



Focus: Bacteria in the Issaquah Creek Basin

Fecal Coliform Bacteria Cleanup

Public Meeting:

A community meeting will be held to provide information and receive comments on the Issaquah Creek Basin Water Cleanup Plan.

Tuesday, May 18

6:30 – 8:30 pm

***Pickering Barn at 1730
10th Ave NW Issaquah (south of 56th
and east of Costco)***

***Please join us for an
Informal Open House
with displays-followed
by presentations
starting at 7:00 pm***

Public Comment:

The public comment period will run from May 12 through June 14, when comments must be received. The document is available at the downtown Issaquah Public Library or from Dave Garland (see "Contact" on next page).

Water samples collected in Issaquah and Tibbetts Creeks in recent years show that several stream segments have exceeded state water quality bacteria standards. These bacteria problems will be addressed in the proposed *Issaquah Creek Basin Water Cleanup Plan for Fecal Coliform Bacteria*.

Water Cleanup Plans

A Water Cleanup Plan, also known as a Total Maximum Daily Load (or TMDL), includes the following:

- a process of evaluating water quality problems
- an analysis of the pollutant sources that caused the problems
- a plan to correct the problems

The plan is a tool for implementing measures to bring waters into compliance with state water quality standards.

The Water Cleanup Plan for Issaquah Creek Basin

The City of Issaquah and King County have already done much to restore and clean up Issaquah and Tibbetts Creeks. The Department of Ecology (Ecology) would like to assist in identifying and correcting the remaining pollution sources in the watersheds. Ecology is compiling information on what activities are currently underway, and what additional actions need to take place for Issaquah and Tibbetts Creeks to meet water quality standards.

Potential Sources of Fecal Coliform Bacteria:

Human sources for these bacteria vary depending on whether the watershed has sewers or not. In a sewered watershed, the following sources may contribute to pollution:

- Sewer overflows
- Illegal sanitary connections to storm drains
- Illegal disposal to storm drains
- Landfills

In a non-sewered watershed, failing septic systems are often significant human sources of fecal coliform bacteria and other pollutants.

Potential Sources of Fecal Coliform Bacteria (continued):

Non-human sources for these bacteria include the following:

- Livestock (cattle, horses, poultry)
- Other domestic animals (especially dogs and cats)
- Pigeons, gulls, ducks, geese and other waterfowl
- Rats, raccoons, squirrels, beaver, muskrats, deer, and other wild mammals

Fecal Coliform Facts

Fecal coliform bacteria are used as indicators for disease-causing bacteria (pathogens) in water. Because of the small size of pathogens, they are easily carried by stormwater runoff or other discharges into natural water bodies. Once in a stream, lake, or estuary, they can infect humans through contaminated fish and shellfish, skin contact, or ingestion of water.

- **Bacteria** often settle out of water into bottom sediments, where they can persist and even multiply for weeks or months in the warm, dark, moist and organically-rich conditions. When the sediments are stirred up, the bacteria become re-suspended in the water.¹
- **Livestock** are major sources of fecal coliform in rural and unsewered urban watersheds, particularly areas of the urban fringe that have horse pastures, small farms, and ranches.²
- **Cats and dogs** are primary sources of fecal coliform in urban Puget Sound watersheds, and residential lawns, driveways, and streets are major source areas for bacteria.³
- **Domestic sewage** typically is two to three orders of magnitude “stronger” than stormwater runoff in terms of bacteria, and four to five orders stronger than forest runoff influenced only by wildlife sources.⁴ This means that the concentration of pollutants in domestic sewage can be up to 100,000 times stronger than stormwater or natural runoff.

Contact Information

This document is on the internet: <http://www.ecy.wa.gov/programs/wq/tmdl/watershed/index.html#nwro>. To request copies of the Issaquah Creek Basin Water Cleanup Plan document or for questions, contact **Dave Garland**, Washington Dept. of Ecology, 3190 160th Ave SE, Bellevue, WA 98008-5452; phone: (425) 649-7031; email: dgar461@ecy.wa.gov.

1. Burton, A., D. Gunnison and G. Lanza, 1987. *Survival of pathogenic bacteria in various freshwater sediments. Applied and Environmental Microbiology*, 53(4) 633-638.
2. Samadpour, M. and N. Checkowitz, 1998. *Little Soos Creek microbial source tracking. Washington Water RESOURCE, Spring, 1998. University of Washington Urban Water Resources Center.*
3. Trial, W., et al., 1993. *Bacterial source tracking: studies in an urban Seattle watershed. Puget Sound Notes. 30:1-3*
4. Pitt, R., 1998. *Epidemiology and stormwater management. In Stormwater Quality Management, CRC/Lewis Publishers, New York, NY.*

If you require this publication in an alternate format, please contact DougLas Palenshus at (425) 649-7041 or (TTY) at 711 or 1-800-833-6388.