

# 10 Year Celebration of Salmon Habitat Restoration at the Cove

In 2004 the **National Fish and Wildlife Foundation (NFWF)** and **Puget Sound Restoration Fund** provided two grants of \$88,000 to the **Normandy Park Community Club (NPCC)** for salmon habitat restoration on the Cove property for Miller and Walker Creeks. In 2006 and again in 2008 additional grants were received from **NFWF, King County WRIA 9 and the Port of Seattle** for a grand total of **\$163,000** of funding to improve the salmon habitat at the Cove. This writing is intended to update the activities and actions by the NPCC related to these grants through 2014. The scope of the work accomplished by these grants included creating an artificial beaver pond to rear coho and sea-run cutthroat trout, a salt-marsh restoration, trails and bridges, educational signage, invasive plant removal, planting of native plants and trees and an educational program for elementary school children in the Highline community.

**NPCC will host a 10 Year Celebration Party at the Cove on October 12, at 2:00 pm. All residents of Normandy Park are invited to celebrate the return of the salmon to Miller and Walker Creeks. A National Fish and Wildlife Foundation representative will present a video the foundation has produced of our restoration project. Please invite your family, friends and neighbors to join us for this community celebration!**

Following is a brief summary of our accomplishments for the past 10 years to return salmon to the Miller and Walker Creeks:

- The NPCC established the **Stewards of the Cove (SoC)** community volunteer program. One Saturday a month for the past eight years, from March through October, volunteers work to maintain the Cove grounds and the habitat restoration projects. The **SoC** volunteers have planted thousands of native plants and trees on the property and have worked on in-stream habitat improvements.
- **The Beaver Pond** was created by removing 1200 cu. yds. of silt/sediment from an existing 6" deep pond, fed by a branch of Walker Creek, with the intention of creating a coho fry and sea-run cutthroat trout habitat. The pond has supported the freshwater rearing of thousands of coho fry and sea-run cutthroat trout (a protected species) that are now abundant in the pond. Many returning adult coho and chum salmon return to Walker Creek through the pond. As part of the design, sediment traps were included and have been maintained since the project inception. Beavers have been seen in the pond eating willow vegetation and 85-species of birds have been documented using the property.
- **The salt-marsh** was restored to include freshwater and saltwater components. Salmon fry exiting the pond use this area to feed and transition from living in freshwater to living in saltwater (smoltification). It is suspected that chinook salmon fry migrating through Puget Sound may also use the salt-marsh area as a "feeding-stop", although this has not been scientifically proven. We are seeking agency /university support interested in studying this premise.
- **Hundreds of feet of trails**, boardwalks and two bridges were constructed by Eagle Scouts. Their projects were funded by grants and NPCC funds. The trail/bridge system is the highlight for many people visiting the Cove wishing to access the beach, the creeks and the forested areas. The trails were primarily constructed to reduce the amount of erosion sediment entering the streams and to reduce the damage to native plants along the creeks' riparian zones.

- **Trout Unlimited** conducted U.S. Forest Service Scientific Method of Stream Survey/Fish-Habitat Relationship surveys on five miles of Miller Creek in 1998 and again in 2006. The original study collected thousands of data points, including substrate, large-woody-debris, bank habitat, riffle to pool ratios and pool-quality-index. The data laid the groundwork for the stream restoration projects. Many logs, plants and in-stream structures were added to the streams on the Cove property. The 2006 study examined the effects of the work. The report is published on the King County web site.
- A **Citizens Salmon Investigation (CSI) Team** was implemented by our King County Basin Steward. For the past six years a team of volunteers, lead by the Basin Steward, spend two or more months each Fall collecting daily data from returning coho and chum salmon. Salmon returns have varied from 200 to nearly 1000 adult salmon. At the turn of the century salmon runs in these creeks were estimated to be ~2000. In the 1950's runs had been reduced to nearly zero by upstream development. The CSI teams collect length, sex, species, dead or alive, spawning success and coded-wire tag data from all fish/carcasses seen in the streams. The team has documented the existence of Pre-Spawn Mortality (PSM = healthy returning adult salmon die prior to spawning) in Miller/Walker Creek coho. Testing done by NOAA and the Washington State University has concluded that PSM is directly related to the percentage of impervious surface in the basin and roadway runoff entering the streams. We continue to stay informed about this subject and are supporting projects that attempt to correct this situation.
- Our King County Basin Steward, **Elissa Ostergard**, has secured grants to work on surface water runoff mitigation and water quality improvement. She has worked with several cities and agencies within the drainage basin to improve stream habitat and water quality.
- A grant was obtained from **King Conservation District** to have professionals remove invasive plants, such as ivy and blackberries, from two acres at the Cove. Volunteers followed up by planting hundreds of native plants and trees in the cleared areas. This is an ongoing program and future grants will address the entire 18-acres of the Cove property.
- **BIBI (insect)** studies have been performed on Miller/Walker Creeks by volunteers and experts with the intent of understanding the health of our stream environment. Studies have indicated that the insect population in the streams have been impacted by “flashy” excessive surface water runoff and pollution. Efforts continue to find ways to improve the situation.
- The Cove property is extensively used for educational purposes including:
  - The **Environmental Science Center** brings school children to the property over a two month period each Fall to teach them about salmon, the environment and habitat restoration. Trained instructors have taught thousands of students over the past six years about the life-cycle of salmon using well designed interactive instructional methods.
  - **The Duwamish-Green Chapter of Trout Unlimited** uses the Cove property as part of their *Salmon in the Classroom* program. The Chapter has provided several schools with refrigerated aquariums and coho salmon eggs. Sixth grade students watch the salmon hatch, feed them and visit the Cove to release their salmon fry into the streams and pond. Chapter members are there to provide an instruction and discussion period about the salmon release.
  - Noted professional wildlife photographer, **Ingrid Taylar**, visited the Cove to photograph many of the bird and wildlife species. She published a photo book dedicated to Cove wildlife. Her book is available for purchase online and can be viewed at the Cove office.
  - Many of the native plantings on the property are marked with identification tags to educate visitors. King County provided educational signage about the pond, salt-marsh, stream and ecology of the Cove.
  - In 2014 the **Highline Horticultural Society** included the Cove on its annual garden tour, focusing on the native plantings on the property and the combined native/exotic gardens planted along stream riparian zones.