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# 2014 Volunteer Salmon Watcher Program Annual Report

Lake Washington Watershed  
and other Puget Sound Streams

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April 2015



**King County**

Department of Natural Resources and Parks  
Water and Land Resources Division

**Science and Technical Support Section**

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# 2014 Volunteer Salmon Watcher Program

Lake Washington Watershed and other Puget Sound Streams

King County Water and Land Resources Division, in cooperation with:  
Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Forum,  
Bellevue Stream Team,  
Cities of Bothell, Kirkland, Redmond, Renton, Seattle, and Woodinville,  
With support from a King County Flood Control District Cooperative Watershed  
Management Grant.

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## Summary

The purpose of the Salmon Watcher Program is to document the distribution of spawning adult salmon throughout the greater Lake Washington Watershed via an extensive volunteer-based monitoring program. In addition to promoting environmental stewardship among the Salmon Watcher volunteers, the data gathered can be used to inform how aquatic resources are managed for the protection of salmon and trout species and their habitat. This report presents methods and results for the 2014 spawning season (August 31, 2014, through January 11, 2015).

For the 2014 program, 94 volunteers surveyed 106 sites on 39 streams. Surveyed streams were located throughout the Lake Washington Watershed and also at a few sites at other streams and tributaries in Central Puget Sound (primarily Water Resources Inventory Area 8). Because volunteers collect the data in this program, the partnering jurisdictions are able to obtain more information from far more locations than would be possible through the use of paid staff. Data in this report indicate fish distributions in 2014 only in areas watched by volunteers in the Salmon Watcher Program. The 2014 data do not indicate reaches where fish are definitively absent, nor do the data provide a comprehensive survey of fish distributions in the Lake Washington Watershed. Over the 19 years of the program, these data collectively provide substantial documentation about fish distributions.

This report describes the program methods, participation, and results. During the 2014 season, volunteers observed the following species: Chinook, sockeye, kokanee, coho, and chum salmon, as well as unspecified trout. The following results were compiled from volunteer observations: (1) sockeye were seen in the greatest numbers (2,486, or 71 percent of all fish observed, and 78.3 percent of fish observed in the Lake Washington Watershed) and were seen in 5 out of 8 Lake Washington basins watched in 2014; (2) Chinook were also seen in 5 Lake Washington Watershed basins; (3) coho were seen in 6 Lake Washington basins and 1 small basin draining to Puget Sound; (4) kokanee were seen in 3 Lake Washington basins; and (5) chum were reported in 2 streams draining to Puget Sound. In 2014, no fish were reported further upstream than in previous years and no new species sightings were reported for any stream.

This report is published on the Internet and can be found using the hyperlinks on this web page: <http://www.kingcounty.gov/environment/animalsAndPlants/salmon-and-trout/salmon-watchers/reports.aspx>.

Maps included in this report have been published on the Internet and can be found using the hyperlinks on this web page: <http://www.kingcounty.gov/environment/animalsAndPlants/salmon-and-trout/salmon-watchers/maps.aspx>.

The home page for the Salmon Watcher Program web site is here: <http://www.kingcounty.gov/environment/animalsandplants/salmon-and-trout/salmon-watchers.aspx>.

The Salmon Watcher Program is funded by a King County Flood Control District Cooperative Watershed Management Grant. Grant funding has been secured for the 2015 season, which will be the 20<sup>th</sup> year of the program.

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## Acknowledgements

Many thanks to all the dedicated volunteers for spending many hours in what is often cold and wet weather to collect the data that are in this report—some for the nineteenth year in a row, and some years without ever seeing a single fish. Without the volunteers, there would be no data, no maps, and no report. They help make a positive difference in King County, not only by reporting fish species, but by acting as the eyes and ears of the streams, reporting stream blockages as well as occasionally suspect activities. They are the stewards of resources that make the Pacific Northwest so special. A *huge* Thank You to all our great volunteers!

We also want to acknowledge the various jurisdictions and their staff that support and participate in the program. Program partners are King County Water and Land Resources Division, Bellevue Stream Team, Redmond Stream Team, and the cities of Seattle, Bothell, Kirkland, Renton, and Woodinville, and the Friends of the Cedar River Watershed. Thanks (in no particular order) to Laurie Devereaux, Debra Crawford, Janet Geer, Gary Fink, Betsy Adams, Bill Malatinsky, Micah Bonkowski, Charlotte Spang, Dani Kendall, Sarah McCarthy, Megann Devine, Karren Gratt, and Amy Kaeser. Every year these folks meet and plan the program, organize and stage the training sessions, and invest lots of time attending to the volunteers.

Jennifer Vanderhoof, from King County Water and Land Resources Division, Science Section, is the program's technical lead and report author.

Finally, we would like to thank WRIA 8, who recommended grant funding for this project, and the King County Flood Control District, which provided funding to King County for this project.

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## Introduction

The Salmon Watcher Program is a volunteer program that originated in 1996 with the purpose of recording observations of adult fall-spawning salmonids including Chinook, coho, sockeye, kokanee (resident form of sockeye), and chum salmon, as well as trout species. Volunteers are recruited and trained to identify and watch for spawning salmon throughout Water Resource Inventory Area 8 (WRIA 8), which includes the Lake Washington Watershed and some streams leading to Puget Sound (Figure 1). Regional agencies who participated in the Salmon Watcher Program along with King County during the 2014 season include the Bellevue Stream Team, and the cities of Bothell, Kirkland, Issaquah, Redmond, Renton, Seattle, and Woodinville.

Basins in the Lake Washington Watershed that were viewed by Salmon Watchers during the 2014 spawning season include Big Bear Creek, Cedar River, East Lake Washington, West Lake Sammamish, Issaquah Creek, and North Lake Washington (divided into the North Lake Washington tributaries and the Sammamish River tributaries). Streams in WRIA 8 draining directly to Puget Sound that were watched included Boeing, Piper's, and Venema creeks. Additionally, Longfellow Creek is watched annually, as the stream is within the City of Seattle's jurisdiction and outreach and education purview. Because their volunteers attend a training session, follow the same data-collection protocols, and submit their observation data, their data are included in this report.

Because unpaid volunteers do this work, the program allows for gathering a large volume of salmon presence data with reduced agency resources. With current budget and time constraints of agency staff, much of the data collected in this effort would not be collected otherwise. Watershed residents can become involved and educated at the same time, and this involvement enhances their appreciation for the resource and increases the likelihood they will implement salmon-friendly practices in daily life. Residents were encouraged to attend a training even if they chose to not record data. Further, interactions with agency staff foster positive relationships between the public and government agencies.

In addition to summaries of fish observed during the fall season, this 2014 report contains information and some statistics about the volunteers, including some results of three surveys that were administered at the training and after the season ended. It should be noted that this report summarizes data collected only by Salmon Watcher volunteers, and it is not an exhaustive report of fish distribution in WRIA 8. Other fish surveys may be conducted on a regular or irregular basis by county, state, city, and federal agencies and non-profit organizations; results of these other surveys are not included here.

**Figure 1. Basins and sites surveyed for the 2014 Salmon Watcher Program**  
([http://your.kingcounty.gov/dnrp/library/water-and-land/salmon/salmonwatcher/2014/Fig1\\_2014.pdf](http://your.kingcounty.gov/dnrp/library/water-and-land/salmon/salmonwatcher/2014/Fig1_2014.pdf))

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## Methods

Program partners recruited volunteers during late summer and early fall of 2014 to observe fish in streams throughout the Lake Washington Watershed<sup>1</sup> and other WRIA 8 streams plus one stream within City of Seattle’s jurisdiction that is in WRIA 9. Some watershed residents attended training to learn about salmon, salmon identification, and stormwater issues but did not turn in data. New in 2014, the Salmon Watcher Program teamed up with Friends of the Cedar River Watershed to recruit people for a joint training held in Renton.

The 94 volunteers who turned in data in 2014 are listed in Table 1 (totals: 94 individuals, pairs, or groups totaling 100 people).

