

**CHEHALIS BASIN PARTNERSHIP
HABITAT WORK GROUP
Lewis Conservation District Office
1554 Bishop Road
Chehalis, WA
December 14, 2007
9:30 AM**

Meeting Summary

MEMBERS PRESENT

Chanele Holbrook-Shaw, Thurston County Citizen
Brett DeMond, LWC Consulting
Eric Delvin, The Nature Conservancy
Brian Peck, WDFW
Debbie Carnevali, WDFW
April Johnson, The Nature Conservancy

OTHERS PRESENT

Randy Lehr, Grays Harbor College
Cheri Lindgren, Puget Sound Meeting Services
Lonnie Crumley, Stream Works Consulting

Welcome & Introductions

Brett DeMond called the Chehalis Basin Partnership (CBP) Habitat Work Group (HWG) meeting to order at 9:44 a.m.

Habitat Project Map

Ms. DeMond referred to some maps provided by Lee Napier showing the location of each project. Apparently, some of the locations are not accurate.

Randy Lehr, Grays Harbor College, said the projects are Salmon Recovery Funding Board (SRFB) projects. However, the issue is which projects are identified in the correct location and which ones are not accurately located. The goal is for project sponsors in attendance to identify the location of their respective project.

Mr. Lehr advised that all the culvert data has been obtained for the upper and lower basin that is tied together in different tiers as far as high, medium, and low priority. Currently, data is accessible through an interactive PDF file. The recent storm caused some damage to the electrical systems at the college. Most of the data will be posted on the website soon. Currently, several student projects are being developed to better articulate the map, types of projects, and determine a way to quantitatively compare which projects are effective or not effective and use the data as a technique to access the project information over the internet. The intent is for a user to visit the site, click on one of the project sites, and pull up project information as far as what occurred, as well as, accessing any photos associated with the project. Additionally, there is the goal of adding a follow-up monitoring component to determine the effectiveness of a project based on a number of criteria.

Mr. Lehr said the first priority is to ensure all projects are accurately identified on the map followed by discussing whether members would like to have a searchable database related to projects and the criteria to consider. The information will help to develop a database that will ultimately feed the server system. The last priority is reviewing and discussing culvert data, its current form, and the useful components needed for a user to search and sort the data.

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One student is assigned to begin the work in December. Two other students will input data and provide support to the project.

Brian Peck asked about data currently available on the website. Mr. Lehr said there is data on the website, but the data is in a skeletal format. The goal is to improve the website to make it more user friendly and accessible for everyone. The Chehalis Basin Partnership (CHB) received a presentation on the database. CHB members provided input for improving the website. The goal is to incorporate the feedback to improve accessibility of the website. The website address is gis@ghc.edu.

Mr. Peck said Ms. Napier had asked him to provide GPS locations for Chehalis fisheries funded projects with the intent of adding it to the map. He advised that he will provide the information to Mr. Lehr. Mr. Lehr said the goal is to consistently convey to project sponsors the desire to collect positional data of the projects. There appears to be many projects that are not located based on the positional data of where they are actually located on the ground. Pinpointing the location by using GPS will provide a solid location making it easier to tie all the data together. What is occurring is that there is good information about the projects, but representing them spatially has been limited by not having consistent site data across the projects or in a standardized format so that all projects can be translated. Currently, Narendran Kodandapani has been formatting information. It has resulted in a larger undertaking than Mr. Lehr said he initially assumed because of the varied formats.

April Johnson said based on her work, having a point isn't representative of the project because of the watershed scale and that it would be very difficult to represent that. Mr. Lehr said it addresses the issue of wanting to make the data usable and accessible. In those cases, where the project data isn't a specific discreet point, the question is what's important about the project specifics that everyone would want to know about. Getting to that point requires a better representation of the project either spatially or tabulated through a spreadsheet.

