2013 Volunteer Salmon Watcher Program Annual Report

Lake Washington Watershed and other Puget Sound Streams

June 2014

King County

Department of Natural Resources and Parks
Water and Land Resources Division
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2013 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 2013 spawning season.

For the 2013 program, 107 volunteers surveyed 99 sites on 41 streams from August 27, 2013, to January 22, 2014. Surveyed streams were located throughout the Lake Washington Watershed and other streams and tributaries in Central Puget Sound. 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 research staff. Data in this report indicate the minimum area where fish distributions extend in 2013. Over the many years of the program, these data collectively provide substantial documentation about fish distributions. The 2013 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.

This report describes the program methods, participation, and results. During the 2013 season, volunteers observed the following species: Chinook, sockeye, kokanee, coho, pink, and chum salmon, as well as unspecified trout. The following results were compiled from volunteer observations: (1) sockeye were seen in the greatest numbers (7,208, or 84 percent of all fish observed) and were seen in 5 out of 8 Lake Washington basins watched in 2013; (2) Chinook were seen in 6 Lake Washington Watershed basins; (3) coho were seen in 5 Lake Washington basins and 1 catchment draining to Puget Sound; (4)kokanee were seen in 2 Lake Washington basins; (5) chum were reported in 1 stream (Venema Creek) draining to Puget Sound; and (6) 2 pink salmon were reported in the Cedar River. In 2013, Chinook and sockeye salmon were observed for the first time in Maplewood and Paterson creeks. Chinook salmon were also observed further upstream in Coal Creek than ever before.

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.

Acknowledgements

Many thanks to all the dedicated volunteers for spending many hours in what is often cold and wet weather to collect the information for this report—some for the fourteenth 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 that support and participate in the program and their dedicated staff. 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. Thanks (in no particular order) to Laurie Devereaux, Debra Crawford, Peter Holte, Janet Geer, Gary Fink, Betsy Adams, Micah Bonkowski, Bill Malatinsky, Kollin Higgins, Lisa McCrink, Wendy Collins, and Karren Gratt. 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 the King County Flood Control District Cooperative Watershed Management Grant, which provided much of the funding 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 2013 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 2013 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 Pipers 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 sessions, 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 personnel, 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. In 2013 for the first time, residents were encouraged to attend a training even if they did not record data. Further, interactions with agency personnel foster positive relationships between the public and government agencies.

In addition to summaries of fish observed during the fall season, this 2013 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 2013 Salmon Watcher Program**

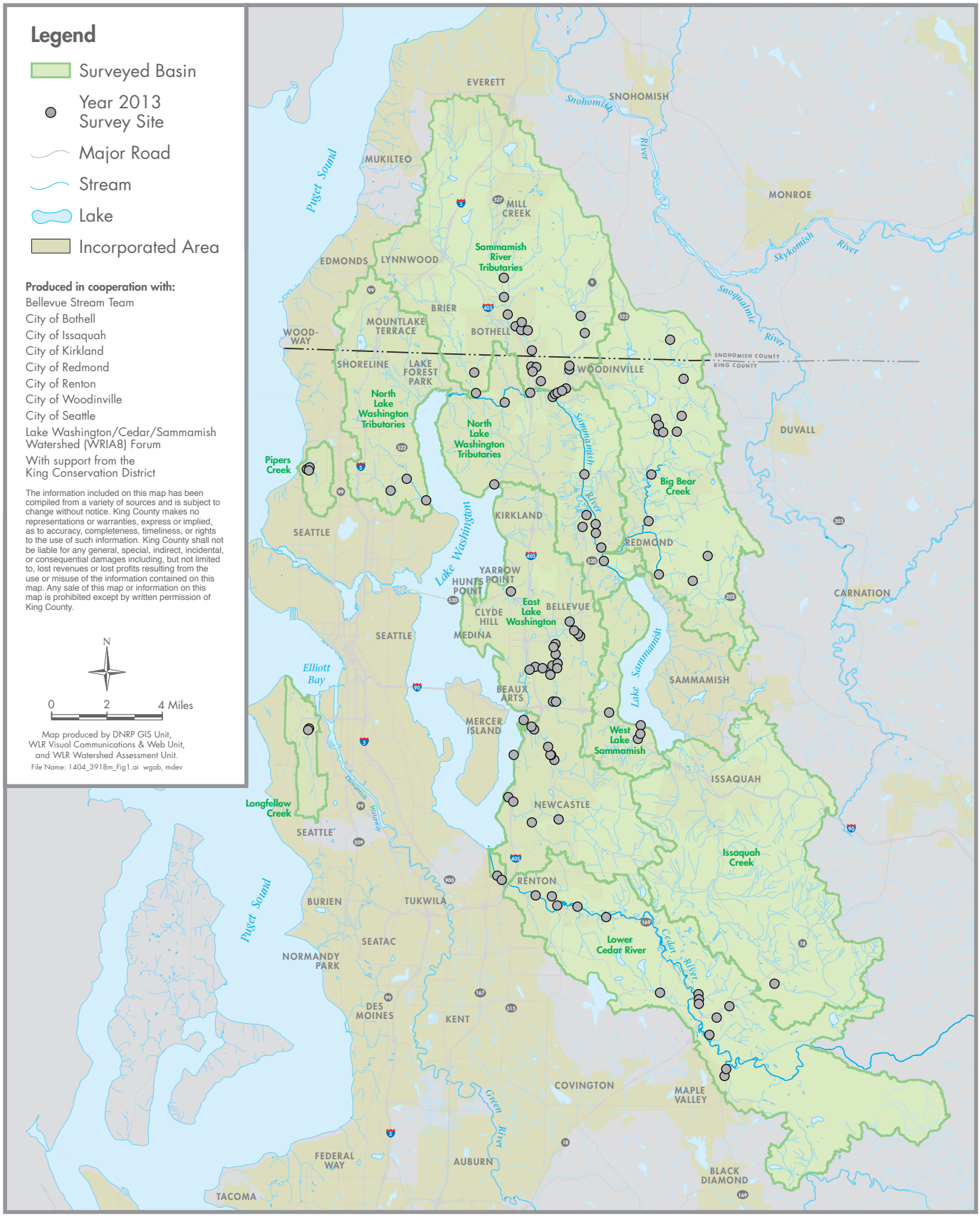


Figure 1

BASINS AND SITES SURVEYED FOR THE 2013 SALMON WATCHER PROGRAM

2013 Volunteer Salmon Watcher Program

King County
Department of Natural Resources and Parks

Methods

Program partners recruited volunteers during late summer and early fall of 2013 to observe fish in streams throughout the Lake Washington Watershed[1] 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. The 99 volunteers who turned in data in 2013 are listed in Table 1 (totals: 99 individuals, pairs, or groups totaling 110 people).

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

Ann Aagaard	Charles Johnson	Gary Pilawski
Kim & Ed Adelson	Jeremy Jones	Katherine Quinn-Dumovic
Staci Adman	Colin Kelly	Kelly Rau
Russ Atkins	Pam Kelly	Cindy Reed
David Bain	Bob Klee	David L. Reitz
Danielle Bannier	Janusz Komorowski	Larry Reymann
Cathleen Barry	Barbara Koran	David Richardson
Judy Beaudette	David Korthals	Helen Romao
Cindy Blankenbaker	Tommy Kraft	Shirley & Isaac Rowe
Richard Brashen	Kayla Schick & Brian Krauss	Kathleen Ryan
Janet Broadus	Hope and Scott Lackey	Kelly Ryan
Arlene & Jarred Bruce	John Laible	Ed Schein
Chuck Dolan	Ronan Larrivee	Bernice Schick
Amelia Dumovic	Jim Laughlin	Patty & Dave Shelton
Lonna Dunstone	Andrew Lawrence	John & Peggy Sherman
Harry Dursch	Shawna Lee	Neil and Tim Skilton
Willie Elliot	Ken Mackey	Eric Soshea
Gary Emerson	Theresa Marshall	Wendy Streble
Mary Farley	Maria and Steve Matthews	Mike Stults
Kelly Fine	John McAlpine	Krys Tierney
Jo Ann Fjellman	Connie McCleery	Kay Tokuda
Adrienne Fox	Heather McCrone	Gary Tribble
Hon Cheung Fung	Jim McRoberts	Terry Trimingham
Laurie Gogic	Jeff Mendenhall	Sheila Verschaeve
Jill Golden	Dave Mickelson	Mary Vincent
Doug Greaves	Dana Miller	CJ Vozobule
Ron Green	Kelly & Megan Miller	Nancy Weisel
Rick Grossman	Mary Alice Moran	Andy Wickens
Jeanne Hannah	Kelii Moreau	George Willard
Danyelle Harp	Greta Nelson	Karen Winter
Katie Hart	Yoshiko Otonari	Ramalee and Lucas Wulf
Cameron Haslam	Tammy Parise	Jon Aaron Yurchak
Bev Jennings	Betty Peltzer	Margaret Ziviski

[1] 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 in 2013 plus an additional 2 trainings held specifically for smaller groups at local colleges. Approximately 122 people (12 more than would later turn in data) attended a training session. Of those 122, 50 were returning volunteers from prior seasons. Returning volunteers are not required to attend a training session every year; however, they are encouraged to attend every other year. New in 2013, watershed residents were encouraged to attend a training even if they did not intend to turn in data.