**Table 1. Volunteer observers for the 2013 Salmon Watcher Program who reported data.**

---

Ann Aagaard	Ken Howard	Katherine Quinn-Dumovic
Staci Adman	Charles Johnson	Meredith Radella
Peggy Albin	Orlay Johnson	Kelly Rau
Russ Atkins	Pam Kelly	John Reinke
Kathleen Auld	Roseanne Kimlinger	David L. Reitz
David Bain	Bob Klee	Larry Reymann
Ed Barnes	Janusz Komorowski	Kathleen Ryan
Cathleen Barry	Barbara Koran	Paige Saffle
Judy Beaudette	David Korthals	Ed Schein
Cindy Blankenbaker	Tommy Kraft	Martha Schindler
Andy Bohlin	John Laible	Julie Selan
Richard Brashen	Marie LaRiviere	Drew and Brett Seutter
Janet Broadus	Jim Laughlin	Patty & Dave Shelton
Chris Bryan	Brian Lavering	John & Peggy Sherman
Greg Cassell	Shawna Lee	Ralph Smith
Samantha Dammrose	Sharon Leishman	Mary and Mel Thompson
Bernie Dennehy	Mary and Cara Loarie	Krys Tierney
Amelia Dumovic	Ken Mackey	Kay Tokuda
Lonna Dunstone	Malorie Macklin	Gary Tribble
Willie Elliot	John McAlpine	Terry Trimmingham
Gary Emerson	Connie McCleery	Sheila Verschaeve
Karl Englert	Jim McRoberts	Mary Vincent
Mary Farley	Jeff Mendenhall	Sean Wellander
Jo Ann Fjellman	Dave Mickelson	Andy Wickens
Ernie Frankenberg	Kelly Miller	George Willard
Hon Cheung Fung	Greta Nelson	Barb Williams
Robert Gary	Tammy Parise	Bryce Williams
Laurie Gogic	Sharon Paxson	Steve Williams
Doug Greaves	Janis Pelekis	Karen Winter
Rhoda Green	Mary Pelekis	Ramalee and Lucas Wulf
Jeanne Hannah	Betty Peltzer	
Catherine Howard	Gary Pilawski	

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<sup>1</sup> In this document, the Lake Washington Watershed means all waters draining through the Ballard Locks, and the subbasins of the Lake Washington Watershed are referred to as basins (e.g., Issaquah Creek Basin).

## Volunteer Training

Agency staff held a total of 4 regular classroom training sessions (held in Renton, Bellevue, Woodinville, and Seattle) in 2014 plus an additional training held at a local high school (Nathan Hale). Approximately 108 people attended one of the training sessions. Of those 108, approximately 35 were returning volunteers from prior seasons attending for a refresher. Returning volunteers are not required to attend a training session every year; however, they are encouraged to attend every other year. There were 43 returning volunteers who did not attend a workshop in 2014. Watershed residents were encouraged to attend a training session even if they did not intend to turn in data.

During all training sessions, all attendees were taught to identify adult spawning salmon species with a PowerPoint presentation, which was placed on King County's web site so volunteers could review it any time. Attendees were given salmon identification materials, including color adult salmon identification cards and spawner timing charts. And at all the training sessions with the exception of Renton (described below), everyone was taught how to fill out data forms, which are intended to be used in conjunction with online data entry. Volunteers were also given a brief tutorial for using the online database.

New in 2014, the Salmon Watcher Program conducted the Renton training in partnership with Friends of the Cedar River Watershed. At this workshop, attendees were given the fish identification presentation like at all the other workshops. At the Renton training, attendees were additionally given an expanded talk on stormwater as well as an update of information specific to the Cedar River Watershed. Then, anyone signing up to become a Salmon Watcher was given a website address so they could watch a video presentation at home that covered the part of the workshops that include filling out data forms and entering data using the online system.

During the training sessions, most attendees signed up to volunteer to watch at one or more sites. Some survey locations were prioritized by staff from each cooperating jurisdiction based on the need for information. However, sites were typically surveyed based on volunteer choice and availability. Volunteers were assigned to stream locations near their homes or customary walking places whenever possible. Volunteers were instructed to stay on public property (bridges, parks, etc.) unless they gained permission from a landowner to enter private property or the survey location was on their own property. Figure 1 (above) shows all the sites watched by volunteers during the 2014 fall spawning season.

## Data Collection

Volunteers conducted surveys between August 31, 2014, and January 11, 2015, though most surveys began in September or October and were concluded in November or December (Table 2). It was recommended that volunteers watch at their survey sites for at least 15 minutes, twice per week, and record any adult salmonids they observed. Actual survey frequency and duration varied greatly among volunteers (see observation data tables for each basin in Basin Summary section below).

Volunteers counted all live and dead adult salmonids they observed. If a volunteer surveyed the same site more than one time on the same day, the highest fish count was used; however, occasionally more than one volunteer surveyed the same site on a single day and their individual observations were used. Volunteers were asked to report only once those dead fish observed on

**Table 2. Number of surveys per month during 2014 Salmon Watcher season.**

Month	Number of Surveys
August	1
September	235
October	832
November	649
December	207
January	4

more than one occasion and to note subsequent observations of the same fish in their comments. Juvenile fish were noted if present. Unidentified fish were counted and described when possible.

Volunteers reported whether the fish they saw had an adipose fin. Volunteers noted how many citizens they came into contact with during their streamside duties. They were also asked if they noticed anything at their site that needed to be reported and whether they reported it. Data were recorded onto field data forms (Appendix A) and then subsequently entered into the online database. In 2014, five volunteers mailed in their forms to be input by Salmon Watcher staff.

Volunteers were provided a “First Fish ID” form to fill out the first time they saw a new species. The purpose of the First Fish ID form was to aid them in fish identification by highlighting key characteristics of the different species.

## Quality Assurance/Quality Control

Program staff used several means to assure that the data collected from volunteers and entered into the database were as accurate and consistent as possible during all phases of the program. Volunteers were provided with training by fish experts: data included in this report were collected either by returning volunteers or new volunteers who attended one of the training sessions for the 2013 season. Volunteers were provided laminated fish identification cards and a packet of training materials that included fish identification information. Duplicate as well as additional fish identification materials were placed on the Internet. Contact persons were made available to volunteers to answer questions and verify species identification when necessary; volunteers were encouraged to call upon these individuals if they were unsure of species identification.

Data were input into a SQL server database hosted by King County. For the second year, almost all data were input into the online database by the volunteers and most data forms were not mailed to program staff for entry. The database has been designed to catch anomalies in data entry, such as dates falling outside the sampling season. The database also poses questions when it detects that numbers for a given species were higher than reported in previous years at the same site and in the same month. These and other checks were built into the database software to increase accuracy of input data.

If program staff noticed anything they considered unusual in terms of fish sightings, they contacted the volunteer to ascertain whether the data were input correctly. For example, in 2014, two volunteers had reported large numbers of sockeye salmon with no adipose fins (for more information on adipose fin clips, see “Marked Fish and Juvenile Fish” below). Program staff contacted both volunteers and determined that they were unable to get good views on the fish, and although they were certain of the species ID, they were actually not sure about the fin clips. Staff then corrected those entries.

Because of the limitations of data collected without the use of a rigorous scientific protocol (see “Data Limitations”), these data are intended to be used only to make preliminary assessments of the distribution of spawning salmonids in the observed streams.

