

# **WEST VANCOUVER STREAMKEEPER SOCIETY**

**September 2009 to September 2010**

## **Annual Report**

### **To Members of West Vancouver Streamkeeper Society**

Our Mission Statement is to:

1. Promote, protect, and restore native fish stocks and their habitat
2. Develop, promote, and maintain Best Practices for sustainable creeks and watersheds in West Vancouver.
3. Foster and coordinate Watershed Stewardship among public, corporate and private stakeholders.
4. Co-operate with government and stakeholders to develop and enforce regulations, bylaws, and practices pertaining to watersheds.
5. Develop and maintain governance systems and procedures deemed necessary to achieve the Society's mission and purposes.

## **MEETINGS**

Public meetings are held on the third Thursday of November, January, March, May, and September. These meetings allow Streamkeepers and members of the public to learn about what has happened over the preceding months, participate in plans for the future, and exchange ideas. The September meeting is also the Annual General Meeting during which West Vancouver Streamkeeper members elect the board of directors and receive the Annual Report and the Annual Financial Statement.

The board of directors this year were Michael Ritter and Elizabeth Hardy, Co-presidents, Jeff Anderson, Secretary and Treasurer (outgoing), Bill McAllister, treasurer (in-coming), Paul Berlinguette, Bill Chapman, Hugh Hamilton, Bruce McArthur, and Carolanne Reynolds. The board met on the Tuesdays one week prior to the public meetings. In June, Michael Ritter moved to the Sunshine Coast, leaving Elizabeth Hardy as the sole President over the summer.

Morning meetings continued with the District of West Vancouver's environmental staff. These meetings were held approximately once a month. At the meetings, the members attending are advised on municipal projects, bylaws, and policies which could possibly impact watersheds. Streamkeepers enquire about aspects of municipal projects, ask municipal staff to address problems, and discuss potential Streamkeeper projects. At each meeting, development application permits that impact creeks are discussed and Streamkeepers encourage the protection and enhancement of the watersheds.

The West Vancouver Streamkeeper executive met with the Mayor in January. The topics discussed included the spawner survey results, the hatchery, and other topics.

Meetings were held with the Centre for Aquatic and Environmental Research on Marine Drive in West Vancouver and with DFO representatives in October regarding work conducted in Cypress Creek during the pink salmon spawning season.

West Vancouver Streamkeepers attended a meeting of the Cypress Liaison Committee in October 2009. Streamkeepers expressed their concern that water quality would be impacted by the operations for the Olympics, and informed members of the committee of the salmon returns to Cypress Creek.

West Vancouver Streamkeeper co-chairs attended the initial Water Use Policy meeting in May. This group will determine how water collected and stored in Capilano and Seymour watersheds best be used. Streamkeepers were invited because several creeks in our municipality are tributaries of the Capilano River.

Streamkeepers unsuccessfully applied to be included in the Parks Working Group. We will continue to apply for working groups in the future.

## **PUBLIC EDUCATION**

There are three events held by Streamkeepers every year to educate and interact with the public. The first is the Adopt-A-Fish, hosted jointly with the Coho Society of the North Shore. At this event, children get a bucket with several fish to release into McDonald Creek at Memorial Park. A total of 600 coho smolts from the Capilano Hatchery were released into McDonald Creek. There are displays at the park and at the library across the street. The EPN students help with traffic control.

The second event is Community Day in June. Streamkeepers manned a table with displays and showed the aquarium containing several cutthroat trout from McDonald Creek.

The third event is the Coho Festival and the Coho Walk in September. West Vancouver Streamkeepers had a table at the Festival with their display and the aquarium. The

aquarium contained many healthy cutthroat trout and coho fry that were trapped in McDonald Creek. New data sheets on coho salmon fry and cutthroat trout were created to accompany the aquarium, and laminated to protect them from water. Streamkeepers also organized a display on Brothers Creek at Station 8 of the Coho Walk at the footbridge over the creek. A new information sheet was developed that illustrated the salmon that spawn in Brothers Creek and contained the summary of the spawner surveys for this watershed over the past four years.

A power point presentation on West Vancouver Streamkeepers was developed by Hugh Hamilton and Jeff Anderson. The presentation was given to Kiwanis in February.

In July we were contacted by a youth summer camp who asked us to help them examine their environment, Brothers Creek. Long time Brothers Creek watcher Paul Berlinguette met them at the viewing platform and introduced them to the creek and its inhabitants.

