

**CHEHALIS BASIN PARTNERSHIP  
STEERING TECHNICAL COMMITTEE MEETING SUMMARY**

**Washington State Department of Ecology  
300 Desmond Drive SE, Room 1B21**

**Lacey, WA  
July 17, 2008  
9:30 AM**

**Meeting Summary**

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**PRESENT**

Lee Napier, Grays Harbor County

Mark Swartout, Thurston County

Christine Hempleman, Department of Ecology

Kahle Jennings, City of Centralia

Terry Willis, Citizen, Grays Harbor County

Glen Connelly, Confederated Tribes of the Chehalis  
Reservation

Charles Pitz, Department of Ecology

Lonnie Crumley, Stream Works Consulting

Samuel Iwenofu, Quinault Indian Nation

David Batker, Earth Economics

Cheri Lindgren, Puget Sound Meeting Services

Janel Spaulding, Watershed Facilitator

**Welcome & Introductions**

Chair Mark Swartout called the meeting of the Chehalis Basin Partnership (CBP) Steering Technical Committee (STC) to order at 9:43 a.m. Members reviewed the meeting agenda. Everyone present provided self-introductions.

**Groundwater Characterization Model Discussion**

Members engaged in a broader discussion on the pros and cons of using a public agency or a private firm to complete the groundwater characterization model. Mr. Swartout and Mr. Jennings provided additional information. A consultant believes a private firm can provide the same product faster and for less money than a public agency. Mr. Jennings described how a private consulting firm became involved in the task. Initially, the STC contracted with US Geological Survey (USGS) for the first phase of the work covering the seepage study.

Chair Swartout reported the STC discussed at length the benefits of using a public agency for completing the groundwater characterization rather than a private firm. One advantage is the use of the peer review process by public agencies of final deliverables that could lead to a better quality product.

Mr. Pitz reported the USGS is under a federal obligation to do work that is of a compelling interest to citizens. There is ongoing tension within the consulting community regarding USGS as a subsidized competitor and having an advantage. However, USGS is providing matching funds for the project.

Mr. Iwenofu said the Quinault Indian Nation (QIN) contracted previously with USGS for very specific tasks.

Mr. Pitz said USGS is aware it's not appropriate to provide consulting services at a site level. However, construction of a watershed numerical model is an appropriate role of the USGS.

In response to a question from Ms. Willis for examples of USGS and private consultants working together on a proposal, Mr. Pitz responded that the two entities typically do not work together.

Ms. Hempleman said she understands the first model consists of large polygons and information. Local consultants would provide additional data within the polygons.

Mr. Jennings referred to Mr. Pitz's January letter speaking to the issue of the broader model not predicting anything smaller than the size of the cell. Mr. Pitz asked members not to underestimate what a broad model can accomplish.

Discussion ensued about grid sizes and not much precedent concerning private consultants completing large scale modeling work. Members discussed the comments offered by a private consulting firm on the USGS Scope of Work (SOW).

Mr. Pitz said a private consultant could construct a mini-model in less time because it's smaller and less complex than the USGS proposal. He referred to a comment from a private consulting firm on the need to expand the study area three miles downstream and four to five miles upstream, which is only a fraction of the Chehalis watershed and the basis on which the consultant believes they can complete the work for less money.

Members discussed other comments provided by a private consulting firm in response to the USGS proposal.

Mr. Pitz drew an illustration of an 18-mile area where groundwater hydrology was intensely studied. He asked whether expanding the study area as suggested by a private consulting firm is the CBP's goal. Chair Swartout said the groundwater model concerns the entire watershed. Mr. Pitz questioned why the consultant described such a different scope.

Mr. Jennings expressed a desire for the STC to render an informed decision on the benefits of a public agency completing the work. The scope of the project is a consideration.

Chair Swartout reported the CBP agreed to work with USGS based on the STC's recommendation. He reiterated that the STC has thoroughly discussed the advantages and disadvantages associated with contracting with a public agency rather than a private consultant.

Mr. Jennings summarized the advantages identified by members:

- The scale of the modeling proposed is typical for USGS.
- USGS is experienced.
- There aren't many examples of private industry completing similar work.
- There are different levels of complexity between the private consultant and USGS proposals and it's impossible to compare the two in terms of cost.

Ms. Willis commented that a private consultant is able to complete the smaller scale work better and quicker. Another advantage of contracting with a public agency is that the work products are available to the public.

