

Central Puget Sound

The Central Puget Sound drainages were an official part of the Salmon Watcher Program in only 2001. Data on the Central Puget Sound streams is presented here but not analyzed at length. Some of these streams have been observed and reported on in past years. The streams with data from past years include Boeing Creek, Creek, Longfellow Creek, Miller Creek, Walker Creek, and Pipers Creek. Coho and chum were observed in all streams observed in this area except Walker Creek; only one unidentified fish was observed in Walker Creek.

Table 20. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers, and years the sites were watched for each stream surveyed in the Central Puget Sound for the 2002 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Boeing Creek	080017	436	0.1	10/10 – 1/31/03	11	1	2000, 2001, 2002
Longfellow Creek	090360	177	0.6	10/13 – 10/28	5	1	1999, 2000, 2001, 2002
		178	0.7	9/25 – 12/28	12	1	1999, 2000, 2002
		179	0.8	10/2 – 10/23	6	1	1998, 1999, 2000, 2001, 2002
		180	0.9	10/5 – 12/28	26	2	1999, 2000, 2001, 2002
Miller Creek	090371	417	0.1	10/30 – 12/30	28	1	2000, 2001, 2002
		458	0.4	9/1 – 12/28	12	1	2001, 2002
Pipers Creek	080023	70	0	10/3 – 12/30	26	1	1999, 2000, 2001, 2002
		181	0.2	9/14 – 10/23	10	1	1999, 2000, 2001, 2002
		381	0.3	9/23 – 12/30	31	2	2001, 2002
		98	0.4	9/11 – 12/28	53	3	1998, 1999, 2000, 2001, 2002
		99	0.53	9/29 – 12/28	24	1	1999, 2002
Walker Creek		473	0.13	9/1 – 12/28	12	1	2001, 2002

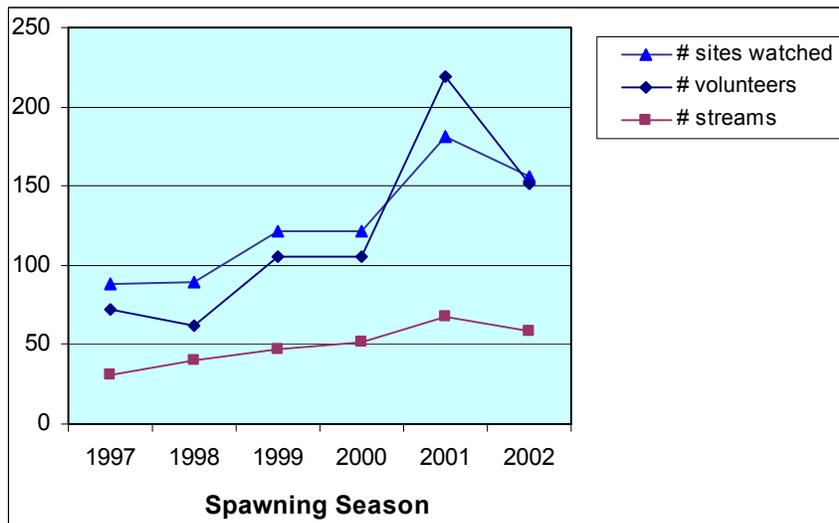
Table 21. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in Central Puget Sound for the 2002 spawning season.

Stream	Site ID	RM	Coho	Chum	Unidentified
Boeing Creek	436	0.1	3 (12/17 - 1/10/03)	42 (11/17 - 1/10/03)	—
Longfellow Creek	177	0.6	—	—	—
	178	0.7	—	1 (11/17)	7 (11/25 - 12/7)
	179	0.8	—	—	—
	180	0.9	12 (11/9 - 12/3)	—	—
Miller Creek	417	0.1	9 (11/8 - 11/19)	1 (12/15)	4 (11/24 - 12/10)
	458	0.4	—	—	10 (12/21 - 12/28)
Pipers Creek	70	0	2 (11/11 - 11/17)	88 (11/21 - 12/30)	—
	181	0.2	—	—	—
	381	0.3	7 (11/11 - 11/13)	120 (11/23 - 12/30)	3 (11/15)
	98	0.4	11 (11/8 - 11/10)	140 (11/12 - 12/28)	1 (11/11)
	99	0.53	2 (11/12)	—	—
<i>Summary</i>			22 (11/8 - 11/17)	348 (11/12 - 12/30)	4 (11/11 - 11/15)
Walker Creek	473	0.13	—	—	1 (11/9)

Volunteer Activity

The number of volunteers participating in the Salmon Watcher Program increased over the first 6 years of the program but decreased somewhat in 2002 (Figure 11). The increase in the number of volunteers was fairly steady for the first 5 years, but in 2001 the number of volunteers in the program more than doubled (from 106 in 2000 to 219 in 2001). The sharp increase in 2001 and the relative decline of participants in 2002 were likely both the result of the amount of publicity the program received. In 2001, efforts at volunteer recruitment were significantly greater than in any other year, and even included interviews on local television. Additionally, 2001 was the only year that all of Puget Sound drainages were included in the program, and not including Vashon volunteers, that meant an additional 39 volunteers that were not reported before or since. Also, 16 volunteers from Vashon were new in 2001, and the number of volunteers on Vashon continues to grow.

Figure 11. Number of volunteers (defined as an individual, pair, or group) watching in the Lake Washington Watershed and Vashon Island and number of sites and streams watched from 1997⁵-2002.