## **MEMBER EDUCATION**

Nine West Vancouver Streamkeepers took a Streamkeeper course in Brothers Creek in May taught by ZoAnn Morten. Over the two day course, volunteers conducted a stream survey to determine the health of the creek, sorted through an aquatic invertebrate sample, conducted fry trapping and more, covering several modules of the Streamkeeper handbook.

## **STUDENT PROGRAMS**

West Vancouver Streamkeeper volunteers worked with nine groups of student from the Environmental Protection Network (EPN) of West Vancouver Secondary to conduct spawner surveys. Surveys began in mid-October and were completed once weekly until late November. Creeks surveyed in West Vancouver included Brothers main stem, Hadden, Macbeth, Westcot and West Brothers creeks in the Brothers Creek watershed, and McDonald and Lawson creeks. A wrap-up meeting was held in December at West Vancouver Secondary. The students were invited by the mayor to present a summary of their work to West Vancouver Council in January.

Storm drain marking was undertaken around Irwin Park Elementary and Pauline Johnson Elementary schools in October of 2009 and around West Vancouver Secondary in March 2010 and Caulfeild Elementary in June 2010. The storm drain marking program is an afterschool event that involves small groups of students who paint yellow fish on the road by storm drains. The painted fish and printed literature

delivered to nearby houses alert neighbours that these drains lead directly to creeks. Each group is supervised by at least one parent or teacher, and a streamkeeper.

Streamkeepers assisted the EPN students with a native species planting project around McDonald Creek in Hay Park. This project was also supported by the municipality and plants were supplied by the provincial Trees for Tomorrow program. Temporary fencing was installed by the municipality to keep humans and dogs from trampling the new vegetation.

A group of students from Ridgeview Elementary school were led by West Vancouver Streamkeepers on a tour of Hay Park and the rearing pond on McDonald Creek. This was followed by an ivy pull by these students a week later.

Five of the EPN students who are also West Vancouver Streamkeepers were given Youth Appreciation Awards during Youth Week 2010. They were nominated for their work with the environment.

## **WORKING WITH THE MUNICIPALITY**

Last year the municipality began work to replace an undersized culvert under Marine Drive on Eagle Creek. Every year spawning salmon exhausted themselves trying to get through the small steep culvert. The new salmon-passable culvert was installed in 2009, but the final arrangement of boulders to direct the flow to the new culvert could not be completed last fall because the fisheries window expired before the work was finished. The bank and in-stream work was completed in the 2010 window.

The municipality completed the first creek-viewing platform on the north shore on Brothers Creek in the fall of 2009. The platform is located under the Keith Road bridge east of Taylor way. An official opening ceremony was held in November attended by the Mayor and other dignitaries. An interpretive sign was designed by Black Cat Graphics and West Vancouver Streamkeepers, and installed in early 2010. Railings along the access trail were added by municipal crews in June 2010.

A diversion pipe in McDonald Creek supplies water to the rearing pond in Hay Park. The pipe kept clogging with sediment and vegetation, and had to be monitored weekly. Streamkeeper Bill McAllister installed a mesh sleeve on the intake that has done a good job of keeping the water flowing to the pond. The flow through the intake was monitored over the summer by two EPN students.

The rearing pond on McDonald Creek in Hay Park was becoming clogged with fine sediment and decaying vegetation. Streamkeepers met with municipal representatives in early April to consider clearing the pond and installing permanent fencing to keep

dogs and humans from trampling riparian vegetation. The pond clearing was conducted by a backhoe aided by the labour of Streamkeeper volunteers in late May. This work was preceded by the installation of temporary signs informing park users of the upcoming work, and volunteers patrolling the area daily to answer questions.

## SPAWNER SURVEYS 2009

Spawner surveys were conducted on fifteen West Vancouver creeks in the fall of 2009 by both WV Streamkeeper members and students. Spot surveys were conducted in mid-September with the arrival of pink salmon in Cypress and Brothers creeks. Surveys began in earnest in mid-October with the arrival of the chum.

