Chehalis Basin Partnership Water Quality Committee
Grays Harbor Forestry Building
Montesano, Washington
November 8, 2007
9:30 a.m.

Meeting Summary

MEMBERS PRESENT:
Terry Willis, Citizen, Grays Harbor
J Roach, Citizen, Thurston County
Harry Pickernell, Confederated Tribes of the Chehalis
Dave Rountry, Department of Ecology
Patrick Wiltzius, City of Chehalis
Bob Amrine, Lewis County Conservation District

OTHERS PRESENT:
Randy Lehr, Grays Harbor College, Natural Resources Program Director
Valerie Gow, Puget Sound Meeting Services
Brady Engvall, Citizen

Call to Order

Terry Willis called the Chehalis Basin Partnership Water Quality Committee meeting to order at 9:46 a.m.

Update on Coordinated Water Quality Program

Randy Lehr, Grays Harbor College, displayed a PDF map of the Chehalis Basin. The new PDFs produced using the latest GIS software includes an option to turn on/off different layers. The goal is to have a map of the basin as one of the GIS Clearinghouse products with color coded data points according to the number of relative water quality violations at a given site in relation to different testing parameters.

Harry Pickernell arrived at the meeting at 9:48 a.m.

The map of the Chehalis Basin includes all the water quality sampling sites as well as different color coded points based on the average number of water quality violations across all parameters that occurred during the last sampling year. The data points represented on the map are from October 2006 to June 2007. A purple dot represents an area that is relatively unimpacted and a red dot represents an area that is heavily impacted. Other colors represent a transition of conditions between the two colors. Ms. Willis asked about changing the colors because of the similarity between red and purple. Mr. Lehr advised that the colors can be changed.

Mr. Lehr reported the general trends in the sampling results point to more frequent and substantial water quality violations occurring in the upper basin than in the lower basin. In any given stream system, the headwaters were generally experiencing fewer water quality violations than downstream reaches. Those were the two major geographic trends based on the sampling.

Mr. Engvall asked if there is a correlation between population density and water quality issues. Mr. Lehr said the data wasn't plotted but based on the results; it's likely there is some relationship between the two.

Mr. Lehr reported there is an opportunity to add more sampling sites over the next year. He advised members to consider the location of more sampling sites and what type of information should be captured. Another consideration is determining the level of good water quality for impaired water quality. Mr. Lehr described how the color coding scheme was developed. At some point, the color coded scheme should be representative of what water quality should be, such as whether a healthy site represents an area where no violations occur or where water quality violations occur 10% or 20% or another percentage of time. That issue will be a much broader conversation, but it will affect the way the information is presented in describing the current state of water quality in the basin.

Ms. Willis asked if there is standard used by others. Mr. Lehr said the only comparison is how frequently samples violated water quality standards. He said he's not aware of any comparison standards between what good water quality is and what impaired water quality is. He suggested it will be necessary to develop a rationalization. He offered to work with the committee.

Patrick Wiltzius said it appears the results are reflective of all the water quality parameters for any given site, which may be misleading. A site could be in violation of temperature, which might be caused by natural conditions. By combining all violations into one, it could be misleading. He suggested using layers assigning percentages of each violation for each sampling parameter. Mr. Lehr said the data is available in the report he developed on water quality on a parameter-by-parameter basis. However, the data hasn't been converted to individual data layers for mapping. The map will reflect a more accurate accounting of the sampling results by each parameter rather than the current aggregate cumulative summary that is currently available. That's the next step. The next step beyond that is integrating the data into the online GIS Clearinghouse so that a sort can be accomplished for each site with a menu of choices, such as overall water quality in relation to dissolved oxygen or water quality in relation to both dissolved oxygen and pH.

Bob Amrine arrived at 10:58 a.m.

Mr. Lehr explained that the map color legend represents the percentage of time there were water quality violations at any given site. There were no sites that reflected no water quality violations. Testing parameters included fecal coliform, pH, turbidity, dissolved oxygen, and temperature. New additional testing parameters include nitrates, ammonia, and phosphorus.

Ms. Willis said she is curious about other standards because she recently read an article about the Satsop River as one of the most pristine rivers in the State of Washington. However, 20% to 25% of the samples indicate a violation of at least one parameter. She suggested inviting the author to talk with the committee and reviewing the results of the testing. Mr. Rountry noted the Satsop River failed for bacteria according to Mr. Lehr's report.