Mr. Peck commented on the data he's providing and questioned the proper format. Mr. Lehr said the format is the new Department of Ecology standard for data projection. Mr. Peck said there is potentially more data that he can provide. He asked about the fields to provide. Mr. Lehr said identifying fields is part of the discussion to determine what fields will be useful. Mr. Peck said based on the outcome of the discussion he will modify the data that he will provide to Mr. Lehr.

Ms. Holbrook-Shaw arrived.

Mr. Lehr displayed a map.

Debbie Carnevali asked whether the culverts incorporate WDFW culvert barrier inventory. Mr. Lehr referred to the map and advised it's the information that was provided to the college of the upper and lower basin barrier assessments. Sorting out which ones are contained in the database and which ones are contained in the WDFW database is something that needs to be clarified. Ms. Carnevali asked whether the map includes any culvert barriers located on forested land. Mr. Lehr said it does not include those barriers. Ms. Carnevali said she recently attended a meeting where a question concerned what the Chehalis Basin is doing in terms of culverts and culvert barriers. They had bits and pieces of information. That might be a key component when considering it from a watershed perspective to include all the barriers whether they are under WDFW maps, small landowners, or the Chehalis.

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Discussion ensued about the goal of obtaining/exchanging data to ensure the website incorporates as much information about the watershed as possible. Mr. Lehr asked members to provide contact information so that he can obtain and integrate the information from the various sources.

Mr. Peck asked about the end products such as being able to zoom in at the subbasin or watershed level and whether there will be multiple end products. At this scale, it doesn't appear that it would be off by more than several miles at the most. Mr. Lehr affirmed that is correct. Mr. Peck commented that if the data is zoomable, it might be important. Mr. Lehr said at this scale, Ms. Napier has pointed out that all the points are not located in the correct areas, and that he and Mr. Kodandapani are in somewhat of an unusual situation because they don't know where the right locations should be. It's difficult to determine at this scale, where the points are located.

Mr. Lehr displayed a web mapping application, which is the next generation of the ArcIMS protocol, which is the protocol that runs SalmonScape. There are different layers that can be turned on and off. That was the first software version facilitating web interactions. The newest version that has the most mapping capability is ArcGIS Server. There are also some other competing models. For example, Microsoft is developing an application to market to the real estate market. The software is free to the college through ESRI (Environmental Systems Research Institute).

Mr. Lehr described the map as an overview of the Chehalis Basin. A number of different data layers have been added from existing databases from WDFW, US Army Corps of Engineers, and counties, etc. Eventually, the mapping application will include clear definitions for each data layer. He explained how the website will be improved by inputting data to provide discreet data layers that can be accessed through the website. There are a number of water quality projects underway to include 92 water quality monitoring stations throughout the basin that are monitored monthly. For example, at each monitoring sites there are different monitoring parameters (turbidity, temperature, Ph, dissolved oxygen) that can be assessed in term of aquatic integrity or ecosystem health and how they compare to segments that have been listed under the TMDL process. Additionally, people are asking about water quantity issues throughout the basin. There has been work done by USGS in analyzing losing and gaining reaches throughout the basin. USGS has developed a number of data layers associated with that, which will also be represented on the website by entering data on the basic hydrologic characteristics of stream reaches, examining flow monitoring stations of the flood zones and at well locations. The base layer will include major and minor streams, lakes and reservoirs, population density, land use and land cover, precipitation, subbasins, elevations, and watershed boundaries. This would be considered the background map with other data layers overlaid. To give more spatial reference points, another layer that will be accessible is landmarks and population centers to help the user identify and correspond to existing roads and boundaries.

Ms. Johnson asked whether the headings will be in distinct folders, and whether different subcategories within each folder can be overlaid on the map. Mr. Lehr said he envisions a base map that would include some combination of the items previously mentioned. A user would have the ability to turn on various layers. It will be possible to combine and mix and match the parameters of interest to the user. On another layer, there are interactive PDF files that allow manipulation of the data to some degree without having other GIS software.

