

How to use Adobe Acrobat



Print page



Save PDF file to disk



Zoom in (ctrl key changes the tool to zoom out)



Slide the drawing (Pan)



Zoom 100%



Fit page width in screen



Fit entire page in screen



Search for a word or number

2003 Volunteer Salmon Watcher Program

Lake Washington Watershed and Vashon Island

June 2004



King County

Department of Natural Resources and Parks
Water and Land Resources Division

Science Section

King Street Center, KSC-NR-0600
201 South Jackson Street, Suite 600
Seattle, WA 98104

206-296-6519 TTY Relay: 711
dnr.metrokc.gov/wlr

2003 Volunteer Salmon Watcher Program

Lake Washington Watershed
and Vashon Island

King County Water and Land Resources Division, in cooperation with:
Lake Washington/Cedar/Sammamish Watershed Forum
Bellevue Stream Team
Cities of Bothell, Kirkland, Redmond, Renton, Seattle, and Woodinville
Snohomish County Surface Water Management
Vashon-Maury Island Land Trust

Alternate formats are available upon request by contacting
206-296-7592 (Voice) or 800-833-6388 (TTY).



King County

Department of Natural Resources and Parks

Water and Land Resources Division

201 S Jackson St. Ste 600

Seattle, WA 98104

(206) 296-6519

Summary

test change data In 1996, the Bellevue Stream Team, King County Water and Land Resources Division, the Muckleshoot Indian Tribe, the Snohomish County Surface Water Management Division, and the Washington Department of Fish and Wildlife began a jointly coordinated volunteer spawning survey program in the Lake Washington Watershed (all waters draining through the Ballard Locks). In 1997, the program evolved into the Salmon Watcher Program as it is today and has been conducted annually since. The purpose of the program is to document the distribution of spawning adult salmon throughout the basin via an active public outreach and education program, and subsequently consolidate all the information into a single resource (this report). These data can be used by policy makers and the public to improve how aquatic resources are managed, to protect salmon and trout species, and to enhance their habitat.

For the 2003 program, 171 volunteers surveyed 168 sites on 71 streams throughout the Lake Washington Watershed and Vashon Island streams from late September 2003 to February 2004. An additional 18 volunteers surveyed 18 sites on 7 streams in the Green River, Central Puget Sound, and Snoqualmie basins. Because volunteers collect the data in this program, the agencies are able to obtain more information from far more locations than would otherwise be possible. However, data in this report should be used with the following factors in mind:

- (1) Volunteer expertise in locating and identifying fish species varied from very high to very low;
- (2) Coverage of streams by volunteers was by no means complete; therefore, fish distribution information is not complete;
- (3) Volunteers view stream sites for relatively brief periods of time during the spawning season;
- (4) Determination of survey sites was based on volunteer availability and site accessibility (and some survey locations change from year to year, even on the same creek);
- (5) Spawning fish can be difficult to see and therefore may have passed through reaches undetected; and
- (6) Volunteer data indicate only where minimum fish distributions extend to, but do not indicate reaches where fish are definitively absent (in other words, the data confirms fish presence, but does not confirm absence).

Volunteers observed the following species: sockeye, kokanee, coho, chinook, and chum salmon, as well as trout species (rainbow or cutthroat). The following results were compiled from volunteer observations:

- (1) Coho had the widest distribution throughout the official survey area (31 streams in 10 basins);
- (2) sockeye were seen in the greatest numbers (over 7,100 enumerated);
- (3) chinook were observed in five Lake Washington basins;
- (4) Kokanee observations were observed in five Lake Washington basins;
- and (5) chum were observed in Vashon and Puget Sound streams as well as three streams in Lake Washington basins.

This report is published on the Internet and can be found using the hyperlinks on this web page: <http://dnr.metrokc.gov/wlr/waterres/salmon/reports.htm>.

Maps included in this report have been published on the Internet and can be found using the hyperlinks on this web page: <http://dnr.metrokc.gov/wlr/waterres/salmon/maps.htm>.

Acknowledgements

Many thanks to all the dedicated volunteers for spending many hours in cold and wet weather to collect the information for this report—some for the eighth year in a row, and sometimes 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 here in the Northwest, not only by reporting fish species, but by acting as the eyes and ears of the streams, reporting stream blockages as well as illegal and other suspect activities. You are the stewards of resources that make the Pacific Northwest so special. In addition to the already demanding nature of this program, many of our volunteers dutifully mailed in their monthly data sheets despite numerous family emergencies, illnesses, and difficult times during 2003. A *huge* Thank You to all!

We also want to acknowledge the various individuals from the cooperating jurisdictions. Every year these folks meet and plan the program, organize and stage the training sessions, and invest lots of time attending to the questions of the volunteers. Thanks (in no particular order) to Laurie Devereaux, Roger Kelley, Bob Spencer, Debra Crawford, Scott Gonsar, Peter Holte, Maureen Meehan, Mary Maier, Kollin Higgins, Hans Berge, Jim Mattila, Kit Paulsen, Robert Fuerstenberg, Gino Luchetti, Ruth Schaefer, Katie Messick, Jessica Kuchan, Curtis Clement, Katy Vanderpool, Ray Heller, Susan Hayden, Oriana Tucker, Laura Reed, and Wendy Collins.

We owe immeasurable gratitude to Eric Maia for his talent, time, energy, creative thinking, skills, and patience during the building of a new Salmon Watcher database. His efforts make these reports much faster to generate, and in the future will make online data entry possible.

Finally, we would like to thank those who partially sponsored our funding: Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Forum.

Table of Contents

Summary	i
Acknowledgements	ii
Table of Contents	iii
List of Tables	iv
List of Figures	v
Introduction	3
Methods	4
Volunteer Training.....	5
Data Collection.....	6
Quality Assurance/Quality Control.....	6
Results and Discussion	7
Basin Summary	8
Big Bear Creek Basin.....	9
Cedar River Basin.....	11
East Lake Washington Basin	13
Issaquah Creek Basin.....	15
North Lake Washington Tributaries	16
Sammamish River Tributaries.....	19
West Lake Sammamish Basin	21
East Lake Sammamish Basin	22
West Lake Washington Basin.....	22
Vashon Island	23
Central Puget Sound.....	25
Volunteer Activity	26
Contact with Citizens	27
Time Spent by Volunteers.....	27
Limitations of Volunteer Data.....	27
Species Summary	29
Marked Fish, Tagged Fish, and Juveniles	29
Chinook Salmon.....	30
Sockeye Salmon	30
Coho Salmon	31
Kokanee	31
Chum.....	32
Trout and Unidentified Species.....	32
References	33
Appendices	35
Other Streams Outside the Program Area.....	A-1
Data Collection Form used in 2003	B-1
Fautleroy Creek Salmon Watch 2003 Summary	C-1

List of Tables

Table 1. Volunteer observers for the 2003 Salmon Watcher Program.....	4
Table 2. Numbers of streams, sites, and volunteers involved in the 2003 spawning season.....	7
Table 3. 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 Big Bear Creek Basin for the 2003 spawning season.....	9
Table 4. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Big Bear Creek Basin for the 2003 spawning season.	10
Table 5. 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 for the 2003 spawning season.	11
Table 6. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Cedar River Basin for the 2003 spawning season.....	12
Table 7. 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 for the 2003 spawning season.	13
Table 8. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the East Lake Washington Basin for the 2003 spawning season.....	14
Table 9. 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 for the 2003 spawning season.....	15
Table 10. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Issaquah Creek Basin for the 2003 spawning season.....	16
Table 11. 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 for the 2003 spawning season.	17
Table 12. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the North Lake Washington Tributaries for the 2003 spawning season.	18
Table 13. 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 for the 2003 spawning season.....	19
Table 14. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Sammamish River Tributaries for the 2003 spawning season.	20
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 West Lake Sammamish Basin for the 2003 spawning season.	21
Table 16. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Sammamish River Tributaries for the 2003 spawning season.	21
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 East Lake Sammamish Basin for the 2003 spawning season.	22
Table 18. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the East Lake Sammamish Basin for the 2003 spawning season.....	22
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 West Lake Washington Basin for the 2003 spawning season.	22
Table 20. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers, and years the sites were watched for each stream surveyed on Vashon Island for the 2003 spawning season.	23
Table 21. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed on Vashon Island for the 2003 spawning season.	24

Table 22. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers, and years the sites were watched for each stream surveyed in the Central Puget Sound for the 2003 spawning season.....	25
Table 23. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in Central Puget Sound for the 2003 spawning season.....	25
Table 24. Number of citizen contacts made by all Salmon Watcher volunteers in each of the surveyed basins.	27
Table 25. Number of hours spent by Salmon Watcher volunteers in each of the surveyed basins.....	27

List of Figures

Figure 1. Basins surveyed for the 2003 Salmon Watcher Program (see insert).....	3
Figure 2. Sites in the Lake Washington Basins and Vashon Island surveyed by Salmon Watcher volunteers in 2003 (see insert).....	6
Figure 3. Number of new and returning volunteers surveying in the Lake Washington Watershed for each year of the Salmon Watcher Program.....	7
Figure 4. Observations of salmonids in the Big Bear Creek Basin (see insert).....	10
Figure 5. Observations of salmonids in the Cedar River Basin (see insert).....	12
Figure 6. Observations of salmonids in the East Lake Washington Basin (see insert).....	15
Figure 7. Observations of salmonids in the Issaquah Creek Basin (see insert).....	16
Figure 8. Observations of salmonids in the North Lake Washington Tributaries (see insert).....	19
Figure 9. Observations of salmonids in the Sammamish River Tributaries (see insert).....	21
Figure 10. Observations of salmonids on Vashon Island (see insert).....	24
Figure 11. Number of volunteers (defined as an individual, pair, or group) watching in the program area and number of sites and streams watched from 1997-2003.....	26
Figure 12. Percentage of total fish observed in 2003 by volunteers in (a) the Lake Washington Watershed and in (b) Vashon Island.....	29
Figure 13. Distribution of chinook salmon in the program area based on Salmon Watcher observations (see insert).....	30
Figure 14. Distribution of sockeye salmon in the program area based on Salmon Watcher observations (see insert).....	31
Figure 15. Distribution of coho salmon in the program area based on Salmon Watcher observations (see insert).....	31
Figure 16. Distribution of kokanee in the program area based on Salmon Watcher observations (see insert).....	32

Introduction

The Salmon Watcher Program is a volunteer program that originated in 1996 and whose purpose is to record observations of adult fall-spawning salmonids. Volunteers are recruited and trained to identify and watch for spawning salmon throughout the Lake Washington Watershed and on Vashon Island (Figure 1). Regional agencies who participated in the Salmon Watcher Program along with King County during the 2003 season include the Bellevue Stream Team, the cities of Bothell, Kirkland, Redmond, Renton, Seattle, and Woodinville, and Snohomish County Surface Water Management.

The Salmon Watcher Program was initiated to expand on current efforts undertaken by resource agencies to document the distribution of spawning salmon in the Lake Washington Watershed. Basins that comprise the Lake Washington Watershed include Bear Creek, Cedar River, East Lake Washington, West Lake Washington, Issaquah Creek, North Lake Washington (divided into the North Lake Washington tributaries and the Sammamish River tributaries), East Lake Sammamish, and West Lake Sammamish. Vashon Island streams were also observed for the third year in a row.

Salmon Watcher volunteers annually collect information on the presence of fall-spawning salmonids, including chinook, coho, sockeye, kokanee (resident form of sockeye), and chum salmon, as well as steelhead and trout species. Data of this type become more important as salmonids in the region, such as Puget Sound chinook, are listed under the Endangered Species Act.

Because volunteers do this work, this undertaking is accomplished with reduced agency resources, and the watersheds' residents can become involved and educated at the same time. Further, interactions with agency personnel foster positive relationships between the public and government agencies. With current budget and time constraints of agency personnel, much of the data collected in this effort could not be collected otherwise.

In addition to summaries of fish observed during the fall season, this 2003 report contains information about the activities of the volunteers. It should be noted that this report summarizes data collected only by Salmon Watcher volunteers, and it is therefore in no way intended to be an exhaustive report of fish distribution in the Lake Washington Watershed or on Vashon. Other fish surveys are conducted annually by county, state, city, and federal agencies and non-profit organizations. For example, surveys have been conducted by volunteers or County staff to look specifically for kokanee and chinook; the results of these surveys are reported separately and are not included here.

Figure 1. Basins surveyed for the 2003 Salmon Watcher Program

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405SurveyedBasins.pdf>).