Mr. Lehr said another issue needing further refinement concerns temperature and the presence of turbidity in the river system. To establish violations of water quality for turbidity, the state standards are 5 or 10 NTU (Nephelometric Turbidity Units). Normally, that is an upstream or downstream standard or it's done by comparing a site to a reference site and looking at how the reference site changes in comparison to a study site of interest. He cited an example on how to measure turbidity. However, the problem of comparing a test area with a pristine site is the identification of an unimpacted system is very difficult. A wider stream, such as the mouth of the Chehalis, would have more turbidity than another site because it's accumulating upstream sediment. For large river systems, finding that type of control is almost impossible. To some degree it can be accomplished for smaller river systems with fewer tributaries feeding into the river system.

Mr. Lehr described how he determined the baseline for a point of reference for turbidity. Essentially, he said he took an average of all the points and discarded the top and bottom 25% percent and took an average of the middle 50% to establish the background level on which to base whether turbidity increased by any NTU. There are limitations as it corresponds to the state established standards because the way state standards are established, it's impossible to find an appropriate reference site for all the points tested. The turbidity measurements are not directly tied to the state standards because Mr. Lehr said he had to make some assumptions.

Another issue is temperature. The state's standards for temperature are increasingly complex depending on what fish species are using the stream and the time of year. One benchmark was selected for water quality violations, which is more restrictive.

Ms. Willis said it could create a problem before the process has undertaken the next steps in refining the data and benchmarks because someone could refer to the report and use it as critical information. Mr. Lehr said it is clearly articulated in the report, which also states that it's not possible to make some comparisons because of some factors.

Ms. Willis asked if he will at some point consider point sources that are known to exist because they are under permit as well as whether there is some variance allowed within an acceptable range.

Mr. Wiltzius commented that during the course of winter there are several storm events that create turbidity within the entire system. He questioned which one causes more damage and which one should be focused on. He acknowledged that everything is important for water quality, but every winter there are storm systems creating turbidity. He suggested the option of targeting a more pristine basin for more sampling to identify a baseline. Mr. Lehr acknowledged the difficulty of identifying what "pristine" really is because it's likely no will ever know the answer to that question especially in the Chehalis Basin.

Mr. Wiltzius asked about DOE's role in terms of the sampling results. Mr. Rountry said he views the report somewhat differently. He said he's considered the question of what the Partnership and DOE collectively want to use the information for and what good will it produce. It will help inform areas for follow-up and for either restoration or protection. That goal is consistent in terms of Mr. Lehr's work and the advice of the work group in refining the monitoring plan. Adaptive management fits into the purpose of the TMDL and water quality protection. He said he's also considered the possibility of documenting baseline conditions in areas where there is no information and are prime candidates because of development. He said he considered the Black River area based on the presentation by the Capital Land Trust on its top priority of land acquisition and protection. There is a timber company jockeying for purchase of a substantial amount of land. The Trust is working to acquire and preserve the land. That kind of an area might be a candidate to add to the water quality monitoring program.

Mr. Wiltzius asked whether DOE has preferences as to which parameters are the most concerning within the watershed. Mr. Rountry said it's a good question and the answer depends on the area of the river and on the use. It pertains to the question asked by Mr. Lehr about choosing priorities based on an aggregate level of pollution of multiple parameters at a particular location versus what is the real concern. He suggested reserving some flexibility.

Mr. Lehr said from a funding and restorative perspective, the dataset could be useful for articulating a clear strategy for funding a particular project at a particular site. The data will enable a well-articulated

strategy to obtain funding. The Partnership could develop a list of the things that would positively influence water quality in the basin.

Mr. Engvall suggested a cost benefit should also be considered. Funding for data gathering should result in some form of protection for something.

Mr. Lehr said the data results will be useful for articulating what the Partnership wants to do, why it wants to do it, and then documenting how the Partnership did it well.

Mr. Wiltzius agreed, but the sampling shows some trends and statistics and it's important for agencies, such as DOE and the Washington Department of Fish and Wildlife (WDFW) to provide input on what each agency's concerns are and where the focus should be.

Mr. Roach suggested details will be necessary when articulating the problem at local community centers to generate enthusiasm as well as assistance in restoration or preservation projects.

Discussion ensued on Winter Creek near Westport. Mr. Roach commented negatively on the condition of the creek during a recent visit.