## Results and Discussion

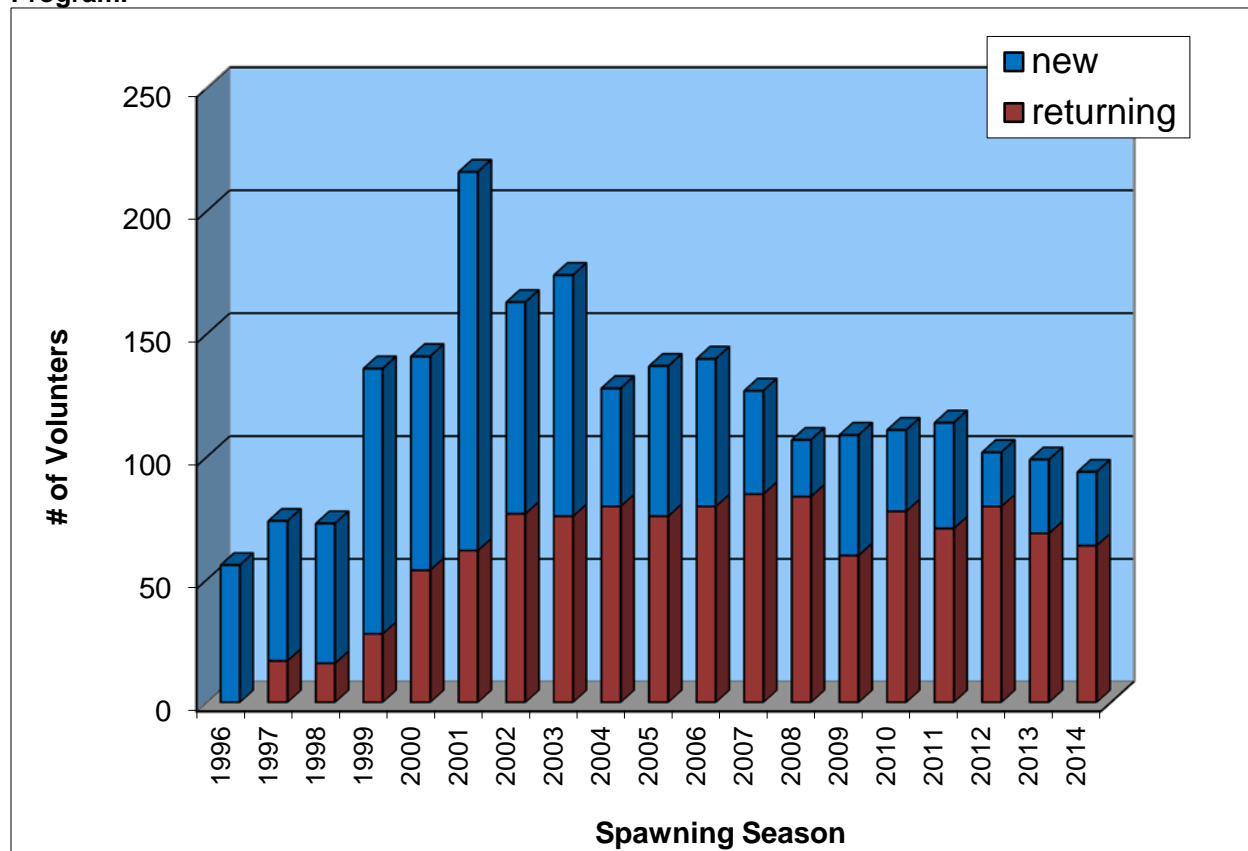
In 2014, a total of 106 sites on 39 streams were surveyed by 94 volunteer “units” (individuals, pairs, or groups) (Table 3).

**Table 3. Numbers of streams, sites, and volunteers involved in the 2013 spawning season.**

Area	# sites	# streams	# volunteers
Lake Washington Watershed	99	35	89
Puget Sound Streams	7	4	5
Total	106	39	94

In 2014, 64 out of 94 volunteer units (68 percent) participating in the program area were returnees (Figure 2).

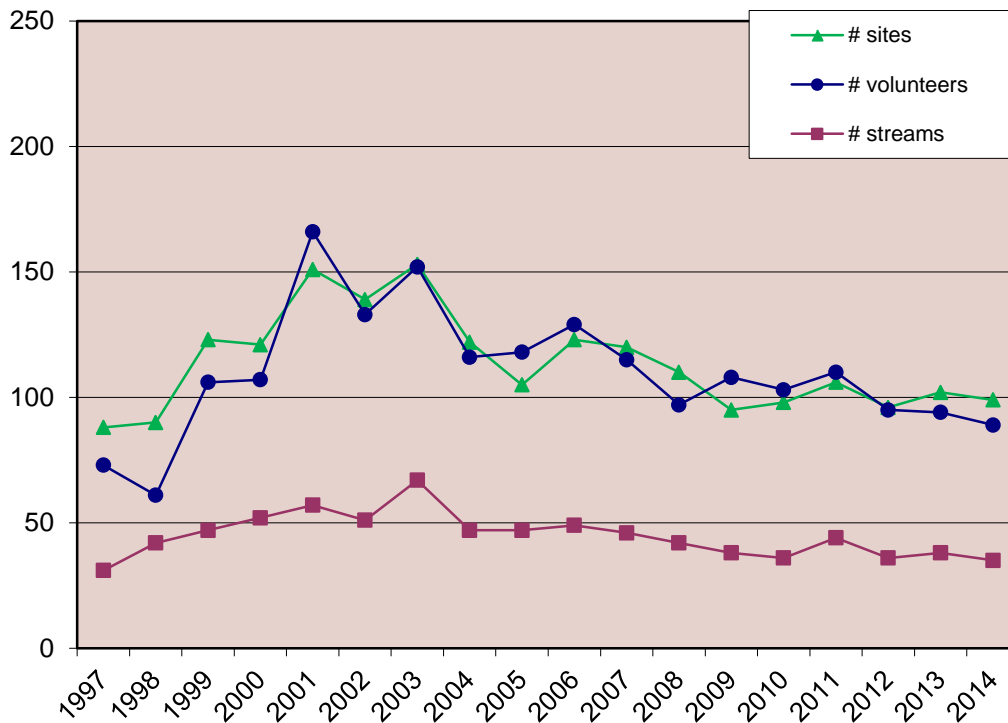
**Figure 2. Total number of new and returning volunteers for each year of the Salmon Watcher Program.**



## Volunteer Activity

The trend in the number of volunteers participating in the Salmon Watcher Program has varied over the 19 years of the program (Figure 3; data for 1996 not cataloged). Many volunteers watch more than one site, and many sites have more than one assigned volunteer. Both the numbers of volunteers participating and the numbers of sites and streams watched have slightly decreased since 2006 after peaking in the early 2000s.

**Figure 3. Number of sites, streams, and volunteer “units” (individuals, pairs, or groups) in the Lake Washington Watershed from 1997<sup>2</sup> to 2014.**



## Contact with Residents

Volunteers were asked to keep track of how many people they came into contact with to engage in conversation about any topic related to the program during their time by the streams. Salmon Watcher volunteers spoke with at least 670 people during the 2014 spawning season. Table 4 details the numbers of people who interacted with volunteers.

**Table 4. Number of resident contacts made by all Salmon Watcher volunteers in each of the surveyed basins.**

Big Bear Creek	Cedar River	E. Lake Wash.	W. Lake Samm.	Issaquah Creek	N. Lake Wash.	Samm. River Tribs.	Puget Sound	Total
22	67	105	8	4	97	292	74	669

<sup>2</sup> See previous Salmon Watcher annual reports for details on yearly participation.



## Time Spent by Volunteers

Salmon Watcher volunteers are asked to record the start and end times of each site visit. Those times are used to calculate the amount of time volunteers spend watching stream-side. Occasionally, some volunteers do not fill in that part of the data sheet. Additionally, some volunteers watched twice a day, and only one time period is included in these calculations. These factors result in an under-estimation of actual time volunteers watched for fish. Table 5 illustrates the approximate amount of time spent by volunteers in each basin. More than 660.6 hours were recorded as spent streamside by volunteers during the 2014 Salmon Watcher season.

**Table 5. Number of hours spent by Salmon Watcher volunteers in each of the surveyed basins.**

Big Bear Creek	Cedar River	E. Lake Wash.	W. Lake Samm.	Issaquah Creek	N. Lake Wash.	Samm. River Tribs.	Puget Sound	Total
103.5	112.2	140.2	7.7	4.3	114.1	149.4	29.1	660.6

## Data Limitations

Several qualifications should be kept in mind when reviewing the data in this report and especially when using the data for any purpose other than describing fish presence.

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. (The number of returning volunteers has remained relatively consistent for the past 8 years at 60 percent or above.) 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, whereas other volunteers learned to identify salmon for the first time from the Salmon Watcher training session.

Although training sessions are thorough, identification materials are provided, and technical experts are available for help with identification, some misidentifications inevitably occur.