Mr. Peck mentioned that SalmonScape that is used for restoration projects includes many helpful layers. He asked how similar the application will be to SalmonScape. Mr. Lehr said they are using the newest version available and that he envisions that all the content of SalmonScape will be included eventually, as

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well as other data that will render useful comparisons across different themes. Currently, SalmonScape is largely directed for salmon. With this application, in theory, the user would be able to compare all the data layers for salmon with any number of water parameters.

Ms. Johnson asked whether the data layers can be downloaded from the website. Mr. Lehr suggested contacting Mr. Kodandapani and having the layers electronically sent to her. The big difference between the website application and SalmonScape software is that ultimately, the "results" box will allow input of different types of functionality and query formats. For example, a user could set up a series of filters, essentially, to find a specific culvert project. The user could direct the site to plot all the points that are of the highest priority (Tier 1 culverts) that are located in a specific subbasin within a specific land ownership. The results would include those data points that were queried. The user could then access a point resulting in another window that recalls all the tabular information that went into putting the point on the map. He pointed out that the development of the program will not occur immediately but will occur over time now that the college has several students working on the project.

Mr. Peck asked whether there is a data table behind the points displayed on the map. Mr. Lehr said there is a certain amount of data that is available. Most of the data came from downloading the data that is available to the SRFB. They are the SRFB points and whatever data that has been integrated into SRFB's database is included. Mr. Peck suggested as a starting point to bring up the college database to determine what is available and what is missing. Mr. Lehr said the database is residing on the college's server that is undergoing some problems at this time. SRFB's data is not on the server, which is the problem.

Mr. Peck said he would like information designating project type either by color or perhaps by funding sources that are designated by different shapes. Mr. Lehr said the current two colors represent the projects that are completed and new projects.

Ms. Holbrook-Shaw asked about the needs of Ms. Napier in terms of the map. Mr. Lehr said Ms. Napier wanted to be able to describe to the SRFB restoration in the Chehalis Basin and she wanted to have a map that included all the projects and project details. Since the initial maps were developed, much has occurred, and one of the discussions is how to best capture the information. Ms. Shaw-Holbrook suggested perhaps considering the last two to three years of projects versus the last eight years of projects. She asked whether the priority at this point is to have everything. Mr. Lehr said he can't respond for Ms. Napier. The idea is to obtain feedback from the workgroup and Ms. Napier to develop a series of maps that meets the needs of everyone. Mr. Peck said he would prefer to have all the information as the more points represented is indicative of the amount of work accomplished over time. He suggested including project type and funding source. Project types would be large scale, such as fish passage, riparian restoration, stream restoration, wetland restoration, and estuarine restoration. Conducting broad instream restoration is another broad scale project.

Members discussed sources of funding sources. Mr. Lehr suggested developing consistent criteria to identify each funding source to maintain consistency between the types of funding sponsors.

Ms. Holbrook-Shaw asked about identifying landowner types or organizations. Several members suggested including that type of information with the project information.

Mr. Lehr and members discussed different category designations, shapes, colors, and project size distinctions.

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Ms. Johnson said it would be more useful to be able to look back to see what has been completed as well as before and after photos, and where to move forward for planning purposes. Mr. Lehr said that information will be available on the website.

Ms. DeMond suggested numbering with a table on the map would be useful. The table would identify the Chehalis basin-wide projects.

Lonnie Crumley commented about having a map printed showing all SRFB projects for the Satsop or all SRFB projects for the basin. It appears a much larger scale will need to occur to finite the information to a smaller scale.

Mr. Lehr said each line on the map could be considered a discreet layer of what can be turned on or off. He explained how he broke out each of the projects. However, the information can be flushed out with more details included.

Mr. Lehr asked the group to consider the attributes in terms of discreet layers in terms of what a user would like to turn on and off. Mr. Crumley referred to a riparian planting project and indicated the information could be increased to a larger scale to show both sides of a stream to see exactly where the planting is occurring. Mr. Lehr said to accomplish that level, more spatial data will be required. Ms. Johnson suggesting including a hyperlink that would have all the information, data, and the photographs. Mr. Peck commented it will take some time to complete the site. He suggested adding SRFB project sites that have been completed.

