Vancouver Lake Watershed Partnership--Technical Group Organizational Meeting – March 21, 2007 Summary Notes

State Participants:

Tim Rymer	WA Department of Fish & Wildlife
Tonnie Cummings	WA Department of Ecology
Shayne Cothern	WA Department of Natural Resources
Gretchen Rollwagen-Bollens	Washington State University

Federal Participants:

George Medina	US Army Corps of Engineers
Gail Lovell	US Army Corps of Engineers
Sharon Schultz	US Army Corps of Engineers
Dennis Schwartz	US Army Corps of Engineers
Pat McCrae	US Army Corps of Engineers
Jim Stengle	US Army Corps of Engineers

Local Participants:

Ron Wierenga	Clark County
Jeff Schnabel	Clark County
Marty McGinn	Clark County Health Department
Patty Boyden	Port of Vancouver
Jenny Ju	Vancouver-Clark Parks & Recreation
Annette Griffy	City of Vancouver
Loretta Callahan	City of Vancouver
Thom McConathy	Partnership Member
Vern Veysey	Partnership Member

Phil Trask	Vancouver Lake Watershed Partnership Project Manager

Introductions/Background

The meeting was called to order by the Vancouver Lake Watershed Partnership project manager. Participants were welcomed and introductions were made around the room. A brief overview of the agenda was provided with an opportunity for revisions.

The project manager provided an orientation to the Vancouver Lake Watershed Partnership and Steering Committee including its history, membership, and standing committees. The project manager characterized a need for broad, multidisciplinary technical involvement to help guide research, shared scientific understanding, and project development.

Vancouver Lake Technical Overview

Ron Wierenga, Clark County Public Works, provided an overview of the Vancouver Lake system, including brief descriptions of the relationships between Burnt Bridge Creek, Salmon Creek, Lake River, other tributaries, and the Flushing Channel. Ron also provided an historical overview of the Vancouver Lake project initiated in the 1980s, including creation of the flushing channel, dredging activities, and the development of an island in Vancouver Lake. A summary of current section 303(d) listings under the Clean Water Act for Vancouver Lake was provided. Ron used a PowerPoint presentation to highlight information developed by Washington State University in the late 1960s which characterized the lake effects from complex hydrology and hydraulics by season. Ron's presentation concluded with an overview of landuse surrounding the Vancouver Lake system.

US Army Corps of Engineers Feasibility Study

The U.S. Army Corps of Engineers made a team presentation to the group. George Medina provided an overview of the Corps' mission and the recent history that has linked them to the Vancouver Lake project. Involvement in the project began early in 2005 with scoping for a General Investigation (GI) Study. A Preliminary Restoration Plan (PRP) report was developed that indicated several potential elements of the Vancouver Lake project may fit with the Corps' mission. This report identified system hydraulics, dredging, and fish habitat as potential Corps areas of interest. George discussed the GI approach and requirements, and pointed out the limited opportunities for these types of studies at this time. George concluded by outlining an alternative approach using the Corps' Section 536 Program; in this context he described a need for a feasibility report to formally determine 'federal interest' in the project and define the scope of the project. George also outlined the need for a non-federal match commitment prior to initiating the project. George indicated that since the development of the preliminary plan he has assembled a project team to develop the Project Management Plan (PMP). The Corps team was hoping to get some input for scoping today.

Gail Lovell of the Corps provided an overview of the team that was assembled for the project. A handout detailed the various technical disciplines envisioned for the team and Corps staff assignments. The disciplines include: project manager, technical lead, hydraulic engineer, fish biologist, economist, environmental permit specialist, GIS and map specialist, cost estimator, cultural resource specialist, budget and legal analyst, and sediment and water quality specialist. A flow chart was handed out to help describe elements and relationships between the various feasibility report elements.

Sharon Schulz of the Corps provided an overview of the role of hydraulics in the Corps' proposed feasibility study. Sharon discussed the need for a hydraulics model and asked group members about available data. Model parameters would be adjusted to forecast increased flow, effects of flushing channel modifications,

dredging, etc. Hydraulic modeling was characterized to be central to other team inputs.

Dennis Schwartz of the Corps provided an overview of the role of fish biology to the proposed feasibility study. Given the constraints of the funding source, the primary question from a fisheries perspective is: To what degree can Vancouver Lake increase juvenile salmonid rearing opportunities? Dennis discussed the assessment of base conditions for juvenile rearing, flow requirements, and fish abundance in Vancouver Lake. The feasibility study would help answer questions about project cost, identify uncertainties, and it would contrast alternatives.

Pat McCrae of the Corps provided an overview of the economic analysis that would be part of the proposed feasibility study. In general, the analysis would compare existing and future conditions to establish project benefits. The study would also evaluate the various alternatives, including non-monetary benefits versus cost using incremental cost analysis methodologies. The issue of operations and maintenance as part of the sponsor responsibility was also presented.