It is important to keep in mind that the absence of spawner sightings at a watched stream site (or in a stream) does not mean that spawning salmonids are not accessing that location or stream. It simply means that fish were not seen by the volunteer at the time of the survey. With very few exceptions, because most or all parameters (such as what sites were watched when, for how long, and by whom) are different for every stream surveyed from 1996 through 2014, comparisons of raw data likely would not yield valid information about changes in fish populations. Therefore, the best use for the fish data is in determining presence of fish and mapping fish distribution. For additional discussion on the limitations of volunteer data, please see the 2003 annual report (King County 2004; available on the reports page<sup>3</sup>).

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<sup>3</sup> 2003 annual report found here: [http://your.kingcounty.gov/dnrp/library/archive-documents/wlr/waterres/salmon/2003\\_report/2003\\_SW.pdf](http://your.kingcounty.gov/dnrp/library/archive-documents/wlr/waterres/salmon/2003_report/2003_SW.pdf)

## Fish Observation Summaries

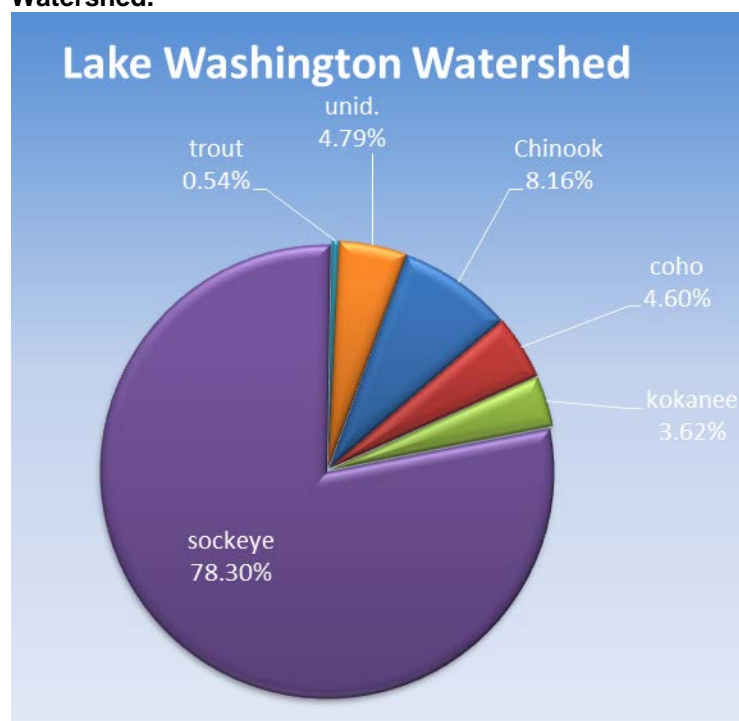
Salmon Watcher Program volunteers recorded observations of all salmonid fish observed during their stationary surveys, including Chinook, coho, kokanee, and sockeye salmon, and trout (which may have been cutthroat or rainbow trout).

Of the 39 streams surveyed in 2014, sockeye were found in 9 streams, coho were found in 11 streams, Chinook in 9 streams, kokanee were reported in 4 streams, chum were observed in 2 streams, and trout were reported in 5 streams. Seventeen streams had no adult salmonids reported.

If a volunteer was unable to positively identify a fish species, the fish was tallied as “unidentified” (reporting a fish as unidentified was preferable to misidentifying a species). Of the 3,522 adult fish observed in the Lake Washington Watershed, other WRIA 8 streams, and other streams draining to Puget Sound in 2014, 173 were tallied as unidentified (4.9 percent). For more information, see the section called “Unidentified Species” below.

The percentages of all fish observed in the Lake Washington Watershed (3,175 including unidentified fish), are depicted in Figure 4. Sockeye was the most abundant species counted by volunteers in the Lake Washington Watershed.

**Figure 4. Percentages of total fish observed in 2014 by volunteers in the Lake Washington Watershed.**



## Chinook Salmon

Chinook were observed in 5 of the 8 Lake Washington basins observed during the 2014 surveys (Figure 5). A total of 243 live fish and 16 carcasses were found in 9 streams throughout the Lake Washington Watershed. Streams in which Chinook were reported include (in order of most to least fish seen): Sammamish River (122), Cedar River (28), Maplewood Creek (26), Big Bear Creek (24), Cottage Lake Creek (20), Taylor Creek (20), North Creek (10), Cedar River Side Channel at Dorre Don (7), and Carey Creek (2).

### [Figure 5. Distribution of Chinook salmon in the program area based on Salmon Watcher observations.](#)

<http://your.kingcounty.gov/dnrp/library/water-and-land/salmon/salmonwatcher/2014/Fig5ChinDist2014.pdf>

## Sockeye Salmon

Sockeye were the most numerous fish counted by volunteers. Sockeye were observed in 5 Lake Washington basins (Figure 6). A total of 2,155 live fish and 331 carcasses were observed in 9 streams (in order of most to least fish seen): Cedar River (870), North Creek (794), Big Bear Creek (472), Sammamish River (174), Little Bear Creek (132), Maplewood Creek (22), Cottage Lake Creek (15), Taylor Creek (4), and May Creek (3).

### [Figure 6. Distribution of sockeye salmon in the program area based on Salmon Watcher observations.](#)

<http://your.kingcounty.gov/dnrp/library/water-and-land/salmon/salmonwatcher/2014/Fig6SockDist2014.pdf>

## Coho Salmon

Coho were observed in 6 Lake Washington Watershed basins plus 1 catchment draining to Puget Sound (Figure 7). A total of 120 live coho and 62 carcasses were reported in 11 streams in the Lake Washington Watershed and 1 stream that drains to Puget Sound (in order of most to least fish seen): Kelsey Creek (68), Coal Creek (26), Boeing Creek (21), North Creek (18), Longfellow Creek (15), Peterson Creek (14), Carey Creek (10), Sammamish River (4), Cedar River (3), Big Bear Creek (2), and Juanita Creek (1).

### [Figure 7. Distribution of coho salmon in the program area based on Salmon Watcher observations.](#)

<http://your.kingcounty.gov/dnrp/library/water-and-land/salmon/salmonwatcher/2014/Fig7CohoDist2014.pdf>

## Kokanee

Kokanee were reported in 3 Lake Washington Watershed basins (Figure 8). A total of 111 live fish and 4 carcasses were counted in 4 streams: North Creek (59), Lewis Creek (43), Little Bear Creek (9), and Sammamish River (4).

### [Figure 8. Distribution of kokanee in the program area based on Salmon Watcher observations.](#)

<http://your.kingcounty.gov/dnrp/library/water-and-land/salmon/salmonwatcher/2014/Fig8KokDist2014.pdf>

## Chum

A total of 123 live chum and 167 carcasses were counted 2 streams: Venema Creek (245) and Piper's Creek (45).

## Unidentified Species

Fish of unidentified species (143 live fish and 30 carcasses) were observed in 9 streams in 4 basins in the Lake Washington Watershed and 1 stream draining to Puget Sound. Streams in which fish of unidentified species were reported include (in order of most to least fish seen): Sammamish River (77), North Creek (37), Piper's Creek (21), Cedar River (15), Big Bear Creek (8), Little Bear Creek (8), Taylor Creek (3), Maplewood Creek (2), Kelsey Creek (1), and Lyon Creek (1).

The number of unidentified fish was approximately 4.9 percent of all fish reported.

## Trout

Trout spawn later in the winter than the other salmonids that are the focus of the Salmon Watcher Program. They are occasionally seen, especially as fry, but their low numbers in this report do not reflect actual spawning population numbers – just incidental observations. Seventeen live trout were reported in 5 creeks in the Lake Washington Watershed in 2014. Streams in which trout were reported include (in order of most to least fish seen): Sammamish River (7), North Creek (6), Kelsey Creek (2), Cedar River (1), and Mercer Slough (1).

