I am Crescent Creek

Preserving the watershed for tomorrow's generation

Friends of Pierce County

Environmental Clubs 2007-2008

Voyager Elementary

From left to right Back row, Rhonda Haug, Marcus Yamamoto, Sophie Tinney, Siri Mayo, Evelyn Lundeen, Jo Meints, Marian Berejikian. Front Row left to Right: Cayla Berejikian, Georgia Lundeen, Greta Larson, Lilly Peterson, Karen Godfrey and Brendan Berejikian (assistant).
Not pictured: Pierce Van Dommelen.

Artondale Elementary

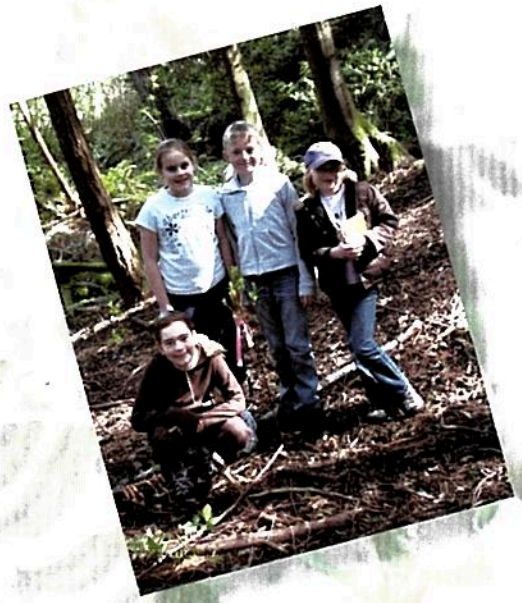
4th row: Skylar Culbert, Sravan Konda, Leah Meyer, Kate Thomas, Bailey Williams
3rd row: Connor Maxwell-Smith
2nd row: Emily Villa, Lindsey Moon, Ben Aguilar
Front row: Kait Dawson, Sierra Herzberger, Kaytlyn Brabham, Kaitlan
Harbaugh, Carly Glassy, Kailey Dubinsky
Not pictured: Colin Rivera, Nicholas Barkin

Purdy Elementary

Left to Right-Back Row, Jarisa Gregor, Ashlynne Perez, Dan McCormick, Sierra McCormick, Megan Eberhardt, Elysse Gregor, Chas Barrow, J.J. Cook, Emma Collins, Tyler Sam, Feng Sam. Front Row: Alyssa Chavez, Lexi Buckland, Emily Waters, Gol-Dann Slater, Annabelle Yedinak, and Dylan Sam.

Thanks to Dennis Jordan who prepared this book for Friends of Pierce County.

CRESCENT CREEK WATERSHED



We would like to thank the following partners who helped make this project possible:

Pierce County

Puget Sound Flyfishers

Pierce Conservation District Stream Team

Crescent Valley Alliance

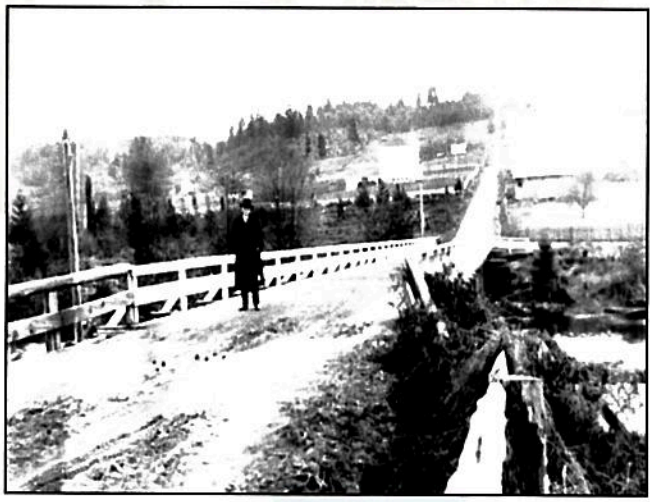
Harbor History Museum - The Mountaineers Foundation -

Washington Foundation for the Environment - Copy it ... Mail it

HISTORY OF CRESCENT CREEK WATERSHED

The area surrounding Gig Harbor is within the territory of the Puyallup Tribe. Nearby Donkey Creek was a known tribal village that was occupied for many generations (Cascadia Archaeology 2006).