<b>WEST VANCOUVER SPAWNER SURVEYS 2009</b>				
<b>CREEK</b>	<b>CHUM</b> live	<b>COHO</b> live	<b>PINK</b> live	<b>WATERSHED</b> <b>TOTAL</b>
<b>BROTHERS</b>	<b>414</b>	<b>41</b>	<b>3</b>	458
<b>CYPRESS</b>	<b>0</b>	<b>0</b>	<b>28</b>	28
<b>EAGLE</b>	<b>55</b>	<b>5</b>	<b>0</b>	60
<b>HADDEN</b>	<b>89</b>	<b>15</b>	<b>0</b>	104
<b>LAWSON</b>	<b>4</b>	<b>4</b>	<b>0</b>	8
<b>MACBETH</b>	<b>3</b>	<b>6</b>	<b>0</b>	9
<b>McDONALD</b>	<b>0</b>	<b>1</b>	<b>0</b>	1
<b>NELSON</b>	<b>1</b>	<b>0</b>	<b>0</b>	1
<b>PIPE</b>	<b>0</b>	<b>0</b>	<b>0</b>	0
<b>RODGERS</b>	<b>0</b>	<b>0</b>	<b>0</b>	0
<b>TURNER/CAVE</b>	<b>0</b>	<b>0</b>	<b>0</b>	0
<b>WEST BROTHERS</b>	<b>0</b>	<b>0</b>	<b>0</b>	0
<b>WESTCOT</b>	<b>0</b>	<b>2</b>	<b>0</b>	2
<b>WILLOW</b>	<b>0</b>	<b>0</b>	<b>0</b>	0
<b>WOOD</b>	<b>0</b>	<b>2</b>	<b>0</b>	2
<b>TOTAL</b>	<b>566</b>	<b>76</b>	<b>31</b>	<b>673</b>

The numbers of chum peaked in Brothers Creek in late October/early November. Chum arrived in early November in Eagle Creek and numbers peaked in late November. Coho salmon arrived in mid-October and peaked in early November in Brothers Creek. Coho were first seen in Eagle Creek in early November and peaked in late November.

A total of 673 salmon were seen to return to West Vancouver creeks to spawn. Of these, 565 were chum, making chum the most numerous salmon spawning in West Vancouver. Seventy-six coho were also counted in our creeks. At least twenty-eight pink salmon were counted.

The most salmon were seen in Brothers Creek. Hadden Creek, in the Brothers Creek watershed, also had quite a few, as did Eagle Creek. Salmon were also seen in Cypress, Lawson, Macbeth, McDonald, Nelson, Westcot, and Wood creeks. Creeks with no salmon returns may have had fish that were not observed.

We have enough data from several creeks to start to compare the returns from different years.

<b>WEST VANCOUVER SPAWNER SURVEYS</b>									
<b>2006 TO 2009</b>									
<b>CREEK</b>	<b>CHUM</b>				<b>COHO</b>				<b>PINK</b>
	2009	2008	2007	2006	2009	2008	2007*	2006	2009
<b>BROTHERS</b>	414	173	180	356	41	12	41	0	3
<b>CLAYMORE</b>				0				0	
<b>CYPRESS</b>	0			0	0			0	28
<b>EAGLE</b>	55	35	2	43	5	1	0	2	0
<b>GODMAN</b>				0				0	
<b>HADDEN</b>	89	12	5	48	15	13	25	5	0
<b>LARSON</b>				0				0	
<b>LAWSON</b>	4	18	4	3	4	1	42	0	0
<b>MACBETH</b>	3				6				0
<b>McDONALD</b>	0	2	0	0	1	0	14	0	0
<b>NELSON</b>	1	0	0	4	0	0	0	1	0
<b>PIPE</b>	0	0		0	0	0		0	0
<b>RODGERS</b>	0	0		0	0	0		0	0
<b>TURNER/CAVE</b>	0	0		0	0	0		0	0
<b>WEST BROTHERS</b>	0	0		7	0	1		0	0
<b>WESTCOT</b>	0			0	2			0	0
<b>WILLOW</b>	0			0	0			0	0
<b>WOOD</b>	0	2	0	12	2	0	0	0	0
<b>TOTAL</b>	<b>566</b>	<b>242</b>	<b>191</b>	<b>473</b>	<b>76</b>	<b>28</b>	<b>122</b>	<b>8</b>	<b>31</b>

\* Number of coho may include coho moved from Lawson to McDonald

## NELSON CREEK HATCHERY

The Nelson Creek salmon hatchery is located on the edge of Nelson Creek canyon. It uses a decommissioned municipal water intake to draw water out of the creek and send it through egg trays and fry troughs. Volunteers raise coho and chum salmon to the fry stage of development.