## Marked Fish and Juvenile Fish

On the data forms (Appendix A), one column asked the volunteers to note the “# of fish without adipose.” Hatcheries in the Lake Washington Watershed remove the adipose fins of Chinook and coho before they are released into the stream so that when the fish return as adults, the hatchery fish can be distinguished from wild fish. Volunteers were instructed to focus on species identification first and foremost and only try to report on adipose fin clips when possible. As a result, most volunteers do not fill in this column, or sometimes they note that they could not tell. Generally, water clarity must be excellent and the fish must be close and somewhat still (or dead) in order to determine the presence of an adipose fin. In 2014, 43 fin clips were reported (Table 6). Sockeye are too small when released from the hatchery to have their adipose fins clipped, so all sockeye have their adipose fins, and therefore hatchery sockeye are indistinguishable from wild sockeye. Initially, two volunteers reported very high numbers of sockeye without adipose fins, but after Salmon Watcher staff contacted the volunteers and they discussed their confidence levels in whether they fish had adipose fins, both volunteers agreed that it was difficult to see the fish clearly, so the corrections were made in the database. One remaining sockeye was reported with an adipose fin, but as that volunteer was not contacted about this fish, it is unknown if the adipose fin was actually present or if the fish was actually another species, like a coho.

**Table 6. Number of adipose fin clips as reported by volunteer Salmon Watchers.**

Stream	Chinook	Coho	Sockeye
Boeing Creek		20	
Carey Creek	2	2	
Big Bear Creek			1
Maplewood Creek	16		
Cottage Lake Creek	2		

In some years, certain species of salmon are tagged (usually near the base of the dorsal fin) for scientific research when they enter the Hiram M. Chittenden Locks (“Ballard Locks”). Additionally, fish tagged elsewhere may stray into the Lake Washington Watershed. And it is also possible that a fish was tagged when straying, then it returned to its birth stream in the Lake Washington Watershed. Volunteers are asked to record and report a tagged fish. In 2014, approximately 200 sockeye were tagged at the Ballard Locks. Sockeye with tags were reported in 2014 by a volunteer watching in North Creek; however, attempts made by staff to contact the volunteer to discuss and verify the observations were unsuccessful. It is unclear how many tagged fish were observed.

Volunteers made note of small resident fish, fry, and juvenile fish in a total of 13 streams (Big Bear Creek, Boeing Creek, Maplewood Creek, North Creek, trib to Big Bear Creek, Juanita Creek, South Fork Thornton Creek, Thornton Creek, Peterson Creek, Richards Creek, Kelsey Creek, Little Swamp Creek, and the Sammamish River).

## Basin Summary

For the 2014 spawning season, sockeye were reported in the largest numbers in the Sammamish River Tributaries followed closely by the Cedar River Basin (Table 7). Chinook were reported in the greatest numbers in the North Lake Washington Tributaries. Coho salmon were reported in the greatest number of Lake Washington basins (6). Kokanee were reported in 3 basins.

**Table 7. Species enumerated within surveyed basins during the 2013 Salmon Watcher season.**

Basin	Chinook	Chum	Coho	Kokanee	Sockeye	Trout	Unid.*	Basin Total
Big Bear Creek	44	0	2	0	487	0	8	541
Cedar River	81	0	17	0	896	1	20	1015
East Lake Washington	0	0	94	0	3	3	1	101
Issaquah Creek	2	0	10	0	0	0	0	12
North Lake Washington Tribs.	122	0	5	4	174	7	78	390
Samm. River Tribs.	10	0	18	68	926	6	45	1073
West Lake Sammamish	0	0	0	43	0	0	0	43
Central Puget Sound - WRIA 9	0	0	15	0	0	0	0	15
Middle Puget Sound - WRIA 8	0	290	21	0	0	0	21	332
Species Total	259	290	182	115	2486	17	173	3522

\*Unidentified species.

The remainder of this report presents detailed results for each basin in the program. Data include stream name and state stream numbers as assigned in the “stream catalog” by Williams et al. (1975), corresponding stream sites (with Site ID and river mile), dates of surveys, number of surveys, number of surveyors, and number of each species observed. The unique Site ID numbers that correspond with each survey site are used to distinguish the sites. A site, with its unique ID number, will always have the same data associated with it, regardless of refined river mile (RM) designations. River mile designations are generally derived from the stream catalog combined with measurements made using King County’s Geographic Information System. Additionally, a designated site may vary a few feet from year to year: (1) if a volunteer watches on the upstream side of a bridge versus the downstream side, (2) if a new volunteer happens to watch a few yards from where a previous watcher observed, (3) if a volunteer moves a few feet to observe in an area of better spawning habitat or visibility, or (4) if restoration and/or overgrown vegetation improves or obstructs the view.

The streams surveyed in the Lake Washington Watershed were grouped into the following eight basins: Big Bear Creek, Cedar River, East Lake Washington, West Lake Sammamish, Issaquah Creek, and North Lake Washington (split into North Lake Washington tributaries and Sammamish River tributaries). Salmonids were observed in all basins surveyed in 2014.

## Big Bear Creek Basin

Volunteers surveyed 13 sites in 5 streams in the Big Bear Creek Basin in 2014 (Figure 1). From 1 to 6 sites were watched per stream, and the number of surveys ranged from 1 to 42 per site (Table 8). All sites were monitored by 1 volunteer except sites 101 and 89, which were both monitored by 2 volunteers.

**Table 8. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers<sup>4</sup>, and years the sites were watched for each stream surveyed in the Big Bear Creek Basin relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Big Bear Creek	080105	65	2.7	9/8 - 11/18	15	1	1997-2000, 2002-2014
		101	4.9	10/4 - 11/21	19	2	1997-2010, 2012-2014
		89	6	9/21 - 12/10	40	2	1998-2011, 2014
		503	7.85	9/29 - 12/19	20	1	2002, 2004-2007, 2009-2014
		529	8.7	9/26 - 10/25	15	1	2002-2003, 2008, 2014
		677	8.75	9/25 - 10/24	16	1	2014
Trib. To Bear Cr.		367	0.1	9/25 - 12/10	14	1	2003, 2014
Cottage Lake Cr.	080122	660	2.2	9/14 - 11/30	42	1	2011-2014
		644	2.4	9/17 - 12/13	36	1	2009-2010, 2012-2014
		50	2.5	9/23 - 10/21	21	1	1997, 1999-2014
Daniels Creek	080122	585	1	10/3 - 10/3	1	1	2014
		165	1.2	10/3 - 10/6	2	1	1999-2000, 2009, 2014
Rutherford Creek	080110	462	0.45	9/19 - 12/7	17	1	2003-2006, 2013-2014

Salmonids were found in two of the five streams observed in Big Bear Creek Basin: Bear Creek and Cottage Lake Creek (Table 9). Sockeye and sockeye were seen in both creeks. Additionally, coho and unidentified species were seen in only Bear Creek.

**Table 9. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in the Big Bear Creek Basin for the 2014 spawning season.**

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unid.
Big Bear Creek	65	2.7	-	-	26 (9/18 - 10/13)	7 (9/8 - 10/8)
	101	4.9	-	-	58 (10/4 - 10/26)	-
	89	6	8 (9/25 - 10/14)	-	185 (9/25 - 11/28)	1 (9/)
	503	7.85	5 (9/29 - 10/20)	-	5 (9/29 - 10/4)	-
	529	8.7	1 (9/29)	2 (10/19)	111 (9/26 - 10/25)	-
	677	8.75	10 (9/28 - 10/24)	-	87 (9/25 - 10/19)	-
Trib. To Bear Cr.	367	0.1	-	-	-	-
Cottage Lake Cr.	660	2.2	-	-	1 (10/19)	-
	644	2.4	15 (9/25 - 11/14)	-	-	-
	50	2.5	5 (10/1 - 10/8)	-	14 (9/30 - 10/14)	-
Daniels Creek	585	1	-	-	-	-
	165	1.2	-	-	-	-
Rutherford Creek	462	0.45	-	-	-	-

<sup>4</sup> "Volunteer," when used in this context, is defined as an individual, pair, or group of people who observed a stream site for adult spawning salmonids at a given time on a given date.

## Cedar River Basin

Volunteers surveyed 17 sites in 7 streams/river in the Cedar River Basin in 2014 (Figure 1). From 1 to 7 sites were watched per stream, and the total number of surveys ranged from 8 to 51 per site (Table 10). Sites were monitored by 1 or 2 volunteers.

