



*Salmon Creek Elementary fifth grade students experience Vancouver Lake
May 2018*

Experience Vancouver Lake

Lower Columbia Estuary Partnership Year 3 Final Report 2017–2018

For the third year, the Experience Vancouver Lake project engaged Vancouver area students and community members in a watershed outreach program that showcased Vancouver Lake’s natural areas and its value as a wildlife habitat and recreation destination. Estuary Partnership staff expanded our relationships with Vancouver area schools and partners and delivered education, engagement, and direct on-the-water experiences to community members of all ages. We focused on students, the funding in the third year was slightly less than previous years, and all partners agreed at the outset that students were a solid investment. Not only do they gain experiences and knowledge, but they are conduits to their families. Due to scheduling issues and one school cancelling at the last minute, the final field trip for 2017-18 classes was delivered on May 3, 2018.

Task A. Educate – Vancouver Area Students

Goal: Our annual goal was to work with approximately 336 Vancouver area students (12 classes), providing approximately 2,352 hours of instruction on an extensive Vancouver Lake education project.

Final Outcomes: We worked with 300 students from 12 classes who each received three, one-hour classroom lessons and one,



*Fourth grade students from Eisenhower Elementary
explore pussy willow buds
March 2018*

four-hour field trip to Vancouver Lake. We provided 2,100 hours of instruction. The number of classes we reached met our goal; however, the total student numbers were lower than projected due to lower class size in the schools with which we worked.

We recruited teachers to participate in the Experience Vancouver Lake Project from four Vancouver schools: Eisenhower Elementary, Lake Shore Elementary, Lincoln Elementary, and Salmon Creek Elementary.

The following table provides details on the schools and students we worked with:

School	Number of Classes	Grade	Number of Students	Parent Volunteers
Eisenhower Elementary	4	4 th	90	12
Lake Shore Elementary	2	5 th	58	8
Lincoln Elementary	3	5 th	57	10
Salmon Creek Elementary	3	5 th	95	6
Total	12		300	36

Estuary Partnership educators visited students' classrooms to deliver multiple hands-on science lessons over the course of several weeks. Lessons covered watershed concepts relevant to the Vancouver Lake area and introduced students and teachers to the features of a healthy watershed and the interconnectedness of all living things. In lesson one, Estuary Partnership educators taught students how water moves through a watershed from the land to a network of streams and ultimately the ocean. The impacts that humans have on watershed health were highlighted in this lesson and students explored a collection of animal artifacts that represent local wildlife that need a healthy watershed. In lesson two, students learned about native and invasive plants and how native plants increase stream health and habitat. During the third lesson, students explored the direct and indirect connections between organisms in the ecosystem and used these connections to evaluate the impact humans can have on the environment.

All lessons addressed specific Washington State Standards in Social Sciences and Science and feature a variety of hands-on activities and discussions to support a diversity of learning styles. By the end of the science lessons, students were ready for their field work—they had new knowledge and a curiosity for the wildlife in their watershed.



Fifth grade students from Lake Shore Elementary remove invasive blackberry March 2018



Students from Lincoln Elementary explore along the shore November 2017

The four-hour field work at Vancouver Lake put the science lessons to life: it reinforced the concepts learned in the classroom and directly engaged students in fish and wildlife habitat restoration activities. They got to see how their actions can make a difference.

Learning in an outdoor setting provides learning opportunities that are not available in the classroom and supports students who learn better through direct experience. Field activity at the lake creates a sense of place for students. Ultimately, place-based connections help students become more aware of how their actions impact natural areas including what behaviors benefit fish and wildlife. Students have fun exploring outdoors, and natural area restoration is more successful when students and the community use these areas and have personal connections to them.



*Eisenhower Elementary students remove invasive blackberry at Vancouver Lake
March 2018*

Each field trip to Vancouver Lake involved two-three classes, their teachers, and parent volunteers. Students took part in a service project where they removed invasive Armenian blackberry from around the lake and spent time exploring the natural area during a nature hike, birding, and plant activities.

Task B. Engage – Vancouver Lake Event for Community Members

Goal: Our annual goal was to conduct one major community event to engage approximately 100-150 community members in a Vancouver Lake clean up, picnic, and paddle.

Final Outcomes: We organized and lead a community engagement event on September 23, 2017. Activities included a paddle trip on Vancouver Lake, a litter pick-up, and lunch.

- 45 people helped pick up litter.
- 54 people paddled on the canoes.
- Participants removed 34 bags of trash.



*Volunteers remove litter at Vancouver Lake
September 2017*

This event connected local youth and adults to Vancouver Lake and offered a way for them to give back. The Estuary Partnership organized and lead the event, recruited volunteers, provided all necessary materials, provided lunch, and provided site information during the event.