The park land once belonged to the Crescent Valley School until 1946, when the land was donated to the City of Gig Harbor and called Town Park. The stone retaining wall, picnic shelter, drinking fountain, and restrooms were built by the Works Progress Administration in 1936-1937 (Harbor History Museum).



Dr. Hiram Herbert Rust on Crescent Creek Bridge around 1915 - 1922. (three story white building is Crescent Valley Grade School) Photo courtesy of Harbor History Museum.

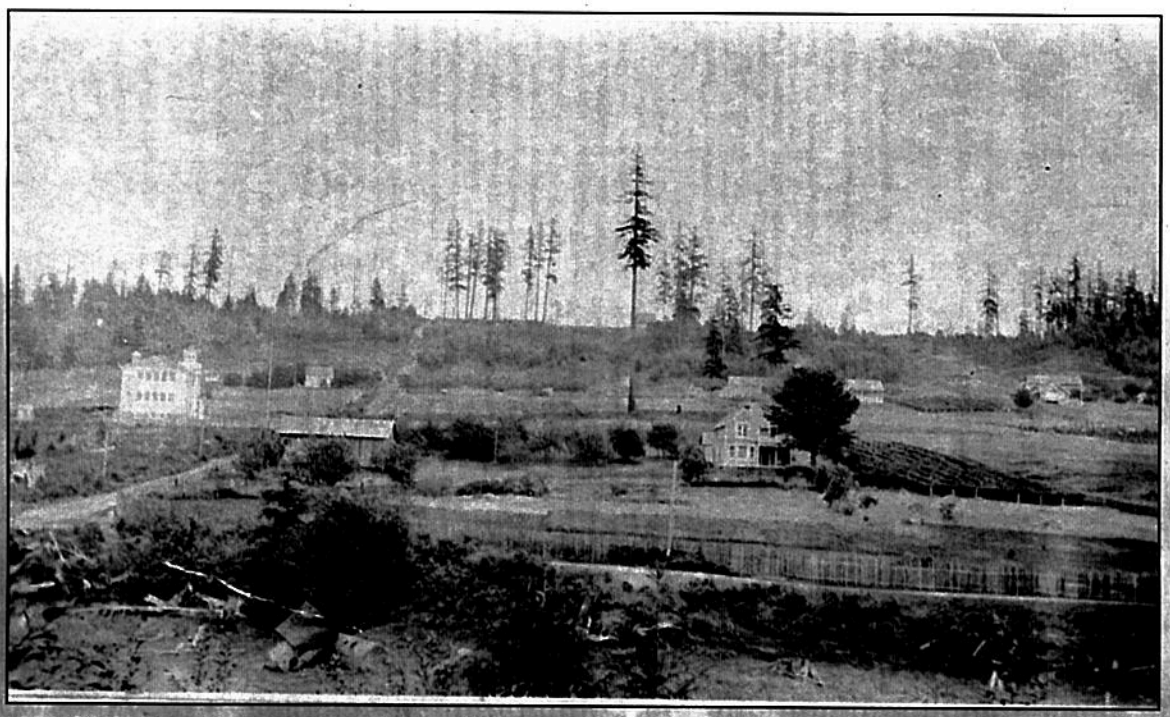
Crescent Valley was settled along Crescent Creek by the Goodman family around 1884. A daughter, Lucy Goodman, taught at Crescent Valley School. It was a farming community, primary crops were berries and chickens. Families and farms were dependent on the freshwater from Crescent Creek for drinking water. A logging railroad used to run from Crescent Lake along the west side of the creek. Logs were hauled to the mouth of Crescent Creek into Gig Harbor Bay and formed into log booms for transport.