**Table 10. 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 Cedar River Basin relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Cedar River  (Cavanaugh Pond)	080299	199	1	9/18 - 11/10	18	2	1999, 2006, 2009-2014
		200	1.2	9/13 - 10/29	8	1	1997, 1999, 2004, 2014
		201	1.3	9/13 - 12/19	39	2	2001, 2005, 2007-2009, 2013-2014
		206	4.3	9/5 - 12/13	12	1	1999, 2001-2002, 2009-2010, 2013-2014
		555	6.2	9/15 - 10/23	10	1	2008, 2010, 2014
C.R. Side Channel		139	6.4	10/18 - 12/25	14	1	1997-2014
Madsen Creek	080305	156	0.2	9/27 - 12/13	12	1	1999-2000, 2012, 2014
Maplewood Creek	-	593	0.4	9/27 - 12/13	13	1	2005, 2013-2014
Peterson Creek	080328	25	1.5	9/17 - 12/15	29	1	2000, 2002, 2011-2014
Rock Creek	080338	410	0.19	10/18 - 11/24	35	1	2001-2014
		154	0.4	10/18 - 11/21	12	1	1999-2010, 2012-2014
Taylor Creek	080320	588	0.37	9/26 - 12/3	47	2	2004-2014
		596	0.5	10/18 - 11/24	36	1	2004-2014
		655	0.6	9/26 - 12/3	51	2	2010-2014
		71	1.8	10/18 - 11/21	13	1	1998-2010, 2012-2014
		126	2.4	10/18 - 11/21	12	1	1998, 2001-2010, 2012-2014

Chinook were observed in four of the seven streams observed in the Cedar River basin: Cedar River, Cedar River side channel, Maplewood Creek, and Taylor Creek (Table 11). Sockeye (and unidentified species) were also reported in Cedar River, Maplewood Creek, and Taylor Creek. Coho were observed in Taylor Creek and in only one site in the Cedar River. No fish were seen in Rock Creek.



**Table 11. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in the Cedar River Basin for the 2014 spawning season.**

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unid.
Cedar River	199	1	4 (9/20)	-	135 (9/20 - 11/1)	3 (9/29 - 11/7)
	200	1.2	14 (9/20)	-	66 (9/20 - 10/15)	-
	201	1.3	3 (9/20 - 10/7)	-	224 (9/25 - 12/16)	12 (9/24 - 11/18)
	206	4.3	-	-	61 (9/21 - 11/20)	-
	555	6.2	7 (10/9 - 10/23)	3 (10/6 - 10/23)	-	-
(Cavanaugh Pond)	139*	6.4	-	-	384 (11/1 - 12/25)	-
C.R. Side Channel	557	0.15	7 (9/26 - 10/6)	-	-	-
Madsen Creek	156	0.2	-	-	-	-
Maplewood Creek	593	0.4	26 (9/27 - 10/19)	-	22 (9/27 - 11/14)	2 (10/19)
Peterson Creek	25	1.5	-	14 (10/31 - 12/8)	-	-
Rock Creek	410	0.19	-	-	-	-
	154	0.4	-	-	-	-
Taylor Creek	588	0.37	3 (9/26 - 10/3)	-	-	2 (11/8)
	596	0.5	-	-	3 (10/18 - 10/20)	-
	655	0.6	17 (9/30 - 10/18)	-	1 (10/23 - 10/23)	1 (9/30)
	71	1.8	-	-	-	-
	126	2.4	-	-	-	-

\*One trout reported at this site.

## East Lake Washington Basin

Volunteers surveyed 22 sites in 8 streams in the East Lake Washington Basin in 2014 (Figure 1). From 1 to 7 sites were watched per stream, and the total number of surveys ranged from 2 to 78 per site (Table 12). Each site was monitored by 1 to 5 volunteers.

**Table 12. 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 East Lake Washington Basin relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Coal Creek	80268	440	0.1	10/21 - 10/23	2	1	2001-2004, 2008, 2013-2014
		439	0.6	10/27 - 11/20	3	1	2001-2005, 2008, 2013-2014
		443	1.7	10/19 - 11/16	7	1	2001, 2011-2014
		441	2	11/4 - 11/16	3	1	2001-2008, 2010-2014
		442	2.1	11/4 - 11/16	3	1	2001-2014
East Creek	-	514	0.2	9/17 - 11/29	21	1	2003, 2005-2012, 2014
Kelsey Creek	80059	13	2	9/26 - 1/11/2015	54	5	1997-2014
		124	2.4	10/9 - 12/1	10	1	1997-2014
		657	2.8	9/24 - 11/29	13	2	2011-2014
		120	3	9/24 - 11/29	17	2	1997-2014
		115	3.5	9/17 - 11/2	26	1	1998, 2004, 2010, 2012-2014
		586	4.9	10/5 - 11/15	11	1	2004-2014
May Creek	80282	208	0.2	9/24 - 11/17	11	1	2001-2014
		432	0.5	9/24 - 11/17	9	1	2000, 2004-2014
Mercer Slough	80259	445	1.6	9/11 - 1/11/2015	78	5	2001, 2003-2014
Richards Creek	80261	75	0.4	9/28 - 12/1	11	1	1998-2000, 2007-2014
		27	0.7	9/28 - 10/1	2	1	1997-2012, 2014
		80	1.6	10/12 - 11/7	6	1	1998, 2002-2010, 2013-2014
Sunset Creek	-	446	0.1	10/12 - 11/7	6	1	2009-2010, 2013-2014
West Trib. Kelsey Cr.	80264	116	0.25	9/18 - 12/26	67	3	1998-1999, 2001-2014
		506	0.9	9/27 - 11/27	13	1	2002-2014

Salmonids were found in three of the eight streams surveyed in 2014 (Table 13). Coho were reported in Coal and Kelsey creeks. Sockeye were seen only in May Creek. No fish were observed in East Creek, Mercer Slough, Richards Creek, Sunset Creek, or West Trib Kelsey Creek.

**Table 13. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in the East Lake Washington Basin for the 2011 spawning season.**

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unidentified
Coal Creek	440	0.1	-	-	-	-
	439	0.6	-	-	-	-
	443	1.7	-	2 (11/9 - 11/16)	-	-
	441	2	-	4 (11/9 - 11/16)	-	-
	442	2.1	-	20 (11/4 - 11/16)	-	-
East Creek	514	0.2	-	-	-	-
Kelsey Creek	13*	2	-	-	-	-
	124	2.4	-	-	-	1 (11/10)
	657	2.8	-	37 (10/24 - 11/20)	-	-
	120	3	-	9 (10/26 - 11/20)	-	-
	115	3.5	-	22 (10/25 - 10/26)	-	-
	586	4.9	-	-	-	-
	45	5	-	-	-	-
May Creek	208	0.2	-	-	2 (10/6 - 11/17)	-
	432	0.5	-	-	1 (10/16)	-
Mercer Slough	445*	1.6	-	-	-	-
Richards Creek	75	0.4	-	-	-	-
	27	0.7	-	-	-	-
	80	1.6	-	-	-	-
Sunset Creek	446	0.1	-	-	-	-
West Trib.	116	0.25	-	-	-	-
Kelsey Cr.	506	0.9	-	-	-	-

\*Trout reported at these sites.

Adult live coho spawners were released into Coal Creek and Kelsey Creek in late October/early November (Table 14). Despite these large numbers of adult coho released (643 in Kelsey Creek and 1573 in Coal Creek), relatively very few adult coho were observed in Kelsey Creek (68) or Coal Creek (26).

**Table 14. Adult coho spawners released into two East Lake Washington streams in November 2014.**

Location	category	# coho	Release dates
SW site # 657 Kelsey at Kelsey Creek Farm south.	males	349	October 23, 24
	female	294	
	jacks	0	
	total	643	
SW site # 656 Coal Creek at off-channel pond	males	1032	October 30, 31 November 7
	female	540	
	jacks	1	
	total	1573	

## Issaquah Creek Basin

Volunteers surveyed 1 site on Carey Creek in the Issaquah Creek Basin in 2014 (Figure 1). Two volunteers conducted a total of 15 observations (Table 15).