In related work, separate from Experience Vancouver Lake Program funding, the Estuary Partnership provided three Big Canoe community paddle trips on Vancouver Lake during July and August 2017. This brought an additional 72 people to explore Vancouver Lake.

Task C. Exchange – Communicate to Support Vancouver Lake

Goal: Our annual goal was to communicate using different methods to implement the *Experience Vancouver Lake* program and promote events, to further build community engagement and reach existing Vancouver Lake users.

Final Outcomes: The Estuary Partnership continued to employ multiple strategies to promote the Vancouver Lake litter pick-up, volunteer planting, community paddles, and other events through social media, press releases, flyers, webpages, and newsletter articles.

Over the past year, we created and distributed four press releases about Vancouver Lake Community Paddles, Vancouver Lake Clean-Up, Vancouver Lake Eco-Blitz, and Vancouver Lake Volunteer Planting. The press releases resulted in seven news articles or mentions in *The Columbian* and other local newspapers. To further advertise Vancouver Lake activities, we posted activities 46 times on Facebook, tweeted 52 times on Twitter, posted 13 times on Instagram, and created 18 news articles or event announcements that appeared in the Estuary Partnership's newsletter and Executive Director E-update. The Estuary Partnership created event flyers for the community paddles, the volunteer planting, and the Eco-Blitz and widely distributed them to community and corporate partners, community event calendars, the Intertwine, and many others.



*Vancouver Lake community paddle,
July 2017*

Task D. Pursue Science and Restoration Opportunities (Estuary Partnership)

In addition to the funding provided by Clark County, the City of Vancouver and the Port of Vancouver for this project, the Estuary Partnership brings a technical team of nine to support the educators work and to complete habitat restoration and monitoring projects. Since our *Experience Vancouver Lake* project started three years ago, there has been a significant increase in Estuary Partnership restoration and education work in Clark County. We have received major funding from the State of Washington and Lower Columbia Fish Recovery Board for extensive work with students in stormwater education and watershed protection. We also have received major funding from those agencies and others to complete large habitat restoration work at La Center, East Fork Lewis, and Steigerwald, among others.



*Construction at East Fork Lewis Side Channel
September 2017*



*Students at Salmon Creek
October 2017*

Measures of Success

Knowing if we are making a difference is important to the Estuary Partnership. We quantify results of our education and community engagement programs and use that data to adapt programming to meet current needs of teachers, curriculum requirements, students, and community partners to develop and deliver programming that achieves measurable results

Student Assessments

The Estuary Partnership conducted pre- and post-project student surveys to assess the effectiveness of our Education Program, including student watershed knowledge and affinity for nature. Student assessments are independently evaluated by Dr. Paul Michael, an Associate Professor of Psychology at Pacific University, who helped the Estuary Partnership create the survey and annually works with us to fine-tune it. Preliminary analysis from our Experience Vancouver Lake assessments showed a statistically significant increase in student watershed knowledge and attraction to nature.

Project outcomes include:

- 95% of students feel more comfortable spending time in nature.
- 98% of students know how to protect their watershed.
- 90% want to share their experience with friends and family



*Lincoln Elementary fifth graders remove invasive blackberry
November 2017*

The full report by Dr. Paul Michael for school-year surveys will be available August 2018.

Teacher Surveys

Teachers participating in the Experience Vancouver Lake project received a post-program survey to provide feedback on the project and guidance for curriculum and project refinement. We used these assessments to adapt our programming to meet current teacher curriculum needs and state benchmarks requirements, and ensure our programs are expanding and complimenting existing work. Both the teacher surveys and direct teacher feedback about the project were excellent.

Teacher comments include:

- “I think the lesson around invasive species followed up with students cutting blackberry bushes had a significant impact. Students were excited at the progress they made and developed an awareness around the importance of Vancouver’s environment and natural beauty.”
- “The hands-on learning materials that Andy brought to our classrooms—animal pelts, fossils, etc. The kids were FASCINATED. Being able to experience the plants and animals at the lake brought the learning experience to another level.”
- “This was the most engaging, well-rounded, well-organized learning experience/field trip I have ever experienced. Thank you!”
- “The class lessons and the field program were fantastic! I was talking with my colleagues and we all thought you all did a fantastic job of keeping the kids’ attention and helping them learn at their levels.”

A Closing Note

The Estuary Partnership enjoys the Vancouver Lake project immensely. Connecting local people, of all ages, to their local resources is key to our mission. Vancouver Lake is a gem to Vancouver, Clark County, and the Vancouver- Portland metropolitan area. We appreciate the continued support of the Port of Vancouver, City of Vancouver, and Clark County.

300 Clark County students, 12 teachers, and 100 community members join me in thanking you for making this project possible.



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