



FAUNTLEROY  
WATERSHED  
COUNCIL

# PET WASTE STUDY REPORT

FAUNTLEROY CREEK, MAY 2004

## SUMMARY

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In early 2003, the Fauntleroy Watershed Council partnered with KapKa Cooperative Primary School on a year-long study of pet waste in Fauntleroy Park, headwaters of Fauntleroy Creek in central Puget Sound. The study involved periodic surveys of a popular dog-walking trail in the park, as well as installation of put-and-take bag dispensers and public information. The dispensers appeared to decrease pet-waste deposits in the study area, and the primary students proved to be very competent researchers.

## BACKGROUND

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Fauntleroy Park is a 28-acre natural area that shelters the headwaters of Fauntleroy Creek. Several spring- and runoff-fed tributaries merge at the western boundary of the city park into one channel that carries flow year-round into Fauntleroy Park in central Puget Sound. The park's location in a residential neighborhood and its network of trails make it a popular place to walk dogs.

In the mid 1980s, hydrogen sulfide gas emitted during summer months by huge mats of rotting seaweed in the cove became a public-health issue. The state identified excessive nutrients as the culprit and pointed to fecal coliform bacteria in particular. In addition to posing risks to humans and shellfish, this group of bacterial depletes oxygen needed by fish and beneficial aquatic plants. The state's ambient water-quality monitoring program has consistently found fecal counts at the creek mouth to be above healthy levels.

Researchers speculated that rainfall was conveying bacteria-laden pet waste from the immediate watershed into the creek and cove. Prior to this student study, however, no one had documented pet waste as a potential contributor, nor had anyone taken steps to reduce it.

Two motivators were at play in doing the study at this time: (1) The State Department of Ecology was considering including Fauntleroy Creek in a renewed emphasis on water quality and (2) KapKa teachers asked for a project that would involve their students in the watershed over several months. Thus, the study became an age-appropriate opportunity for the kindergarten, first- and second-grade students to engage in real research, as well as a way for the community to demonstrate our interest in helping improve water quality. Additional partners were the Washington Fund for the Environment (a \$150 grant), Seattle Parks and Recreation (advice and installation services), and Seattle Public Utilities (consultation on public information).

## OBJECTIVES

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Study objectives took into account both scientific questions and learning opportunities:

- Document the prevalence of dog feces along a segment of trail.
- Test whether or not convenient pet-waste stations and public information about fecal-coliform contamination would affect prevalence.
- Recognize student contributions to knowledge about factors affecting water quality in this urban creek.
- Provide an example for other watersheds of a water-quality monitoring project for very young students.
- Apply findings to how agencies and the community work to improve water quality.

## METHODOLOGY

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We selected a 600-foot segment of trail frequented by dog walkers entering the park from two directions. The well-maintained trail was easily and safely passable year-round by young children in about 20 minutes each way. Half the segment of trail is flat and half is hilly. Teams of children walked the trail looking for - but not touching - deposits of pet waste. The first team established the standard of looking the length of a leash (approx. 7') on either side of the trail, as terrain allowed. This choice, along with sparse evidence of raccoon or other ground animals in the park, gave us confidence that the waste was from dogs.

To reduce the likelihood of double counting, teams counted only one way along the trail. To allow for natural decomposition of fecal material already counted, we spaced surveys every other month. Most of KapKa's 36 students participated in one of six surveys done by the school; an impromptu team of children did the summer 2003 survey, for a total of seven surveys of the study area.

We augmented a recent trail map with a few landmarks that the children would readily recognize to create the study map. Students marked deposit locations on a field copy of the map as they did each survey, recording as well the date, team-member names, and any observations. Back at school, each team transferred its deposit locations to a large version of the map, using different-colored dots for each survey. The large map and deposit counts informed the students' final report.

Accompanied by parent and community volunteers, plus a representative of the State Department of Ecology, students completed two surveys to test procedures and establish a baseline. They then assisted in creating bag dispensers to see if having bags near garbage cans at park entrances would affect owner compliance with the scoop law.

Rather than purchase commercial bag dispensers, we followed the advice of Seattle Parks maintenance staff to create low-cost dispensers that would be less prone to vandalism. KapKa students collected plastic gallon milk jugs and a starter supply of used grocery bags, and we used grant money to purchase 4" X 4" posts. Maintenance staff cut a large hole in the face of each jug, screwed the jugs upside down to the posts (for rainy-day drainage), installed the posts at three park entrances, and stuffed the jugs with bags. They also ensured that a garbage can was convenient to each bag dispenser. In addition to emptying the cans as part of regular park maintenance, they checked for any vandalism. We provided a laminated sign for each post to encourage dog walkers to bring extra bags to make the "put and take" dispensers self sustaining.

Students completed two more surveys to see if their pet-waste stations might begin to affect the number of fecal deposits along the study trail. As more of the children at KapKa had an opportunity to do a survey, they became more assertive about approaching dog walkers to tell them about the project and encourage responsible stewardship.

For the public-information phase, the students advised on a simple "Bag It! logo. Its primary use was on a card outlining why pet waste is a water-quality concern and how dog owners could help reduce fecal-coliform pollution in the creek and Puget Sound. We installed a used brochure box on a test basis at one park entrance to see (1) if people would take the cards and (2) if the cards would become a litter concern. We also used the logo with an article about pet waste in the community association's newsletter and on a tag attached to recycled grocery bags offered as tote bags at a popular community festival. We created and installed a second laminated card on each bag-dispenser post to reinforce the water-quality message.