Methods

Volunteers¹ were recruited during the summer and early fall of 2003 to observe fish in streams throughout the Lake Washington Watershed² and streams on Vashon Island. The 170 volunteers (170 individuals or pairs, totaling 227 people) who surveyed in the Lake Washington Watershed and Vashon, plus 18 people who observed outside the project area, are listed in Table 1.

Table 1. Volunteer observers for the 2003 Salmon Watcher Program.

Ann Agaard	Alyse & Dennis DeKraker	Cyndy Keniston
Staci Adman	Sonia Delaney	Chris Kerber
Rosemary K. Allen	Cameron Ochiltree & Leslie DeLorenzo	Donna Klemka
Dennis Anderson	Paula DeLucia	Janusz Komorowski
Jill & Murray Andrews	Nancy Deress	Jeffrey Kuan
Jason Apple	Barbara Dickson	Renee Kuehn
Chad Armour	Daniel Didricksen	Joel & Yvonne Kuperberg
Angelina Artero	Michael & Linda Dietemann	Ann Kurtz
Russ Atkins	Chuck Dolan	Michael Laurie
Frank Backus	Mike Dzink	Lynne Lew
Tina & Craig Bailey	Mike Ehelbracht	Linda Lian
Jeanette Banobi	Gary & Bob Emerson	Ardis & Brian Lilleness
Ed and Sheila Barnes	Andrew Everett	Ginny Lodwig
Richard Barrett	Sara & Richard Farmer	Steve Long
Cathleen Barry	Jessica Feller	Ann Stateler & Odin Lonning
Katie Beacom	Karen Fevold	Barbara Lynum
Al Jackson & Mary Beauchamp	Mary Ellen Flanagan	Reena Mahadevan
Kris & Kyle Betty	Ana Foukimoana	Ron Marshall
Curtis Betzler & Kara Heaphy	Edward Gano	Colleen Cullen & Mark Martino
Shirley Biccum	Andy Gault	Alex & Greg Mathison
Kai Billmaier	Judy Gilbert	Nancy McJunkin
Bob and Gina Blum	Linda Gonzalez	Jim McRoberts
Mamie & Chuck Bolender	Elizabeth Granger	Richard Meyer
Sherry Bottoms	Karren Gratt	Susan Meyer
Lee Bowen	Ron Green	Merideth Mitchell
Bob & Diane Brenno	John & Sally Gummesson	Elizabeth Modery
Brian Brenno	Barb Gustafson	Ben Moore
Janet Broadus	Dehlan and Janney Gwo	Bill Morse
Robin Buerki	George Hadley	Meg & Brian Nafziger
JoAnn C Burnett	Jinnette & Jerry Hammond	JoAnn Napier
Gene Buzzelli	Nancy Hannah	Kristen Nasman
Billie & Jim Cairns	Susan Haskell	Brooke Nelson
Beth Carpenter	Leann Hechim	Dana, Brittney, & Erik Nelson
Kuang-Chi (David) Chang	Ashley Hedeem	Diane Nelson
Janeene Chilcoat	Gray Helgard	Veleda Nelson
Michael Clark	Heidi Hettich	Roger & Joy Neubauer
Stacy Clauson	Jennifer Holton	Yoshiko Otonari
Richard & Myrtlemay Crane	Lon Hoover	Linda Palla
Nancy Daar	Marc Imlay	Susan Parr
Nazila Dabestani	Joanne Jewell	Clint Peeples

¹ “Volunteers” are defined as individuals, pairs, or groups who surveyed at a given location.

² 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).

Table 1. Continued. Volunteer observers for the 2003 Salmon Watcher Program.

James & Edna Dam	Dennis Johnson	Sarah Phillips
Sarah Dammrose	Carol & Ed Kane	Jennifer Pletcher
Lisa Danielski	Pam Kelly	Larry Poore
Sarah Rook & Ian Price	Mary Ellen Smith	Kathryn True
Kathi & Michela Quickstad	Warren Smith	Whitney VanLoos
Gray Rand	Conan So	Mary Vincent
Kelly Rau	Glenn Soon	Manjiri Virginkar-Papproth
Krista Rave-Perkins	Jim & Susan Sproull	Russ Warnick
Shan Rayray	Kirk Stauffer	Craig & Eva Weaver
Sandy Rock	Beth Steinkoenig	Ileen Weber
Adrienne Ross	Lindsay Stone	Irv Weisser
Mike Russell	Mike Stults	Maureen Welly
Kathleen Ryan	Brett Taylor	Ben, Julia, & Krista Wessel
Holly Sawin	Dave Taylor	Valerie Whitcomb
Dick & Mary Schaetzel	Matthew Taylor	Matthew Williams
Donna Scott	Laura Techico	Lee Willson
Erin Sheets	Inge Theisen	Maggie & Brian Windus
Kathryn Sheldon	Curt & Ben Thompson	Connie Wurm
Patty Shelton	Jamie Thompson	Frank Yaul
Yoshi Shelton	K. Terry Thorsos	Anne York
Magaret Simon	Jeremy Thurston	Janis Young
Diane Slota	Sue Trevathan	Ted Zuvich
Julie Smith	Elizabeth Trotter	Mercer Slough Env. Ed. Center

Volunteer Training

Agency staff held a total of seven classroom training sessions in 2003. Field training sessions were conducted for trained volunteers on two dates: at Bear Creek, Cottage Lake Creek, and the Sammamish River on the first date, and at Issaquah Fish Hatchery and Issaquah Valley Elementary School on the second date. A field training session was also held on Vashon Island at Shinglemill Creek. Additionally, Snohomish County held separate training sessions for its Salmon Watcher program, an off-shoot of the Lake Washington Watershed program.

All volunteers were taught to identify adult spawning salmon species with a slide presentation. The slide show was placed on King County's web site so volunteers could review it at their convenience. During the training sessions, volunteers signed up for one or more sites to survey. They were given salmon identification materials, including color adult species identification cards and spawner timing charts. Volunteers were taught how to fill out and return data forms. Volunteers were also given contact information for an environmental hotline as well as numbers to call for various situations that might arise in the field, including drainage issues, fish kills, and suspicion of toxic pollutants.

Survey locations were prioritized by staff from each cooperating jurisdiction based on the need for information; however, sites were surveyed based on volunteer availability. Volunteers were assigned to stream locations near their homes or customary walking places whenever possible. Not all sites watched were prioritized by agency staff: some sites were watched because of the close proximity to a volunteer's home. 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 2 shows all the sites watched during the 2003 fall spawning season.

Figure 2. Sites in the Lake Washington Basins and Vashon Island surveyed by Salmon Watcher volunteers in 2003

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405SurveyedSites.pdf>).

Data Collection

Surveys were conducted between September 8, 2003, and February 11, 2004, though most surveys began in September and were concluded in December. 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: the average survey frequency was biweekly but ranged from daily to monthly.

If a volunteer surveyed the same site more than one time on the same day, the highest fish count was used; however, often more than one volunteer surveyed the same site on a single day and both counts were used. Unidentified fish were counted and described when possible. Volunteers counted all live and dead adult salmonids they observed. 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.

Volunteers were asked if they could tell whether the fish they saw had an adipose fin, and they were asked if they noticed anything at their site that needed to be reported and whether they reported it. Volunteers were asked to note how many citizens they came into contact with during their streamside duties. All data were recorded onto field data forms (Appendix B), which were mailed to Salmon Watcher staff on a monthly basis.

Beginning in 2002, in addition to the data sheets, volunteers were asked to fill out a “First Fish ID” form. This form had several multiple-choice questions about various key characteristics for identifying fish. Volunteers were asked to fill one of these forms out the first time they saw a new species and to turn the forms in with their data. The purpose of this form is twofold: (1) to aid volunteers in identification by highlighting key characteristics, and (2) to aid Salmon Watcher staff in quality control.

Quality Assurance/Quality Control

Several means were used to assure that the data collected from volunteers 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 2003 season. Volunteers were provided laminated fish identification cards and a packet of training materials with fish identification information in it. 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.

Staff receiving the data sheets screened them for anything requiring immediate attention such as an unusual fish sighting or potential water quality problems. If an unusual fish sighting was noticed on a data form, agency staff contacted the volunteer to further inquire about what characteristics they used to identify fish in an effort to ensure as much accuracy as possible. The First Fish ID forms were intended to provide another means by which fish identifications could be checked and verified. Agency staff would also follow up on any other reported unusual circumstances as they judged appropriate.

Following data entry, the figures were verified at least once, but typically twice, by different agency staff to ensure accuracy, as well as catch anything that might need addressing. At least one of the data reviewers was familiar with the basins and the fish runs typical for the basins.

Because of the limitations of data usage from a volunteer program such as this (Limitations of Volunteer Data, page 25) and despite quality control measures, the data are intended to be used only to make preliminary evaluations of the distribution of spawning salmonids in the Lake Washington Watershed and Vashon streams. These data cannot be used to infer population structure or size.

Results and Discussion

In 2003, a total of 186 sites on 78 streams were surveyed by 188 volunteers (Table 2).

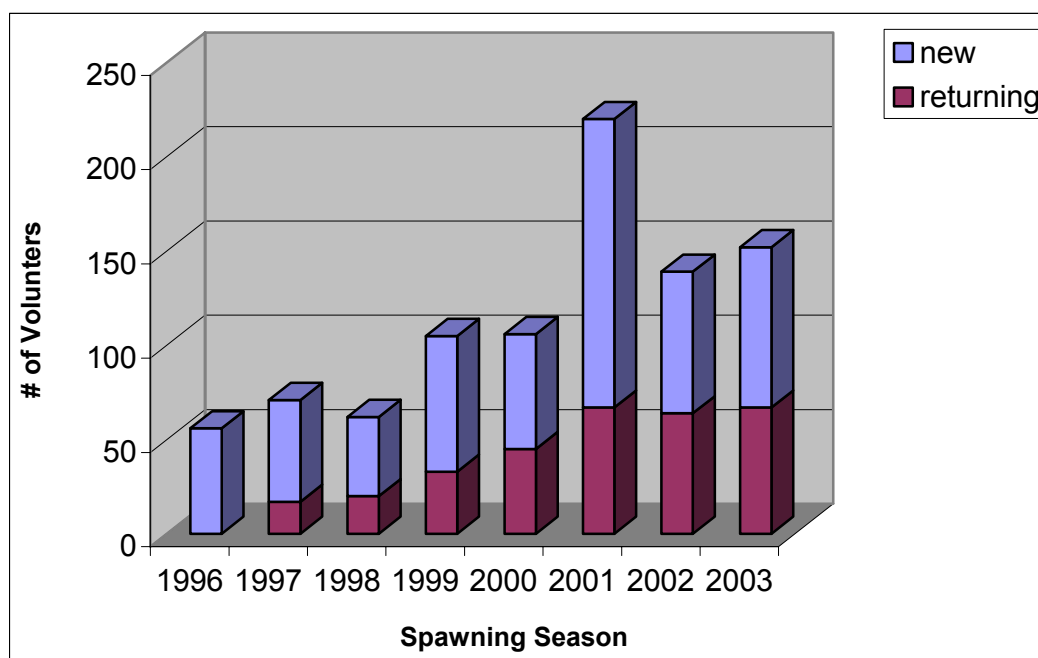
Table 2. Numbers of streams, sites, and volunteers involved in the 2003 spawning season.

Area	# streams	# sites	# volunteers
Lake Washington Watershed	66	153	152
Vashon Island	5	15	19
Other	7	18	18
Total	78	187	188*

*Total number of volunteers is 188; however, when each area is totaled, the count is higher because one or more volunteers watched in more than one area.

In 2003, 67 out of 152 volunteers (44 percent) in the Lake Washington Watershed were returnees (Figure 3). The number of returnees is noteworthy because this number has remained consistent now for three years in a row, despite varying numbers of new recruits. Of the 67 returnees, 2 pairs of volunteers have surveyed every year of the program. On Vashon Island, 11 out of 19 volunteers (58 percent) were returnees.

Figure 3. Number of new and returning volunteers surveying in the Lake Washington Watershed for each year of the Salmon Watcher Program.



Basin Summary

As in 2001 and 2002, chinook in 2003 were observed by volunteers in the highest numbers in the Issaquah Creek Basin, and in the second and third highest numbers in the Bear Creek Basin and North Lake Washington tributaries, respectively. Kokanee were seen in the highest and second highest numbers in West Lake Sammamish and the East Lake Sammamish basins, respectively. Coho were observed in the highest numbers in the Issaquah Basin and in the second highest numbers in Bear Creek Basin. As has been the case in every year of the Salmon Watcher Program, again in 2003 sockeye were observed in the greatest numbers in the Cedar River Basin, and that basin, consequently, had the most fish observed in the program area. No adult spawners were observed in 29 streams surveyed, including Carey, Denny, Juanita, Mackey Creek, Maple Leaf Creek, or Valley Creek.