Discussion followed on what the database should include:

- Funding source
- Active and completed projects
- Project Type
- Project Sponsor Type (private, state, local government, federal, tribal, etc)
- Project Status
- Project Location

Members discussed current and historical satellite imagery and shared information about the changes in the landscape that has occurred over the last 40 years.

Mr. Lehr referred to the water quality project and indicated there is a database that has all water quality data collected for the Chehalis Basin. The database was developed for accessing in a query format. He said he wants to tie this work into the outputs from the web interactive site. The queries are tied to a pivot tables. The pivots charts in Access allow some flexibility. For example dissolved oxygen concentration at the sites is ranked for each site based on a color. The next step is to rank all the sites to compare the frequency of water quality violations. The data points are color-coded based on frequency of water quality violations using Washington State Water Quality Standards. Mr. Lehr said his goal is to have the information accessible by January.

Mr. Lehr asked members to identify incorrect location of sites. When Ms. Napier presented the information to the SRFB, there was some discussion that the points were not accurately represented.

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Members reviewed a map of SRFB/FFFPP funded and completed projects and SRFB 8th round projects and an accompanying list of projects describing the sponsor, name of project, location, and funding status. Mr. Lehr asked members to send the latitude and longitude for each site they have information about.

Mr. Peck referred to project #26. The project is a WRIA #23 assessment sponsored by Lewis County Conservation District. The project is basin-wide project in WRIA #23

Mr. Crumley noted project #50 includes three barriers at two different locations.

Mr. Peck advised that project #29 is a riparian restoration project of one mile and 350 feet wide.

Mr. Lehr asked members to review the SRFB database list and suggest other information for improved sorting capability.

Mr. Crumley asked about including whether project types, such as restoration, mitigation should be included. Ms. Holbrook-Shaw suggested adding the sponsor or who is doing what and where. Mr. Lehr said another column would need to be added to separate some of the information.

Mr. Lehr commented about the benefits of Access because it's possible to create data entry forms. The form can be customized and in theory it could be included on the website for people to add information. There would be drop down lists corresponding to the categories with open entry forms to enter values. The database will be a never ending process and an updating capability might help improve the updating process.

Ms. Johnson inquired whether it's possible to link the final report on a project to the database. Mr. Lehr questioned whether users would want the final project report in a scanned format or would it be better to have pertinent pieces of the project report in a field in the database so that the information could be sorted and searched. Another category or field in the database could be included pertaining to the overall success of the project or changes in biological productivity. Ms. Johnson said it would be helpful to have the capability of looking at similar projects to view the project's methodology. Mr. Lehr acknowledged that at this time there is no consistent way to evaluate how effective a project is.

Mr. Lehr shared that he attended a fisheries task force meeting that involved a similar conversation concerning project evaluations and follow-up project monitoring. If it's volunteer monitoring, it would be desirable to have a minimum and straight forward set of criteria to evaluate the success of the project. However, it's likely that process would not capture all the pertinent information in relation to changes in overall productivity of the system or not necessarily be sufficiently quantitative. It might be helpful to include several other categories to try to gauge the overall success of a project.

Mr. Peck questioned what type of information would be captured. Mr. Lehr said he envisions a series of several questions for rating the overall integrity of the structure or integrity of the site at specific points of time, or some professional assessment on the overall integrity of the project. It would be beneficial at some point to use a metric to summarize the outcome. The Access programs also allow linking of database. Mr. Peck said monitoring activities might need another database rather than adding another field to the main database.

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Members reviewed the fields included in the project list. Mr. Lehr suggested the field for name should be termed as "subbasin location." The column for "status" could include words designating a project as "completed" and "active" rather than using a "1" or "2."

Mr. Peck inquired whether a category for a congressional district is included. Mr. Lehr said the database does not include that category, which should be included. Mr. Peck said it would be helpful especially if a representative wanted to know about project outcomes within their respective jurisdiction. Mr. Lehr included congressional district (state and federal) as well as county fields.