During training sessions, all volunteers were taught to identify adult spawning salmon species with a slide presentation, which was placed on King County's web site so volunteers could review it any time. During the training sessions, most attendees signed up to volunteer to watch at one or more sites. Everyone was given salmon identification materials, including color adult salmon identification cards and spawner timing charts. Everyone was taught how to fill out data forms, although for the first time in 2013, all volunteers were encouraged to turn in their data via online data entry.

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 the landowners to enter private property or the survey location was on their own property. Figure 1 shows all the sites watched by volunteers during the 2013 fall spawning season.

Data Collection

Volunteers conducted surveys between August 27, 2013, and January 22, 2014, though most surveys began in September and were concluded in November or December (Table 2). Volunteers were asked to 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).

Table 2. Number of surveys per month during 2013 Salmon Watcher season.

Month	Number of Surveys
August	8
September	337
October	957
November	767
December	311
January	13

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 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 also reported if they could tell 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. All data were recorded onto field data forms (Appendix A), which were mailed to Salmon Watcher staff on a monthly basis.

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

Quality Assurance/Quality Control

First, we take a lot of steps to make sure the fish IDs are correct. These steps include…. Second, we take steps to make sure that the data entry is correct. These steps include….

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 first time, 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 a count of a certain species has never been as high at that site in that month in previous years. These and other checks were built into the database software to increase accuracy of input data.

Because of the limitations of data collected without the use of a rigorous scientific protocol (see Data Limitations, page 7), these data are intended to be used only to make preliminary evaluations of the distribution of spawning salmonids in the observed Lake Washington Watershed and Puget Sound streams.

Results and Discussion

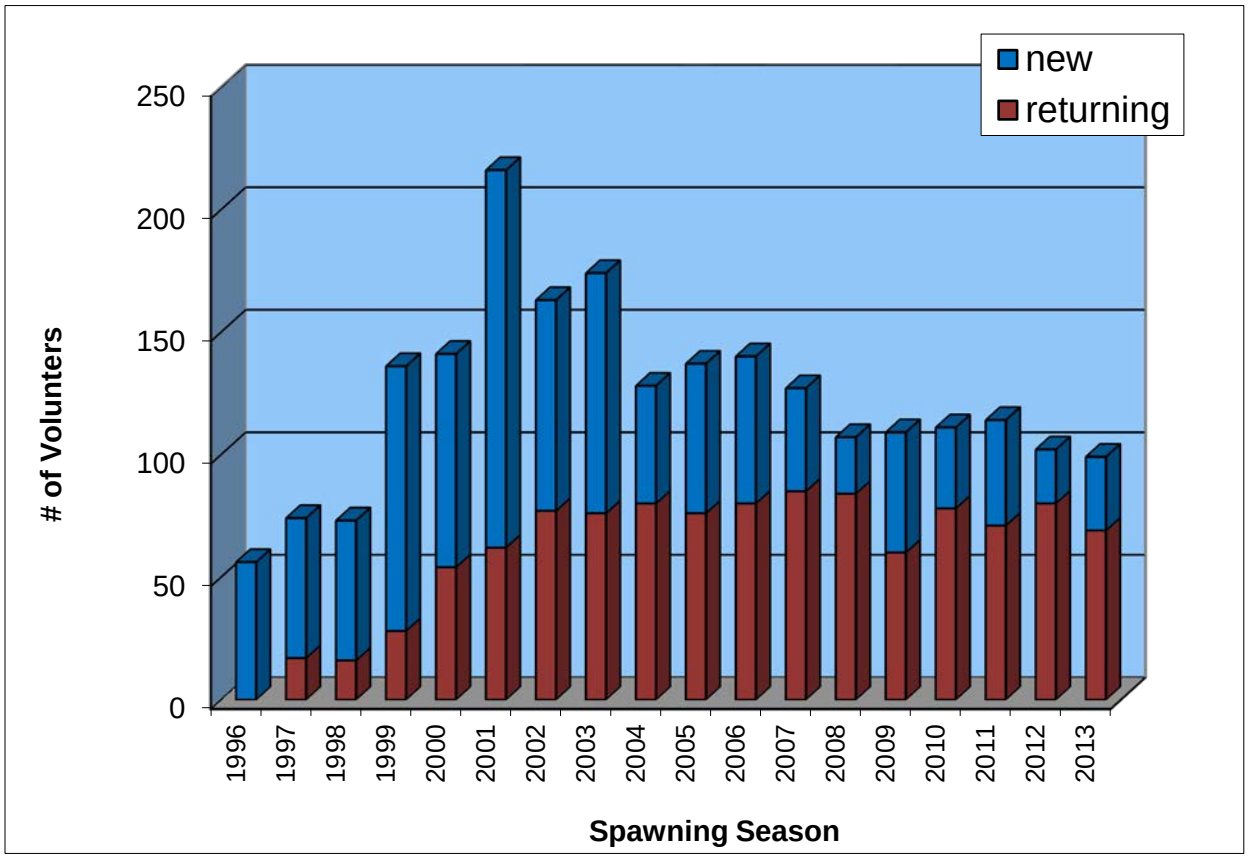
In 2013, a total of 107 sites on 41 streams were surveyed by 99 volunteer "units" (individuals, pairs, or groups) (Table 3).

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

Area	# sites	# streams	# volunteers
Lake Washington Watershed	102	38	94
Puget Sound Streams	5	3	5
Total	107	41	99

In 2013, 69 out of 99 volunteer units (70 percent) participating in the program area were returnees (Figure 2). Of the 69 returnees, 2 have surveyed every year since the program began in 1996.

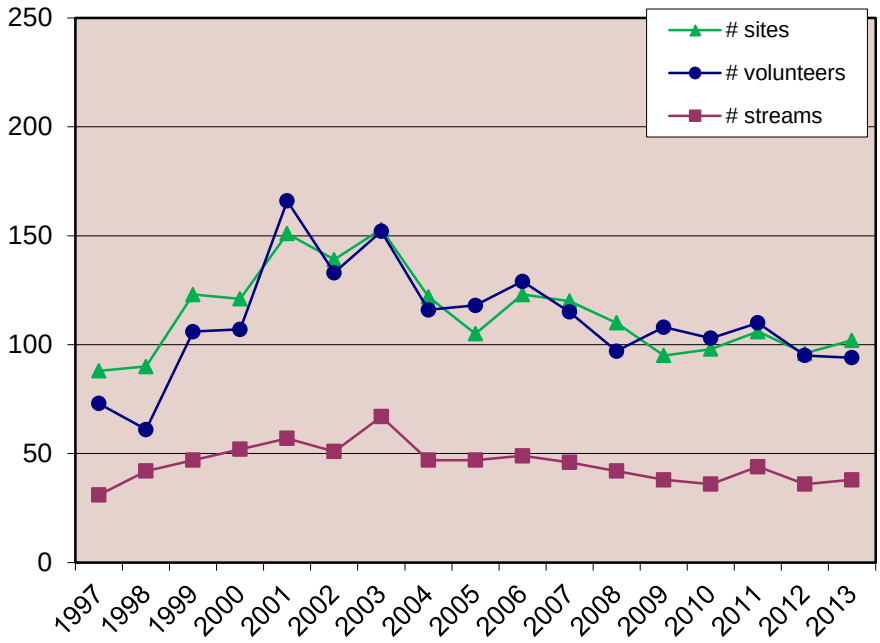
Figure 2. Total number of new and returning volunteers for each year of the Salmon Watcher Program.



Volunteer Activity

The trend in the number of volunteers participating in the Salmon Watcher Program has varied over the 18 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 volunteer watching at it. Numbers of volunteers participating and numbers of sites and streams watched has shown a very slight decrease beginning in 2004 after peaking in the early 2000s. In 2013 more people attended trainings than in recent years (attendance statistics have not been uniformly recorded over the years of the program), but as discussed earlier, watershed residents were encouraged to attend a training even if they did not turn in data. Further, several volunteers watched sites but failed to use the online data entry portal or mail in datasheets, and therefore their data were not entered into the database, and they were subsequently not counted as active volunteers.

Figure 3. Number of sites, streams, and volunteer "units" (individuals, pairs, or groups) in the Lake Washington Watershed from 1997[2] to 2013.