Detailed results for each basin in the program are presented below in basin groupings. Data include stream name and state stream numbers as assigned 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, will always have the same data associated with it, regardless of refined river mile (RM) designations. 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, or (3) if a volunteer moves a few feet to observe in an area of better spawning habitat or visibility.

Maps are presented for each basin in the Lake Washington Watershed and Vashon Island and depict observations of sockeye, coho, chinook, kokanee, and chum identified during the survey. The streams surveyed in the Lake Washington Watershed were grouped into the following basins: Big Bear Creek, Cedar River, East Lake Washington, Issaquah Creek, North Lake Washington (split into North Lake Washington tributaries and Sammamish River tributaries), East Lake Sammamish, West Lake Sammamish, and West Lake Washington. Salmonids were observed in all basins surveyed in 2003 except the West Lake Washington Basin (in which only Taylor Creek was watched). Trout and unidentified species were not mapped.

Big Bear Creek Basin

Volunteers surveyed 24 sites in 10 streams in the Big Bear Creek Basin (Figure 2). From 1 to 10 sites were watched per stream, and the total number of surveys ranged from 4 to 63 per site (Table 3). Each site was monitored by 1 to 3 volunteers.

Table 3. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers³, and years the sites were watched for each stream surveyed in the Big Bear Creek Basin for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Big Bear Creek	080105	453	0.9	09/05 - 12/30	46	3	2001, 2002, 2003
		289	2.5	09/13 - 11/30	53	2	1997, 2003
		65	2.7	09/13 - 12/28	27	2	1997, 1998, 1999, 2000, 2002, 2003
		290	3.2	09/14 - 10/27	10	1	1997, 2000, 2002, 2003
		101	4.9	08/20 - 12/30	40	2	1997, 1998, 1999, 2000, 2001, 2002, 2003
		89	6	10/03 - 12/28	42	2	1998, 1999, 2000, 2001, 2002, 2003
		396	6.8	10/13 - 12/30	13	1	2001, 2002, 2003
		136	7.4	09/12 - 12/28	63	3	1998, 1999, 2000, 2001, 2002, 2003
		2	8.2	09/18 - 11/26	23	3	1998, 1999, 2000, 2001, 2002, 2003
	529	8.7	09/29 - 12/23	22	1	2002, 2003	
Trib. to Bear		90	0.2	09/01 - 12/28	30	1	1998, 1999, 2000, 2001, 2002, 2003
Trib. to Bear		367	0.1	10/13 - 11/22	9	1	2003
Cold Creek		465	0.8	10/01 - 11/20	11	1	2001, 2002, 2003
Cottage Lake Cr.	080122	102	0.6	09/13 - 10/26	12	1	1997, 1998, 2001, 2002, 2003
		105	1.3	09/19 - 09/30	7	1	1998, 1999, 2000, 2001, 2002, 2003
		292	1.6	09/18 - 11/13	13	1	1997, 2000, 2001, 2002, 2003
		50	2.2	09/15 - 12/30	28	1	1997, 1999, 2000, 2001, 2002, 2003
		395	2.7	09/18 - 09/30	8	1	2002, 2003
Evans Creek	080106	332	0.4	09/09 - 11/30	18	1	1999, 2002, 2003
Mackey Creek	080115	15	0.5	10/17 - 11/06	4	1	1997, 1998, 1999, 2000, 2001, 2002, 2003
Rutherford Creek	080110	462	0.45	09/23 - 12/24	16	1	2003
Seidel Creek	080129	378	0.95	09/30 - 12/23	15	1	2003
Trib. to Seidel		160	0.2	12/03 - 12/23	4	1	1999, 2003
Struve Creek	080131	364	0.3	09/18 - 11/13	10	1	2001, 2002, 2003

Salmonids were found in seven of the ten streams observed in Big Bear Creek Basin (Table 4). The most numerous salmonid species observed by volunteers was sockeye, which was found in Big Bear Creek (in the greatest quantity), Cottage Lake Creek, Cold Creek, Seidel Creek, and Struve Creek. Coho were reported in Bear Creek and two of its tributaries, Cottage Lake Creek, Cold Creek, and Evans Creek. Kokanee were reported in Bear Creek. Chinook were reported in Bear Creek and Cottage Lake Creek. One volunteer reported chum in Bear Creek, and although the sightings were not verified by a fish biologist and the timing seems a little early for chum, the volunteer was very confident in the identification. No adult spawners were observed in Mackey or Rutherford creeks.

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.

Table 4. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Big Bear Creek Basin for the 2003 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Kokanee	Chum	Unid.
Big Bear Creek	453	0.9	-	2 (9/29 - 10/4)	37 (10/8 - 10/31)	-	-	3 (10/14 - 12/15)
	289	2.5	55 (9/16 - 10/30)	34 (9/20 - 10/29)	167 (9/14 - 11/12)	-	-	7 (9/16 - 10/12)
	65	2.7	7 (10/1 - 12/21)	25 (10/1 - 12/15)	47 (10/1 - 12/28)	3 (10/5 - 10/11)	3 (10/5 - 10/8)	5 (9/30 - 10/8)
	290	3.2	-	-	-	-	-	-
	101	4.9	1 (10/17)	71 (10/13 - 11/8)	38 (10/13 - 10/27)	-	-	1 (10/31)
	89	6	2 (10/18)	12 (11/1 - 11/23)	55 (10/11 - 11/9)	-	-	4 (10/21 - 11/20)
	396	6.8	-	26 (10/17 - 10/24)	3 (10/13 - 10/17)	-	-	3 (10/17 - 12/5)
	136	7.4	-	12 (10/28 - 11/17)	12 (10/18 - 11/9)	-	-	1 (10/25)
	2	8.2	2 (11/3 - 11/5)	18 (10/18 - 11/26)	12 (11/5)	-	-	-
	529	8.7	-	4 (10/26 - 10/30)	7 (10/26)	5 (11/10 - 12/1)	-	14 (10/1 - 12/17)
Trib. to Bear	90*	0.2	-	3 (11/15 - 11/22)	-	-	-	-
Trib. to Bear	367	0.1	-	1 (10/25)	-	-	-	3 (10/21 - 11/9)
Cold Creek	465	0.8	-	9 (10/22 - 11/20)	1 (11/6)	-	-	3 (10/23 - 10/28)
Cottage Lake Cr.	102	0.6	20 (9/20 - 10/11)	43 (9/20 - 10/16)	4 (10/16)	-	-	-
	105	1.3	7 (9/19 - 9/30)	3 (9/19 - 9/21)	-	-	-	-
	292	1.6	20 (9/18 - 10/19)	6 (9/30 - 10/19)	1 (10/19)	-	-	-
	50	2.2	13 (9/24 - 10/24)	3 (9/26 - 11/17)	1 (11/17)	-	-	-
	395	2.7	6 (9/23 - 9/28)	7 (9/18 - 9/28)	-	-	-	-
Evans Creek	332	0.4	-	5 (11/14)	-	-	-	-
Mackey Creek	15	0.5	-	-	-	-	-	-
Rutherford Creek	462	0.45	-	-	-	-	-	-
Seidel Creek	378	0.95	-	-	1 (10/21)	-	-	-
Trib. to Seidel	160	0.2	-	-	-	-	-	-
Struve Creek	364	0.3	-	-	1 (11/10)	-	-	-

*Trout were also reported at this site.

On Bear Creek, sockeye, coho, and kokanee were observed at the highest site observed in 2003, at RM 8.7, and chinook were seen as far as RM 8.2. The three chum that were reported were observed at NE 95th St. at RM 2.7.

Salmon Watcher volunteers viewed Cottage Lake Creek as far as RM 2.7. Chinook and coho were observed at every site watched on Cottage Lake Creek. Sockeye were observed as far upstream as RM 2.2, at the Tolt Pipeline. Coho and sockeye were both observed at Cold Creek, which empties into Cottage Lake Creek past its upstream-most site.

One site was observed on Evans Creek at RM 0.4. Only coho were observed at this site in 2003. Struve Creek and Seidel Creek each had a single sockeye reported, and the coho in Seidel Creek is the first sighting of a coho in this stream by volunteers. Mackey and Rutherford creeks were watched at one site each, but no adult spawners were observed in either creek.

The observations of sockeye, coho, chinook, and kokanee in the Big Bear Creek Basin determined from volunteer surveys in are shown in Figure 4.

Figure 4. Observations of salmonids in the Big Bear Creek Basin
(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distroBEAR.pdf>).

Cedar River Basin

Volunteers surveyed 19 sites in 10 streams in the Cedar River Basin in 2003 (Figure 2). From 1 to 3 sites were watched per stream, and the total number of surveys ranged from 7 to 62 per site (Table 5). Each site was monitored by either 1 or 2 volunteers.

Table 5. 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 for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Cedar River (Cavanaugh Pond)	080299	207	5.3	09/12 - 12/27	25	1	1999, 2000, 2001, 2002, 2003
		139	6.4	10/21 - 02/15/04	46	1	1997, 1998, 1999, 2000, 2001, 2002, 2003
Trib. to Cedar R.		557	0.5	09/22 - 12/29	23	1	2003
Trib. to Cedar R.		568	0.35	11/05 - 11/05	1	1	2003
Trib. to Cedar R.		567	0.1	10/07 - 12/22	17	1	2003
		403	0.4	10/01 - 11/12	10	1	2000, 2003
Peterson Creek	080328	461	1.3	10/01 - 10/03	2	1	2001, 2002, 2003
Rock Creek	080338	410	0.2	10/01 - 12/31	55	1	2001, 2002, 2003
		154	0.4	09/28 - 12/14	48	2	1999, 2000, 2001, 2002, 2003
		49	1.3	10/01 - 12/31	45	1	1998, 1999, 2000, 2001, 2002, 2003
Taylor Creek	080320	129	1.2	10/01 - 12/14	50	1	1998, 1999, 2000, 2001, 2002, 2003
		71	1.8	10/01 - 12/31	45	1	1998, 1999, 2000, 2001, 2002, 2003
		126	2.4	09/14 - 12/30	62	2	1998, 2001, 2002, 2003
Trib. 0321	080321	402	0.8	11/03 - 12/30	14	1	2003
Trib. 0336	080336	401	0.1	09/22 - 12/29	22	1	2003
		400	0.8	09/22 - 12/29	22	1	2003
Trib. 0337	080337	399	0.2	09/22 - 12/29	22	1	2003
Walsh Lake Div.	080341	460	0.1	09/26 - 10/25	7	1	2003
		40	1.1	10/05 - 12/29	21	1	2000, 2003

Chinook were observed in the Cedar River and two of its tributaries as well as in the Walsh Lake Diversion (Table 6). Coho were observed only in one tributary to the Cedar River and in Taylor Creek in 2003. Sockeye were found in the Cedar River and two of its tributaries, Rock Creek, Taylor Creek, and the Walsh Lake Diversion. No adult spawners were observed in Peterson Creek or three tributaries to Taylor Creek that were watched.

Four sites on three different tributaries to the Cedar River were observed in 2003 (Figure 5). Chinook and sockeye were reported for the first time on two of these tributaries, and additionally, coho were observed in the more upstream (on the Cedar River) of these tributaries.

Only one chinook was observed in the Cedar River at the Jones Rd. bridge (RM 5.3), whereas chinook were observed in two tributaries to the Cedar as well as in Walsh Lake Diversion, and the mouths of those streams are all upstream of Cavanaugh Pond. The farthest upstream of these, Walsh Lake Diversion, enters the Cedar River at approximately river mile 19.6. Chinook had not been previously reported in Walsh Lake Diversion by volunteers; however, the observation is considered reliable because agency staff confirmed the presence of chinook nearby at about the same time. These observations extend the distribution of chinook in the Cedar River as reported by Salmon Watchers.

Sockeye were seen at every site in the Cedar River, Rock Creek, and Taylor Creek that were observed in 2003. The upstream-most site watched in the Cedar River in 2003 was Cavanaugh Pond at RM 6.4. Sockeye have been observed in Cavanaugh Pond every year of the Salmon Watcher Program. The sockeye reported in Walsh Lake Diversion marks the first time volunteers in the program have reported

the species in this stream. These observations extend the distribution of sockeye in the Cedar River as reported by Salmon Watchers.

Only five coho were reported in the Cedar River Basin in 2003—two in an unnamed tributary to the Cedar River and three in Taylor Creek.