Jim Stengle of the Corps provided a brief overview of environmental permitting. He introduced the NEPA process and indicated the planning process would determine what level of assessment would be required (Environmental Assessment (EA) or perhaps an Environmental Impact Statement (EIS)). This analysis would be integrated into the feasibility study.

A short discussion followed the presentations. A question was asked about the need for an EIS—the answer was that it isn't possible to predict the need at this juncture. A question was asked about the economic assessment: will other benefits be measured beyond benefit to juvenile salmonids? The answer was yes, but the focus would be on salmonids.

Washington State University Plankton Study

Gretchen Rollwagen-Bollens, Ph.D., Assistant Clinical Professor, Washington State University Vancouver gave a presentation on the Biotic Assessment of Vancouver Lake that is just getting underway. A PowerPoint presentation was used to explain the elements of the study and the various physical and biological processes that would be researched. The objectives of the study are to:

1. Determine the abundance, distribution, and taxonomic composition of cyanobacteria in Vancouver Lake over a full annual cycle;
2. Initiate some preliminary investigations of the biotic (e.g., grazers) and abiotic (e.g., temperature, mixing) factors influencing these blooms; and
3. In addition to performing field studies conducted by the WSU Team, an analysis of the extant data on cyanobacteria blooms in the Vancouver Lake (e.g., Wierenga 2005) for spatial and temporal patterns and trends in abundance is envisioned, as well as to provide a literature review of plankton issues in other shallow lake ecosystems.

Gretchen answered questions and discussed the role that suspended sediments might play in Vancouver Lake, highlighted Nitrogen:Phosphorus relationships, and talked about hydrodynamics in the lake and the food web structure and trophic relationships. The presentation was concluded with an overview of the project sampling methodology.

Discussion Session

The project manager gave a brief overview of how input from the Technical Group and studies and research would factor into the Vancouver Lake project. A key issue stemming from the two studies is scheduling because they both have independent tracks but are interrelated. The group engaged in a conversation about how the two studies might be managed to yield the best products from both. It was agreed that a finer-scale breakdown of each of the project elements and their respective timelines would be useful. Some of the Corps feasibility elements can occur concurrently—they include hydraulics, fish distribution, and fish abundance.

The following comments and/or discussions occurred during this session:

- *How long will the Corps feasibility study take?* It would be problematic if it took over two years. Studies to assess juvenile salmonid use is limited by the reality that it is too late this year to sample the system because of migration timing and one year of baseline data isn't much to go on. Hydraulic studies will take about one year.
- *How robust is the flow data for the various inputs into Vancouver Lake?* There are flow data for Salmon Creek and Burnt Bridge Creek and the Port of Vancouver is gathering flow data for the flushing channel. Lake River flow data is more difficult to gage. The need was identified to have a meeting between the Port of Vancouver and the Corps to discuss flow data in the flushing channel.
- *Can the Corps hydraulics study be expanded beyond a fish-centric scope?* There may be some flexibility; however, a cost share may be required to expand the scope.
- *What needs to happen before the Corps can initiate the feasibility study?* A non-federal sponsor is required to enter into an agreement with the Corps which outlines the various responsibilities and cost-sharing.
- *Before the project moves forward, ideal outcomes should be articulated, technical gaps should be identified, and there should be an attempt to fill those gaps.*
- *Has the flushing channel ever been cleaned?* Some maintenance has occurred recently at the confluence with the Columbia River, but otherwise it has not been needed.
- *What effects do operations and maintenance of the flushing gates have on the lake?* The WSU study and the hydraulic study should help answer these kinds of questions.

- *Is there documentation of algal blooms? Timing?* There is recent documentation of algal blooms but not extensive analysis of the data; for example, what species and timing. The WSU study is addressing this data need.
- *What is the anadromous fish use of the system?* There are coho in Burnt Bridge Creek; likely salmonids are coming from the Columbia River, not the tributaries. Surveys would help answer this question.
- *If funding became available could the Washington Department of Fish and Wildlife survey resident and anadromous fish use?* Funding is tight, but the Department will help if it can.
- *What are the salmonid predation issues?* Fish and Wildlife biologists may have information.
- *Are freshwater mussels being considered in the project? Historical shell middons demonstrate that freshwater mussels were historically present. What is the threat to their existing habitats?*
- *How do toxins play into the Vancouver Lake project; to what extent are the sediments contaminated? If there are contaminants, what effects on the project might re-suspension of sediments play?*
- *What is the extent of tidal influence up Lake River?*
- *What effluent outfalls contribute to water quality issues in the system?* The City of Ridgefield has an outfall in Lake River.
- *What is the extent of water withdrawals in the vicinity of Vancouver Lake?*