Mr. Lehr said EPA is focused on incentive driven plans for environmental management by creating a goal for water quality and developing a market-driven or market incentive approach to achieve the goal. For this particular program, the goal for the Chehalis Basin could be to reduce the number of sites in violation of water quality within a specific period of time. Many of the EPA projects selected for funding were tightly focused and addressed water quality through market-driven incentive based approaches. By doing that, the Partnership must have a benchmark for current conditions and a benchmark of what's to be achieved as well as a timeline for achieving the goal through the creation of plans to achieve those goals.

Mr. Rountry said that might point to emphasizing areas in highly populated areas.

Mr. Lehr described "bubble projects" and shared an example of a project's incentive driven process to improve air quality.

Mr. Wiltzius suggested an option of selecting hot sites in the northern part of the basin near populated areas.

Bob Amrine suggested it would be important to document why fecal coliform decreased in Winter Creek and what occurred to cause the decrease and then duplicate the effort in another area.

Mr. Lehr said Scatter Creek is somewhat of a unique system as water is impaired in the upper section with the impairment declining by the lower reaches of the creek, which is odd based on other stream systems. It also suggests that water is diluted as the stream enlarges with more flows. Mr. Roach commented that at one time Offet Lake was the headwaters to Scatter Creek but flows were diverted to the Deschutes River. Mr. Amrine said Scatter Creek dries up in the summer along the eastside of the freeway. Mr. Lehr advised it's another issue worth considering as many sites go dry during the summer months. The question is how that should be incorporated into water quality issues. Sampling is not conducted in dry areas. The fact that it dried up is significant for many reasons but there hasn't been any discussion about how to articulate that. To some degree it's a natural phenomenon and in some areas it's a human induced phenomenon.

Mr. Lehr said other watersheds have established goals pertaining to where the watershed should be in terms of the overall condition or to achieve an end goal. The debate then is how aggressively an approach should be in terms of improving water quality throughout the watershed. The question is whether all areas should experience no water quality violations. If that's the goal, the issue then becomes how to approach it and what's the best way to achieve the goal. He suggested a broad discussion should occur about what the Partnership would like in a perfect world for the basin, which will give the committee some ideas about the goals to establish some starting point.

Mr. Wiltzius asked whether it's possible to take the data points and put them in a weighted matrix for assigning a numeric value to water quality. He conceded it would be a big task and would likely need the assistance of biologists or water quality representatives from DOE. Improving water quality for fish will also result in improved water for shellfish. It might qualify for a grant to have a consulting firm complete the work based on the data collected through the Coordinated Water Quality Program.

Ms. Willis pointed out it's difficult to "sell" instream flows even though there are different parameters for including aesthetic values that could be applied in some reaches. Water quality is affected by water quantity. Mr. Lehr said if the committee could develop an idea of what it wants in term of what the perfect world should look like, he could develop a weighting system to address it. Mr. Wiltzius offered a suggestion of conducting a tabletop exercise. The work could be done by the committee under assumptions the committee agrees with and then presenting the information to the Partnership. The committee could, in essence, experiment at the committee level prior to bringing the information forward.

Ms. Willis advised the process used by John Kleim was very effective in narrowing down the projects to several the group could agree on. A similar process could include a facilitator developing a process for the committee. She agreed with the idea of inviting others with broader interests and expertise. She asked whether the committee needs to advertise its work and whether the meetings should be at a different site to generate more attendance.

Mr. Lehr referred to the additional monitoring sites and indicated currently, there is no monitoring conducted within the estuary. He asked about the probability in terms of equipment and being able to reach estuary sites. Harry Pickernell advised that it would be possible to monitor some estuary sites. Mr. Lehr said it might be a consideration if there are concerns about water quality in the estuary. DOE has some different points that are measured in the estuary on a monthly basis. Mr. Rountry said the Department of Health conducts sampling as well as DOE's shellfish program. He said he's unsure whether the programs cover all the parameters of interest by the committee. Mr. Roach asked whether the programs could change their respective parameters. Ms. Willis said at one point heath records were requested for the estuary. However, the data did not convey a great deal of confidence.

Discussion ensued on potential monitoring sites near Ocean Shores. Mr. Engvall reported there are many shellfish beds and geographically it is four times larger than Westport. There are a series of lakes. Currently, there is no baseline data and it's not possible to ascertain whether the area is deteriorating or improving. He suggested Ocean Shores would be a good place to monitor. Access would be easy as well at the boat basin.

Mr. Lehr said another location that is not monitored is in the upper Humptulips area.

