Vancouver Lake
Outreach and Involvement Plan

Vancouver Lake Watershed Partnership

January 31, 2011

Overview

The purpose of this outreach and involvement plan for the Vancouver Lake Watershed Partnership is to provide a strategic approach to promote public understanding of Vancouver Lake's issues and alternatives. Strong public understanding will allow for informed discussion and increased support for long-term management actions for Vancouver Lake.

In 2006, the Partnership's Steering Group identified the importance of outreach in its Intergovernmental Agreement: "The parties agree that public outreach is an important component to encourage a flow of information to and from the Partnership. Through public outreach, the Partnership will gain a better understanding of the community's needs and vision for Vancouver Lake and define a work plan for achieving those goals."

This plan serves to guide outreach strategies to meet the identified goals and objectives. Outreach strategies may be refined and adjusted as Partnership priorities and resources change over time. This plan also helps ensure that the Partnership is reaching the intended audiences with a consistent public message, and in turn, listening to the larger public.

In the following pages, this plan indentifies: 1) outreach goals and objectives; 2) outreach strategies; and 3) key outreach messages. Appendix A lists key audiences. Appendix B is an outreach timeline. Appendix C provides detailed information regarding Vancouver Lake and Partnership efforts as well as actions Steering Group agencies have undertaken that benefit the lake. Appendix D outlines how duties are shared between Partnership members, project management staff, and public information staff.

Background: Brief History and Current Conditions

Vancouver Lake is a tidally-influenced 2,300 acre lake, located five miles from downtown Vancouver. There are seven miles of lake shore surrounding the lake, the majority of which is publicly owned. Vancouver Lake is shallow, especially in the summer months, with depths as little as three feet.

Vancouver Lake is connected to the Columbia River through Lake River to the north, and the flushing channel to the southwest. Burnt Bridge Creek is the third main water source, with several smaller tributaries dispersed around the lake. Historically, Vancouver Lake was flooded intermittently by the Columbia River. Such flooding has since been dampened by the construction of dikes between the lake and the Columbia River as well as the construction and operations of upstream dams and water withdrawals.

There are many public uses of the lake, but they become limited due to concerns about water quality, in particular nuisance cyanobacteria (blue-green algae) blooms. In 1984, the US Army Corps of Engineers completed the construction of the flushing channel between Vancouver Lake and the Columbia River. The intent was to allow Columbia River water to enter the lake and cause a decrease in nutrient concentrations and an increase in water circulation. At the time of construction, Vancouver Lake was dredged along its western edge to direct flow from the flushing channel through Vancouver Lake and out Lake River. The flushing channel likely provides some benefit to lake water quality, but has not solved the issue of recurring blooms.

The Vancouver Lake Watershed Partnership formed in 2004, in large part due to ongoing concerns about the recurring cyanobacteria blooms. To address these issues, the Partnership is gathering information and supporting research to better understand the lake in order to make sustainable long-term lake management decisions.

In 2008, the US Army Corps of Engineers conducted a bathymetry study and modeling of Vancouver Lake in order to understand circulation patterns and the influence of the Columbia River on the lake. From 2007 to 2010, Washington State University–Vancouver researched the plankton of Vancouver Lake and the processes that lead to the formation, persistence, and decline of cyanobacteria and other algal blooms in the lake. In October 2010, the US Geological Survey (USGS) began research to study the nutrient and water sources to the lake. Choosing the best management strategy for addressing cyanobacteria and the overall water quality in Vancouver Lake will be dependent on the findings from these research studies.

Outreach Goals and Objectives

The goals of this outreach and involvement effort are to increase community understanding of the issues facing Vancouver Lake and build support for future management of Vancouver Lake.

The following objectives support these goals and serve as the basis for outreach efforts:

1. Educate the public about the ecologic, economic, and social values of Vancouver Lake, lake issues, and Partnership efforts.
2. Develop strong and long-lasting community relationships that result in an enhanced public trust and confidence in the Partnership's ability to address Vancouver Lake issues.
3. Develop and implement an inclusive and adaptive public process that addresses the needs and concerns of lake users, immediate neighbors (both residential and business), and other interest groups and stakeholders.
4. Communicate and coordinate effectively with local, state, and federal agencies and elected officials as it relates to Partnership efforts.