The Crescent Creek watershed was altered by human settlement through logging and farming activities. Today, development continues to alter the watershed.

A watershed is a region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water. The Crescent Creek watershed area is 6.5 square miles or 4180 acres. Crescent Creek flows through Crescent Valley from the outlet of Crescent Lake for 3.1 miles weaving between pastures, hills and farmlands receiving water from Salmonberry Creek, a major tributary to Crescent Creek. [1]

1. Gig Harbor Basin Plan. Volume 1, Basion Plan & SEIS. August 2005 Pierce County.

2. Cascadia Archaeology, 2006, Archaeological Investigations for Crescent Creek Restoration and enhancement at Town Park at Crescent Creek, Gig Harbor, Washington.



RSC-126: Jacobson home, barn, and berry field (center), Crescent Valley grade school (middle left), Hans Sauness home (upper left) -- date unknown *Courtesy of Harbor History Museum*

The Riparian zone is the interface between land and a flowing surface water body. Plant communities along the stream margins are called riparian vegetation. Riparian zones are significant in ecology, environmental management, and civil engineering due to their role in soil conservation, their biodiversity, and the influence they have on aquatic ecosystems.

The word "riparian" is derived from Latin ripa, meaning river bank. Crescent Creek has the highest percentage of poor quality riparian corridor of all the streams in the Gig Harbor Basin. [1]

Sources:
1. Gig Harbor Basin Plan. Volume 1, Basion Plan & SEIS. August 2005 Pierce County.
2. Sewickley Creek Watershed Conservation Plan .

A huge "thank you" to long-term resident, Jean Inselrobeson, volunteer at Harbor History Museum (Formerly known as Gig Harbor Peninsula Historical Society and Museum) for providing Crescent Valley history to environmental clubs.

Cascadia Archaeology (2006) Archaeological investigations for Crescent Creek Restoration and Enhancement at Town Park at Crescent Creek, Gig Harbor Washington.

Background image: Early photograph of bridge over Crescent Creek (Date Unknown) Courtesy of Harbor History Museum.

WATER QUALITY

Students and Isabel Ragland with Pierce County Conservation District, check Crescent Creek for water quality.

Water continually circulates between the surface of the Earth and its atmosphere in what is called the "Water Cycle". Water can exist either as a solid (ice), a liquid (water), or a gas (water vapor), and water on the surface of the earth is constantly changing between these three states.

Only 1% of the world's water is usable to us. About 97% is sea water, and 2% is frozen in glaciers and polar ice caps. Thus that 1% of the world's water supply is a precious commodity necessary for our survival.

One of the most important effects of the water cycle is its impact on water quality. Depending on the stage and location, the water cycle can improve or degrade (damage), water quality. Though evaporation, percolation and freezing play a purifying role as impurities and contaminants are removed during these phases, other aspects of the cycle actually contribute to degradation of water quality. While the water cycle doesn't actually create pollution, it can aid.in the transportation and concentration of contaminants.

1. Evaporation: when water changes from a liquid (water) or solid (ice) state, into a gas (water vapor).

2. Percolation: when water passes through the filtering soil to become ground water.

3. Transpiration: the passage of water through a plant, from the roots up through its leaf structures, and out into the atmosphere.

4. Precipitation: when condensed water in the clouds falls back to the earth as rain, snow or hail.

Water quality is a term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.

WATER QUALITY

What is nonpoint source pollution?

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants include:

- Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas;
- Oil, grease, and toxic chemicals from urban runoff and energy production;
- Sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks;
- Salt from irrigation practices and acid drainage from abandoned mines;
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems;

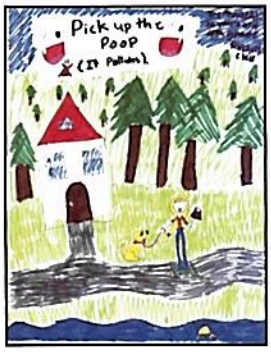
What are the effects of these pollutants on our waters?