Contact with Residents

Volunteers were asked to keep track of how many people they came into contact with during their time by the streams. Salmon Watcher volunteers spoke with at least 529 people during the 2013 spawning season. Table 4 details the numbers of people who interacted with volunteers.

[2] See previous Salmon Watcher annual reports for details on yearly participation.

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
18	107	168	1	1	47	116	71	529

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 694.4 hours were recorded as spent streamside by volunteers during the 2013 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
44.7	170.2	206.9	14	6.5	73.3	134.5	24.7	649.4

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 9 years at well over 60 percent.) 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 2013, 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 previous reports (e.g., King County 2004).

Fish Observation Summaries

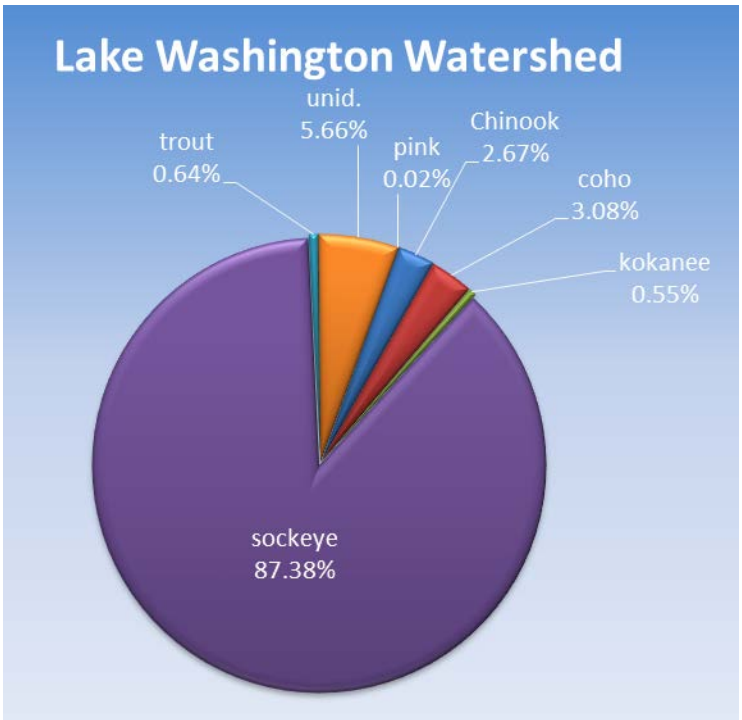
Salmon Watcher Program volunteers recorded observations of all salmonid fish located during their stationary surveys, including Chinook, coho, and sockeye salmon, kokanee, and trout (which may have been cutthroat or rainbow trout).

Of the 41 total streams surveyed in 2013, sockeye were found in 15 streams, coho were found in 13 streams, Chinook in 13 streams, kokanee were reported in 5 streams, chum were observed in 1 stream, and trout were reported in 7 streams. Eighteen streams had no adult salmonids reported.

If a volunteer was unable to positively identify what species a fish was, the fish was tallied as "unidentified" (reporting a fish as unidentified was preferable to misidentifying a species). Of the 8,546 total adult fish observed in the Lake Washington Watershed, other WRIA 8 streams, and other streams draining to Puget Sound in 2013, 467 were tallied as unidentified (5.5 percent). For more information, see the section called "Unidentified Species" below.

The percentages of all fish observed in the Lake Washington Watershed (8,249 including unidentified fish), is depicted in Figure 4. Sockeye was by far the most abundant species counted by volunteers in the Lake Washington Watershed.

Figure 4. Percentage of total fish observed in 2013 by volunteers in the Lake Washington Watershed.



Chinook Salmon

Chinook were observed in 6 of the 8 Lake Washington basins observed during the 2013 surveys (Figure 5). A total of 206 live fish and 14 carcasses were found in 13 streams throughout the Lake Washington Watershed. Streams in which Chinook were reported include (in order of most to least fish seen): Sammamish River (79), Carey Creek (53), Cottage Lake Creek (33), Taylor Creek (17), Kelsey Creek (8), Richards Creek (7), Peters Creek (6), Maplewood Creek (5), Coal Creek (4), North Creek (4), Cedar River (2), May Creek (1), and Peterson Creek (1).

The Chinook salmon reported in both Maplewood and Peterson creeks marked the first time Chinook had been observed by Salmon Watcher volunteers in those creeks. Chinook were also reported further upstream in Coal Creek than ever before by a volunteer (RM 2.1, which is upstream of the "silt pond").

Figure 5. **Distribution of Chinook salmon in the program area based on Salmon Watcher observations.**

Sockeye Salmon

Sockeye were the most numerous fish counted by volunteers. Sockeye were observed in 5 Lake Washington basins (Figure 6). A total of 6,305 live fish and 798 carcasses were observed in 15 streams (in order of most to least fish seen): Cedar River (6388), Taylor Creek (663), Little Bear Creek (514), North Creek (205), Cedar River Side Channel at Dorre Don (142), Sammamish River (35), May Creek (33), Big Bear Creek (16), Maplewood Creek (16), Cottage Lake Creek (9), Peterson Creek (7), Lake Washington Beach (4), Coal Creek (2), Mercer Slough (1), and Swamp Creek (1).

The sockeye salmon reported in both Maplewood and Peterson creeks marked the first time sockeye had been observed by Salmon Watcher volunteers in those creeks.

Figure 6. **Distribution of sockeye salmon in the program area based on Salmon Watcher observations.**

Coho Salmon

Coho were observed in 5 Lake Washington Watershed basins plus 1 catchment draining to Puget Sound (Figure 7). A total of 179 live coho and 117 carcasses were reported in 12 streams in the Lake Washington Watershed and 1 stream that drains to Puget Sound (in order of most to least fish seen): Kelsey Creek (144), West Trib. Kelsey Creek (43), Longfellow Creek (42), Taylor Creek (19), Cedar River (16), North Creek (9), Peterson Creek (6), Little Bear Creek (4), May Creek (4), Cedar River Side Channel at Dorre Don (3), Coal Creek (2), Cottage Lake Creek (2), and Sammamish River (2).

Figure 7. **Distribution of coho salmon in the program area based on Salmon Watcher observations.**

Kokanee

Kokanee were observed in 2 Lake Washington Watershed basins (Figure 8). A total of 45 live fish were counted in 5 streams: Little Bear Creek (29), Cedar River (10), North Creek (4), Lewis Creek (1), and May Creek (1).

Figure 8. **Distribution of kokanee in the program area based on Salmon Watcher observations.**