Outreach Strategies

Outreach strategies are how objectives may be implemented, based on available resources. As the Partnership moves through this process and learns from experience, the best strategies by which to meet the outreach goals and objectives may change. Therefore, this plan is intended to be modified as necessary to best address the Partnership's goals and objectives within the available resources.

1. Meet with Partnership members and other stakeholders on an individual basis to learn about their ideas and expectations for the lake. These "inreach" meetings will help shape and revise the Partnership vision, and explore perceptions of management techniques. The Project Management Team met with members individually in the fall of 2010, and will do so each year through 2013.
2. Provide information on the Partnership's efforts at targeted local interest group meetings to disseminate information about Partnership efforts, the work timeline and to solicit input on issues. (Potential venues identified in Appendix B: Outreach Timeline).
3. Brief Federal, State, and local elected officials (including annual update to county commissioners).
4. Plan for and staff informational booths at targeted community events.
    - Develop a small list of potential dates and relevant events, and verify available volunteers for staffing.
    - Create a reusable Partnership banner for display at events.

- Have printed materials on hand and an activity available (e.g., button maker).
- Have a sign-in form for attendees to expand the Partnership community e-mail list.

5. Develop projects/events in which to involve the public at Vancouver Lake, including an annual public involvement day.

   Following is a spectrum of events for a public involvement day at Vancouver Lake, ranging from higher visibility and cost to lower visibility and cost. Activities identified within any event description (e.g., hikes or boating opportunities) can be pulled out and utilized to make a distinct event on its own or combined with other activities for a more broad-reaching event.

Higher Visibility/Cost ↕ Lower Visibility/Cost	A Partnership driven, open-house type of event, with information and activity booths. Consider contests such as fishing or art, freebies like phosphate-free fertilizer, sponsors with food and/or drink. Have partners lead hikes, provide boating opportunities. Broadest reach and highest cost. Incorporating fundraising could reduce cost.
	Volunteer based shoreline planting day. Could partner with Vancouver Watersheds Council for volunteer base. Would need to determine best location for plantings and find donor for appropriate plants. Would likely need to pay for some plants. Narrower reach and lower cost.
	Boating Day or Fishing Derby Day (Potential insurance needs may affect costs)
	Volunteer clean up around the lake. Could have cleanup with some people by foot, some by boat. Could schedule on own day, could partner with Vancouver Watersheds Council, and/or schedule in conjunction with April 16 Earth Day or Sept 17 SOLV Beach/Riverside Cleanup. Reach similar to planting, lower cost. (If partner with SOLV, it could be lower cost, but potentially diminished VLWP visibility).

6. Develop postcard to be distributed at Vancouver Lake Park entrance booth, with Partnership website address– updated annually.
7. Conduct a survey of park users to determine their views on Vancouver Lake. Possible survey options that may be considered include in-person surveys conducted at the park, joint surveys with the Parks survey team, and soliciting comments through cards handed out to park visitors at the Park entrance booth.
8. Mail information/questionnaire to the lake's neighbors to solicit their views on the lake.
9. Consider installing a sign at the Park with information about Vancouver Lake, with space for posting current informational material and photos. Update rotational materials each spring or as appropriate.
10. Produce periodic status reports (one or two per year) for distribution to Partnership and interested citizens and made available online for the general public.

11. Contact media proactively to discuss Vancouver Lake and provide key message points for future reference. Provide newsworthy milestones and event information. Media to include, as appropriate: The Columbian, Clark-Vancouver Television (CVTV), neighborhood association newsletters, The Oregonian.
12. Maintain and update the Partnership webpage www.vancouverlakepartnership.org.
    - Consider webpage re-organization and a search engine.
    - Publications and displays will guide interested parties to the Partnership website.
13. Continue e-mails to interested parties as newsworthy information arises. Consider branding/logo on all Partnership e-mails.
14. Explore interest and feasibility of other on line communication tools (e.g., Facebook).