States report that nonpoint source pollution is the leading remaining cause of water quality problems. The effects of nonpoint source pollutants on specific waters vary and may not always be fully assessed. However, we know that these pollutants have harmful effects on drinking water supplies, recreation, fisheries, and wildlife.

What causes nonpoint source pollution?

We all play a part. Nonpoint source pollution results from a wide variety of human activities on the land. Each of us can contribute to the problem without even realizing it.

What can we do about nonpoint source pollution?



We can all work together to reduce and prevent nonpoint source pollution. Some activities are federal responsibilities, such as ensuring that federal lands are properly managed to reduce soil erosion. Some are state responsibilities, for example, developing legislation to govern mining and logging, and to protect groundwater. Others are best handled locally, such as by zoning or erosion control ordinances. And each individual can play an important role by practicing conservation and by changing certain everyday habits.

Source: Environmental Protection Agency's brochure EPA-841-F-94-005

Plant more trees!!!

PLANTS

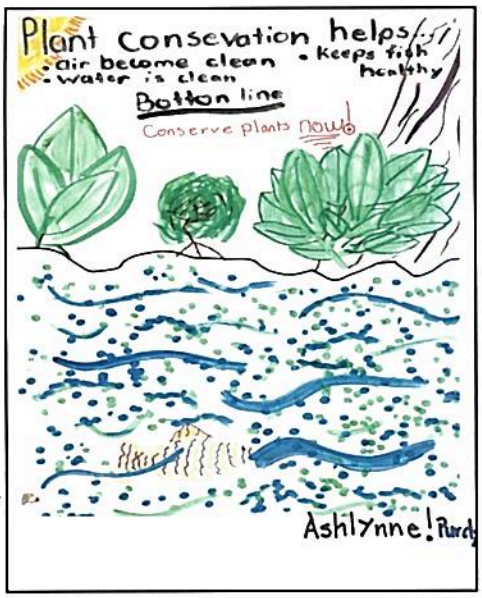
By keeping native vegetation and trees along the stream and removing non-native plants, landowners can help the salmon. Listed below are some native plants:

Native Trees
Noble fir
Douglas fir
Red alder
Vine maple
Western red cedar

Native Shrubs
Salal
Oregon grape
Salmonberry
Redtwig dogwood

Ground Covers
Vanilla leaf
Beach strawberry

Perennials
Sword fern
Maidenhair fern
Deer fern
Fireweed



Club Students plant native plants on private property along Crescent Creek, Nov. 2007

What can native trees provide for salmon?

Trees can provide shade to keep water temperatures cooler.

Trees hold banks in their place which reduces erosion of soil into the stream.

Trees provide food into stream by insects and other bugs falling into the water.

Once a tree falls into the stream, the trunks and branches provide cover for younger fish to hide from predators.

Emma
Purdy Elementary
Grade 5

GOOD PLANTS VERSUS BAD PLANTS

Indigenous – occurring or living naturally in a particular or environment, native.

Benefits of native plants –

1) Accustomed to the weather, amount of water in area and temperature.

2) Adapted to amount of sunlight in area.

3) More resistant to diseases and bugs because they have adapted over many years in the same place under similar conditions.

Why are non-native plants not good?

Compete with natives for space by crowding out the under-story plants.
Almost impossible to remove once it has taken hold in an area. Scotch Broom was introduced on the east coast as an ornamental because of its bright yellow flowers. In the Pacific Northwest, Scotch Broom keeps commercial conifer seedlings from growing.
Usually require more water than native plants.
There are usually no naturally occurring predators to keep the non-natives under control.