Members questioned whether the information should be included in the database. Mr. Lehr suggested at this point, it would be easier to know all the important pieces of data for a project. Ultimately, it might be appropriate to break the project and the site into separate databases to eliminate redundancy and then link them together. However, at this point, going through a process of considering what type of data is needed is essential to include in one database.

Mr. Peck asked whether the project's accomplishment is captured, such as miles reopened or number of acres replanted. Mr. Lehr advised the information is not captured at this point. Mr. Peck commented on how much data to include in the first draft of the database versus waiting. Mr. Lehr replied that building the skeleton of the database with the information, even if it only includes a blank field, is preferable. One example pertaining to water quality data is the inclusion of the site description as well as other blank fields to ultimately tie the data together. Having a field placeholder is a good start.

Mr. Peck suggested including a field for project accomplishment. For example, in the project application there is approximately 20 different categories of the most common type of accomplishments. Mr. Lehr asked whether users would want to sort the information or just access the information. Mr. Peck said it's likely the user would only want to access the data. Mr. Lehr said the information could be included in a format that wouldn't be queried. Mr. Peck said the list doesn't include a category for sorting by monitoring that someone would want to access as part of the project. Mr. Lehr said the goal is to be able to sort all the data for a particular project type based on the monitoring results.

Ms. Holbrook-Shaw commented that many non-profit groups who do riparian planting projects borrow the site for a number of years to accomplish the project. After completion of the project, the site is abandoned because of funding limitations. She questioned whether to include a time factor within the accomplishment category. There are many projects underway by non-profit groups that will be short-lived.

Mr. Lehr said he has been discussing with college administration about undertaking different tasks and involving more people in projects. One way to enhance student involvement is including students in monitoring activities. One of the concerns voiced frequently is that once the grant is expended, the monitoring ceases. He said he's questioned whether it would be beneficial or appropriate to create a monitoring/collaborative consortium in any given year where the project funds a component of monitoring. With student involvement, there could be some subsidization of monitoring activities by the college through the student's participation in the AmeriCorps program

Mr. Peck said the advantages of such a program would be the standardization of protocol among a large number of projects.

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Mr. Crumley suggested applying for a grant for the monitoring component for several projects. Currently, the SRFB has a randomized monitoring process of approximately 20% to 30%. However, more area needs to be covered. With student participation, the students would receive a benefit and projects would be monitored. He suggested contacting the SRFB to review monitoring protocol to arrive at some form of standardization.

Members discussed the funding challenges associated with long-term monitoring activities.

Mr. Lehr shared information about the involvement of the college in community projects and events.

Mr. Lehr asked members to consider the best way to recruit participation or increasing awareness for the opportunity to participate in a monitoring program. Mr. Beck said applications include a line item for monitoring. Some of the projects might be implemented over the summer or later because of environmental permitting requirements. He asked Mr. Lehr whether a year would be sufficient time to initiate as monitoring program through the college. Mr. Lehr advised that a program could be initiated in time for late summer/fall/winter monitoring activities.

Ms. Holbrook-Shaw said she could assist in increasing awareness of a monitoring effort as well as supporting the college in its efforts.

Mr. Lehr said he will pursue the suggestion with the college.

Ms. Carnevali asked whether a project cost component is included in the database. Mr. Lehr said there could be some form of designation such as project type that could include designators such as small, medium, and large.

Mr. Lehr said two things he will be working on in the short-term is flushing out the suggestions offered during the meeting in terms of the overall projects completed in the basin and making them more accessible by building a database from the criteria reviewed, and secondly, provide the resource on the web.

Mr. Delvin commented that he spoke with his Seattle office regarding the project list and that everything went well based on the information he received. Additionally, funding for next year could be up to \$20 million.

Adjournment

With no further business, Ms. DeMond adjourned the meeting at 11:50 a.m.

Prepared by Valerie Gow, Recording Secretary
Puget Sound Meeting Services