Key Outreach Messages

Below are key points that Partnership members can use – whether at a formal event or in an informal conversation with a neighbor – to inform others about the efforts and progress being made on behalf of Vancouver Lake.

- Vancouver Lake is a regional treasure that is threatened with water quality issues, mainly blue-green algae (cyanobacteria).
- Vancouver Lake currently offers a wide range of recreational opportunities that the public can, and does, enjoy.
- Sound lake management will help maintain and increase the public's enjoyment of Vancouver Lake.
- The Vancouver Lake Watershed Partnership is working hard to learn more about the lake and develop long-term management solutions.
- To successfully manage Vancouver Lake, we have to understand how it functions. We can learn a lot from other lakes, but all lakes also have significant differences.
- Failure to protect and improve Vancouver Lake may reduce or eliminate beneficial use opportunities in the future.
- The water quality issues facing Vancouver Lake developed over time. Similarly, understanding Vancouver Lake and determining appropriate management actions will take time.
- The majority of Partnership funding comes from annual contributions from Clark County, the City of Vancouver, and the Port of Vancouver. The Partnership has been carefully managing its limited resources, funding work as resources become available.
- The involvement of citizens, organizations, and agencies is critical to the successful management of Vancouver Lake.

Appendix A: Key Audiences

Below is a listing of some of the potential key audiences for the Vancouver Lake Watershed Partnership outreach and involvement efforts. Those groups with close ties to the lake may play key roles in improving Vancouver Lake by conveying their views on potential lake management options, as well as assisting with educational and/or on-the-ground efforts for the lake.

1. Lake Users

Vancouver Lake Sailing Club
Vancouver Lake Crew
Park Users

2. Special interest groups

Salmon Creek Watershed Council
Vancouver Watersheds Council
Friends of Ridgefield Wildlife Refuge
Columbia Springs' education program
Sierra Club
Vancouver Audubon Society
Vancouver Wildlife League
Clark County Watershed Stewards
Ducks Unlimited
Master Gardeners