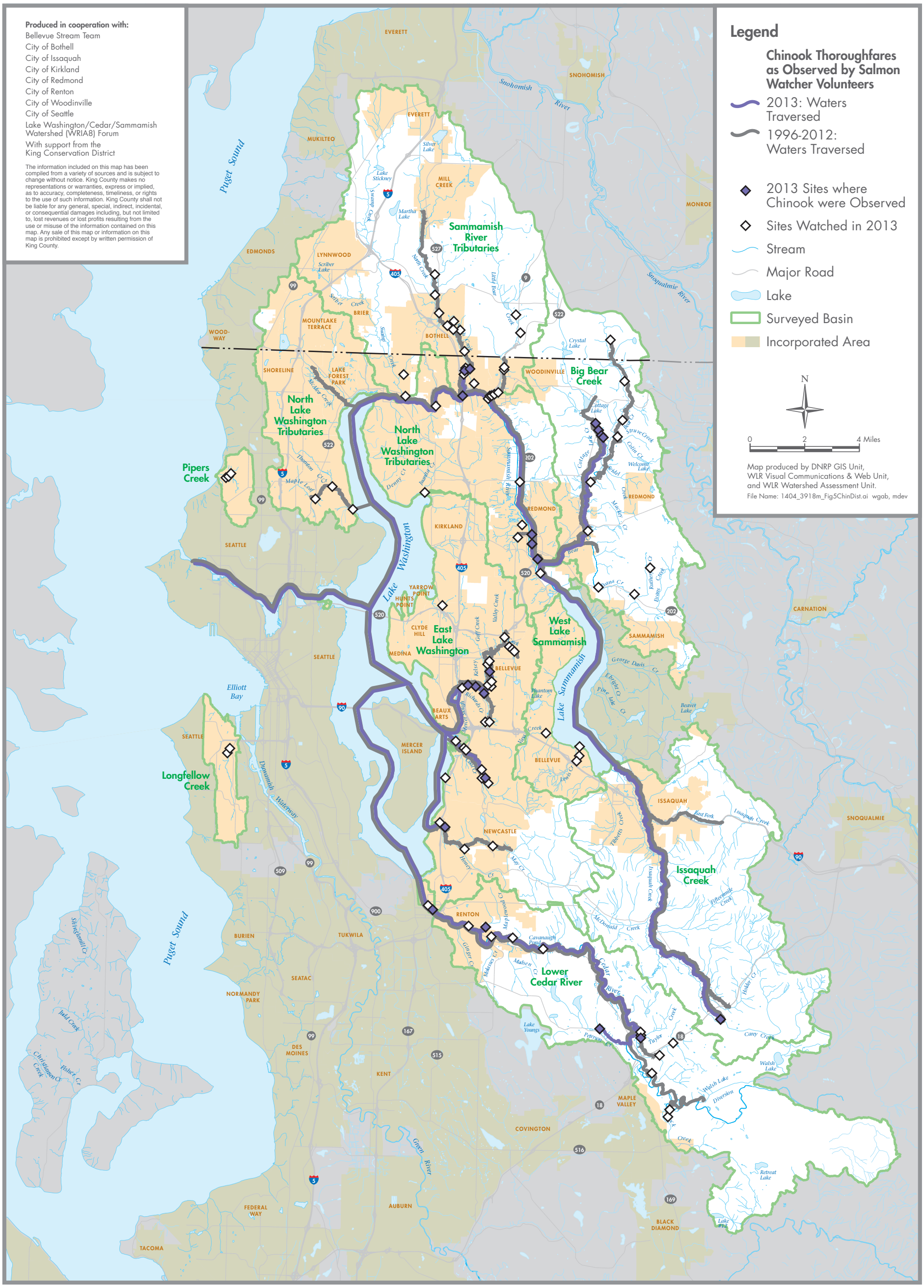


Figure 5

DISTRIBUTION OF CHINOOK SALMON BASED ON SALMON WATCHER OBSERVATIONS

2013 Volunteer Salmon Watcher Program

King County
Department of Natural Resources and Parks

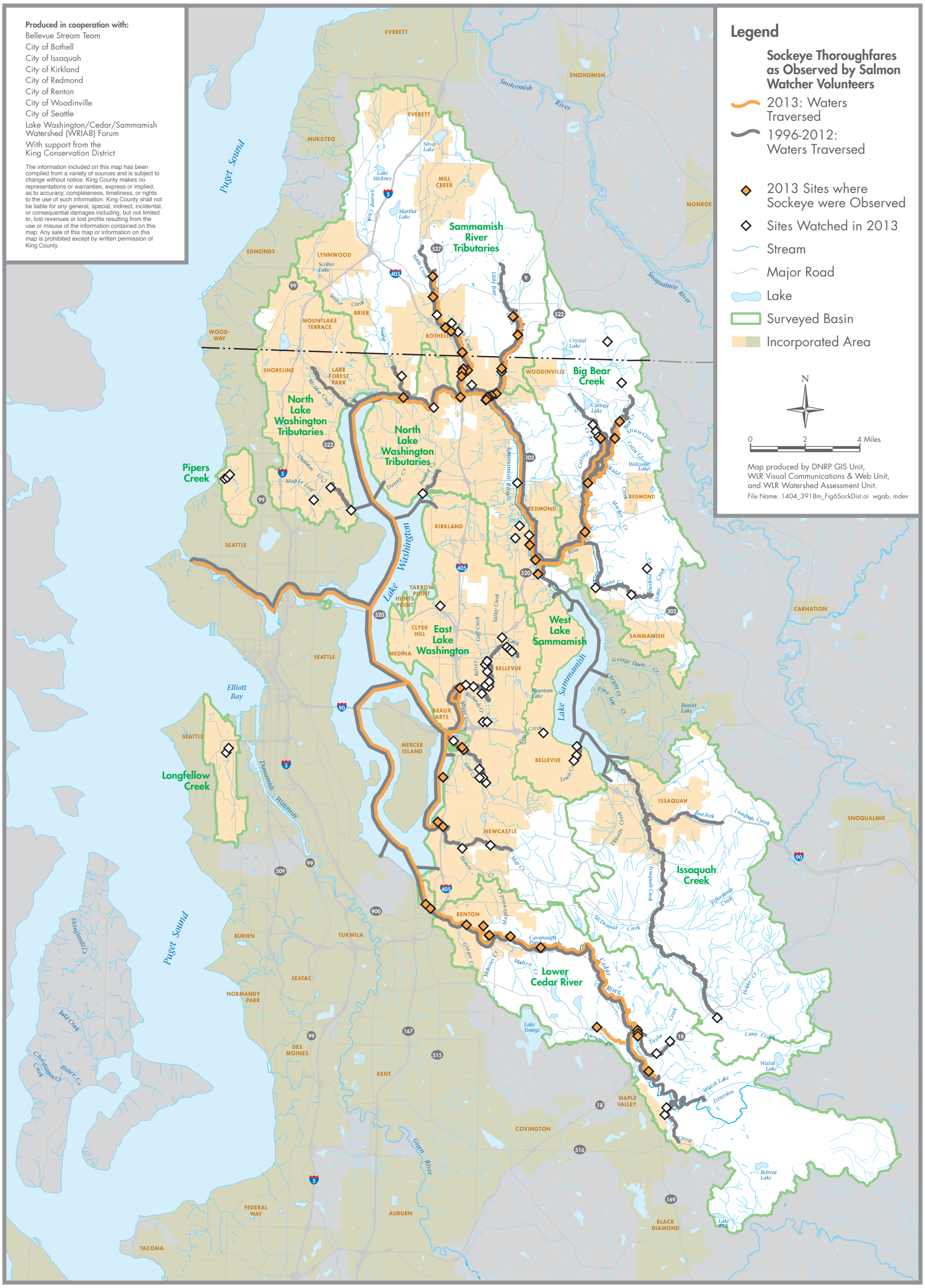


Figure 6

DISTRIBUTION OF SOCKEYE SALMON BASED ON SALMON WATCHER OBSERVATIONS

2013 Volunteer Salmon Watcher Program

King County
Department of Natural Resources and Parks

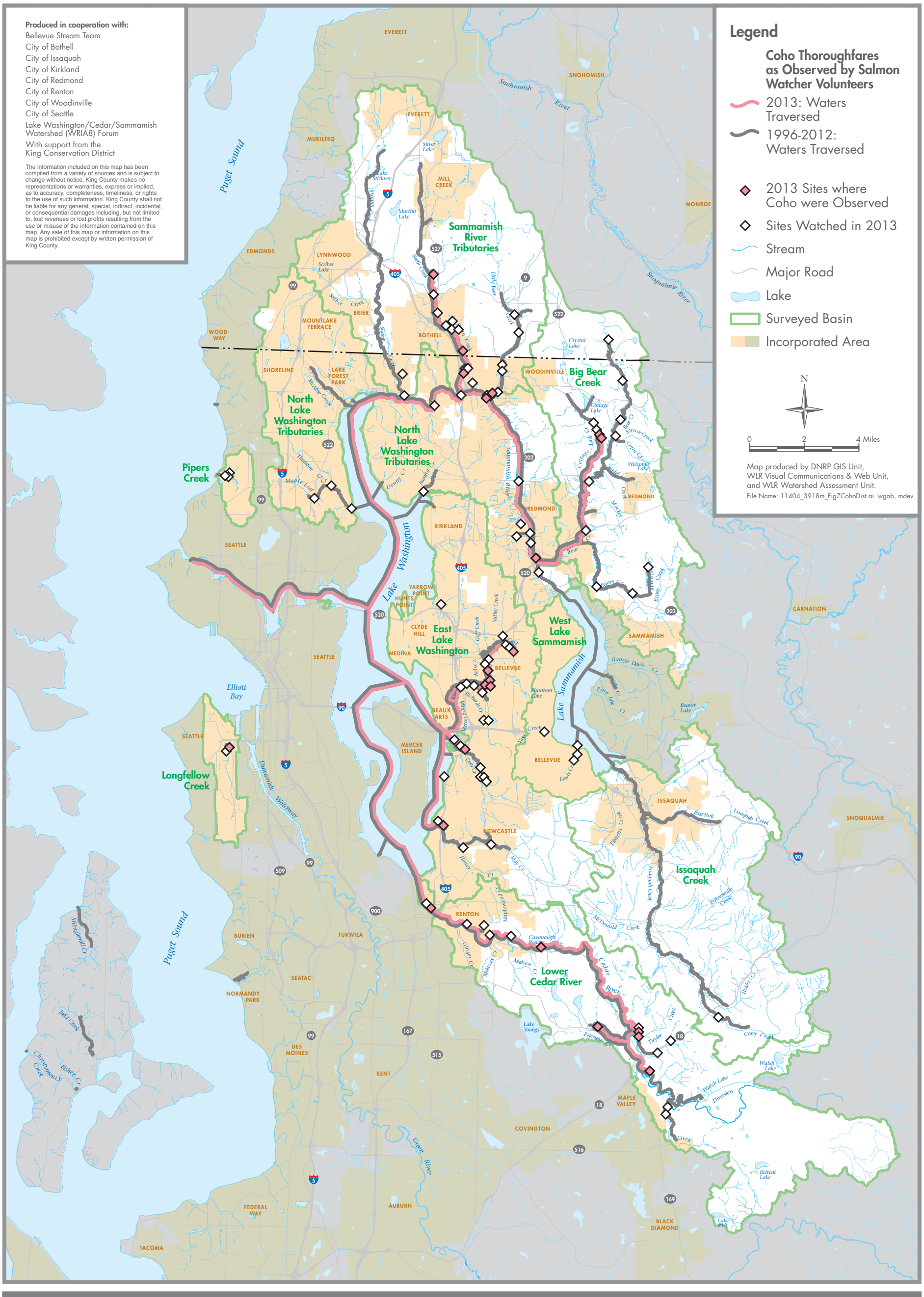


Figure 7

DISTRIBUTION OF COHO SALMON BASED ON SALMON WATCHER OBSERVATIONS

2013 Volunteer Salmon Watcher Program

King County
Department of Natural Resources and Parks

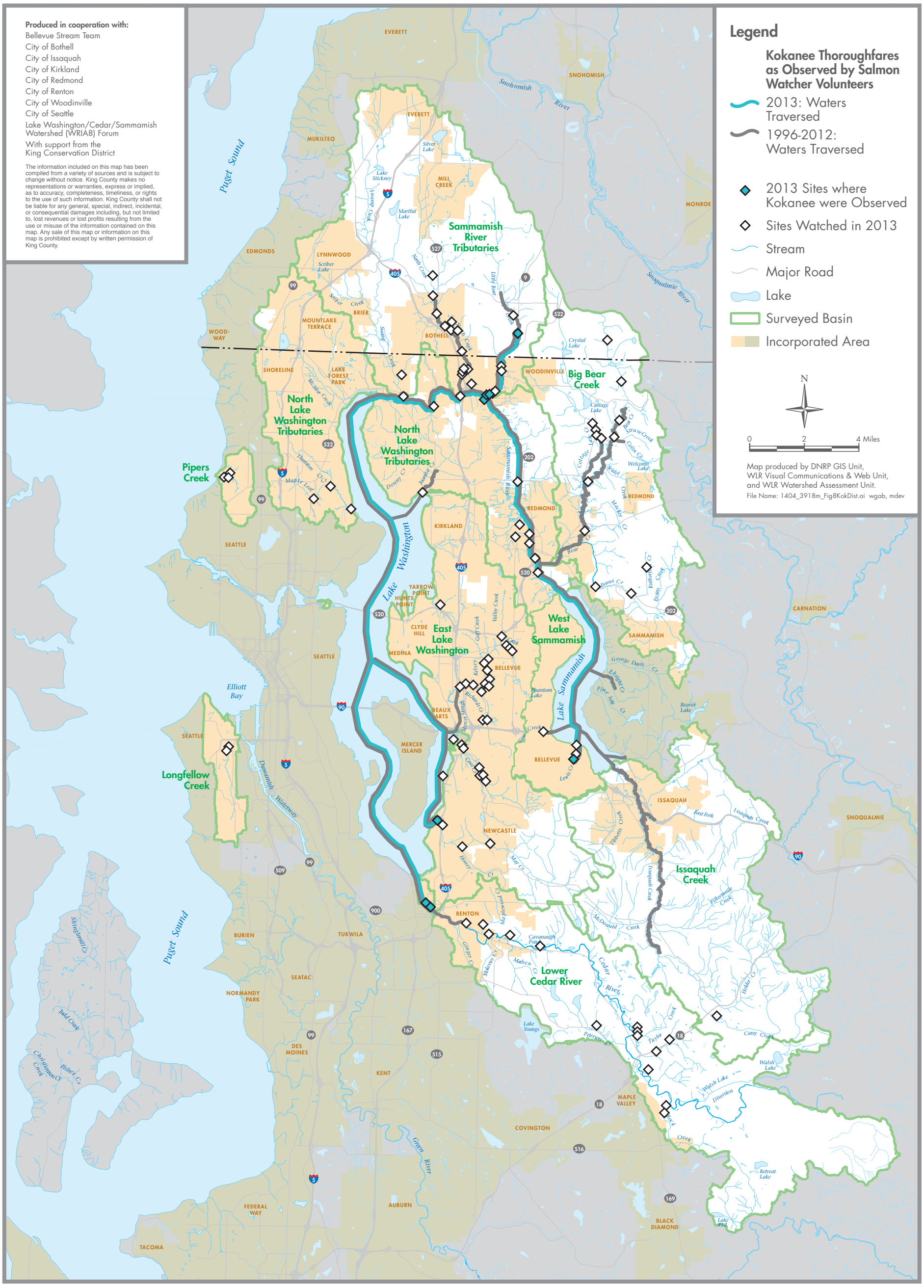


Figure 8

DISTRIBUTION OF KOKANEE SALMON BASED ON SALMON WATCHER OBSERVATIONS

2013 Volunteer Salmon Watcher Program

King County
Department of Natural Resources and Parks

Chum

A total of 65 live chum and 190 carcasses were counted in Venema Creek (255 total). Chum were observed in no other streams.

Pink

Two dead pink salmon were reported (but unconfirmed) in the Cedar River. As pink salmon are present in Puget Sound in odd-numbered years, it is very possible these pink salmon were strays into the Cedar River. Pink salmon had never before been reported by Salmon Watcher volunteers in the Cedar River.

Unidentified Species

Fish of unidentified species (289 live fish and 178 carcasses) were observed in 15 streams in 5 basins in the Lake Washington Watershed. Streams in which fish of unidentified species were reported include (in order of most to least fish seen): Cedar River (233), Sammamish River (135), Taylor Creek (23), North Creek (22), Cedar River Side Channel at Dorre Don (10), Kelsey Creek (8), Mercer Slough (8), Peterson Creek (8), Little Bear Creek (5), Peters Creek (4), Big Bear Creek (3), Richards Creek (3), Cottage Lake Creek (2), West Trib. Kelsey Creek (2), and May Creek (1).

The number of fish that went unidentified was approximately 5.5 percent of fish reported.

Trout