⁵ Numbers for 1996 are not depicted because many volunteers walked stream reaches, whereas in all other years volunteers watched from stationary positions, and many volunteers were trained differently as part of the kokanee watcher program. In 1997, 30 streams and 16 beach sites were watched; beach sites are counted here as 1 site.

Contact with Citizens

During 2002, for the second year in a row, volunteers were asked to keep track of how many citizens they came into contact with during their time by the streams. Salmon Watcher volunteers spoke with at least 1,239 citizens during the 2002 spawning season. Types of citizen contacts ranged from passers-by in parks and along roads to horse-back riders to entire groups of school children. Table 22 details the numbers of citizens who interacted with volunteers.

Table 22. Number of citizen contacts made by all Salmon Watcher volunteers in each of the surveyed basins.

Big Bear Creek	Vashon Island	N. Lake Wash. ¹	Cedar River	Samm. River Tribs.	E. Lake Wash.	Green River Basin	Issaquah Creek	W. Lake Samm.	W. Lake Wash.	Snoq. River	Central Puget Sound
297	32	189	159	111	110	43	43	17	4	2	232

¹ Volunteers on North Lake Washington streams in Snohomish County were not asked to record citizen contacts; if any were noted on their data sheets, they were recorded, otherwise it is presumed that this number is an underestimate.

Time Spent by Volunteers

Salmon Watcher volunteers are asked to record the start and end times of each site visit. Occasionally, some volunteers forget to fill in that part of the data sheet. Nonetheless, Table 23 illustrates the approximate amount of time spent by volunteers in each basin. More than 1,330 hours were volunteered in the Lake Washington Watershed and on Vashon Island and another 36.8 hours in the Snoqualmie and Green River basins.

Table 23. Number of hours spent by Salmon Watcher volunteers in each of the surveyed basins.

Big Bear Creek	Cedar River	Vashon	E. Lake Wash.	Green River Basin	Issaquah Creek	N. Lake Wash.	Samm. River Tribs.	Snoqualmie River	W. Lake Samm.	W. Lake Wash.	Central Puget Sound
227.4	266.4	128.5	221	20.6	65.3	213.7	86.6	16.2	32.6	14.7	81.7

Limitations of Volunteer Data

Individuals, citizens' groups, non-profit organizations, and government agencies all use data from the Salmon Watcher Program for various reasons (for an extensive list of reasons, please see the report from the 2000 Salmon Watcher season, Vanderhoof 2001). However, several qualifications must be kept in mind when reviewing the data in this report and especially when using the data for any purpose other than describing fish distributions. The level of expertise of the volunteers varies widely: some volunteers have past experience identifying fish through professional or school training, recreational fishing, or personal interest. Other volunteers only learned to identify salmon from the Salmon Watcher training session.

Every year volunteers from previous years return and new volunteers enter the program who must learn to identify the different species of salmonids they might encounter in their assigned streams. For

example, in 2002, 48.48 percent of Lake Washington Watershed volunteers were returnees. The variation in numbers of new versus returning volunteers each year likely has an effect on the accuracy of identification from year to year. However, if accuracy of data is decreased because of an increase in new volunteers each year, new efforts by Salmon Watcher staff to increase the accuracy of reporting by *all* volunteers should work to offset any possible decrease and actually enhance identification every year (see “Quality Assessment/Quality Control”).

Stream surveying could not possibly occur 24 hours a day; therefore, it is possible that observations of fish did not occur that might have extended the uppermost limits of known distributions. Also, adult salmon might migrate more during the night (Brannon and Salo 1982) when volunteers do not observe. Additionally, conditions were not always favorable for sighting fish: fish may have been difficult to see from banks or bridges; fish can hide around bends or under vegetation; and fish may pass unnoticed while the volunteer is observing. High flows, turbid water, and glare make fish observation difficult (polarizing glasses are recommended, but not everyone uses them, and sometimes other conditions preclude their utility). Some species, such as coho, move upstream to their spawning locations very quickly immediately after it rains and may not be seen lower in a system at all. Other species may be very difficult to distinguish from one another, such as sockeye and kokanee. Although training sessions are thorough, identification materials are provided, and technical experts are available for help with identification, some misidentifications will occur.

It is important to keep in mind that the absence of spawner sightings in a stream does not mean that spawning salmonids are not accessing that location. It does mean that fish were not seen by the volunteer at the site at the time of survey. Because of this important distinction and the other mentioned limitations of this type of survey, data in this report should be used only to indicate the presence of adult salmon of a particular species at specific locations (species distribution). All other uses and benefits derived from the compilation of this data should be used cautiously and with the specific limitations of the data in mind. Only when fish surveys are conducted comprehensively and systematically are wider uses of such data appropriate.

Although these data may be used to help determine fish distributions, population estimates may not be derived from them for several reasons. It is difficult to compare the Salmon Watcher data from year to year because many variables in the observer methods exist between years:

- number of surveys in a stream
- survey locations along a stream
- the number of surveys at a site
- streams surveyed in a basin
- time of day spent observing
- survey frequency
- level of experience of observers
- type of survey (some surveys in 1996 were walking surveys)
- time spent at a given location
- beginning and ending dates of surveys

Because most or all of these parameters are different for every stream surveyed from 1996 through 2002, comparisons of raw data likely would not yield valid information about changes in populations. Therefore, the best use for the data is in determining presence of fish and mapping fish distribution.