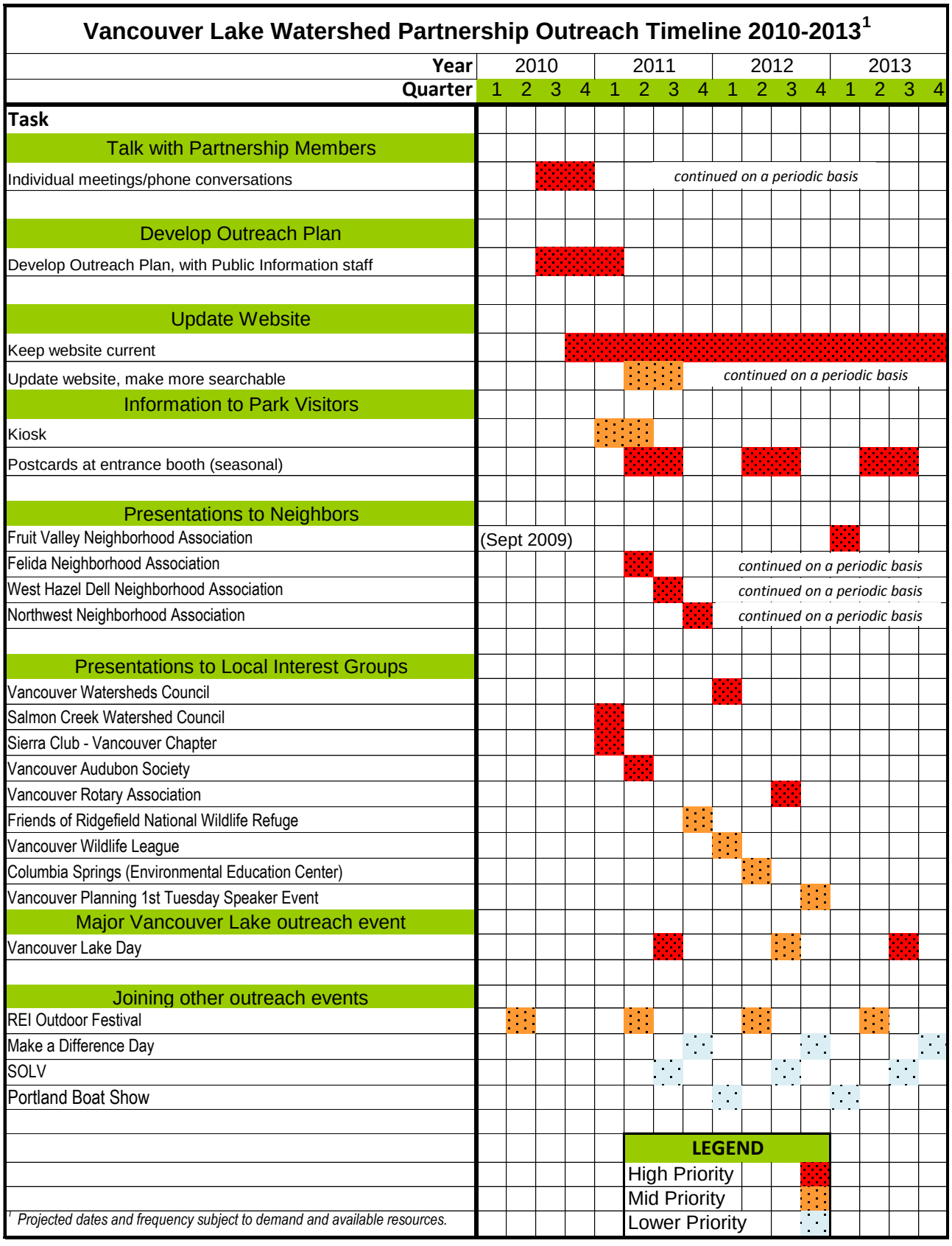
3. General public

Community residents through nearby neighborhood associations
Civic organizations, such as Rotary Club, League of Women Voters

4. Government Agencies and Elected Officials

Bonneville Power Administration
National Oceanic and Atmospheric Administration
US Fish and Wildlife Service
Federal, State, and local elected officials

Appendix B


Vancouver Lake Watershed Partnership Outreach Timeline 2010-2013[1]
Year
2010
2011
2012
2013
Quarter
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
Task
Talk with Partnership Members
Individual meetings/phone conversations
continued on a periodic basis
Develop Outreach Plan
Develop Outreach Plan, with Public Information staff
Update Website
Keep website current
Update website, make more searchable
continued on a periodic basis
Information to Park Visitors
Kiosk
Postcards at entrance booth (seasonal)
Presentations to Neighbors
Fruit Valley Neighborhood Association
(Sept 2009)
Felida Neighborhood Association
continued on a periodic basis
West Hazel Dell Neighborhood Association
continued on a periodic basis
Northwest Neighborhood Association
continued on a periodic basis
Presentations to Local Interest Groups
Vancouver Watersheds Council
Salmon Creek Watershed Council
Sierra Club - Vancouver Chapter
Vancouver Audubon Society
Vancouver Rotary Association
Friends of Ridgefield National Wildlife Refuge
Vancouver Wildlife League
Columbia Springs (Environmental Education Center)
Vancouver Planning 1st Tuesday Speaker Event
Major Vancouver Lake outreach event
Vancouver Lake Day
Joining other outreach events
REI Outdoor Festival
Make a Difference Day
SOLV
Portland Boat Show
LEGEND
High Priority
Mid Priority
Lower Priority
[1] Projected dates and frequency subject to demand and available resources.

Appendix C: Information about Vancouver Lake and the Work of the Partnership and Partner Agencies Benefitting Vancouver Lake

Information below provides general background information about the lake and answers to frequently asked questions about Vancouver Lake. Information will be updated as knowledge of the lake increases and pertinent questions arise.