A wind storm in December made some sites inaccessible for observation.

Table 6. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Cedar River Basin for the 2003 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unidentified
Cedar River (Cavanaugh Pond)	207	5.3	1 (10/10)	-	589 (9/23 - 11/13)	-
	139	6.4	-	-	3224 (11/12 - 2/11/04)	-
Trib. to Cedar R.	557	0.5	4 (9/22 - 10/11)	3 (12/7 - 12/29)	412 (9/27 - 12/24)	3 (9/22 - 11/25)
Trib. to Cedar R.	568	0.35	-	-	-	-
Trib. to Cedar R.	567	0.1	1 (10/21)	-	5 (10/21 - 12/18)	4 (12/2 - 12/22)
	403	0.4	-	-	1 (10/24)	-
Peterson Creek	461	1.3	-	-	-	-
Rock Creek	410	0.2	-	-	1207 (10/9 - 12/3)	-
	154	0.4	-	-	142 (10/19 - 12/3)	1 (10/5)
	49	1.3	-	-	1 (11/1)	-
Taylor Creek	129	1.2	-	-	1 (11/23)	-
	71	1.8	-	-	3 (11/3 - 11/23)	-
	126	2.4	-	2 (11/13)	1 (11/11)	2 (10/23 - 10/25)
Trib. 0321	402	0.8	-	-	-	-
Trib. 0336	401	0.1	-	-	-	-
	400	0.8	-	-	-	-
Trib. 0337	399	0.2	-	-	-	-
Walsh Lake Div.	460	0.1	3 (10/1 - 10/25)	-	89 (9/26 - 10/19)	-
	40	1.1	-	-	-	-

The observations of sockeye, chinook, and coho in the Cedar River Basin determined from volunteer surveys are shown in Figure 5.

Figure 5. Observations of salmonids in the Cedar River Basin

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distroCEDAR.pdf>).

East Lake Washington Basin

Volunteers surveyed 31 sites in 14 streams in the East Lake Washington Basin in 2003 (Figure 2). From 1 to 6 sites were watched per stream, and the total number of surveys ranged from 2 to 97 per site (Table 7). Each site was monitored by 1 to 6 volunteers—usually 1 or 2.

Table 7. 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 for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Carillon Creek		475	0	09/06 - 12/23	33	1	2001, 2002, 2003
Coal Creek	080268	440	0.1	09/14 - 11/30	16	1	2001, 2002, 2003
		444	0.2	10/02 - 11/14	12	1	2001, 2002, 2003
		439	0.6	09/12 - 12/22	56	3	2001, 2002, 2003
		46	0.8	09/10 - 12/30	50	4	1997, 1998, 1999, 2000, 2001, 2002, 2003
		441	2	09/14 - 11/29	25	2	2001, 2002, 2003
		442	2.1	09/10 - 12/20	87	5	2001, 2002, 2003
Trib. to Coal	080273	212	0.1	09/21 - 11/24	7	1	1999, 2002, 2003
East Creek		514	0.2	09/22 - 11/22	15	2	2003
Goff Creek	080264	447	2.1	09/10 - 11/17	11	1	2003
Kelsey Creek	080259	13	2	09/28 - 11/22	6	1	1997, 1998, 1999, 2000, 2001, 2002, 2003
		124	2.4	09/12 - 12/31	51	2	1997, 1998, 1999, 2000, 2001, 2002, 2003
		120	3	09/08 - 11/27	31	1	1997, 1998, 1999, 2000, 2001, 2002, 2003
		448	4.1	10/16 - 11/21	8	1	2003
		45	5	10/02 - 12/09	16	1	1997, 1998, 1999, 2000, 2003
Lake WA Beaches	080028	76	30.5	10/04 - 11/30	19	1	1997, 1998, 2003
		77	30.8	09/08 - 09/25	6	1	1997, 1998, 2003
May Creek	080282	208	0.2	09/10 - 12/20	22	2	2001, 2002, 2003
		456	4	09/20 - 09/28	3	1	2001, 2002, 2003
Mercer Slough	080259	445	1.6	09/10 - 12/14	97	6	2001, 2003
Richards Creek	080261	27	0.7	09/12 - 12/31	39	2	1997, 1998, 1999, 2000, 2001, 2002, 2003
		80	1.6	09/09 - 09/23	2	1	1998, 2002, 2003
Sears Creek		48	0	10/18 - 11/09	6	1	2002, 2003
Sturtevant Creek	080260	117	0.25	09/07 - 12/27	18	1	1997, 1998, 1999, 2001, 2002, 2003
Valley Creek	080266	122	0.1	09/05 - 12/22	48	2	1997, 1998, 1999, 2000, 2001, 2003
		220	0.6	09/06 - 11/09	16	2	1999, 2000, 2002, 2003
		221	0.7	09/06 - 12/22	31	2	1999, 2000, 2001, 2002, 2003
		450	1.7	09/27 - 12/22	24	2	2002, 2003
West Trib. Kelsey Cr.	080264	116	0.25	09/02 - 12/11	29	2	1998, 1999, 2001, 2002, 2003
		325	0.7	09/09 - 12/31	36	1	1997, 2001, 2002, 2003
		506	3.1	09/05 - 12/25	25	1	2002, 2003

Salmonids were found in 7 of the 14 streams surveyed (Table 8). Chinook were observed in Mercer Slough, Kelsey Creek, and West Trib. Kelsey Creek. Sockeye were seen in Mercer Slough, Kelsey Creek, May Creek, and Richards Creek. Coho were seen in Coal, Goff, Kelsey, and Richards creeks. No adult spawners were observed in Carillon Creek, East Creek, Sears Creek, Sturtevant Creek, or Valley Creek. No adult spawners were observed at the two Lake Washington beaches, which were observed for the first time since 1998.

As in 2002, the chinook observed in Kelsey Creek were seen at RM 2.4 (at the junction with Richards Creek). Chinook in West Trib. Kelsey Creek were seen at all sites watched, including the upstream-most site at RM 3.1 (NE 3rd Pl.). Chinook had not been previously reported by volunteers that far upstream in West Trib. Kelsey.

Sockeye were seen in Forbes, Kelsey, May, and Richards creeks, but none at the upstream-most site watched. However, sockeye were observed further upstream in Richards Creek than they had been reported by volunteers in the past—they were seen as far as RM 0.7 (Bannerwood Park).

Coho were observed up to RM 2.1 in Coal Creek, the upstream-most site watched. Coho were seen up to RM 2.4 in Kelsey Creek (at the junction with Richards Creek) and to RM 0.7 in Richards Creek (in Bannerwood Park); neither of these were the upstream-most site watched. Coho were observed in Goff Creek for the first time by volunteers in 2003. It is also noteworthy that the mouth of Goff Creek is further upstream than coho have been reported by volunteers in West Trib. Kelsey Creek up till now. Therefore, the extent of coho in West Trib. Kelsey Creek as reported by Salmon Watchers is also extended.

Table 8. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the East Lake Washington Basin for the 2003 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unidentified
Carillon Creek	475	0	-	-	-	-
Coal Creek	440	0.1	-	-	-	-
	444	0.2	-	-	-	1 (11/8)
	439	0.6	-	1 (12/3)	-	2 (10/21 - 12/3)
	46	0.8	-	-	-	-
	441	2	-	8 (9/24 - 11/29)	-	-
	442	2.1	-	14 (11/29 - 12/13)	-	4 (10/27 - 12/6)
Trib. to Coal	212	0.1	-	-	-	-
East Creek	514	0.2	-	-	-	-
Goff Creek	447	2.1	-	2 (10/26)	-	5 (10/30 - 11/17)
Kelsey Creek	13	2	-	1 (10/24)	-	-
	124*	2.4	22 (9/30 - 10/27)	3 (10/7)	3 (9/30 - 10/9)	7 (10/7 - 11/13)
	120	3	-	-	-	-
	448	4.1	-	-	-	-
	45	5	-	-	-	-
Lake Washington Beaches	76	30.5	-	-	-	-
	77	30.8	-	-	-	-
May Creek	208	0.2	-	-	8 (10/16 - 10/27)	2 (10/24)
	456	4	-	-	-	-
Mercer Slough	445	1.6	10 (9/24 - 10/10)	-	2 (10/10)	5 (9/20 - 10/18)
Richards Creek	27*	0.7	-	1 (11/17)	22 (10/25 - 11/13)	20 (10/27 - 11/19)
	80	1.6	-	-	-	-
Sears Creek	48	0	-	-	-	-
Sturtevant Creek	117	0.25	-	-	-	-
Valley Creek	122	0.1	-	-	-	-
	220	0.6	-	-	-	-
	221	0.7	-	-	-	-
	450	1.7	-	-	-	-
West Trib. Kelsey Cr.	116	0.25	3 (10/18 - 10/19)	-	-	-
	325	0.7	3 (10/17 - 10/18)	-	-	-
	506	3.1	8 (10/14 - 10/18)	-	-	-

*Trout were also reported at this site.

The observations of sockeye, chinook, and coho in the East Lake Washington Basin determined from volunteer surveys are shown in Figure 6.

Figure 6. Observations of salmonids in the East Lake Washington Basin
(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distroEASTlakeWA.pdf>).

Issaquah Creek Basin

Volunteers surveyed 13 sites in 5 streams in the Issaquah Creek Basin in 2003 (Figure 2). From 1 to 10 sites were watched per stream, and the total number of surveys ranged from 5 to 51 per site (Table 9). Each site was monitored by 1 or 2 volunteers.

Table 9. 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 for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Carey Creek	080218	4	2.4	09/12 - 10/05	5	1	2003
East Fork Issaquah Cr.	080183	82	0.1	10/11 - 11/21	12	1	1997, 1998, 1999, 2003
Holder Creek	080178	127	1.4	09/14 - 12/30	22	1	1998, 1999, 2001, 2002, 2003
Issaquah Creek	080178	554	0.5	09/05 - 12/18	23	1	2003
		84	1.2	09/27 - 11/30	12	1	1998, 2003
		272	1.25	09/12 - 11/30	22	2	2001, 2002, 2003
		397	2.3	09/19 - 12/23	18	1	2001, 2002, 2003
		457	2.4	09/11 - 10/24	11	1	2001, 2002, 2003
		59	3.3	09/13 - 12/28	51	2	1997, 1998, 2000, 2001, 2002, 2003
		83	4.5	10/07 - 11/29	11	1	1998, 1999, 2001, 2002, 2003
		52	5.8	10/06 - 12/14	20	1	1998, 1999, 2000, 2003
		211	7.3	09/12 - 11/17	13	1	2003
		359	8.9	09/14 - 12/21	14	1	2001, 2003
McDonald Creek	080169	157	1.8	09/14 - 12/16	11	1	2003

Salmonids were reported in three of the five streams observed: East Fork Issaquah, Holder, and Issaquah creeks (Table 10). Chinook, coho, sockeye, and kokanee were all seen in Issaquah Creek. Coho and sockeye were observed in East Fork Issaquah Creek, and the lone fish reported in Holder Creek was a chinook on October 18.

Table 10. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Issaquah Creek Basin for the 2003 spawning season.

Stream	Site ID	RM	Chinook	Coho	Kokanee	Sockeye	Unid.
Carey Creek	4	2.4	-	-	-	-	-
East Fork Issaquah Cr.	82	0.1	-	4 (10/11 - 11/21)	-	13 (10/23 - 11/18)	3 (10/11 - 10/25)
Holder Creek	127	1.4	1 (10/18)	-	-	-	-
Issaquah Creek	554	0.5	2 (10/19 - 11/11)	5 (10/26 - 11/16)	-	-	6 (11/2 - 11/11)
	84	1.2	7 (9/27 - 10/24)	21 (10/1 - 10/15)	-	11 (10/1 - 11/15)	8 (10/1 - 11/30)
	272*	1.25	57 (9/20 - 10/8)	2 (10/1)	-	10 (9/27 - 11/15)	43 (10/1 - 11/22)
	397	2.3	167 (9/19 - 10/17)	108 (9/25 - 11/19)	10 (10/7 - 12/3)	-	2 (11/1)
	457	2.4	136 (9/11 - 10/11)	30 (9/29 - 10/24)	-	5 (10/3 - 10/24)	17 (9/17 - 10/24)
	59*	3.3	59 (10/3 - 10/19)	283 (10/9 - 12/13)	7 (10/3 - 10/29)	14 (10/9 - 11/8)	18 (10/3 - 12/20)
	83	4.5	24 (10/7 - 10/25)	11 (10/16 - 10/25)	-	16 (11/4 - 11/24)	33 (10/16 - 10/29)
	52	5.8	29 (10/14 - 11/8)	41 (10/17 - 11/22)	-	-	4 (10/11 - 10/29)
	211	7.3	6 (10/8)	9 (10/4 - 10/29)	-	1 (10/23)	49 (10/8 - 11/11)
359	8.9	22 (10/10 - 10/19)	3 (10/10 - 10/13)	-	39 (10/29 - 11/15)	1 (10/29)	
McDonald Creek	157	1.8	-	-	-	-	-

*Trout were also reported at this site.