Fifty-three live trout (48 live fish and 5 carcasses, which were not identified to species) were reported in 7 creeks in the Lake Washington Watershed in 2013. Streams in which trout were reported include (in order of most to least fish seen): Little Bear Creek (26), North Creek (11), Cedar River (6), Kelsey Creek (6), Richards Creek (2), Big Bear Creek (1), and May Creek (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. Volunteers were instructed to focus on species identification first and foremost and only try to report on adipose fin clips when possible. Historically, most volunteers have not filled in this column, or sometimes they noted they could not tell. Generally, water clarity must be excellent and the fish must be close and somewhat still in order to determine the presence of an adipose fin on a live fish. In 2013, 77 total fin clips were reported, and the vast majority were from Chinook salmon (Table 6).

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

Stream	Chinook	Coho	Unid.
May Creek		1	
North Creek	1		
Cottage Lake Creek	15		
Carey Creek	49		
Mercer Slough			5
West Trib. Kelsey Creek		6	

In some years, certain species of salmon are tagged (usually near the base of the dorsal fin) for scientific research when they enter the Ballard Locks. Fish tagged elsewhere may stray into the Lake Washington Watershed. It is also possible a fish was tagged when straying, then it returned to its birth stream in the Lake Washington Watershed. Volunteers are asked to record when they see tagged fish, and they are asked to notify a staff member. In 2013, however, no fish were tagged at the Locks. No fish with tags were reported by volunteers.

Volunteers made note of small resident fish, fry, and juvenile fish in a total of 17 streams (Big Bear Creek, Cedar River, Coal Creek, Cottage Lake Creek, Evans Creek, Kelsey Creek, Little Bear Creek, Little Swamp Creek, May Creek, North Creek, Peters Creek, Richards Creek, Sammamish River, South Fork Thornton Creek, Vasa Creek, Venema Creek, West Trib. Kelsey Creek, and Willow Creek).

Basin Summary

For the 2013 spawning season, Sockeye were reported in the largest numbers in the Cedar River Basin followed by the Sammamish River Tributaries (Table 7). Chinook were reported in the greatest numbers in the North Lake Washington Tributaries. Chinook salmon were also reported in the greatest number of Lake Washington basins (6). Kokanee were seen in 2 basins. Notable in 2013 were the 2 pink salmon reported in the Cedar River Basin.