Lake Background

1. Lake users: An estimated 50,000 lake users visit Vancouver Lake every year. Activities include swimming and picnicking, as well as sailing, rowing, hiking, wildlife viewing, and other activities.
2. Size and Location: Vancouver Lake is a tidally-influenced 2,300 acre lake, located 5 miles west of downtown Vancouver in Clark County, Washington. Vancouver Lake is shallow, especially in the summer months, with depths as little as three feet.
3. Historical Columbia River floodplain lake: Historically, Vancouver Lake was flooded intermittently by the Columbia River. The lake served as important off channel habitat to the Columbia River as part of a larger floodplain lake complex. Seasonal flooding has since been dampened by the building of dikes between the lake and the Columbia River as well as the construction and operations of upstream dams and water withdrawals.
4. Tributaries: Vancouver Lake is connected to the Columbia River through Lake River to the north, and the flushing channel to the southwest. Burnt Bridge Creek is the third main water source, with several smaller tributaries dispersed around the lake. In the past, Mulligan Slough connected the lake to the Columbia River to the south.
5. Past management activities: In 1984 the flushing channel was constructed to allow additional water flow from the Columbia River into Vancouver Lake. A tide gate prevents water flow back from the lake into the River. At the time of construction, the lake was dredged along its western edge north towards Lake River, with dredge material placed along the shoreline and used to form Turtle Island near the confluence of Lake River.

Water Quality Issues

1. General Water Quality Parameters: Vancouver Lake typically has poor water clarity and high water temperatures during summer months. Oxygen content is generally good, and is relatively consistent throughout the lake.
2. Nutrients: Vancouver Lake has high levels of nutrients and is considered water quality impaired for total phosphorus by Washington State (listing ID 6375). The current USGS research on levels of nutrient inputs from Burnt Bridge Creek, Lake River, the flushing channel, smaller water sources, and lake sediments will help define the sources of water quality problems and guide management decisions at the lake.
3. Cyanobacteria (blue green algae): Vancouver Lake suffers from intense cyanobacteria (blue-green algae) blooms that periodically limit its recreational use in the summer. While most cyanobacteria blooms are not toxic, some species can produce brain, liver, or nervous system toxins. Swimming in a lake with toxic cyanobacteria blooms can make people ill. Pets have died after exposure to toxic blooms in Washington lakes. Clark County Public Health monitors the

quality of water at the swimming beach each summer to ensure the safety of park users, and closes the lake to water contact if levels exceed acceptable limits.

4. *E. coli* bacteria: On occasion, Vancouver Lake is closed to swimming due to high levels *E. coli* bacteria. Findings from Clark County Public Health bi-weekly monitoring are typically below the levels of concern for *E. coli* bacteria.

5. Fish present at Vancouver Lake: The most recent warm water fish survey on Vancouver Lake was in 1998, which found brown bullhead, channel catfish, white crappie, black crappie, largemouth bass, bluegill, pumpkinseed, yellow perch, goldfish, common carp, northern pike minnow, American shad, mosquito fish, large-scale sucker, and sculpin (Caromile et.al, 2000). There are historical records of salmonid use of Vancouver Lake, and it is still considered a migration corridor for juvenile coho salmon, winter steelhead, and possibly fall chinook salmon (WDFW, 2009).

6. The lake may also provide rearing opportunities for juvenile salmonids during lower-water temperature months in the winter and spring.

Vancouver Lake Watershed Partnership

1. Partnership: In October 2004, through a collaborative and community-driven effort, the Port of Vancouver, Vancouver-Clark Parks and Recreation, Clark County, City of Vancouver, and Fruit Valley Neighborhood Association became founding partners of the Vancouver Lake Watershed Partnership. This 22 member Partnership includes 13 local, state, and federal agencies as well as 9 citizen members.

Thirteen Agency Members:	**Nine Citizen Members:**
City of Vancouver Public Works	Jacquelin Edwards
Clark County Environmental Services	Nancy Ellifrit
Clark County Public Health	Don Jacobs
Clark Public Utilities	Gary Kokstis
Fruit Valley Neighborhood Association	Thom McConathy
Lower Columbia River Estuary Partnership	Jim Meyer
Port of Ridgefield	David Page
Port of Vancouver	Jane Van Dyke
US Army Corps of Engineers	Vernon Veysey
Vancouver-Clark Parks and Recreation	
WA Department of Ecology	
WA Department of Natural Resources	
WA Fish and Wildlife	

2. Funding: Funding is primarily through the Port of Vancouver, Clark County, and the City of Vancouver, who have each contributed $50,000 per year since 2007. Other financial contributions toward Partnership work have been received from the Vancouver Lake Sailing Club, a grant from the Washington Department of Ecology, and shared research funding from the US Army Corps of Engineers and the US Geological Survey.