After completing the last three surveys, students worked with teachers and parents to prepare an oral report and a tabletop display of photos. Eleven students - all of the school's second graders - gave the report at a watershed council meeting in mid May attended by citizens, representatives of the State Department of Ecology and Seattle Public Utilities, and several parents.

## STUDENT FINDINGS & RECOMMENDATIONS

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Here are (lightly edited) findings and recommendations as reported by KapKa students to the watershed council on May 13, 2004:

We raise salmon at school and we want the creek to be clean for the salmon so that [they] can swim back upstream and have their babies. - *Josie*

We wanted to do this project because we don't want the dog poop to go into the creek and kill the salmon. - *Isabel*

The stream is being polluted by dog poop and [erosion is] making shallow parts in the stream so the salmon can't get to the ocean. - *Jake*

We were trying to keep poop from the creek and to get [owners to pick it up because we want our salmon to live! We were asked by Fauntleroy Creek to keep track of the poop [about] every eight weeks. - *Jason*

We also put up signs and bags in the park. [Then] we put up cards that say, "Bag it!" We hoped it would work and it did! - *Emily*

First we went over to the park in groups of about 5 and looked for dog poop. We made small maps of where the dog poop was but we didn't pick it up. Once we were done with [each] survey, we put different-colored dots on a big map at school to show where each of the groups found dog poop. - *Christopher*

Mondays after lunch, KapKa kids went to Fauntleroy [Park] to do the dog poop survey. We counted how many dog poops there were and wrote them down. Cassy (the parent in charge) kept track. Then when we were done, we went back to school and announced how many we found. - *Alexandra*



This is the map that we [made] from the smaller maps. All of the round stickers equal one group. For example, the plain blue stickers are Survey 3 on October 6, 2003. [That group] found 30 pieces of dog poop - more last year than this year. You'll hear about that next. - *Sophie*

On March 17, 2003, we found 20 piles.

On May 19, 2003, we found 15 piles.

On July 14, 2003, another group found 8 piles.

On October 6, 2003, we found 30 piles.

On December 1, 2003, we found 4 piles.

On February 2, 2004, we found 11 piles.

On April 19, 2004, we found 13 piles. - *Dexter*

Last year in the warmer seasons when we first walked [the trail], there was more dog poop. But in the cool seasons, there was less. Now [this year] in the warmer seasons, there is less. We think the bags are working. - *Charlie*

From all the results, we think we should keep having bags for the dog poop and garbage cans to put it in. We should also have more "Bag It!" cards. - *Tess*

## ADDITIONAL FINDINGS

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- Pet waste was more plentiful near the park entrance, where the trail is flat, than it was farther into the park, where the trail is hilly.
- Ready access to bags and garbage cans seemed to encourage park users to pick up after their dogs.
- Walkers brought extra bags to keep the dispensers self-sustaining.
- Vandalism was not a problem with the bag dispensers or the signs attached to them.
- Few people took "Bag It!" cards from the brochure dispenser at the park kiosk.

## ADDITIONAL RECOMMENDATIONS

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- Continue the put-and-take bag dispensers and install additional ones when new and restored park entrances are opened.
- Confer with park staff about adding a bag dispenser several yards into the park from the S.W. Barton Street entrance.
- Continue “Bag It!” cards in the brochure box as long as they are being taken.
- Include a pet-waste reminder in the next edition of the watershed brochure and maximize distribution points in the neighborhood.
- Repeat this study with primary-school students, as timely, over at least a two-year span to assess seasonal factors.

## OBSERVATIONS

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Primary students proved to be an excellent match for this study. They knew dog poop when they saw it and they were eagle-eyed, finding many deposits that the adults missed. Two additional factors warrant emphasis:

- 1) The project enhanced the students’ existing understanding about healthy habitat. They were raising salmon for release in the creek, they had explored the beach in Fauntleroy Cove, and they had devoted time at school to learning about habitat, salmon, and watersheds. On most of their trips out to do the survey, they also maintained seedlings that they and prior KapKa students had planted in the park.
- 2) Adults were comfortable sharing decision making with students and seeing where they would go with the opportunity. Given the project’s simplicity and minimal time commitment by adult volunteers, we were able to keep expectations lighter than a more complex undertaking would have required.

Recognition was an important element in this project. Volunteers, teachers, and parents shared the students’ enthusiasm, all the way to their presentation to the watershed council and the framed certification of appreciation given by the State Department of Ecology. Cassy Johnson, the project’s parent coordinator, observed, “The kids were just beaming. I think they felt very respected and appreciated at the meeting and were so proud. What a great public speaking opportunity.”

As a direct result of our initiating this study, the State Department of Ecology has selected Fauntleroy Creek as a sampling site for year-long monitoring of water chemistry, including fecal coliform. This “basin station” will augment what we know about water quality in the creek with up-to-date, detailed data and significantly contribute to planning for additional activities to improve it.

### **PUBLIC NOTICE**

The study has generated the following publicity to date:

- A feature article in *Neighbors*, the Fauntleroy Community Association’s newsletter, summarizing the study and emphasizing the importance of reducing pet waste to improve water quality in the creek and cove.
- A project summary in *WRIA 9 Salmon Habitat Protection and Restoration News*, a regional e-newsletter.
- Page 1 photo/cutline coverage in the *West Seattle Herald*.
- Photo/cutline coverage in *Neighbors* about conclusion of the study.