Mr. Iwenofu asked whether there is a clear disadvantage of contracting with USGS. Mr. Pitz responded that the agency has had a reputation with respect to the time involved in completion of tasks. However, there are reasons for the time it takes to complete tasks. He offered his opinion on the agency's *Characterization and Numerical Simulation of Water Resources in the Chehalis River Basin* proposal.

It's an outstanding proposal to achieve the goals. The modeler has the ability from the onset to pay attention to higher priority areas. Mr. Pitz offered the following suggestions on the scope of work.

- Ask USGS to expand on task 2.2.3, *survey locations of additional monitoring well sites*. One question is whether the agency intends to install new monitoring wells, which are very expensive and can increase the cost of a project.
- Task 2.5, *estimated water use*, does not mention a level 2 examination of water use completed in the watershed. The work should be acknowledged and could inform the model.
- Prior to launching task 3, the Partnership should consider incorporating an "exit ramp" to determine if advancing to the next level is necessary to meet the organization's goals. It would allow the CBP to step back and ask if the extra expense is required to build a numerical model. There is an immediate connection between the river and aquifer system. An expensive numerical model is not needed to reach that conclusion.

Discussion ensued on additional monitoring wells depending upon questions that need to be answered. Mr. Pitz said a model can predict changed conditions based on a response to a stress to the system.

In response to questions from Mr. Iwenofu, Mr. Pitz said as an example, it would be difficult to make confident conclusions solely on the basis of stream gauging data. Stream gauging data do not account for three-dimensional complexities occurring within the groundwater system and how that system interacts with stream gauge measurements.

Chair Swartout briefed members on recent Chehalis Basin Flood Control Authority (CBFCA) discussions. The Governor's Office alluded to negotiations with the US Army Corps of Engineers (Corps) for a flood control project. Mr. Ely with USGS has indicated the model could inform a flood control project. A flood control project could impact groundwater quality and flows. He asked Mr. Pitz whether he shares the same opinion. Mr. Pitz said it's not possible to build or calibrate a groundwater model without intimate knowledge of the surface water system. The modeler is obligated to know what's happening on the surface. The model will constantly account for that part of the water budget. A new stress on the groundwater system could occur if the surface system is changed in some way. A model could predict those impacts, and would also serve as a powerful tool for other applications.

Mr. Pitz offered additional comments concerning the USGS's *Characterization and Numerical Simulation of Water Resources in the Chehalis River Basin* proposal:

- There is little detail concerning fiscal year costs.
- Ask why two years is required for task #2.7, *construct the conceptual model, and do the first of the two reports*. He acknowledged the agency's rigorous national peer review process.
- A disadvantage the agency has is a tendency of not utilizing other available information. USGS prefers to start from scratch and complete work based on the agency's standards, which can be frustrating to other parties that have produced information. USGS should provide technical reasons on why some work is duplicated.

Discussion ensued on the Department of Ecology (DOE) providing support to the Partnership over the next several years to review SOWs, grants, and deliverables. Mr. Pitz concluded that the support would likely entail .10 of a full time employee (FTE).

Mr. Jennings said another advantage of a public agency completing the groundwater characterization model is retaining “institutional memory.”

Discussion followed on potential funding sources to complete the model.

### **David Batker – Earth Economics**

Chair Swartout introduced David Batker, Executive Director, Earth Economics.

Mr. Batker reported Earth Economics is a small nonprofit focused on ecosystem services benefitting humans. More specifically, the agency focuses on the benefits of watersheds, such as flood protection, salmon restoration, farming, water quality, and energy.

Earth Economics is completing a report on an evaluation of 12 ecosystem services within the Puget Sound basin. Quality of life is based on built, social, human, and natural capital systems. Macroeconomics emerged following the depression in the 1930s. The value of natural capital is rising quickly while the value of built capital is falling. It’s time to measure natural capital. Services provided by watersheds have been separated into 23 categories of goods (food, water, raw materials, timber, fish, medicinal resources, ornamental resources), services (flood protection), habitat (refugium, nursery), base line ecosystem services (gas, climate, disturbance and water regulation, gas production, water supply, soil retention), and information (aesthetic, recreation, cultural/artistic, spiritual/historic, scientific/education).