Chinook and coho were observed at all sites watched in Issaquah Creek, including the uppermost site at RM 8.9 (at Cedar Grove Rd. and SE 156th St.). Sockeye were observed at almost every site in Issaquah Creek, including the upstream-most site. Only one site was watched in Carey Creek, Holder Creek, East Fork Issaquah Creek, and McDonald Creek. No adult spawners were observed in Carey or McDonald creeks.

In Issaquah Creek, one volunteer at site 457 noted on October 24 that most of dead fish on the bank were half buried by sediment from the flood caused by heavy rains three days prior. The volunteer noted salmon eggs scattered on gravel bar out of water. A different volunteer at site 359 on October 29 noted significant channel morphology changes resulting from the record storm. She noted that peak overnight flows in Issaquah Creek went from about 20 cfs to about 700cfs, according to USGS gauges.

The distributions of chinook, coho, and sockeye in the Issaquah Creek Basin determined from volunteer observations are shown in Figure 7.

Figure 7. Observations of salmonids in the Issaquah Creek Basin

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distroISS.pdf>).

North Lake Washington Tributaries

The North Lake Washington Tributaries are those streams flowing into the north end of Lake Washington (e.g., Denny, McAleer, and Thornton creeks, the Sammamish River). Volunteers surveyed 33 sites in 14 streams in 2002 (Figure 2). From 1 to 6 sites were watched per stream, and the total number of surveys ranged from 3 to 44 per site (Table 11). Each site was monitored by 1 or 2 volunteers.

Table 11. 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 for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Brookside Creek	080049	476	0.1	11/01 - 11/22	3	1	2001, 2002, 2003
Denny Creek	080228	5	0.1	09/16 - 12/31	32	1	1997, 2000, 2002, 2003
		556	0.48	09/16 - 12/31	32	1	2003
Horse Creek		277	0.1	09/15 - 12/31	27	1	2003
Juanita Creek	080230	68	0.2	09/13 - 11/22	11	1	1998, 2000, 2001, 2003
		195	0.65	09/10 - 12/30	36	2	2000, 2003
		390	1.8	09/29 - 11/09	12	2	2000, 2001, 2002, 2003
Lyons Creek	080052	427	0	10/03 - 12/16	11	1	2000, 2003
Maple Leaf Creek	080033	192	0.7	10/08 - 12/25	31	2	1999, 2000, 2001, 2002, 2003
McAleer Creek	080049	144	0.3	10/26 - 11/25	10	2	1997, 2001, 2002, 2003
		498	0.79	11/08 - 11/25	4	1	2001, 2002, 2003
		266	0.8	10/26 - 11/25	9	2	1999, 2000, 2001, 2002, 2003
		56	1.1	11/01 - 11/25	5	1	1997, 1998, 1999, 2000, 2001, 2002, 2003
		314	1.6	11/01 - 11/25	5	1	1997, 2000, 2001, 2002, 2003
		315	2.1	10/26 - 11/25	10	2	1997, 2001, 2002, 2003
Peters Creek	080104	47	0	10/03 - 11/17	11	1	1998, 2003
		452	0.5	09/13 - 12/26	33	1	2002, 2003
Sammamish River	080087	273	2.6	09/10 - 10/31	13	1	1999, 2003
		66	5	09/13 - 11/29	20	1	1998, 2002, 2003
		41	7.3	10/17 - 10/31	3	1	1998, 1999, 2001, 2002, 2003
		454	11.4	09/19 - 10/23	9	1	2002, 2003
		42	11.5	09/08 - 12/31	38	1	1998, 2002, 2003
		271	12.5	09/28 - 12/21	24	1	1997, 1999, 2001, 2002, 2003
Trib 0141 to Samm R.	080141	354	0	10/12 - 12/20	15	1	1998, 1999, 2000, 2003
		353	0.3	09/17 - 12/19	14	1	1997, 2000, 2001, 2002, 2003
		355	0.35	10/06 - 12/31	22	1	1999, 2000, 2001, 2002, 2003
Thornton Creek	080030	183	0.1	09/29 - 12/16	14	1	2002, 2003
		184	0.2	09/30 - 12/31	33	1	2002, 2003
		91	0.3	09/14 - 12/28	27	1	1999, 2000, 2001, 2002, 2003
		527	2.1	09/08 - 12/28	29	1	1999, 2000, 2001, 2002, 2003
		528	2.8	09/09 - 12/28	33	1	1999, 2000, 2003
Willow Creek	080102	388	0.05	10/13 - 11/27	13	2	2003
Woodin Creek		228	0.3	09/16 - 12/22	44	2	1999, 2002, 2003

Salmonids were found in 7 of the 14 streams surveyed in the North Lake Washington Tributaries (Table 12). Chinook were seen in the Sammamish River, and McAleer, Thornton, and Woodin creeks. Sockeye were observed in the Sammamish River, Horse Creek, and Peters Creek. Coho were observed in the Sammamish River and Lyons, Peters, and McAleer creeks. No salmonids were seen in Brookside, Denny, Juanita, Maple Leaf, or Willow creeks, or Tributary 0141 to the Sammamish River.

Table 12. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the North Lake Washington Tributaries for the 2003 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Unidentified
Brookside Creek	476	0.1	-	-	-	-
Denny Creek	5	0.1	-	-	-	-
	556	0.48	-	-	-	-
Horse Creek	277	0.1			7 (9/23 - 9/30)	17 (10/6 - 10/13)
Juanita Creek	68	0.2	-	-	-	-
	195	0.65	-	-	-	-
	390	1.8	-	-	-	-
Lyons Creek	427	0	-	1 (10/25)	-	-
Maple Leaf Creek	192	0.7	-	-	-	-
McAleer Creek	144	0.3	-	-	-	-
	498	0.79	1 (11/22)	-	-	-
	266	0.8	-	-	-	-
	56	1.1	1 (11/1)	-	-	-
	314	1.6	-	1 (11/1)	-	-
	315	2.1	-	-	-	2 (11/8 - 11/9)
Peters Creek	47	0	-	4 (10/14)	2 (10/6 - 10/14)	-
	452	0.5	-	-	-	-
Sammamish River	273	2.6	-	-	-	10 (9/23 - 10/3)
	66	5	-	-	-	-
	41	7.3	-	-	-	-
	454	11.4	6 (10/6 - 10/7)	3 (10/11)	168 (10/6 - 10/14)	3 (10/6)
	42	11.5	36 (9/8 - 10/1)	5 (10/3)	-	2 (9/8 - 11/30)
	271	12.5	7 (10/5 - 10/12)	29 (10/10 - 11/15)	1 (10/14)	86 (9/28 - 12/18)
Trib 0141 to Samm R.	354	0	-	-	-	-
	353	0.3	-	-	-	-
	355	0.35	-	-	-	-
Thornton Creek	183	0.1	-	-	-	-
	184	0.2	-	-	-	-
	91	0.3	1 (10/19)	-	-	1 (10/19)
	527	2.1	-	-	-	-
	528	2.8	-	-	-	-
Willow Creek	388	0.05	-	-	-	-
Woodin Creek	228	0.3	1 (9/22)	-	-	-

As in 2001 and 2002, 6 sites were observed in McAleer Creek in 2003. Only one chinook and two coho were identified in this stream in 2003, and two unidentified species were reported at the most upstream site, site 315 at RM 2.1 (Perkins and 2600 block).

One chinook and one unidentified species were the only two fish observed in Thornton Creek, which was watched as far as RM 2.8. The two fish were both observed on the same day at RM 0.3 (at 95th). Volunteers also watched one site on Maple Leaf Creek, a tributary to Thornton Creek. No fish were seen in Maple Leaf Creek in 2003.

The chinook observed in Woodin Creek was a dead chinook with no adipose fin (a hatchery chinook). This sighting marks the first time a chinook has been observed by a volunteer in Woodin Creek. In fact, no other adult salmonids have been reported in that stream by a volunteer till now.

Chinook, coho, and sockeye were all reported in the Sammamish River, and all three species were reported at the most upstream site, at Marymoor Park. Sockeye and coho were both reported at the mouth of Peters Creek; these species had not been reported in this stream by volunteers previously. Only one fish, a coho, was observed in Lyons Creek. This sighting is the first time an observer in the Salmon Watcher Program has reported a coho in this stream. Horse Creek, a tributary to the Sammamish River, was watched for the first time in 2003 close to its mouth, and sockeye were reported.

The distribution of chinook, coho, and sockeye in the North Lake Washington Tributaries determined from volunteer observations in 2003 are shown in Figure 8.

Figure 8. Observations of salmonids in the North Lake Washington Tributaries

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distribNORTHlakeWA.pdf>).

Sammamish River Tributaries

The Sammamish River Tributaries are those streams flowing into the Sammamish River from waters originating in Snohomish County⁴ (Little Bear, North, and Swamp creeks; Big Bear Creek is discussed separately above). Volunteers surveyed 22 sites on 7 Sammamish River tributaries in 2003 (Figure 2). From 1 to 10 sites were watched per stream, and the total number of surveys ranged from 3 to 83 per site (Table 13). Each site was monitored by 1 or 2 volunteers, except site 536 on North Creek, which was monitored by 4 volunteers.

Table 13. 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 for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Filbert Creek		543	0.4	09/27 - 12/11	10	1	2003
Great Dane Creek	080084	481	0.1	09/27 - 12/11	11	1	2001, 2003
Little Bear Creek	080080	67	0.2	09/13 - 11/29	31	2	1997, 1998, 1999, 2001, 2002, 2003
		176	1.3	09/12 - 11/30	24	2	1997, 2000, 2001, 2002, 2003
		312	1.5	09/17 - 11/29	22	2	1997, 2002, 2003
		14	1.9	09/11 - 11/29	20	2	1999, 2000, 2002, 2003
Little Swamp Creek	080060	505	0.24	09/13 - 12/29	27	1	2002, 2003
North Creek	080070	438	0.01	09/13 - 12/26	30	1	2000, 2003
		112	0.9	09/13 - 10/18	3	1	1998, 1999, 2000, 2001, 2002, 2003
		408	0.95	09/13 - 10/18	3	1	2000, 2001, 2002, 2003
		113	1.5	09/13 - 11/25	21	1	1998, 2000, 2001, 2003
		255	1.8	09/15 - 10/21	9	1	1999, 2000, 2001, 2002, 2003
		142	3.5	10/08 - 10/29	8	1	1997, 2001, 2003
		553	3.6	09/26 - 10/31	12	1	2003
		141	4	10/11 - 12/11	9	1	1997, 1999, 2000, 2003
		536	4.5	09/16 - 12/27	83	4	2003
		140	5.3	09/27 - 10/09	9	1	1997, 2001, 2003
Penny Creek	080077	262	2.2	09/23 - 09/29	3	1	1999, 2000, 2003
Swamp Creek	080059	34	0.3	09/16 - 12/29	33	2	1997, 1999, 2000, 2002, 2003
		479	6.4	10/04 - 12/27	8	1	2001, 2003
		239	8.3	09/18 - 10/31	12	1	1999, 2000, 2003
		572	11.3	10/15 - 12/01	5	1	2003

⁴ Data reported from sites located in Snohomish County may also be reported by the Snohomish County Salmon Watchers.

Salmonids were found in 3 of the 7 streams surveyed (Table 14). Sockeye were the most commonly seen species in the Sammamish River Tributaries. They were observed in Little Bear, North, and Horse creeks. As in 2002, chinook and kokanee were observed in Little Bear and North creeks. Coho were reported in North and Swamp creeks. No fish were observed in Filbert, Great Dane, Little Swamp, or Penny creeks.

A new site was established on Swamp Creek at RM 11.3 (at Locust Way), and a dozen coho were reported there. This new site is the most upstream-site now established on Swamp Creek and therefore the upper-most sighting of coho by volunteers in Swamp Creek. In fact, these are the first fish reported in Swamp Creek by volunteers since the program began. No other fish were reported in Swamp Creek.