**Table 15. 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 Issaquah Creek Basin relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Carey Creek	80218	635	1.7	10/7 - 11/5	15	2	2007-2014

Chinook salmon and coho were observed in Carey Creek in 2014 (Table 16).

**Table 16. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in the Issaquah Creek Basin for the 2014 spawning season.**

Stream	Site ID	RM	Chinook	Coho	Sockeye
Carey Creek	635	1.7	2 (10/23)	10 (10/7 - 11/5)	-

## North Lake Washington Tributaries

The North Lake Washington Tributaries are those streams flowing into the north end of Lake Washington (e.g., Thornton Creek, Sammamish River). Volunteers surveyed 23 sites along 8 streams in 2014 (Figure 1). From 1 to 8 sites were watched per stream, and the total number of surveys ranged from 2 to 32 per site (Table 17). Sites were monitored by 1 to 3 volunteers.

**Table 17. 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 North Lake Washington Tributaries relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Juanita Creek	080230	389	0	9/23 - 12/14	20	2	2000-2001, 2004-2007, 2011-2014
		68	0.2	9/27 - 12/14	19	1	1998, 2000-2001, 2003, 2009, 2014
Lyon Creek	080052	427	0	9/30 - 12/22	14	1	2000, 2003-2005, 2008, 2012, 2014
McAleer Creek	080049	498	0.79	9/30 - 12/22	14	1	2001-2008, 2011, 2014
Peters Creek	080104	47	0	10/8 - 12/14	19	1	1997-1998, 2003, 2009-2014
Sammamish River	080057	273	2.6	9/23 - 10/18	4	2	1999, 2003, 2011, 2013-2014
		41	7.3	9/13 - 11/16	8	1	1998-1999, 2001-2003, 2005-2007, 2014
		451	11	10/3 - 12/17	13	1	2001, 2014
		454	11.4	9/21 - 12/21	31	2	2002-2003, 2011-2014
		42	11.5	9/19 - 10/27	14	1	1998, 2002-2003, 2009-2010, 2013-2014
		271	12.5	9/24 - 12/15	32	2	1997, 1999, 2001-2004, 2007, 2009-2014
Trib. to Sammamish River		275	1.8	10/2 - 10/19	5	2	2009, 2012-2014
S. Fk. Thornton Cr.	080033	191	0.2	10/15 - 12/18	13	1	1999-2000, 2006-2007, 2011, 2014
		54	0.3	10/15 - 12/18	19	1	1998, 2007, 2014
		652	0.5	10/15 - 12/18	5	1	2010, 2014
Thornton Creek	080030	183	0.1	10/1 - 12/16	24	1	1997, 2000-2014
		91	0.3	9/26 - 10/26	4	1	1998-2000, 2003, 2008, 2014
		185	0.5	10/15 - 12/18	4	1	1999, 2014
		186	0.9	10/1 - 12/18	27	3	1997, 1999-2002, 2006-2008, 2010-2012, 2014
		386	1.1	10/9 - 12/18	25	2	2002, 2005, 2007-2008, 2010-2012, 2014
		387	1.15	10/8 - 12/18	26	2	2001, 2006, 2014
		385	1.2	10/15 - 12/18	2	1	2000-2001, 2004-2005, 2010, 2014
		606	1.22	10/15 - 12/18	14	1	2010-2011, 2013-2014

Salmonids were found in three of the eight streams surveyed in the North Lake Washington Tributaries (Table 18). Chinook, coho, kokanee, sockeye, and unidentified species were all observed in the Sammamish River. A single coho was reported in Juanita Creek, and a single unidentified species was reported in Lyon Creek. No salmonids were seen in McAleer Creek, Peters Creek, Thornton Creek, South Fork Thornton Creek, or a tributary to the Sammamish River.

**Table 18. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in the North Lake Washington Tributaries for the 2014 spawning season.**

Stream	Site ID	RM	Chinook	Coho	Kokanee	Sockeye	Unidentified
Juanita Creek	389	0	-	1 (10/27)	-	-	-
	68	0.2	-	-	-	-	-
Lyon Creek	427	0	-	-	-	-	1 (10/18)
McAleer Creek	498	0.79	-	-	-	-	-
Peters Creek	47	0	-	-	-	-	-
Sammamish River	273	2.6	-	-	-	-	-
	41	7.3	4 (9/13)	-	-	-	-
	451	11	-	-	-	1 (10/9)	1 (10/3)
	454	11.4	43 (9/21 - 10/12)	-	-	57 (9/24 - 10/11)	27 (9/24 - 11/29)
	42	11.5	28 (9/20 - 10/10)	-	-	76 (9/20 - 10/10)	3 (10/1 - 10/6)
	271*	12.5	47 (10/14 - 10/29)	4 (10/29)	4 (10/2)	40 (10/10 - 10/21)	46 (10/9 - 10/23)
Trib. to Samm. River	275	1.8	-	-	-	-	-
South Fk. Thornton Creek	191	0.2	-	-	-	-	-
	54	0.3	-	-	-	-	-
	652	0.5	-	-	-	-	-
Thornton Creek	183	0.1	-	-	-	-	-
	91	0.3	-	-	-	-	-
	185	0.5	-	-	-	-	-
	186	0.9	-	-	-	-	-
	386	1.1	-	-	-	-	-
	387	1.15	-	-	-	-	-
	385	1.2	-	-	-	-	-
	606	1.22	-	-	-	-	-

\*Trout reported at this site.

## Sammamish River Tributaries

The Sammamish River Tributaries are those streams flowing into the Sammamish River from waters originating in Snohomish County (Little Bear, North, and Swamp creeks; Big Bear Creek is discussed separately above). Volunteers surveyed 19 sites on 4 Sammamish River tributaries in 2014 (Figure 1). The total number of surveys ranged from 1 to 61 per site (Table 19). Each site was monitored by from 1 to 4 volunteers.

**Table 19. 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 Sammamish River Tributaries relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Little Bear Creek	080080	114	0	9/10 - 12/8	36	2	1999, 2001-2002, 2005-2014
		67	0.2	9/27 - 11/14	10	1	1997-1999, 2001-2009, 2012-2014
		312	1.5	9/15 - 11/30	32	2	1997, 2002-2003, 2010-2014
		176	1.6	9/24 - 11/25	15	1	1997, 2000-2007, 2009-2014
		651	1.65	9/24 - 11/25	15	1	2010-2012, 2014
Little Swamp Cr.	080060	505	0.24	9/21 - 11/15	10	1	2002-2008, 2011-2014
North Creek	080070	438	0.01	9/22 - 11/30	17	1	2000, 2003-2004, 2006, 2008-2009, 2012-2014
		112	0.9	9/26 - 12/7	29	3	1998-2014
		57	0.95	9/13 - 12/13	20	1	1998, 2001, 2004-2014
		408	1.05	10/8 - 10/29	6	1	2000-2009, 2011-2014
		113	1.5	10/3 - 12/8	10	1	1998, 2000-2001, 2003, 2006-2010, 2012, 2014
		255	1.8	9/12 - 12/30	61	4	1999-2004, 2006-2007, 2009-2014
		425	2.6	9/18 - 11/18	46	4	2006, 2008-2014
		254	2.8	9/25 - 12/6	16	1	2004, 2007, 2009, 2011-2014
		253	3	9/10 - 12/2	43	2	1997, 1999-2001, 2006-2014
		676	3.02	9/12 - 12/17	35	1	2013-2014
		23	3.1	10/11 - 11/3	3	1	2007, 2011, 2014
140	5.3	10/6 - 10/6	1	1	1997, 2001, 2003, 2013-2014		
Swamp Creek	080059	34	0.3	9/21 - 11/11	8	1	1997, 1999-2000, 2002-2008, 2011-2014

Fish were seen in Little Bear Creek and North Creek (Table 20). Chinook were only observed in North Creek, but they were seen at five sites, including the uppermost site watched at river mile 5.3. Coho, sockeye, kokanee, and unidentified species were also reported in North Creek. Kokanee, sockeye, and unidentified species were reported in Little Bear Creek. No fish were seen in Swamp Creek or Little Swamp Creek.