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

Basin	Chinook	Chum	Coho	Kokanee	Sockeye	Pink	Trout	Unid.*	Basin Total
Big Bear Creek	33	0	2	0	25	0	1	5	66
Cedar River	25	0	44	10	6388	2	6	274	6749
East Lake Washington	20	0	193	1	40	0	9	22	285
Issaquah Creek	53	0	0	0	0	0	0	0	53
North Lake Washington Tribs.	85	0	2	0	35	0	0	139	261
Samm. River Tribs.	4	0	13	33	720	0	37	27	834
West Lake Sammamish	0	0	0	1	0	0	0	0	1
Central Puget Sound - WRIA 9	0	0	42	0	0	0	0	0	42
Middle Puget Sound - WRIA 8	0	255	0	0	0	0	0	0	255
Species Total	220	255	296	45	7208	2	53	467	8546

*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 2013.

Big Bear Creek Basin

Volunteers surveyed 13 sites in 4 streams in the Big Bear Creek Basin in 2013 (Figure 1). From 1 to 6 sites were watched per stream, and the number of surveys ranged from 1 to 29 per site (Table 8). All sites were monitored by 1 volunteer except site 101, which was 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[3], and years the sites were watched for each stream surveyed in the Big Bear Creek Basin relevant to the 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Big Bear Creek	080105	65	2.7	9/13 - 11/27	17	1	1997-2000, 2002-2013
		101	4.9	9/29 - 12/21	18	2	1997-2010, 2012-2013
		136	7.4	9/30 - 10/15	3	1	1998-2013
		503	7.85	10/4 - 12/28	29	1	2002, 2004-2007, 2009-2013
		106	10	9/20	1	1	1998, 2006-2008, 2010-2011, 2013
		466	11.6	9/16	1	1	2001, 2006-2008, 2010-2011, 2013
Cottage Lake Cr.	080122	660	2.2	9/26 - 12/17	10	1	2011-2013
		644	2.4	9/19 - 12/4	21	1	2009-2010, 2012-2013
		50	2.5	9/25 - 12/18	16	1	1997, 1999-2013
		395	2.9	10/11	1	1	2002-2003, 2008-2011, 2013
Evans Creek	080106	580	2.3	9/16 - 11/28	9	1	2013
		294	3.6	9/16 - 12/4	13	1	1997, 2013
Rutherford Creek	080110	462	0.45	9/26 - 12/4	10	1	2003-2006, 2013

Salmonids were found in two of the four streams observed in Big Bear Creek Basin: Bear Creek and Cottage Lake Creek (Table 9). Sockeye and unidentified species were seen in both creeks. Chinook and coho were seen in only Cottage Lake. No fish were reported in Evans or Rutherford creeks.

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 2013 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unid.
Big Bear Creek	65	2.7	-	-	1 (10/27)	-
	101*	4.9	-	-	10 (10/2 - 10/30)	1 (11/24)
	136	7.4	-	-	4 (9/30 - 10/15)	1 (10/15)
	503	7.85	-	-	1 (10/14)	1 (10/25)
	106	10	-	-	-	-
	466	11.6	-	-	-	-
Cottage Lake Cr.	660	2.2	10 (9/26 - 10/20)	1 (10/16)	9 (10/9 - 10/16)	1 (10/20)
	644	2.4	17 (9/26 - 10/9)	-	-	1 (12/4)
	50	2.5	4 (9/25 - 9/29)	1 (10/2)	-	-
	395	2.9	2 (10/11)	-	-	-
Evans Creek	580	2.3	-	-	-	-
	294	3.6	-	-	-	-
Rutherford Creek	462	0.45	-	-	-	-

*One trout reported at this site.

[3] "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 16 sites in 5 streams/river in the Cedar River Basin in 2013 (Figure 1). From 1 to 7 sites were watched per stream, and the total number of surveys ranged from 4 to 99 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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Cedar River	080299	199	1	8/27 - 11/22	25	2	1999, 2006, 2009-2013
		201	1.3	9/4 - 12/18	32	1	2001, 2005, 2007-2009, 2013
		205	2.9	9/25 - 11/22	9	2	1999, 2001, 2005-2008, 2011-2013
		206	4.3	8/31 - 11/30	19	1	1999, 2001-2002, 2009-2010, 2013
		207	5.3	8/29 - 12/4	22	1	1999-2003, 2005-2007, 2011-2013
(Cavanaugh Pond)		139	6.4	10/13 - 12/26	22	2	1997-2013
C.R. Side Channel		557	0.15	8/29 - 12/13	24	1	2003, 2005-2013
Maplewood Creek	-	593	0.4	9/3 - 10/6	4	1	2005, 2013
Peterson Creek	080328	25	1.5	9/3 - 12/14	26	1	2000, 2002, 2011-2013
Rock Creek	080338	410	0.19	10/8 - 12/20	74	1	2001-2013
		154	0.4	10/8 - 12/17	18	1	1999-2010, 2012-2013
Taylor Creek	080320	588	0.37	8/29 - 12/20	99	2	2004-2013
		596	0.5	10/8 - 12/20	73	1	2004-2013
		655	0.6	8/29 - 12/20	99	2	2010-2013
		71	1.8	10/8 - 12/17	18	1	1998-2010, 2012-2013
		126	2.4	10/8 - 12/17	18	1	1998, 2001-2010, 2012-2013

Chinook were observed in four of the five streams observed in the Cedar River basin: Cedar River and Maplewood, Peterson, and Taylor creeks (Table 11). Sockeye (and unidentified species) were also reported in every stream except Rock Creek. Coho were observed in the Cedar River, Taylor Creek, and in Peterson Creek. Additionally, two dead pink salmon were reported (but unconfirmed by professional staff) in the Cedar River. As pink salmon are present in Puget Sound in odd-numbered years, it is possible these pink salmon were strays into the Cedar River. No fish were seen in Rock Creek.

Chinook and sockeye salmon were reported in both Maplewood and Peterson creeks for the first time by Salmon Watcher volunteers. Pink salmon had never before been reported by Salmon Watcher volunteers in the Cedar River.

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 2013 spawning season.

Stream	Site ID	RM	Chinook	Coho	Kokanee	Pink	Sockeye	Unid.
Cedar River	199*	1	-	-	10 (9/18)	-	784 (9/9 - 11/22)	24 (8/27 - 11/22)
	201*	1.3	2 (9/26 - 10/8)	15 (11/5 - 11/13)	-	2 (10/14 - 10/17)	869 (9/18 - 12/16)	72 (9/18 - 12/18)
	205	2.9	-	-	-	-	342 (9/25 - 11/22)	106 (9/25 - 11/22)
	206	4.3	-	-	-	-	998 (9/7 - 11/30)	-
	207*	5.3	-	-	-	-	721 (9/19 - 11/21)	25 (9/19 - 11/13)
(Cavanaugh Pond)	139	6.4	-	1 (11/11)	-	-	1846 (10 - 12/26)	6 (10/28)
C.R. Side Channel	557	0.15	-	3 (11/12)	-	-	142 (9/23 - 11/12)	10 (10/7 - 12/1)
Maplewood Creek	593	0.4	5 (10/6)	-	-	-	16 (10/6 - 10/6)	-
Peterson Creek	25	1.5	1 (10/14)	6 (11/8 - 12/2)	-	-	7 (9/29 - 10/19)	8 (9/29 - 10/14)
Rock Creek	410	0.19	-	-	-	-	-	-
	154	0.4	-	-	-	-	-	-
Taylor Creek	588	0.37	-	7 (11/4 - 11/22)	-	-	245 (9/30 - 12/8)	11 (10/29 - 12)
	596	0.5	-	-	-	-	183 (10/8 - 12/17)	-
	655	0.6	17 (9/23 - 10/12)	12 (11/4 - 12/1)	-	-	235 (9/30 - 12/3)	12 (10/12 - 12/3)
	71	1.8	-	-	-	-	-	-
	126	2.4	-	-	-	-	-	-

*Trout reported at these sites.