Mr. Batker provided examples of the importance of the value of natural capital and services vital to human beings (oxygen production) and the economy produced by watersheds and ecosystems that cannot be replaced with a market system. Watersheds with healthy systems that are well maintained have the ability to provide some amount of flood protection. A clear distinction between natural and built capital is that built capital deteriorates. He described work his agency is doing in conjunction with the US Army Corps in New Orleans related to Hurricane Katrina and the importance of wetland buffers for the levee.

Ecosystem services within Water Resource Inventory Area (WRIA) 9 (Green River Watershed) which benefit most from salmon restoration were reviewed and include water regulation (flood protection), refugium and nursery functions, recreation/water supply, water quality, aesthetic value, and disturbance prevention. Goals consist of ecological sustainability; rights, fairness, and equity among people in the watershed; economic progress; and good governance (the WRIA structure is used in other parts of the world).

A table intended to provide a broad generalization of the WRIA 9 economic analysis based on the 23 ecosystem categories was examined. The total value ranges from \$1,691,450,072 (low) to \$6,304,503,003 (high). Values are based on a Geographic Information Systems (GIS) analysis. Each value is based on a separate set of studies.

Ms. Hempleman said she’s surprised to see “urban” having a higher value than agriculture and pasture, and lands/rivers/ponds/reservoirs. Mr. Batker explained that the values are not based on a comprehensive study. There are no valuation studies for a number of the categories. He described factors that lead to a higher value for “urban” and the importance of farmlands to habitat and flood protection. Earth Economics is proposing a suite of studies to comprehend the WRIA 9 analysis. Both the low and high values are gross underestimates.

Every county in the state has green infrastructure. However, it's not measured or tracked well. Valuable natural ecosystems are replaced with built capital that is more costly. Mr. Batker described the methodology to achieve an asset value for the Green River Watershed using a discount rate.

Mr. Batker reviewed the National Science Foundation (NSF) grant, a protected areas project in Madagascar, and a multi-scale integrated model of ecosystem services. He described a payment for ecosystem services structure to encourage maintenance of reforestation and retention of native forests.

Discussion ensued regarding development within a floodplain. Federal agencies should consider local information and expertise when rendering decisions. Mr. Batker said the Corps uses a net present value calculation. For the first time, the Corps is using multiple criteria for decision making in Louisiana, such as public safety, economics, and coastal restoration. The Corps should use a similar approach in Lewis County.

Mr. Jennings pointed out that local governments rely on revenues from commercial and retail sales taxes to fund programs. Retailers want to locate along I-5 corridors. The interstate was built through the floodplain in Lewis County. Prime commercial property is located in the floodplain. Mr. Batker said the floodplain was not viewed as having natural capital. The issue is how to provide flood protection while accounting for both the built environment and natural capital.

Ms. Napier suggested having Mr. Batker provide the CBP with a similar presentation in September.

Chair Swartout said it might be a good idea for Mr. Batker to brief the Flood Authority as well.

Chair Swartout commented on the importance between salmon recovery and flood protection.

Ms. Hempleman asked about the cost for a similar study for the Chehalis basin. Mr. Batker replied the cost would be approximately \$25,000 to \$40,000. A study could be completed within six months.

Chair Swartout said the analysis provides information that could be used to augment the State Environmental Policy Act (SEPA) process to assist in understanding the economic impacts of a project. Using the natural element could prove valuable to decision makers.

Mr. Jennings illustrated an example where it might make more sense to restore riparian shade to mitigate effluent temperature compared to installing a chill unit at a sewer treatment facility to cool effluent before release in the river.

Mr. Batker reported the City of Renton is hosting an Assessment and Research Infrastructure for Ecosystem Services (ARIES) workshop on August 11, 2008. STC members are welcome to attend.

Ms. Hempleman indicated she will follow up with Mr. Batker on providing DOE with a presentation in the near future.

#### **Fiscal Year (FY) 2009 Work Plan for CBP and Watershed Facilitator**

Ms. Spaulding distributed two work plan documents. The work plan tasks are separated based on grant programs: WRIA Phase 4 Year 2 (DOE); Watershed Council – Year 1 (legislative appropriation 1); Watershed Council Year 2 (legislative appropriation 2); and Planning Unit Support (DOE). A separate section contains tasks currently not covered by grants that she would like to incorporate into the work program.