**Table 20. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in the Sammamish River Tributaries for the 2014 spawning season.**

Stream	Site ID	RM	Chinook	Coho	Kokanee	Sockeye	Unid.
Little Bear Creek	114	0	-	-	1 (10/6)	26 (10/3 - 10/27)	6 (10/3 - 10/18)
	67	0.2	-	-	8 (10/17 - 10/19)	15 (10/15 - 10/24)	2 (10/24 )
	312	1.5	-	-	-	29 (10/3 - 10/19)	-
	176	1.6	-	-	-	52 (9/24 - 10/16)	-
	651	1.65	-	-	-	10 (10/9 - 10/16)	-
Little Swamp Cr.	505	0.24	-	-	-	-	-
North Creek	438	0.01	2 (9/22)	1 (10/1)	-	20 (9/22)	8 (9/22 - 10/12)
	112*	0.9	4 (9/26 - 10/3)	-	8 (10/21 - 10/27)	96 (9/26 - 11/1)	5 (9/30 - 10/8)
	57	0.95	1 (9/27)	-	-	12 (10/8 - 10/19)	-
	408	1.05	-	-	-	9 (10/17 - 10/24)	2 (10/8)
	113	1.5	-	-	-	49 (10/3 - 11/1)	2 (10/3)
	255	1.8	-	-	-	2 (10/6 - 10/19)	1 (9/22)
	425*	2.6	2 (9/18)	17 (10/13 - 10/30)	46 (10/3 - 10/21)	295 (9/29 - 11/6)	5 (9/19 - 11/18)
	254	2.8	-	-	5 (10/17 - 10/18)	101 (9/27 - 11/5)	-
	253*	3	-	-	-	106 (10/1 - 10/28)	11 (10/10 - 10/28)
	676*	3.02	-	-	-	90 (9/29 - 11/7)	3 (10/1 - 10/3)
	23	3.1	-	-	-	14 (10/11 - 11/3)	-
140	5.3	1 (10/6)	-	-	-	-	
Swamp Creek	34	0.3	-	-	-	-	-

\*Trout reported at these sites.



## West Lake Sammamish Basin

Volunteers surveyed 4 sites on 2 streams in the West Lake Sammamish Basin in 2014 (Figure 1). The total number of surveys ranged from 7 to 14 per site (Table 21). Each site was monitored by from 1 or 2 volunteers.

**Table 21. 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 West Lake Sammamish Basin relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Lewis Creek	080162	327	0.05	10/6 - 12/21	9	2	1997, 2001-2009, 2011, 2013-2014
		598	0.37	11/2 - 12/21	13	1	2004-2009, 2011, 2013-2014
		283	0.5	11/8 - 12/21	7	1	1999, 2001-2009, 2011, 2013-2014
Vasa Creek	080156	641	0.4	8/31 - 11/17	14	1	2009-2014

Kokanee were observed at all three sites watched in Lewis Creek (Table 22). No salmonids were observed in Vasa Creek.

**Table 22. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in West Lake Sammamish Basin for the 2014 spawning season.**

Stream	Site ID	RM	Kokanee	Unidentified
Lewis Creek	327	0.05	12 (11/8 - 12/7)	-
	598	0.37	15 (11/2 - 12/6)	-
	283	0.5	16 (11/2 - 12/6)	-
Vasa Creek	641	0.4	-	-

## Puget Sound Streams

Streams draining to Puget Sound that were surveyed during the 2014 Salmon Watcher season are both inside and outside WRIA 8 (Figure 1). Those streams within WRIA 8 include Boeing, Piper's, and Venema creeks. Longfellow Creek, watched annually, is part of WRIA 9<sup>5</sup>. Data were reported for a total of 7 sites in 4 streams draining to Puget Sound in 2014 (Table 23). The total number of surveys ranged from 4 to 15 per site. Each site was monitored by 1 volunteer.

**Table 23. 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 relevant to the 2014 spawning season.**

Stream	Stream #	Site ID	RM	2014			Years Watched
				Survey Dates	# Surveys	# Vols.	
Boeing Creek*	080017	436	0.1	9/28 - 12/14	11	1	2000-2012, 2014
Longfellow Creek	090359	179	0.8	11/8 - 12/31	10	1	1998-2014
		180	0.9	9/30 - 11/1	8	1	1999-2004, 2006, 2010, 2013-2014
		380	1	9/2 - 10/29	4	1	2000-2001, 2010, 2012, 2014
Piper's Creek*	080023	98	0.4	10/14 - 12/2	15	1	1998-2002, 2007-2014
Venema Creek*	-	383	0.02	10/16 - 12/1	15	1	1997, 2000-2001, 2004-2014
		222	0.03	10/16 - 12/1	15	1	1999, 2005, 2012-2014

\*Streams within WRIA 8.

Coho were the only species observed in Boeing Creek as well as Longfellow Creek (Table 24). Chum were observed in Piper's Creek and Venema Creek, a tributary to Piper's Creek.

**Table 24. Site ID, river mile (RM), and total number of fish (live plus dead) with date ranges for seen at each stream surveyed in Central Puget Sound for the 2014 spawning season.**

Stream	Site ID	RM	Chum	Coho	Unidentified
Boeing Creek	436	0.1	-	21 (10/26 - 12/14)	-
Longfellow Creek	179	0.8	-	2 (11/9)	-
	180	0.9	-	13 (10/29 - 11/1)	-
	380	1	-	-	-
Piper's Creek	98	0.4	45 (10/29 - 11/26)	-	21 (10/29 - 12/2)
Venema Creek	383	0.02	144 (10/27 - 12/1)	-	-
	222	0.03	101 (11/2 - 12/1)	-	-

<sup>5</sup> Fauntleroy Creek, a WRIA 9 stream that drains to Puget Sound, is also watched by volunteers; however, survey methods are different from those of this program. See Appendix B for a summary of salmonid observations at Fauntleroy Creek in 2014.

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## References

- King County. 2004. 2003 Volunteer Salmon Watcher Program: Lake Washington Watershed and Vashon Island. 48pp. {Vanderhoof author}
- Williams, R.W., R.M. Laramie, and J.J. Ames. 1975. A Catalog of Washington Streams and Salmon Utilization, Volume 1, Puget Sound. Washington Department of Fisheries, Olympia, WA.

## Appendix A: Data Collection Form used in 2014

2014 datasheet looks like this:

**Salmon Watcher - Monthly Data Collection Form**

Month / Year \_\_\_\_\_ / \_\_\_\_\_ Stream: \_\_\_\_\_

Site ID# \_\_\_\_\_

- Record ALL observation dates and times, even when you see Zero fish.
- If you can't identify a fish, record it as UNID.
- Please input your datasheets online at least once a month – more often is great!

Date MM-DD	Start Time	End Time	# Citizens Talked With	1" - 6" Juvenile Fish (Y or N)	Species Name* <small>Only write here if you see adult salmon</small>	# Live Adult per species	# Dead Adult per species	Total Adult Fish Count (live + dead per species)	# of fish with no adipose fin ("clipped")	Did you encounter anything requiring attention? If so, did you notify anyone?	Comments? Tags? (redds present, notable weather)

\*Key: COHO-Coho, CHIN-Chinook, SOCK-Sockeye, CHUM-Chum, KOKA-Kokanee, TROU-Trout, PINK-Pink, UNID-Unidentified

If you have any questions, send us an email (email preferred over phone)!

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Your program partners are King County Water and Land Resources Division, Bellevue Stream Team, Cities of Bothell, Issaquah, Kirkland, Renton, Redmond, Seattle, and Woodinville.

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## Appendix B: Fauntleroy Creek Salmon Watch 2014 Summary

Summarized from two emails by Judy Pickens on 11-11-14

Observers at Fauntleroy Creek recorded 19 adult coho salmon between October 25 and 31, 2014. All coho were vigorous fish (averaging approximately 5 lbs.), and one male was the largest they have recorded (7-8 lbs.). The 11 volunteers recorded several solitary females. Spawning behavior was therefore limited to two or possibly three sites.

The watch site at Fauntleroy Creek had 190 visitors during the season, including "open creek" hours Saturday and Sunday afternoons.