Some non-native plants –

Scotch Broom

English Holly

English Ivy

Japanese Knotweed

For more on non-native plants and how to remove them:
Go to: http://PierceCountyWeedBoard.wsu.edu or
call Pierce County Noxious Weed Control Board at (253) 798-7263

Sources of information: 1. How to be a Salmon Friendly Gardner, Leach Creek Watershed Steward.
2. Backyard Guide to Selected Obnoxious Weeds, Pierce County Weed Control Board.

SALMON

There are five types of Pacific Salmon

Chinook or King Salmon (*Oncorhynchus Tshawytscha*) - The largest
Coho or Silver Salmon (*Oncorhynchus kitsuth*)
Chum or Dog Salmon (*Oncorhynchus keta*)
Pink or Humpback Salmon (*Oncorhynchus gorbuscha*) - The smallest
Sockeye or Red Salmon (*Oncorhynchus nerka*)

Crescent Creek is home to Coho and Chum salmon as well as Cuttthroat Trout.

A group of salmon nests is called a Redd. Each female usually builds five to six nests in her redd.

Female salmon carry 2,500 to 7,500 eggs, depending on the species and size. Approximately two adults salmon will return from 3,000 eggs.

Salmon live from 2 to 7 years (4 to 5 year is the average).

What do salmon need to survive? Learn the four "C's":

- Clear water
- Clean water
- Cool water
- Consistent water

The water people use indoors and outdoors to drink, cook, and clean is the same water salmon need in rivers and streams to survive. The more water we use, the less there will be for fish.

What can you do to help?

Efficient water use can save you money. Here are tips from the Washington Department of Health – Division of Drinking Water:

- Install a low flow toilet
- Check for leaks in faucets and pipes. A small drip can waste 20 gallons/day
- Turn off water when brushing teeth or shaving
- Install low flow fixtures and aerators for all faucets
- Water gardens early in the morning to reduce evaporation
- Use a broom to clean off walkways or driveways instead of water.

For more tips, visit http://www.doh.wa.gov/ehp/dw or call (360) 236-3151.

Sources:
1. Washington Department of Fish and Wildlife
2. Groot, C. and L. Margolis. 1991. Pacific Salmon Life Histories. Vancouver, UBC Press.

What Can You Do To Protect Crescent Creek?

Fish prefer more natural shorelines. Use soft armoring for stabilization instead of bulkheads. 	Keep and plant native vegetation along streams, ponds and wetlands to help anchor soil in place. 	Properly dispose of pet and domestic animal waste. It may contain excess nutrients such as phosphorous that can harm aquatic life. 	Use non-toxic lawn chemicals and follow directions for application. To avoid runoff, don't apply before rains. 

Poem about Crescent Creek

by

Ben at Artondale

There once was a creek you see

and he led out to sea

but he was doomed

for littering loomed

Do you want that to happen to me?

History of Gig Harbor

Harbor History Museum -

www.gigharbormuseum.org/HarborHistoryMuseum.html

Water quality

Washington State Department of Ecology -

www.ecy.wa.gov/programs/wq/wqhome.hmtl

The Environmental Protection Agency -

www.epa.gov/OWOW/fish/info.html

Pierce County Conservation District, Stream Team -

www.piercecountycd.org/streamteam.html

Pierce County Public Works and Utilities Water Programs -

www.co.pierce.wa.us/pc/services/home/environ/water/wq/main.htm

Plants

Native nurseries - dnr.metrokc.gov/wlr/pi/NPNURSRY.HTM

Washington Native Plant Society - www.wnps.org

Native Plant Salvage Alliance -www.ssstewardship.org/index.htm

King County Native Plant Savage Program - www.kingcounty.gov/gonative

Salmon

Washington Department of Fish and Wildlife -

www.wdfw.wa.gov/outreach/salmon/salmonsmart

Shared Strategy for Puget Sound -

www.sharedsalmonstrategy.org

Salmon Info - www.salmoninfo.org

Local Environmental Organizations

Friends of Pierce County – www.friendsofpiercecounty.org

Harbor Wildwatch – www.harborwildwatch.org

Crescent Valley Alliance - www.crescentvalleyalliance.org