NELSON CREEK HATCHERY					
Fry Summary 2010					
Date	Salmon	From	To - Creek	Location	Numbers
March 9	chum	Tenderfoot Hatchery		to Nelson Hatchery	83000
April 1		Nelson Hatchery	Eagle	Daffodil Lane	
			Rodgers	Marine Drive	
			McDonald	Hay Park	
March 24	pink	Seymour hatchery	Brothers	Wildwood	60000
			Cypress	research station intake pool	40000
April 8	mid coho	Capilano Hatchery		to Nelson Hatchery	67500
May 28		Nelson Hatchery	Cypress (12,000)		
			McDonald (12,000)		
			Rodgers (12,000)		
			Lawson (12,000)		
			Eagle (8,700)		
			Willow (8,700)		
May 25		Wood (600)			
April 13	late coho	Capilano surplus unfed fry	Nelson Upper Godman	Cranley Drive	38000
April 17	coho pre-smolts	Capilano	McDonald	Memorial Park (Adopt-A-Fish)	600
April 22	early, mid, late coho*	Capilano surplus unfed fry	Hadden	Capilano Golf Course	48000
			West Brothers tributary	11th & Palmerston	
			Upper Brothers	Highlands	
* 7600 early, 6500 mid, 33900 late coho					

The small salmon are released into creeks across West Vancouver when they are ready in April and May.

**Egg Take:** The chum egg take was held at the Tenderfoot Hatchery in Squamish on November 21, 2009. Streamkeepers from West Vancouver, Squamish, Furry Creek, and Bowen Island and along with several EPN students participated in this event. Over sixty pairs of chum were spawned to supply eggs and fry to the hatcheries in West Vancouver and Bowen Island.

On December 21, 2009, a severe storm event resulted in a debris flow which swept over the intake dam and down the Nelson canyon to the urban area where it diverted the creek and caused property damage. Considerable debris hung up on the intake dam and blocked the water pipe. Streamkeepers discovered that there was no water flow to the hatchery prior to the chum egg delivery. Municipal workers cleared the dam and intake, but the risk of losing all the eggs due to blockage resulted in the hatchery receiving newly emerged fry instead of the more vulnerable eggs.

**Chum:** On March 9 we received 83,000 chum fry from the Tenderfoot Hatchery in Squamish. The fry were released on April 1 to Eagle, Rodgers, and McDonald creeks.

**Coho:** On April 8, approximately 67,500 coho fry from the Capilano Hatchery arrived at the Nelson Creek Hatchery. They were released on May 28 to Cypress, McDonald, Rodgers, Lawson, Eagle, and Willow creeks. Six hundred were retained at the hatchery until May 25 when they were released to Wood Creek in Parc Verdun in an annual neighbourhood children's fish release.

About 3,800 unfed coho fry from the Capilano Hatchery were released to Nelson and upper Godman creeks on April 13. On April 22, approximately 48,000 unfed coho fry were released to Hadden, West Brothers tributary, and upper Brothers creeks.

**Pink:** One hundred thousand newly emerged pink salmon fry were picked up from the Seymour Hatchery on March 24 and released to Brothers and Cypress creeks. This was the first time pink salmon had been released from a hatchery into creeks in West Vancouver.

## **JUVENILE SALMON AND TROUT SURVEYS**

Fry trapping was conducted in McDonald Creek in Hay Park in April and May. This work was done to determine that the coho smolts had left the creek and that the pond could be cleaned of accumulated sediment. Coho were present until mid-May when cutthroat trout were the only fish trapped.

Fry trapping was done in Wood Creek at Marine Drive and on Eagle Harbour Primary School grounds in May. The trapping was done to show the students that fish live in the creek year round even if they cannot be seen, to discuss and compare trout and salmon, and to advertise the upcoming fry release in Parc Verdun. Thirteen cutthroat trout were caught.

A fry survey was done in lower Caulfield Creek in mid-May. This creek was investigated to determine if there had been any impacts of road work that the municipality had done a few weeks earlier. At least twenty coho fry and two coho smolts were observed in



pools close to the beach. These are wild fry as this creek has not been stocked in recent years.

Thank you,

Elizabeth Hardy, President

West Vancouver Streamkeeper Society

Phone 604-628-1123

Email: [Streamkeepers@westvan.org](mailto:Streamkeepers@westvan.org)

[www.streamkeepers.westvan.org](http://www.streamkeepers.westvan.org)