East Lake Washington Basin

Volunteers surveyed 30 sites in 11 streams and one beach site in the East Lake Washington Basin in 2013 (Figure 1). From 1 to 9 sites were watched per stream, and the total number of surveys ranged from 2 to 90 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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Coal Creek	080268	440	0.1	9/14 - 12/31	30	2	2001-2004, 2008, 2013
		675	0.2	10/3 - 12/31	18	1	2013
		672	0.5	9/14 - 12/31	23	1	2013
		439	0.6	9/14 - 12/31	32	2	2001-2005, 2008, 2013
		443	1.7	9/21 - 10/12	3	1	2001, 2011-2013
		441	2	10/15 - 11/1	2	1	2001-2008, 2010-2013
		442	2.1	10/15 - 11/1	2	1	2001-2013
Trib. to Coal Creek	080273	212	0.1	9/25 - 10/11	4	2	1999, 2002-2004, 2006, 2009, 2012-2013
Cochran Springs Creek	-	197	0.15	9/18 - 12/8	18	1	2000, 2005-2006, 2008, 2013
Honey Creek	080285	295	0.1	9/3 - 10/5	2	1	1997, 2009, 2013
Kelsey Creek	080259	13	2	9/11 - 1/22/14	53	4	1997-2013
		124	2.4	9/26 - 12/16	16	1	1997-2013
		657	2.8	9/21 - 12/15	35	2	2011-2013
		120	3	10/4 - 12/28	23	1	1997-2013
		115	3.5	10/1 - 12/2	29	1	1998, 2004, 2010, 2012-2013
		217	3.7	9/18 - 10/18	5	1	1999, 2010, 2013
		614	4.7	9/16 - 11/25	8	1	2006, 2012-2013
		586	4.9	10/3 - 12/9	26	1	2004-2013
		45	5	9/14 - 12/7	23	1	1997-2000, 2003, 2006-2013
Lake WA beach	080028	138	36.8	10/14 - 10/20	2	1	1997-1998, 2013
May Creek	080282	208	0.2	9/5 - 12/6	23	2	2001-2013
		432	0.5	9/5 - 12/6	20	1	2000, 2004-2013
		19	3	9/5 - 10/6	3	1	1999, 2001, 2013
Mercer Slough	080259	445	1.6	9/14 - 1/22/14	90	5	2001, 2003-2013
Richards Creek	080261	75	0.4	9/26 - 12/16	16	1	1998-2000, 2007-2013
		80	1.6	9/20 - 12/1	10	1	1998, 2002-2010, 2013
Sears Creek	-	48	0	9/18 - 12/8	17	1	2002-2004, 2006-2008, 2013
Sunset Creek	-	446	0.1	9/20 - 12/1	10	1	2009-2010, 2013
West Trib. Kelsey Cr.	080264	116	0.25	9/12 - 12/31	70	3	1998-1999, 2001-2013
		506	0.9	9/14 - 12/16	30	2	2002-2013

Salmonids were found in 7 of the 11 streams and the 1 beach site surveyed in 2013 (Table 13). Chinook and coho were reported in Coal, May, and Kelsey creeks. Chinook were also reported in Richards Creek, and coho were also observed in West Trib. Kelsey Creek. Sockeye were seen in Coal Creek, May Creek, and Mercer Slough, as well as the Lake Washington beach site. A single kokanee was reported in May Creek. No fish were observed in Cochran Springs Creek, Honey Creek, Sears Creek, Sunset Creek, or the tributary to Coal Creek.

Chinook were reported by Salmon Watcher volunteers further upstream in Coal Creek than ever before: they were seen at river mile 2.1, which is upstream of the "silt pond" and approximately 0.7 miles further upstream than prior observations.

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	Kokanee	Sockeye	Unidentified
Coal Creek	440	0.1	-	-	-	-	-
	675	0.2	-	-	-	-	-
	672	0.5	-	-	-	1 (11/9)	-
	439	0.6	-	2 (12/13)	-	1 (10/6)	-
	443	1.7	-	-	-	-	-
	441	2	-	-	-	-	-
	442	2.1	4 (10/15)	-	-	-	-
Trib. to Coal Creek	212	0.1	-	-	-	-	-
Cochran Springs Creek	197	0.15	-	-	-	-	-
Honey Creek	295	0.1	-	-	-	-	-
Kelsey Creek	13*	2	4 (9/23 - 9/30)	-	-	-	2 (12/23 - 1/3/2014)
	124	2.4	3 (9/29)	-	-	-	-
	657	2.8	-	34 (11/15 - 12/7)	-	-	6 (11/16 - 11/30)
	120	3	-	36 (11/15 - 12/28)	-	-	-
	115	3.5	1 (10/3)	73 (11/15 - 11/30)	-	-	-
	217	3.7	-	-	-	-	-
	614	4.7	-	-	-	-	-
	586	4.9	-	-	-	-	-
	45	5	-	1 (11/16)	-	-	-
Lake WA beach	138	36.8	-	-	-	4 (10/14 - 10/20)	-
May Creek	208*	0.2	-	-	1 (10/22)	25 (10/1 - 11/20)	1 (11/13)
	432	0.5	1 (11/11)	4 (10/26 - 11/15)	-	8 (10/22 - 11/15)	-
	19	3	-	-	-	-	-
Mercer Slough	445	1.6	-	-	-	1 (11/4)	8 (9/29 - 10/3)
Richards Creek	75*	0.4	7 (9/29 - 10/10)	-	-	-	3 (10/10 - 10/14)
	80	1.6	-	-	-	-	-
Sears Creek	48	0	-	-	-	-	-
Sunset Creek	446	0.1	-	-	-	-	-
West Trib.	116	0.25	-	43 (11/15 - 12/2)	-	-	2 (12/4)
Kelsey Cr.	506	0.9	-	-	-	-	-

*Trout reported at these sites.

Adult live coho spawners were released into Coal Creek and Kelsey Creek in late November (Table 14). A press release with additional information may be found on the City of Bellevue's website at http://www.bellevuewa.gov/salmon-released-in-streams.htm. A total of 193 coho were reported in East Lake Washington Basin in 2013, and it is likely that the big majority of these coho were from this spawner release: total number of coho in this basin from 2008 to 2012 were 19, 6, 1, 1, and 31, respectively.

Table 14. Adult coho spawners released into two East Lake Washington streams in November 2013.

Location	# coho	date
SW site 116 West Trib at Kelsey Creek Farm (car bridge)	100 (40 females)	11/13/13
SW site 657 Kelsey at Kelsey Creek Farm south	250 (112 females) 500 (235 females) 400 (183 females)	11/13/13 11/14/13 11/20/13
SW site # 656 Coal Creek at off-channel pond	742 (320 females)	11/21/13

Issaquah Creek Basin

Volunteers surveyed 1 site on Carey Creek in the Issaquah Creek Basin in 2013 (Figure 1). Two volunteers conducted a total of 19 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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Carey Creek	80218	635	1.7	9/1 - 10/15	19	2	2007-2013

Chinook were the only species observed in Carey Creek (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 2013 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye
Carey Creek	635	1.7	53 (9/30 – 10/13)	-	-

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 13 sites along 7 streams in 2013 (Figure 1). From 1 to 5 sites were watched per stream, and the total number of surveys ranged from 6 to 31 per site (Table 17). Sites were monitored by 1 or 2 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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Juanita Creek	080230	389	0	9/15 - 11/9	8	2	2000-2001, 2004-2007, 2011-2013
Peters Creek	080104	47	0	9/14 - 12/16	31	1	1997-1998, 2003, 2009-2013
		510	0.6	9/7 - 12/22	28	1	2011-2013
Sammamish River	080057	273	2.6	9/13 - 12/3	19	2	1999, 2003, 2011, 2013
		270	8.7	9/30 - 11/13	4	1	1999-2000, 2011, 2013
		454	11.4	9/13 - 10/27	16	1	2002-2003, 2011-2013
		42	11.5	9/26 - 11/20	17	1	1998, 2002-2003, 2009-2010, 2013
		271	12.5	9/23 - 11/26	10	1	1997, 1999, 2001-2004, 2007, 2009-2013
Trib. to Sammamish River		275	1.8	9/21 - 10/22	7	1	2009, 2012-2013
S. Fk. Thornton Cr.	080033	527	1.15	9/30 - 10/25	6	1	2002-2013
Thornton Creek	080030	183	0.1	10/8 - 12/12	20	1	1997, 2000-2013
		606	1.22	9/30 - 12/15	20	1	2010-2011, 2013
Willow Creek	080102	649	0.3	9/7 - 12/22	28	1	2010-2013

Salmonids were found in 2 of the 7 streams surveyed in the North Lake Washington Tributaries (Table 18). Chinook, coho, sockeye, and unidentified species were all observed in the Sammamish River. No salmonids were seen in Juanita Creek, Willow 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 2013 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unidentified
Juanita Creek	389	0	-	-	-	-
Peters Creek	47	0	6 (9/25 - 10/29)	-	-	4 (9/15 - 10/7)
	510	0.6	-	-	-	-
Sammamish River	273	2.6	-	-	-	7 (10/8 - 10/27)
	270	8.7	-	-	-	3 (10/18)
	454	11.4	78 (9/18 - 10/27)	-	23 (9/23 – 10/13)	104 (9/14 - 10/27)
	42	11.5	1 (10/2)	2 (10/13)	2 (11/2)	2 (10/5 - 10/24)
	271	12.5	-	-	10 (10/1)	19 (9/27 – 10/13)
Trib. to Samm. River	275	1.8	-	-	-	-
South Fk. Thornton Creek	527	1.15	-	-	-	-
Thornton Creek	183	0.1	-	-	-	-
	606	1.22	-	-	-	-
Willow Creek	649	0.3	-	-	-	-