Chinook, sockeye, and kokanee were all observed in Little Bear Creek, as was one chum. Sockeye and kokanee were observed as far as the upstream-most site surveyed, RM 1.9 (NE 205th St.). Chinook were observed as far north as RM 1.5 (NE 195th St.), and this is also where the chum was reported. The timing of the chum observation indicates the fish may have actually been a sockeye; sockeye are often mistaken for chum when fungus on their sides begins to look like the vertical bars of the chum. However, chum were observed in some tributaries to Lake Sammamish later in the year during 2003.

Chinook, coho, sockeye, kokanee, and chum were all reported in North Creek. Chinook were observed up to RM 1.8 (240th St. SE). Coho and sockeye were observed up to RM 4.5 (208th St. SE). Two kokanee were observed at RM 1.5 (northern loop of North Creek Pkwy). Two chum were also reported at this site. No fish were observed at site 140, the most upstream site surveyed in North Creek, at RM 5.3 (196th St. SE). Again, the timing was too early for these to be chum in all likelihood.

Table 14. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Sammamish River Tributaries for the 2003 spawning season.

Stream	Site ID	RM	Chinook	Coho	Sockeye	Kokanee	Chum	Unidentified
Filbert Creek	543	0.4	-	-	-	-	-	-
Great Dane Creek	481	0.1	-	-	-	-	-	-
Little Bear Creek	67	0.2	5 (9/17 - 10/7)	-	124 (9/29 - 10/25)	2 (9/30)	-	7 (9/14 - 10/14)
	176	1.3	2 (10/13)	-	33 (10/2 - 10/17)	-	-	1 (10/8)
	312	1.5	4 (10/5 - 10/17)	-	45 (9/21 - 11/1)	4 (10/30)	1 (10/19)	5 (9/17 - 11/15)
	14	1.9	-	-	100 (9/23 - 11/9)	4 (10/7)	-	3 (9/13 - 10/7)
Little Swamp Creek	505	0.24	-	-	-	-	-	-
North Creek	438*	0.01	7 (9/20 - 10/31)	2 (10/28 - 10/31)	52 (9/20 - 11/12)	-	-	-
	112	0.9	-	-	-	-	-	-
	408	0.95	-	-	21 (10/18)	-	-	-
	113*	1.5	7 (10/4 - 10/10)	1 (10/18)	102 (9/17 - 10/30)	2 (10/4)	2 (10/10)	4 (11/11 - 11/20)
	255	1.8	4 (9/26 - 10/7)	-	19 (9/23 - 10/10)	-	-	1 (10/7)
	142	3.5	-	1 (10/23)	5 (10/8 - 10/19)	-	-	-
	553	3.6	-	1 (10/29)	15 (9/26 - 10/12)	-	-	-
	141	4	-	-	-	-	-	-
	536	4.5	-	11 (10/19 - 10/27)	9 (10/18 - 10/19)	-	-	5 (10/13)
140	5.3	-	-	-	-	-	-	
Penny Creek	262	2.2	-	-	-	-	-	-
Swamp Creek	34	0.3	-	-	-	-	-	-
	479	6.4	-	-	-	-	-	-
	239	8.3	-	-	-	-	-	-
	572	11.3	-	12 (10/16 - 10/22)	-	-	-	-

*Trout were also reported at this site.

The distributions of chinook, coho, sockeye, and kokanee in the Sammamish River Tributaries determined from volunteer observations are shown in Figure 9.

Figure 9. Observations of salmonids in the Sammamish River Tributaries

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distroSAMMriverTRIBS.pdf>).

West Lake Sammamish Basin

Volunteers surveyed 6 sites on 4 streams in the West Lake Sammamish Basin (Table 15). One or 2 sites were watched per stream, and the total number of surveys ranged from 21 to 83 per stream. Each site was monitored by 1 to 3 volunteers.

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 West Lake Sammamish Basin for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Idylwood Cr.	080143	423	0.1	09/20 - 12/18	21	1	2000, 2001, 2002, 2003
Lewis Creek	080162	327	0.1	09/06 - 12/31	83	3	1997, 2001, 2002, 2003
		283	0.5	09/15 - 12/31	62	2	1999, 2001, 2002, 2003
Sunrise Cr.	080161	365	0.2	09/15 - 12/29	32	1	2001, 2003
Vasa Creek	080156	323	0	09/06 - 12/30	56	2	1997, 2001, 2002, 2003
		39	0.5	09/10 - 12/30	33	1	1999, 2000, 2001, 2002, 2003

Salmonids were found in 3 of the 4 streams surveyed (Table 16). Kokanee were observed at both sites watched in Lewis Creek and Vasa Creek, up to RM 0.5 on Vasa Creek (SE 38th) and up to RM 0.5 on Lewis Creek (West Lake Sammamish Pkwy.). Coho and sockeye were also reported up to RM 0.5 on Lewis Creek. The only fish reported in Idylwood Creek was an unidentified species in early December. No fish were reported in Sunrise Creek in 2003.

Table 16. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Sammamish River Tributaries for the 2003 spawning season.

Stream	Site ID	RM	Kokanee	Coho	Sockeye	Unidentified
Idylwood Cr.	423	0.1	-	-	-	1 (12/3)
Lewis Creek	327	0.1	847 (11/5 - 12/31)	-	-	-
	283	0.5	161 (10/23 - 12/29)	1 (11/24)	2 (11/11 - 11/15)	2 (10/29 - 11/1)
Sunrise Cr.	365	0.2	-	-	-	-
Vasa Creek	323	0	5 (11/26 - 11/30)	-	-	-
	39	0.5	1 (12/14 - 12/14)	-	-	-

East Lake Sammamish Basin

Volunteers surveyed 3 sites on 2 streams in the West Lake Sammamish Basin (Table 17). One or 2 sites were watched per stream, and the total number of surveys ranged from 4 to 38 per stream. Each site was 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 East Lake Sammamish Basin for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Ebright Creek	080149	7	0.2	09/17 - 12/31	38	2	2001, 2003
		469	1.2	09/12 - 12/03	4	1	2003
Laughing Jacobs Cr.	080166	174	0.2	09/09 - 12/30	34	1	2003

Salmonids were found in 1 of the 2 streams surveyed (Table 18). A high number of kokanee and sockeye were observed in Ebright Creek. No fish were reported in Laughing Jacobs Creek in 2003.

Table 18. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the East Lake Sammamish Basin for the 2003 spawning season.

Stream	Site ID	RM	Kokanee	Sockeye	Unidentified
Ebright Creek	7	0.2	708 (11/24 - 12/31)	162 (11/7 - 11/30)	14 (11/24 - 12/3)
	469	1.2	-	-	-
Laughing Jacobs Cr.	174	0.2	-	-	-

West Lake Washington Basin

Volunteers surveyed 2 sites on Taylor Creek in the West Lake Washington Basin (Figure 2). The total number of surveys ranged from 25 to 29 per site (Table 19). Both sites watched were monitored by 2 volunteers. No fish were observed in this stream.

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 West Lake Washington Basin for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Taylor Creek	—	223	0.1	09/27 - 12/31	29	2	2001, 2002, 2003
		225	0.3	09/09 - 12/17	25	2	1999, 2002, 2003

Vashon Island

Volunteers surveyed 15 sites in 5 streams on Vashon Island in 2003 (Figure 2). From 1 to 8 sites were watched per stream, and the total number of surveys ranged from 9 to 41 per site (Table 20). All sites were monitored by 1 or 2 volunteers.

Table 20. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers, and years the sites were watched for each stream surveyed on Vashon Island for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Christensen Creek		497	0	10/14 - 12/28	16	1	2001, 2002, 2003
Fisher Creek	150140	485	0.1	11/21	1*	1	2001, 2002, 2003
Judd Creek	150129	564	2.2	10/14 - 12/11	9	1	2003
		489	0.75	10/13 - 12/23	41	1	2001, 2003
		490	0.9	10/09 - 01/04/04	26	1	2001, 2003
		540	1.23	10/26 - 12/19	10	1	2002, 2003
		492	1.25	10/26 - 12/28	13	1	2001, 2002, 2003
		491	1.4	10/10 - 01/06/04	23	1	2002, 2003
		535	1.79	10/23 - 12/20	20	2	2002, 2003
		493	1.8	10/21 - 12/20	16	1	2001, 2002, 2003
Judd Cr. Tributary		534	0	10/13 - 01/16/04	30	2	2002, 2003
Shinglemill Creek	150159	146	0	10/21 - 12/30	14	1	1998, 2001, 2002, 2003
		147	0.2	10/11 - 12/31	19	2	1998, 2001, 2002, 2003
		148	0.5	10/18 - 12/29	21	2	1998, 2001, 2002, 2003
		151	1.2	10/23 - 01/19/04	23	1	1998, 2001, 2002, 2003

*Volunteers filled out only one line of data, but they said they observed almost every day from November 6th through the 21st.

Salmonids (other than trout) were found in four of the five streams surveyed (Table 21). Chum were observed in Fisher Creek and Judd Creek. Coho were observed in Judd Creek and in a tributary to Judd as well as in Shinglemill Creek. No adult salmonids (other than one trout) were observed in Christensen Creek.

Table 21. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed on Vashon Island for the 2003 spawning season.

Stream	Site ID	RM	Coho	Chum	Unidentified
Christensen Creek	497*	0	-	-	-
Fisher Creek	485	0.1	-	2 (11/21)	-
Judd Creek	489	0.75	25 (10/28 - 12/13)	113 (11/17 - 12/23)	-
	490	0.9	2 (12/7)	74 (11/29 - 1/4/04)	-
	540	1.23	13 (10/26 - 11/26)	1 (12/2)	-
	492	1.25	1 (11/16)	-	1 (12/5)
	491	1.4	40 (10/18 - 12/8)	-	6 (10/27 - 10/27)
	535	1.79	-	40 (10/27 - 12/13)	1 (11/24)
	493	1.8	7 (10/21 - 12/3)	-	-
	564	2.2	12 (10/23 - 11/25)	-	1 (11/13)
Judd Cr. Tributary	534	0	20 (10/21 - 11/29)	-	-
Shinglemill Creek	146	0	-	-	-
	147	0.2	-	-	-
	148	0.5	1 (11/22)	-	-
	151	1.2	1 (10/23)	-	-

*A single trout was reported in this stream on November 11.

Coho and chum were both observed in Judd Creek. Coho were observed up to the upstream-most site watched, site 564 at RM 2.2. Coho had never been reported this far upstream in Judd by volunteers previously. Coho were also observed for the first time at the mouth of a tributary flowing into Judd Creek.

One coho was observed at each of the two most upstream sites watched on Shinglemill Creek. Two chum were observed at the only site watched on Fisher Creek (just upstream from the mouth).

The distributions of coho and chum on Vashon Island determined from volunteer observations are shown in Figure 10.

Figure 10. Observations of salmonids on Vashon Island

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405distrVashon.pdf>).

Central Puget Sound

Data on the Central Puget Sound streams are presented here but not analyzed at length. Some of these streams have been observed and reported on in past years. The streams with data from past years include Boeing Creek, Longfellow Creek, Miller Creek, Pipers Creek, and Walker Creek. Adult salmon were observed in all streams observed that drain to the Sound.