3. Vision: The current vision for the lake was developed in 2005 and was developed to be fully inclusive as the Partnership got started. The Partnership has stated the need to better define this vision in order to help set management priorities for Vancouver Lake. The current, un-refined vision is as follows:

"Vancouver Lake is valued as a regional community treasure and environmental resource. It supports healthy, diverse native plant and animal communities and offers a wide variety of recreational uses. The lake is fishable and swimmable, acclaimed for its high water quality. It thrives amid economically vibrant neighboring development. Contributing watersheds are actively and holistically managed. A watershed council provides ongoing collaborative oversight and accountability."

Partnership Planning Documents

1. Technical Foundation: This report was completed in 2008, and identifies previous technical work completed for Vancouver Lake along with remaining data gaps. This summary gives a general prioritization within technical study areas in order to better understand Vancouver Lake's hydrologic processes, nutrient budget, sediment cycle, food web, and internal nutrient cycling mechanisms. The Technical Foundation is being updated in early 2011.
2. Research Plan: Developed in 2009, the Vancouver Lake Research Plan builds on the Technical Foundation and provides a tool for the Partnership to select appropriate studies that lead ultimately to appropriate management decisions for Vancouver Lake. Making sound management decisions is dependent on understanding the dynamics of Vancouver Lake. Research areas considered critical for decision making are: lake bathymetry, flow modeling, water balance, nutrient budget, sediment chemistry and sediment mechanisms, planktonic assemblages and processes, and the larger food web.
3. Lake Algal Control Techniques: This report, developed in 2009, explores techniques that have been used in other lakes to help control nuisance algal blooms. It provides a general description of the various techniques found in the literature, provides examples of these techniques where possible, and creates linkages to Vancouver Lake by citing studies or circumstances that may help the reader consider the technique within the context of reducing nuisance cyanobacteria (blue-green algae) blooms in Vancouver Lake. Techniques explored in the report are: best management practices, water level drawdown, lake sediment removal, recruit/plant rooted plants, modifying lake footprint, dilution and flushing, biomanipulation, phosphorus inactivation, algaecides/algaestats, artificial circulation, mechanical removal, and shading. The Partnership can explore the suitability of some of these methods while awaiting research results.

Research

1. US Army Corps of Engineers: In 2008, the US Army Corps of Engineers conducted bathymetric research and hydraulic modeling for Vancouver Lake, which describes water circulation patterns and retention times in the lake and the influence of the Columbia River. The modeling explores the potential impacts of enlarging the flushing channel, dredging the lake, and/or removing the tide gates from the flushing channel. This work concluded that:
    - Current water velocities are slightly higher along the western edge of the lake.
    - Water velocities in the lake were low under all conditions modeled.
    - Lake dynamics remain tidally dominated under all conditions modeled.

- Enlarging the flushing channel culverts only slightly increases water velocities in the lake, specifically along the western and northern shores and adjacent to the dredge disposal island.
- Removing the tide gates has a negligible effect on hydrodynamics under most hydrologic conditions.
- Dredging generally decreases lake circulation dynamics due to increased lake volume.

2. Washington State University–Vancouver: In March 2007, Washington State University–Vancouver began studying the plankton of Vancouver Lake and the processes that lead to the formation, persistence, and decline of cyanobacteria and other harmful algal blooms in Vancouver Lake. These studies have determined:

- There is little spatial variability in water quality and plankton abundance across Vancouver Lake. Therefore, sampling at one station was determined sufficient to characterize conditions in the lake as a whole.
- There was a significant seasonal signal in all measured parameters, both physical/chemical and biological. Many other planktonic groups have a summer peak in abundance similar to cyanobacteria, including potential grazers of cyanobacteria.
- An increase in nitrate concentration without a comparable increase in other inorganic nutrients was found in the rainy season, suggesting different lake conditions during the winter.
- Predators of cyanobacteria (both protozoa and zooplankton) impact the amount of cyanobacteria in the lake, affecting the timing and possibly the magnitude of cyanobacteria blooms.