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 25 sites on 6 Sammamish River tributaries in 2013 (Figure 1). The total number of surveys ranged from 3 to 81 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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Junco Creek	-	542	0.3	9/18 - 11/27	15	1	2007, 2011, 2013
Little Bear Creek	080080	114	0	9/14 - 12/4	50	4	1999, 2001-2002, 2005-2013
		640	0.1	10/9 - 11/5	5	1	2008, 2012-2013
		67	0.2	9/24 - 12/11	17	1	1997-1999, 2001-2009, 2012-2013
		175	0.3	8/28 - 11/13	9	1	1997, 2000, 2002, 2006-2011, 2013
		311	0.4	10/5 - 12/1	6	1	1997, 2001, 2004, 2010-2013
		312	1.5	9/25 - 10/31	8	1	1997, 2002-2003, 2010-2013
		176	1.6	9/22 - 10/1	3	1	1997, 2000-2007, 2009-2013
		231	3.2	10/8 - 10/14	7	1	1997, 1999-2000, 2002, 2004, 2006, 2012-2013
		674	4.4	10/25 - 10/25	1	1	2013
Little Swamp Cr.	080060	505	0.24	9/24 - 12/11	18	1	2002-2008, 2011-2013
North Creek	080070	438	0.01	9/18 - 12/8	17	1	2000, 2003-2004, 2006, 2008-2009, 2012-2013
		112	0.9	10/11 - 11/6	9	1	1998-2013
		57	0.95	9/22 - 12/14	26	2	1998, 2001, 2004-2013
		408	1.05	9/17 - 11/25	26	2	2000-2009, 2011-2013
		255	1.8	9/23 - 12/26	81	3	1999-2004, 2006-2007, 2009-2013
		425	2.6	9/14 - 11/30	37	4	2006, 2008-2013
		254	2.8	10/10 - 12/12	17	1	2004, 2007, 2009, 2011-2013
		253	3	9/18 - 12/15	17	1	1997, 1999-2001, 2006-2013
		676	3.02	10/10 - 12/16	23	1	2013
		553	3.6	9/13 - 10/7	11	1	2003, 2006-2008, 2010, 2013
		252	4.4	9/17 - 11/30	17	2	2001, 2004-2005, 2007, 2013
		140	5.3	9/29 - 10/24	7	1	1997, 2001, 2003, 2013
Palm Creek	-	550	0.3	9/18 - 11/27	16	1	2007, 2013
Swamp Creek	080059	34	0.3	9/24 - 12/11	18	1	1997, 1999-2000, 2002-2008, 2011-2013

Fish were seen in Little Bear, North, and Swamp creeks (Table 20). Chinook were only observed in North Creek, where coho, sockeye, kokanee, and unidentified species were also reported. Coho, sockeye, kokanee, and unidentified species were also reported in Little Bear Creek. No fish were seen in Palm 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 2013 spawning season.

Stream	Site ID	RM	Chinook	Coho	Kokanee	Sockeye	Unid.
Junco Creek	542	0.3	-	-	-	-	-
Little Bear Creek	114	0	-	1 (10/21)	8 (10/8 - 10/24)	360 (9/27 - 11/13)	4 (10/1 - 10/23)
	640	0.1	-	-	15 (10/16 - 10/23)	26 (10/16 - 10/30)	-
	67*	0.2	-	3 (10/10 - 10/25)	1 (10)	35 (10/10 - 10/30)	1 (10/17)
	175	0.3	-	-	-	6 (10/16 - 10/23)	-
	311	0.4	-	-	-	3 (10/13)	-
	312	1.5	-	-	-	31 (10/9 - 10/22)	-
	176	1.6	-	-	-	-	-
	231	3.2	-	-	5 (10/10 - 10/10)	50 (10/8 - 10/12)	-
	674	4.4	-	-	-	3 (10/25)	-
Little Swamp Cr.	505	0.24	-	-	-	-	-
North Creek	438	0.01	2 (9/20)	-	-	3 (9/20 - 9/24)	9 (9/18 - 11/22)
	112	0.9	1 (10/14)	-	-	10 (10/11 - 10/23)	-
	57	0.95	-	-	-	23 (10/3 - 10/26)	7 (10/3 - 10/24)
	408*	1.05	1 (9/24)	-	-	5 (10/21 - 10/28)	1 (11/11)
	255	1.8	-	7 (10/17 - 10/29)	-	10 (10/30 - 10/31)	1 (10/14)
	425	2.6	-	1 (10/5)	-	55 (10/10 - 11/9)	-
	254	2.8	-	-	-	11 (10/15 - 11/14)	-
	253	3	-	-	-	3 (10/10 - 10/12)	-
	676*	3.02	-	-	4 (10/10 - 10/11)	50 (10/10 - 11/12)	-
	553	3.6	-	-	-	-	-
	252	4.4	-	-	-	33 (10/6 - 10/24)	-
	140	5.3	-	1 (10/7)	-	2 (10/6)	4 (10/5 - 10/9)
Palm Creek	550	0.3	-	-	-	-	-
Swamp Creek	34	0.3	-	-	-	1 (10/30)	-

*Trout reported at these sites.

West Lake Sammamish Basin

Volunteers surveyed 4 sites on 2 streams in the West Lake Sammamish Basin in 2013 (Figure 1). The total number of surveys ranged from 7 to 34 per site (Table 21). Each site was monitored by from 1 to 3 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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Lewis Creek	080162	327	0.05	10/6 - 12/16	21	3	1997, 2001-2009, 2011, 2013
		598	0.37	10/12 - 11/30	12	1	2004-2009, 2011, 2013
		283	0.5	10/19 - 12/10	7	2	1999, 2001-2009, 2011, 2013
Vasa Creek	080156	641	0.4	9/18 - 12/24	34	1	2009-2013

A single kokanee was observed 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 2013 spawning season.

Stream	Site ID	RM	Kokanee	Unidentified
Lewis Creek	327	0.05	-	-
	598	0.37	-	-
	283	0.5	1 (11/13)	-
Vasa Creek	641	0.4	-	-

Puget Sound Streams

Streams draining to Puget Sound that were surveyed during the 2013 Salmon Watcher season are both inside and outside WRIA 8 (Figure 1). Those streams within WRIA 8 include Pipers Creek and Venema Creek. Longfellow Creek, watched annually, is part of WRIA 9[4]. Data were reported for a total of 5 sites in 3 streams[5] draining to Puget Sound in 2013 (Table 23). Sites were monitored by 1 or 2 volunteers.

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 2013 spawning season.

Stream	Stream #	Site ID	RM	2013			Years Watched
				Survey Dates	# Surveys	# Vols.	
Longfellow Creek	090359	179	0.8	10/20 - 12/5	10	1	1998-2013
		180	0.9	9/16 - 10/21	16	1	1999-2004, 2006, 2010, 2013
Pipers Creek*	080023	98	0.4	10/4 - 1/19/2014	7	1	1998-2002, 2007-2013
Venema Creek*	-	383	0.02	10/3 - 12/6	33	2	1997, 2000-2001, 2004-2013
		222	0.03	10/4 - 12/6	24	2	1999, 2005, 2012-2013

*Streams within WRIA 8.

Adult salmon were reported in Longfellow and Venema creeks (Table 24). Chum were observed in Venema Creek, and coho were reported in Longfellow Creek. No fish were observed in Pipers 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 2013 spawning season.

Stream	Site ID	RM	Chum	Coho	Unidentified
Longfellow Creek	179	0.8	-	42 (11/2 - 11/22)	-
	180	0.9	-	-	-
Pipers Creek	98	0.4	-	-	-
Venema Creek	383	0.02	246 (11/8 - 12/6)	-	-
	222	0.03	9 (11/12 - 11/19)	-	-

[4] 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 2013.

[5] Boeing Creek has been watched annually and data from this creek has been provided every year since 2000. Boeing Creek was observed in 2013 like in years past, but the data sheet was lost. However, the volunteer on the creek reported anecdotally that approximately 25 coho and 15-25 chum were seen spawning in Boeing Creek.

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 2013

2013 datasheet looks like this:

Salmon Watcher - Monthly Data Collection Form

Site ID# _____

Month / Year _____/_____ Stream:_____

1. Record ALL observation dates and times, even when you see Zero fish.
2. If you can't identify a fish, record it as UNID.
3. 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* Only write here if you see adult salmon	# 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)!

Jennifer Vanderhoof at jennifer.vanderhoof@kingcounty.gov (ph. 206-263-6533) or **Laurie Devereaux** at LDevereaux@bellevuewa.gov (ph. 425-452-5200).

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

Appendix B

Fauntleroy Creek Salmon Watch 2013 Summary

From an email by Judy Pickens on 11-25-13

Eleven salmon watchers on Fauntleroy Creek documented only three coho spawners between Oct. 28 and Nov. 24. The first was at the mouth (likely lunch for river otters), followed a few days later Nov. 19) by a pair upstream in the spawning reach. The volunteers welcomed at least 40 streamside visitors from the neighborhood, plus a group of 14 preschoolers.