Table 22. Stream number, site ID, site location (listed in river miles, RM), survey dates, total number of surveys, number of volunteers, and years the sites were watched for each stream surveyed in the Central Puget Sound for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Boeing Creek	080017	436	0.1	11/17 - 12/16	7	1	2000, 2001, 2002, 2003
Longfellow Creek	090360	177	0.6	10/05 - 12/28	40	2	1999, 2000, 2001, 2002, 2003
		178	0.7	10/01 - 12/30	19	1	1999, 2000, 2002, 2003
		179	0.8	10/05 - 11/29	10	1	1998, 1999, 2000, 2001, 2002, 2003
		180	0.9	09/30 - 10/31	7	1	1999, 2000, 2001, 2002, 2003
Miller Creek	090371	417	0.1	09/13 - 12/26	40	1	2000, 2001, 2002, 2003
		458	0.4	10/13 - 11/23	10	1	2001, 2002, 2003
		574	0.6	10/22 - 12/23	16	1	2003
Pipers Creek	080023	70	0	10/03 - 12/30	32	2	1999, 2000, 2001, 2002, 2003
		381	0.3	09/13 - 12/31	61	2	2001, 2002, 2003
		182	0.4	09/30 - 12/24	30	2	1999, 2003
		99	0.5	10/06 - 12/29	22	1	1999, 2002, 2003
Walker Creek		499	0	10/13 - 11/23	10	1	2001, 2003
		473	0.1	10/13 - 11/23	10	1	2001, 2002, 2003

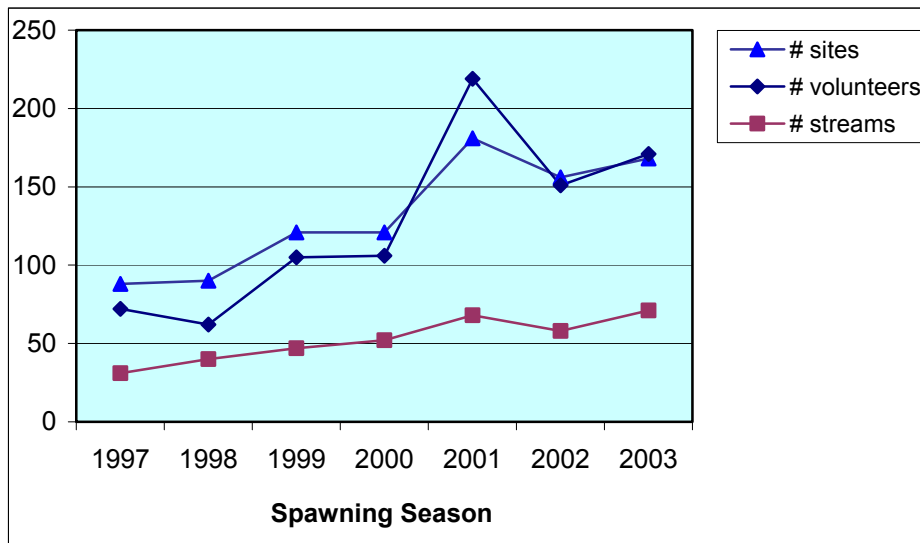
Table 23. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in Central Puget Sound for the 2003 spawning season.

Stream	Site ID	RM	Chum	Coho	Unidentified
Boeing Creek	436	0.1	160 (11/17 - 12/16)	6 (11/29 - 12/3)	-
Longfellow Creek	177	0.6	-	-	-
	178	0.7	-	6 (10/27 - 11/26)	7 (12/22 - 12/30)
	179	0.8	-	-	-
	180	0.9	-	1 (10/26)	-
Miller Creek	417	0.1	2 (12/8 - 12/13)	3 (10/17 - 10/31)	1 (12/15)
	458	0.4	1 (11/17)	4 (10/29)	-
	574	0.6	-	-	1 (11/17)
Pipers Creek	70	0	42 (11/29 - 12/26)	-	-
	381	0.3	31 (12/3 - 12/18)	-	22 (11/30 - 12/23)
	182	0.4	-	-	-
	99	0.5	-	-	-
Walker Creek	499	0	-	-	1 (11/23)
	473	0.1	-	4 (11/17 - 11/23)	1 (11/13)

Volunteer Activity

The trend in the number of volunteers participating in the Salmon Watcher Program has steadily increased over the 8 years of the program (Figure 11). In 2001 the number of volunteers in the program spiked (numbers more than doubled from 106 in 2000 to 219 in 2001). 2001 was the only year that all of Puget Sound drainages were included in the program, and not including Vashon volunteers, that meant an additional 39 volunteers that were not reported before or since. The number of sites and number of volunteers for 2002 and 2003 are nearly identical, but it should be noted that many volunteers watch more than one site, and many sites have more than one volunteer watching at it. It is a coincidence that the numbers come out almost evenly.

Figure 11. Number of volunteers (defined as an individual, pair, or group) watching in the program area⁵ and number of sites and streams watched from 1997⁶-2003.



⁵ Program area was Lake Washington Watershed and Vashon in 2002 and 2003, Lake Washington Watershed, Vashon, and Central Puget Sound in 2001, and only Lake Washington Watershed in years prior to 2001.

⁶ Numbers for 1996 are not depicted because many volunteers walked stream reaches, whereas in all other years volunteers watched from stationary positions, and many volunteers were trained differently as part of the kokanee watcher program. In 1997, 30 streams and 16 beach sites were watched; the 16 beach sites were counted in 1997 as 1 site.

Contact with Citizens

Volunteers were asked to keep track of how many citizens they came into contact with during their time by the streams. Salmon Watcher volunteers spoke with at least 1,118 citizens during the 2003 spawning season. Types of citizen contacts ranged from passers-by in parks and along roads to horse-back riders to entire groups of school children. Table 24 details the numbers of citizens who interacted with volunteers.

Table 24. Number of citizen contacts made by all Salmon Watcher volunteers in each of the surveyed basins.

Big Bear Creek	Cedar River	Central Puget Sound	E. Lake Wash.	Green River Basin	Issaquah Creek	N. Lake Wash. ¹	Samm. River Tribs.	Vashon Island	W. Lake Samm.	W. Lake Wash.
234	136	139	183	6	41	201	54	67	48	5

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

Time Spent by Volunteers

Salmon Watcher volunteers are asked to record the start and end times of each site visit. Occasionally, some volunteers forget to fill in that part of the data sheet. Nonetheless, Table 25 illustrates the approximate amount of time spent by volunteers in each basin. More than 1,235 hours were volunteered in the Lake Washington Watershed and on Vashon Island and another 105 hours in the Central Puget Sound, Snoqualmie, and Green River basins.

Table 25. Number of hours spent by Salmon Watcher volunteers in each of the surveyed basins.

Big Bear Creek	Cedar River	Central Puget Sound	E. Lake Wash.	Green River Basin	Issaquah Creek	N. Lake Wash.	Samm. River Tribs.	Snoqualmie River	Vashon	W. Lake Samm.	W. Lake Wash.
162	208	93	272	10	71	202	71	2	122	94	14

Limitations of Volunteer Data

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

Every year volunteers from previous years return, and new volunteers enter the program who must learn to identify the different species of salmonids they might encounter in their assigned streams. For example, in 2003, 44 percent of Lake Washington Watershed volunteers were returnees. The variation in numbers of new versus returning volunteers each year likely has an effect on the accuracy of identification from year to year. However, if accuracy of data is decreased because of an increase in new volunteers each year, new efforts by Salmon Watcher staff to increase the accuracy of reporting by *all* volunteers should work to offset any possible decrease and actually enhance identification every year (see “Quality Assessment/Quality Control”).

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

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

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

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

With very few exceptions, because most or all of these parameters are different for every stream surveyed from 1996 through 2003, comparisons of raw data likely would not yield valid information about changes in populations. Therefore, the best use for the data is in determining presence of fish and mapping fish distribution.

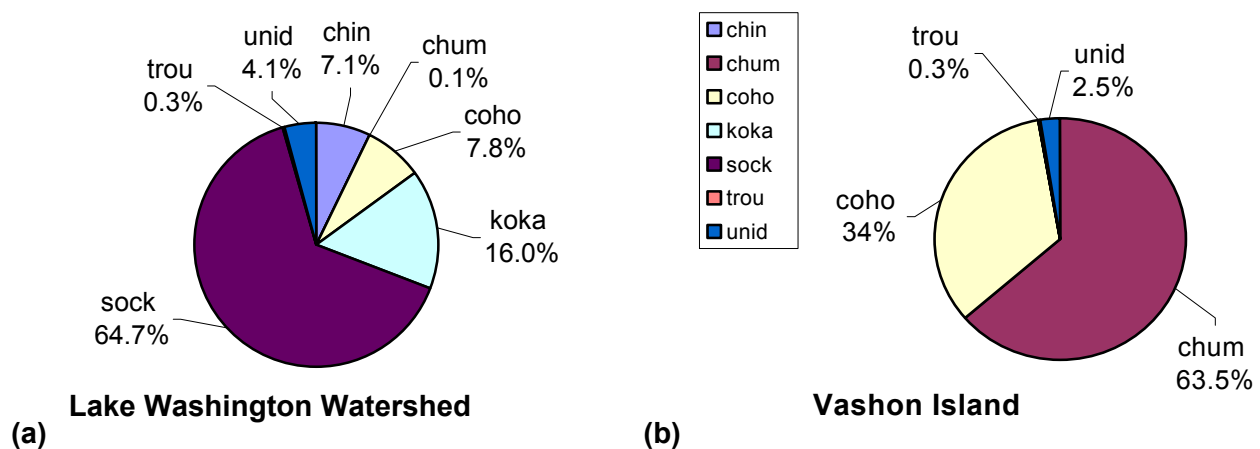
Species Summary

Salmon Watcher Program volunteers recorded observations of all salmonid fish located during surveys, including chinook, coho, chum, and sockeye salmon, kokanee (resident form of sockeye), and trout (which may have been cutthroat or rainbow trout). The ratios of all fish observed, including unidentified fish, is depicted in Figure 12a for the Lake Washington Watershed and 12b for Vashon Island.

Of the 71 streams in the study area surveyed in 2003, sockeye were found in 22 streams. Coho were found in 27 streams, chinook in 16 streams, kokanee were observed in 7 streams, and trout were reported in 6 streams. Sockeye was the most abundant species counted by volunteers in the Lake Washington Watershed, followed by kokanee. Chum were observed in 2 streams on Vashon Island, and they were also reported but not verified in 3 Lake Washington Watershed streams.

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 falsely identifying a species). Of the 11,371 total adult fish observed in the Lake Washington Watershed and Vashon Island in 2003, 457 were unidentified (4.02 percent). Unidentified adult salmonids were counted in 29 streams.

Figure 12. Percentage of total fish observed in 2003 by volunteers in (a) the Lake Washington Watershed and in (b) Vashon Island.



Marked Fish, Tagged Fish, and Juveniles

On the data forms, one column asked the volunteers to note the “# of fish without adipose.” Most volunteers did not fill in this column, or often they noted they could not tell. Indeed, water clarity must be excellent and the fish must be close and somewhat still in order to determine the presence of an adipose fin. Of those who did respond numerically to this question, by far the greatest number of adipose-clipped fish was in Issaquah Creek. These high numbers make sense because the hatchery in Issaquah Creek clips their juveniles before releasing them.

Only coho and chinook should have been missing adipose fins, as they are the only fish released from the Lake Washington Watershed that have been adipose clipped. For the most part, reports of missing adipose fins are consistent with this scenario. Adipose-clipped coho were reported in Coal Creek, Issaquah Creek, one coho each in the Sammamish River and Seidel Creek, and two coho in Taylor Creek (which is a tributary to the Cedar River). One clipped coho was also reported in Judd Creek on Vashon Island; it is

possible that either this fish strayed to Judd Creek or it had an adipose fin intact but not visible to the observer.

Adipose-clipped chinook were reported in Cottage Lake Creek, Issaquah Creek, Kelsey Creek, the Sammamish River, West Trib. Kelsey Creek, and one in Woodin Creek (easily observed as it was dead on the bank).

No sockeye from hatcheries in the Lake Washington Watershed had their adipose fins clipped. However, volunteers reported some sockeye without adipose fins in Issaquah Creek (2), Little Bear Creek (7), North Creek (1), and in an unnamed tributary to the Cedar River (1). A total of 11 sockeye were misreported. This apparent discrepancy indicates that either the fish species was misidentified or the adipose fin was actually present, but the volunteer incorrectly reported its absence.

Sockeye were tagged during a 2003 study as the fish came through the Ballard Locks. Four sockeye were observed by Salmon Watcher volunteers with tags: two tagged sockeye were seen in a tributary to the Cedar (site 557), one was seen in Rock Creek (site 154), and one was seen in Little Bear Creek (site 312).

Volunteers made note of fry and/or juvenile fish in all basins in a total of 31 streams. Based upon notes the volunteers wrote on their data sheets, it has become increasingly clear that the instructions on the data sheets were sometimes misinterpreted. The instructions defined juvenile fish as any fish smaller than 6-8". However, some volunteers interpreted the question as only wanting fish between 6 and 8 inches noted. So it is likely that the presence of some juveniles fish and fry went unrecorded.

Chinook Salmon

Chinook were observed in 6 basins in the study area during the 2003 surveys (Figure 13). A total of 730 live fish and 50 carcasses were found in 17 streams throughout the Lake Washington Watershed. These numbers are almost identical to numbers in 2002. Streams in which chinook were reported include (in order of most to least fish seen): Issaquah Creek, Big Bear Creek, Cottage Lake Creek, Sammamish River, Kelsey Creek, North Creek, West Trib. Kelsey Creek, Little Bear Creek, Mercer Slough, unnamed tributary to Cedar River, Walsh Lake Diversion, McAleer Creek, and one each in Woodin Creek, another unnamed tributary to the Cedar River, Thornton Creek, Holder Creek, and the Cedar River.