3. US Geological Survey: The USGS began work in October 2010 to examine the water balance and nutrient budget of Vancouver Lake. Research will take place through September 2012, with a report completed by September 2013.

- This study will sample water quality and flow data concurrently for two years. An understanding of the timing and flow of water and nutrients to Vancouver Lake will help resource managers address water quality problems in the lake.
- Water inputs will be examined by deployment of flow gages to be located at the flushing channel, Lake River, and Burnt Bridge Creek. Ground water discharge will also be surveyed, along with examination of smaller surface water input sources around the lake.
- The potential pathway of sediment nutrients to the lake bottom will be examined through deployment of passive sediment samplers at several locations in the lake.

4. US Environmental Protection Agency: The US EPA completed a Site Investigation Report for Vancouver Lake in May, 2010. The Site Investigation was to examine potential contamination in the lake as a result of a Citizen's Petition from the Rosemere Neighborhood Association to conduct a Preliminary Assessment at Vancouver Lake.

    - The EPA found four of 33 sediment samples from Vancouver Lake contained contaminant concentrations that exceeded NOAA designated Threshold Effects Levels (TEL). Concentrations below the TEL levels pose no potential threat.

- The four samples exceeded TEL levels in the following manner: One sample exceeded TEL for mercury, two samples exceeded TEL for lead, and one sample exceeded TEL for chrysene, flouranthene, and pyrene.
- No samples contained contaminant concentrations that exceeded NOAA designated Probable Effect Levels (PEL). Concentrations above PEL levels probably have toxic effects.
- The EPA determined that no further remedial action is warranted by the EPA, as the contaminants found at Vancouver Lake do not reach National Priority List ("Superfund") caliber and the lake does not present a risk to human or environmental health based on toxic components.

Planning and Implementation Timeline

Concurrent with the USGS research, potential management actions as outlined in the Algal Control Techniques Report will be narrowed down as possible. Preliminary data from USGS can help focus efforts in this process, with decisions for major management actions awaiting final USGS results. Preliminary identification of preferred management actions will be identified in 2013, at which time planning for such actions, including analysis of alternatives and funding needs, will commence.

While decisions on major management actions to address cyanobacteria blooms are in development, smaller early action projects can be initiated to enhance public use of the lake and/or benefit the lake. Examples of some of these smaller projects may include:

- Improved boating access.
- Educational trail development.
- General cleanup effort around the lake.
- Swim beach improvements.
- Lake shoreline plantings.
- Removal of large, human-made debris from lake bottom.
- Fish habitat enhancement.
- Small initial ecosystem/habitat improvement projects (i.e., wetland access improvements and enhancements).

Work of Partner Agencies Benefitting Vancouver Lake

Partnership members, both citizen and agency, have helped Vancouver Lake by demonstrating vision and effort in the formation and work of the Vancouver Lake Watershed Partnership for the long term improvement of Vancouver Lake. The three funding partners, Clark County, the City of Vancouver, and the Port of Vancouver, have been providing $50,000 in Partnership funding annually since 2007 to support planning, outreach, and research efforts. These three and other partners have also invested staff time and expertise into the Partnership. In addition to efforts focused on the Partnership, agencies have benefitted the lake in both direct and indirect ways, including the efforts listed below.

Clark County

Environmental Services Department:

1. Volunteer monitoring of water quality parameters at Vancouver Lake was coordinated by Clark County from 2004 to 2007.
2. Illicit Discharge Detection and Elimination Screening in the Lakeshore neighborhood has reduced water quality pollution sources to Vancouver Lake, thereby improving the lake's water quality.

Public Health Department:

1. Swim Beach Monitoring: To ensure human health and safety of park visitors, Clark County Public Health has been sampling Vancouver Lake Swim Beach for *E. coli* bacteria and cyanobacteria, among other water quality parameters, at the Vancouver Lake swim beach since 2004.
2. On-site Sewage Systems: in 2007, Public Health upgraded and improved the on-site sewage system (septic) operation and maintenance program to include annual certification and education units for operation and maintenance specialists, educating homeowners on the importance of regular operation and maintenance and online reporting. These efforts have improved septic system operation, thus improving ground water quality.