Chair Swartout suggested establishing clear guidance about who approves Ms. Spaulding's work program, which ultimately should be the Partnership. The STC and standing subcommittees would work out the details. STC members concurred with the strategy outlined by Chair Swartout.

Ms. Napier asked members to review the tasks the Partnership is already obligated to complete compared to identifying additional tasks at this point.

Discussion ensued on existing Stream Teams structures and whether there are utilities within the Chehalis basin that could help fund that component.

Ms. Napier said Ms. Spaulding wants to propose a centennial grant and target a specific area. A consideration is sustained funding to support Stream Teams within the Chehalis basin.

Discussion followed pertaining to stormwater regulations, planning, and permitting (National Pollutant Discharge Elimination Permits [NPDES]). Mr. Jennings indicated he could provide Ms. Spaulding with resource information to help engage communities in implementation.

Ms. Napier said the intent is to introduce the proposed work plan for further discussion at the STC's next meeting.

Mr. Jennings referred to tasks currently not covered by grants. Updating the CBP website is an outreach related task.

Discussion followed concerning the proposed task to create a clearinghouse of information on all the work underway in the Chehalis basin on restoration, monitoring, assessment, implementation activities.

Members referred to the table format for an overview of the tasks by contract. Ms. Napier reviewed tasks specific to the Planning Unit Support grant and how some aspects have changed in the last 18 months. There is a need to rewrite the facilitator's work plan and amend the Planning Unit Support grant contract to ensure time is eligible for reimbursement.

Chair Swartout asked for a breakdown by biennium of the work program and tasks, linking tasks to grant obligations, and assigning time for each work item. Assigning a percentage of time will determine if the facilitator has available capacity for additional work.

In response to a question from Ms. Willis, Ms. Napier advised that staff support to the standing committees will be included in the work plan. She asked members to forward additional comments to Ms. Spaulding.

Chair Swartout pointed out that Ms. Spaulding is working closely with Ms. Napier. He asked members to provide the two with flexibility related to making decisions on the work program rather than engaging with the STC on each detail. Members generally agreed.

#### **CBP Agenda for July 25, 2008**

- Presentations – anatomy and outcomes of the flood (Patricia Olson and Gary Graves)
- Tri-county meeting report
- Introduce tasks related to Phase 4 Year 2 funding

Ms. Hempleman said Ms. Olson is seeking guidance on the presentation. Members agreed an overview of the flood event is appropriate.

Discussion followed on the Department of Natural Resources (DNR) analysis and a previous presentation to the Partnership concerning slope failure. Ms. Napier referred to an e-mail that spoke to a DNR representative providing the CBP with a presentation on the studies initiated following the December storm to assist in understanding processes associated with slope failure.

Ms. Hempleman said she will send an email to both Mr. Graves and Mr. Walsh about presenting a more polished presentation that might provide a different perspective on the same information.

### **STC Agenda for August 7, 2008**

*(Note: Mr. Swartout is unable to attend the August 7, 2008 meeting. Mr. Jennings was asked to chair the meeting in his absence.)*

- Discuss Ms. Spaulding's work program
- Chad Stussy's farewell
- A discussion on how the watershed plan can influence local regulations

Ms. Napier advised that she will follow up with Matt Ely at USGS on questions and clarifications regarding the SOW. Chair Swartout requested contacting Mr. Ely to ascertain whether the Corps contacted USGS regarding a three-dimensional model.

Discussion followed on the Water Quality Committee (WQC) and the Partnership's role in reviewing Grays Harbor County's Critical Areas Ordinance (CAO). Ms. Napier explained that the CBP was asked to review a comment letter drafted by the WQC for Ms. Spaulding's signature concerning the draft CAO. The Partnership agreed it's not the role of the committee to critique comments. The letter was forwarded to Grays Harbor under another person's signature.

Chair Swartout suggested it's not an appropriate role of the CBP to comment on the CAO. Ms. Hempleman questioned the inappropriateness of a planning unit providing comments on the CAO if proposed regulations are inconsistent with watershed plan goals. Chair Swartout acknowledged the question and advised that in this particular case, the CBP could inform the jurisdiction about the watershed plan during the public outreach effort so the county can consider the input when drafting regulations. Members agreed a larger discussion on how the watershed plan can influence local regulations would be beneficial.

### **Adjournment**

With there being no further business, Chair Swartout adjourned the meeting at 12:41 p.m.