Mr. Lehr displayed a rainfall map of the basin showing average annual rainfall. He identified major areas within the basin. The map is a snapshot to help the committee determine specific areas of intensive monitoring to ensure points of comparison for good water quality is representative of the precipitation

pattern. For example, in areas experiencing more rainfall there would likely be more sediment in the river because there is more precipitation. Mr. Lehr asked for suggestions on additional monitoring sites.

Mr. Rountry referred to the Black River area because of continued development pressure. Mr. Lehr displayed an overlay of land use landcover of major developed areas.

Mr. Amrine said the Lewis Conservation District conducted a study of riparian areas in Lewis County and Grays Harbor above the Porter area. The information is mapped in a GIS format and includes riparian buffers of 150 feet from a main stem and buffers of 100 feet and less from a minor stream.

Mr. Rountry suggested monitoring a priority subbasin and emphasizing sampling points within the area. The area could be experiencing increased development pressures. The effort is extremely comprehensive and the layers of information and the influence it has on decisions makes it much more complex. In the final analysis, it will be important to filter all the data in common sense terms and what's practical. He said Mr. Wiltzius' suggestion is important as well for the long term of having a more sophisticated model or template that identifies criteria and a weighting of the criteria so that decision makers can make an informed recommendation based on better science. However, lacking that capability at the present time and the amount of information the monitoring is providing, he suggested focusing on the south Boistfort area where much restoration work has been undertaken as well as local volunteer support. The area is ripe for ongoing development and is a subbasin that is manageable for sampling.

Mr. Amrine reported the District is beginning a new program on cost-sharing on cover crops in the south fork area in an attempt to slow erosion during high flows and to absorb extra nitrate. The program pays farmers $25 an acre to plant cover crops that are not harvested for sale.

Mr. Rountry referred to another area of focus near the twin cities of Chehalis and Centralia of upstream and downstream areas, which is an opportunity for riparian plantings and temperature offsets for permitted facilities. Jan Strong and others spoke about all the riparian plantings near the Centralia wastewater plant.

Mr. Lehr said the committee could target a watershed representative of major land uses of increased development, an agriculture area, and a timber harvest area. The goal is considering the relevant impacts of different land uses and determining the most effective mitigation techniques for different land uses.

Ms. Willis questioned the number of sites necessary for effective monitoring in the estuary. Mr. Lehr said it might be useful to hook up with some of the other programs that are currently monitoring the estuary. Mr. Lehr said a minimum of four sites would suffice. He cited some possible locations within the estuary.

Mr. Lehr shared information on location, maintenance, and life expectancy of the sampling equipment.

Ms. Willis commented on monitoring flows. From her location on the Satsop River, there is a 12-hour movement of river flows from the Grand Mound area. A massive rain storm of 4" to 8" in Chehalis and the mountains simultaneously could create a major flood. She said she monitors the Porter site and the Satsop to ensure both flows are not rising simultaneously to avoid cresting/flooding near her farm.

Mr. Engvall asked whether the committee will commit to monitoring sites near Ocean Shores. Ms. Willis suggested developing a list of potential monitoring sites. Mr. Lehr added the estuary may not need

monitoring dependent upon his contact with DOE to find out additional information regarding its monitoring program.

Mr. Rountry asked whether the recommendation for estuary monitoring for shellfish protection is warranted more than the drainage channels around Ocean Shores. Mr. Engvall said Ocean Shores is a large area with a number of lakes draining to one area – the boat basin. To capture what's coming off the peninsula, a boat basin sample would suffice.

Mr. Amrine suggested a monitoring site on Stillman Creek near the south fork in the Boistfort area.

Mr. Lehr pointed out suggested sampling sites along the Wynochee River. There currently is a monitoring site south of the Wynoochee Reservoir.

Mr. Rountry offered a suggestion of focusing on the upper reaches of the Satsop as there are bacteria issues. He questioned if it is the goal of the program to undertake a level of refined source identification or is it more of a role for a local entity, such as a conservation district or a volunteer group to work on source identification.

Mr. Lehr said when the Coordinated Water Quality Program was developed the goals were developed by the committee and others. The sampling sites were selected to be representative in general of the watershed as a whole to identify high quality waters and potentially degraded waters and to obtain a general analysis of seasonal trends. Based on current sampling, it's probably not appropriate to conduct source identification. That was not included in the initial sample process but acknowledged as an interest in the longer term.

Members discussed areas to include in the monitoring. Ms. Willis pointed out that it's likely additional sampling should be located in areas that are not currently being sampled. Mr. Amrine said it's difficult to select additional sites without having some data. Mr. Lehr offered to provide the data electronically. Mr. Lehr reviewed the results of the monitoring conducted to date.