City of Vancouver

1. The Burnt Bridge Creek Greenway Improvement Project was designed to improve water quality, enhance fish and wildlife habitat, control flooding, treat stormwater drainage, increase and diversify the shrub and tree canopy, and enhance recreational opportunities. Burnt Bridge Creek drains directly to Vancouver Lake. This project has transformed over 3 miles of degraded environment along Burnt Bridge Creek (BBC). In 2010 a four acre parcel containing a stretch of Peterson Channel (just upstream of BBC) was purchased to provide additional wetland restoration and water quality improvements. Ongoing restoration throughout the watershed is being facilitated by a dedicated greenway/sensitive lands maintenance team.
2. A long-term Water Quality Monitoring Program has been established to characterize current conditions, track changes, and provide feedback on the effectiveness of stormwater management strategies to improve water quality in Burnt Bridge Creek and its tributaries.

Port of Vancouver

1. Flushing Channel Maintenance: The Port of Vancouver monitors and conducts trash removal twice annually at the flushing channel to maintain flows into Vancouver Lake, and maintains mechanical equipment for the tide gates.
2. Maintenance dredging conducted in 2006 removed accumulated sediment from the confluence of the flushing channel and the Columbia River. Approximately 18,000 cubic yards of river sediment were removed, returning the channel to the original design depth of -8 feet Columbia River Datum (CRD). The port regularly monitors channel depth to identify dredging needs.

3. Flow gages at the flushing channel have been monitored by the Port from 2006 to 2010 to look at flow entering the lake at this site. They were removed in 2010 and replaced with USGS flow gages with assistance from Port staff.

Vancouver-Clark Parks Department: Vancouver Lake Park

1. Vegetation maintenance activities at the park follow the best management practices outlined in the July 2000 County handbook "Water Quality Best Management Practices for Operation and Maintenance of Publicly-owned Property."

References cited

Caromile, S.J., C.S. Jackson, and W. Meyer. 2000. 1998 Warmwater Fish Survey of Vancouver Lake, Clark County. Olympia, WA: Washington Dept. of Fish and Wildlife.

Washington Department of Fish and Wildlife.2009. Priority Habitat and Species Data for Clark County. Olympia, WA. *as cited in* City of Vancouver. Draft Shoreline Inventory and Characterization Report - Volume I. June 2010.

Appendix D: Sharing of Duties

The Project Management Team will be responsible for facilitating many of the activities within this plan. However, Partnership members and agency public information staff will play critical roles in ensuring successful communications as well. How each group shares duties can be characterized as follows:

Project Management Team

1. Meet/talk with Partnership members on an individual basis: annually at a minimum.
2. Coordinate with Public Information staff on mailing list, management of mailings regarding Partnership news.
3. Develop a comprehensive PowerPoint presentation for pertinent meetings, modifying/updating as needed.
4. Meet with local, State, and Federal elected officials as requested.
5. Present Partnership information to local neighborhood/interest groups.
6. Coordinate with other groups for partnering on outreach events.
7. Plan and coordinate volunteers for events, staff events as needed.
8. Develop handouts for events/mailings.

Public Information Staff

1. Assist with development of key messaging for the Project Management Team and Partnership members.
2. Provide review and editing for written materials produced by the Project Management Team for the Partnership, including PowerPoint presentations and periodic status reports.
3. Maintain webpage updates and information in conjunction with the Project Management Team.
4. Serve as the media contact for the Partnership.
5. Distribute e-mails notices such as lake closures/re-openings; coordinate with Project Management Team on maintaining mailing list and management of Partnership mailings.
6. Assist with outreach and printed materials (as needed).

Partnership Members

1. Volunteer for events and/or sharing information about Partnership activities.
2. Write letters of support for the Partnership for use in grant applications and other pursuits.
3. Assist in distribution of printed materials (e.g., to affiliated associations).
4. Talk with their elected officials and regional/state level government officials.
5. Update agency co-workers/other departments in agency on Vancouver Lake developments.