Chinook were reported for the first time in Walsh Lake Diversion, a tributary to the Cedar River; this observation also extended the distribution of chinook in the Cedar River, as reported by Salmon Watchers. Only 9 chinook were observed in the Cedar basin, and of those, only 1 was in the Cedar River. Chinook were reported by Salmon Watchers for the first time in Woodin Creek, a small tributary to the Sammamish River.

Figure 13. Distribution of chinook salmon in the program area based on Salmon Watcher observations

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405ChinookDistribution.pdf>).

Sockeye Salmon

Sockeye were by far the most numerous fish counted by volunteers. Sockeye were observed in 6 basins (Figure 14). A total of 6,339 live fish and 788 carcasses were observed in 22 streams (in order of most to least fish seen): Cedar River, Rock Creek, unnamed tributary to the Cedar River, Big Bear Creek, Little Bear Creek, North Creek, Sammamish River, Ebright Creek, Issaquah Creek, Walsh Lake Diversion, Cottage Lake Creek, Richards Creek, East Fork Issaquah Creek, May Creek, Horse Creek, another unnamed tributary to the Cedar River, Taylor Creek (trib. to Cedar), Kelsey Creek, Peters Creek, Mercer

Slough, Lewis Creek, and Cold Creek. Because sockeye require a lake environment for part of their life history (Wydoski and Whitney 1979), they are not expected in Puget Sound streams, such as the streams on Vashon Island.

Sockeye were reported for the first time in Walsh Lake Diversion, a tributary to the Cedar River; this observation also extended the distribution of sockeye in the Cedar River, as reported by Salmon Watchers. Sockeye were observed by Salmon Watchers for the first time in 2003 in four additional streams: an unnamed tributary to the Cedar, Peters Creek (a tributary to the Sammamish River), Horse Creek (a tributary to North Creek), and in Ebright Creek (drains to Lake Sammamish).

Sockeye observations were not as many in 2003 as they often have been in the past. Because of low numbers counted in the Ballard Locks as of July 2003, there was no sockeye fishery in Lake Washington in 2003.

Figure 14. Distribution of sockeye salmon in the program area based on Salmon Watcher observations

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405SockeyeDistribution.pdf>).

Coho Salmon

Coho were observed in 7 Lake Washington Watershed basins and on Vashon Island (Figure 15). A total of 811 live coho and 43 carcasses were found in 22 streams in the Lake Washington Watershed (in order of most to least fish seen): Issaquah Creek, Bear Creek, Sammamish River, Coal Creek, North Creek, Swamp Creek, Cold Creek, Cottage Lake Creek, Evans Creek, tributary to Bear Creek, Peters Creek, Kelsey Creek, East Fork Issaquah Creek, tributary to Cedar River, Taylor Creek (trib. to Cedar River), Goff Creek, Struve Creek, Seidel Creek, Richards Creek, McAleer Creek, Lyons Creek, and Lewis Creek. A total of 122 live coho were found in 3 streams on Vashon Island: Judd Creek and one of its tributaries and in Shinglemill Creek.

Coho were reported for the first time by Salmon Watchers in Seidel Creek (site 378), one unnamed tributary to the Cedar River, Goff Creek (a tributary to West Trib. Kelsey Creek), Lyons Creek at the mouth (drains directly into Lake Washington), and Peters Creek at the mouth (tributary to the Sammamish River).

The distribution as reported by Salmon Watchers is expanded significantly in Swamp Creek from RM 7.1 to RM 11.3. Coho in that stream were observed on two different occasions in October by the same volunteer, who counted a total of 13 coho. The known coho distribution as observed by Salmon Watchers is expanded in Judd Creek during 2003 observations at RM 2.2.

Figure 15. Distribution of coho salmon in the program area based on Salmon Watcher observations

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405CohoDistribution.pdf>).

Kokanee

Kokanee were observed in 5 basins (Figure 16). A total of 1,510 live fish and 249 carcasses were found in 7 streams (in order of most to least fish seen): Lewis Creek, Ebright Creek, Issaquah Creek, Little Bear Creek, Bear Creek, Vasa Creek, and North Creek. The kokanee distribution maps in previous annual Salmon Watcher reports mistakenly did not show the extent of observations in Vasa Creek and Bear Creek. This 2003 map supercedes all previous maps.

Figure 16. Distribution of kokanee in the program area based on Salmon Watcher observations

(see <http://dnr.metrokc.gov/wlr/waterres/salmon/Maps/2003/0405KokaneeDistribution.pdf>).

Chum

On Vashon Island, a total of 193 live chum and 37 carcasses were found in 2 streams on Vashon Island (in order of most to least fish seen): Judd Creek and Fisher Creek. Only 1 live and 1 dead fish were found on Fisher; the remaining chum were found in Judd Creek. Additionally, 5 live chum and 1 carcass were reported in 3 Lake Washington Watershed streams: Bear Creek, North Creek, and Little Bear Creek. The volunteer in Bear Creek was confident of her identifications; the volunteers in the other creeks were not interviewed as to their confidence level, and it is possible the fish were actually sockeye or coho.

Trout and Unidentified Species

Trout were reported in 6 streams in 5 basins, including Vashon. Trout may have been cutthroat or rainbow or steelhead trout. Although all species are discussed in training, it is generally too difficult to distinguish these species in the field. Fish of unidentified species (457) were observed throughout the study area. Issaquah Creek (181) and the Sammamish River (101) had the most unidentified species reported.

References

- Brannon, E.L., and E.O. Salo, editors. 1982. Proceedings, salmon and trout migratory behavior symposium. University of Washington, College of Fisheries, Seattle.
- Vanderhoof, J. 2001. 2000 volunteer salmon watcher program in the Lake Washington Watershed. King County Department of Natural Resources, Seattle, WA.
- 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.
- Wydoski, R., and R. Whitney. 1979. Inland Fishes of Washington. University of Washington Press, Seattle, WA.

Appendices

- A. Other Streams Outside the Program Area
- B. Data Collection Form used in 2003
- C. Fautleroy Creek Salmon Watch 2003 Summary

Appendix A.

Other Streams Outside the Program Area

Snoqualmie Basin

Volunteers surveyed one site on a tributary to Tuck Creek in the Snoqualmie Basin (Table A1). Two coho were observed in this basin (Table A2).

Table A1. 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 Snoqualmie Basin for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Tributary 070272 to Tuck Creek	070272	487	0	12/04 - 12/22	8	1	2001, 2002, 2003

Table A2. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Snoqualmie River Basin for the 2003 spawning season.

Stream	Site ID	RM	Coho
Tributary 070272 to Tuck Creek	487	0	2 (12/4 - 12/15)

Green/Duwamish Basin

Volunteers surveyed three sites on Soos Creek in the Green River Basin (Table B1). Chum were observed at all three sites (Table B2).

Table B1. 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 for the 2003 spawning season.

Stream	Stream #	Site ID	RM	Survey Dates	# Surveys	# Vols.	Years Watched
Soos Creek	090072	519	7.1	10/18 - 11/30	6	1	2002, 2003
		521	8.2	10/08 - 12/07	11	1	2002, 2003
		522	10.7	10/08 - 12/24	12	1	2002, 2003

Table B2. Site ID, RM, and fish counts (live and dead) with dates seen at each stream surveyed in the Snoqualmie River Basin for the 2003 spawning season.

Stream	Site ID	RM	Coho	Unidentified
Soos Creek	519	7.1	6 (10/30 - 11/30)	
	521	8.2	36 (10/23 - 12/7)	1 (11/12)
	522*	10.7	122 (10/23 - 12/24)	

*Trout were also reported at this site.

Appendix B.

Data Collection Form used in 2003

Appendix C.

Fauntleroy Creek Salmon Watch 2003 Summary

SALMON WATCH 2003: FAUNTLEROY CREEK

Once again our salmon count was disappointing, but we were encouraged by the continuing interest of our volunteers. A nod once again, as well, to our volunteer leadership team: Sherry Richardson (watcher liaison), Tom Linde (monitoring), Steev Ward (biology), Phil Sweetland (logistics), Judy Pickens (coordination), and Dennis Hinton (media relations).

THE NUMBERS

Number of coho spawners sighted: 4

Number of redds: 1

Number of carcasses found: 0

Number of students hosted: 16

Number of visitors observed at the viewpoint: 192

WATCH METHODOLOGY

Our watch procedure was the same as last year. Scheduled for 30-minute increments, volunteers watched during the five hours after daylight high tide. Thus, we were able to have volunteers on duty at the most opportune times. Watchers were responsible for signing up for time slots and finding a substitute if they were unable to come as scheduled.

Watchers performed a walk-through of the spawning reach to become familiar with subtle changes, noting any fish, carcasses, redds, or changes in the water or surroundings. Our form also encouraged notation of observations they deemed relevant. Had we had numerous fish, watchers would also have done a stationery count from a bridge to record fish that went upstream and stayed there.

We provided a supply of forms on plain paper for dry days and "Rite in the Rain" paper for wet days. Watchers picked up a fresh form at the start of each visit and returned the completed form to a notebook kept available to volunteers and agency staff throughout the watch.

We recorded weather conditions (barometric pressure and local precipitation) and monitored the cove for spawners. Exceptional flow during a major storm in late October punched through the sand berm on the beach to restore a stable mouth, greatly reducing the need for volunteers to shift logs to keep the mouth open.

VOLUNTEER RECRUITMENT AND COMMUNICATION

We relied heavily on returning watchers from last year and recruited new volunteers at our neighborhood fall-festival celebration in mid October. We also posted fliers and published a call for volunteers in community and church newsletters, on the community Website, and in the *West Seattle Herald*. A feature column in the *Herald* about the drumming included a way to inquire about watching.

New watchers and those who wanted refresher training came for one of two on-site training sessions. The packet each watcher received provided details in writing about methodology, guidelines for reducing spawner stress, and scheduling instructions, plus a layout of the host property. Bob Spencer with Seattle Public Utilities provided the pocket folders, as well as

handouts about where to see salmon when in the region, brochures on natural yardcare and creek stewardship, and anti-glare glasses.

Except for a few watchers without Internet access (whom we telephoned), we relied on mass e-mails to provide not only information but also encouragement and a sense of participation during the six-week watch (October 23 - December 6). Forms, equipment, the master schedule, and updated information were continuously available to them on the Pickens/Sweetland porch - our "communication center."

COMMUNITY INTEREST

For our 33 veteran watchers and newcomers alike, the watch offered a "front-row seat" to observe the delicate balance between habitat and salmon, the tragic consequences of human impact, and the potential of community stewardship. Watchers ranged in age from children to elders (two from the nearby Kenney Home). Some volunteered as a family and some watched with friends. One middle-school student applied watch hours toward her community-service requirement.

Though difficult to gauge, the scarcity of spawners for the second year in a row may have begun to influence community interest. Potentially noteworthy in this regard:

- 16 of the 49 people we recruited did not follow through to become watchers. Several who did said that their time at the creek was a welcome respite, with or without fish, but "with" was clearly preferred.
- Three new teachers were among schools and home-school groups that scheduled field trips. All but one school, though, cancelled for lack of fish.
- The number of viewpoint visitors observed by watchers was down by 40 percent from last year.

For the third year, we kicked off the watch with a drumming to call the fish home. Thanks to notices in the *Herald* and at the viewpoint, we had inquiries from two experienced drummers (though neither attended). Because of coordinator illness, the event wasn't as well thought out as it might have been; the return to standard time brought early darkness and students expected to act out a story did not materialize. Nonetheless, Jamie Shilling again ably led some 75 people of all ages in spirited singing and drumming.

A writer for *The Seattle Times* inquired about opportunities to see fish and, when told of the situation this year here (and at other city creeks), she chose not to include Fauntleroy in the article. The lack of fish itself resulted in a front-page article in the *Herald*, including photo.

RECOMMENDATIONS

- Continue to communicate with watchers throughout the year so that they are equipped with up-to-date knowledge and realistic expectations by watch season.
- Be more purposeful about tapping the watcher list for monitoring, field-trip support, or other special assignments.
- Continue on-site training of new and returning watchers in lieu of an evening workshop.
- Hold steady on watch methodology until we have enough experience with it to evaluate.
- Schedule the drumming before dark and be more purposeful about content.

- Be certain that spawners are present in the cove (schooling near the mouth) before scheduling student field trips.
- Follow up with information to the *Herald* about planned steps in the wake of this return to improve rearing habitat.

CONTACTS

Sherry Richardson: 206-935-8981; ron.richardson@comcast.net

Judy Pickens: 206-938-4203; jpickens@gte.net

Fauntleroy Creek Website: www.fauntleroy.net