors are having difficulty providing water and aquifers are showing strain.
- Need to provide for current and future needs.

Potential solutions:

- Update coordinated water system planning in Spokane County
- Consider GWMA and evaluate Aquifer Storage and Recovery (ASR) for West Plains
- Hydrogeologic characterization for Little Chamokane watershed
- Water storage, banking, trusts, leasing, conservation, reclamation, reuse

### ***Water Use***

Issues:

- Improve water use efficiency and conservation.
- Water reclamation and reuse to play a larger role.

Potential solutions:

- Education and outreach
- Regionally consistent outdoor irrigation ordinance in Spokane County
- Conservation incentives
- Stormwater disposal without grass
- Encourage use of reclaimed water for crops in lieu of gw and sw withdrawals and to support new irrigation
- Encourage Ecology to develop clear recommendations on WRs impairment issues associated with reclamation and reuse

### ***Next Steps***

- Draft issue paper end June
- Draft Watershed Plan compiled in August
- Additional WMWG meeting on August 12 at 1:30 pm at Ecology's Eastern Regional Office

### **Public Comment**

Hank noted that the comment period for Idaho's 401 certification for hydro relicensing ends on July 5 and the comment period for Washington's 401 certification ends around July 9.

**Administration and General Schedule Announcements**

The following meetings are scheduled and open to everyone:

**JUNE 2008:**

- WRIA 54 and 55/57 Instream Flow Work Group elected officials meeting, Thursday June 26, 9 am – noon, Spokane Convention Center meeting room, Spokane, WA.

**JULY 2008:**

- WRIA 54 Instream Flow Work Group, July 8, 9 am – noon, Conf. Rm. 4A, Conf. Rm. 4A, Spokane County Public Works Building, 1026 W. Broadway Ave, Spokane, WA.
- NO PLANNING UNIT MEETING IN JULY.

**AUGUST 2008:**

- WRIA 54 Water Management Work Group, Tuesday August 12, 1:30 – 4:30 pm, Ecology Eastern Regional Office, N. 4601 Monroe, Spokane, WA. Tel: 509-329-3400.
- WRIA 54 Planning Unit, Wednesday August 27, 10 am – noon, Airway Heights Community Center, Airway Heights, WA.

**SEPTEMBER 2008:**

- WRIA 54 Planning Unit, Wednesday September 24, 6:00 – 8:30 pm, Lakeside High School Library, Lakeside, WA.

**Next Meeting Date and Adjourn**

The next WRIA 54 Planning Unit meeting is scheduled for Wednesday, August 27, 2008, 10 am – noon, Airway Heights Community Center. Bryony adjourned the meeting at 12:07 pm.