Mr. Wiltzius offered that it appears the selection of new sites includes one at Ocean Shores, four sites in Grays Harbor, Stillman Creek, and several in the upper Wynochee River. Mr. Amrine indicated he's uncomfortable selecting sites until he reviews the data. Ms. Willis suggested focusing on the overall goal of developing an overall picture of the basin without concentrating on specific problem areas.

Members agreed to review the data and contact me Mr. Lehr electronically with any additional suggestions in addition to the sites mentioned by Mr. Wiltzius. Mr. Lehr acknowledged he will contact DOE about testing in the estuary.

Mr. Rountry emphasized for future consideration it would be of value to add a sampling station upstream of the City of Chehalis to help inform some incentive based benefits or programs primarily relating to temperature. Mr. Wiltzius advised the City of Chehalis is monitoring temperature daily at the old wastewater plant upstream of the outfall.

Mr. Lehr and members discussed monitoring efforts by others, which is somewhat sporadic. Essentially, entities may monitor for a specific period dependent upon grant funding and then suspend additional monitoring because the grant is expended. There are bit and pieces of monitoring occurring in the basin. But in general, there are no consistent programs that are monitoring. There are DOE long-term sites monitored on a monthly basis, but not all the parameters are measured.

The committee agreed to review the data necessary and provide suggestions to Mr. Lehr. Mr. Lehr suggested a start date in early December for monitoring new sites. Ms. Willis suggested electronically contacting the entire list of Water Quality members and contacts and provide the same information. Mr. Lehr said he will contact Ms. Napier and discuss the request.

Mr. Roach asked whether it's too soon to begin working with other groups taking sampling to develop a common plan for sampling. Ms. Willis said it may be too premature at this stage but that it would be up to Mr. Lehr to make the determination. Mr. Lehr said talking with groups might be helpful to find out ways to align testing data.

Ms. Willis mentioned the committee's recent meeting on TMDL was successful because of the advertisement and planning, which resulted in many people with the same interests attending the meeting and offering information. Mr. Roach suggested contacting all testers to determine if testing is accomplished consistently between the groups. Ms. Willis said she will speak with Ms. Napier concerning how that can be addressed in the future.

TMDL Update

Mr. Rountry suggested another criteria or consideration in the selection of monitoring sites is the review of sites where restoration work has occurred. In the TMDL Clean-up Plan, there is simultaneous consideration to look at water quality conditions at locations where activities are occurring. Based on the level of progress, that could inform the committee's choices for either adapting the monitoring program or the choice of implementation activities. He suggested it should be a consideration of implementation activities that were projected to occur through the TMDL Clean up Plan. He acknowledged the goal to not interfere with the timing for including new monitoring sites, but would like the suggestion considered in the future.

Mr. Rountry provided an invitation for feedback on where members believe DOE could support the Partnership in water quality studies. The suggestions includes a specific geographic area or an area of concern that DOE should know about to consider as a potential candidate project. This particular review cycle is outside of DOE's Chehalis planning cycle. The deadline for suggestions is November 15, 2007. He said he is not planning at this time to recommend any projects, but will work with members if they have any suggestions to help articulate the project in the proper format for submission. Any entity can submit projects for consideration. The information was presented at the last Partnership meeting.

Mr. Lehr said a missing piece is measuring changes in water quality that affect biological conditions.

Mr. Willis commented on the short time to respond. Mr. Rountry clarified that the opportunity is not a grant but an opportunity for DOE to pursue the work on a particular project.

Mr. Lehr commented about aquatic insect sampling. Mr. Amrine referred to some data or publication that referred to the depletion of aquatic insects below bridges in some areas and that there is some linkage to copper from automobile brakes.

Mr. Rountry left the meeting.

Mr. Lehr shared information on his sampling project involving aquatic insects from several sample sites near the south fork of the Chehalis River near Boistfort. He said he plans to have students present the

results of the project to the committee. Mr. Lehr offered to contact Mr. Rountry for a recommendation to study aquatic insects as a study under the DOE's program.

Next Meeting

The next meeting is scheduled December 13. Possible agenda topics could include:

- Follow-up on monitoring sites and identify short and long-term goals of the program
- Student presentation on aquifer insect study

Adjournment

There being no further business, Ms. Willis adjourned the meeting at 11:57 p.m.

Prepared by: Valerie Gow, Recording Secretary/President
Puget Sound Meeting Services