# Problem: Too much bacteria in our streams

## Bear Creek, Cottage Lake Creek, and Evans Creek have too much bacteria pollution

Water samples from these streams indicate that fecal coliform bacteria measurements fail to meet Washington's freshwater water quality standards. These kinds of bacteria are mostly harmless but indicate that more serious disease-causing organisms (known as pathogens) may also be in the water. Where pathogens are present in polluted water, humans can be infected through skin contact, ingestion of water, or by consuming contaminated shellfish.

Fecal coliform bacteria are a common water quality problem in our state's urban streams and the Bear Creek Watershed is not unique. These bacteria are found in large numbers in the feces of people and other warm-blooded animals such as pets, livestock, and wildlife. Failing septic systems can send bacteria directly into our surface and ground waters or add it to bacteria pollution from many other sources when stormwater carries everything down to local streams.

## There are many sources of bacteria that we can help reduce (also see *SEVEN SIMPLE THINGS* page 3)

Cats and dogs are primary sources of bacteria in urban Puget Sound watersheds. Other non-human sources include waterfowl (such as ducks and geese), gulls, pigeons, rats, raccoons, squirrels, beaver, deer, muskrats, and other warm-blooded wildlife. When people feed wildlife they create another kind of problem by forming a domestic relationship with these `unlicensed pets.'

*(Both the new `pets' and the waste food can result in large amounts of concentrated bacteria that are directly linked to those causing the pollution and doing the feeding!)*

### PUBLIC MEETING & COMMENT

Tuesday, May 27, 2008

6:30 - 7 p.m. Open House

7:00 - 8 p.m. Presentations

**Woodinville Water District**
**7238 NE Woodinville Rd.**

We have developed a detailed report to guide further work to control bacteria pollution -- the ***Draft Bear-Evans Watershed Fecal Coliform Bacteria TMDL/Water Quality Improvement Report.***

### We value your comments

You can find a copy of the report at the Redmond, Sammamish, and Woodinville public libraries. Or download a copy from: http://www.ecy.wa.gov/biblio/0810026.html

You can request a copy or send comments by June 9, 2008 to **Sinang H. Lee** at:

Department of Ecology
3190 160th Ave. SE
Bellevue, WA 98008
425-649-7110 | sile461@ecy.wa.gov

### Special accommodations:

If you need this publication in an alternate format, call the Water Quality Program at 360-407-6404. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

## Other sources of bacteria we can help reduce:

- Livestock such as horses, cattle, llamas, sheep, poultry, and rabbits can generate significant bacteria. If livestock fields and manure are properly managed, bacteria can be prevented from polluting our waters. (see page 3, *SEVEN SIMPLE THINGS* #3)
- In areas of watersheds with sanitary sewer lines that are improperly connected or leak, bacteria from humans can enter our waters. Domestic sewage has typically two to three times as much bacteria as stormwater runoff and four to five times as much as runoff from forests that are influenced only by wildlife sources. (see *SEVEN SIMPLE THINGS* #7)
- Humans also create problems in non-sewered watersheds, where failing on-site septic systems can be very significant human sources of bacteria. Contaminated runoff can enter our streams -- or worse, enter ground water near wells creating a serious threat to human health. (*SEVEN SIMPLE THINGS* #1)

## Efforts are underway to improve water quality in the watershed

For waters that do not meet Washington's water quality standards, the Department of Ecology (Ecology) uses a water quality improvement process that determines what is called the Total Maximum Daily Load (TMDL) of allowable pollution. Through this process, Ecology:

- Evaluates the water quality conditions.
- Estimates how much the pollution needs to be reduced to meet standards.
- Describes how citizens, state and local governments, and other organizations and businesses will control pollution and improve conditions in the affected water body.

King County, the City of Redmond, Water Tenders, and other groups have already done much to restore and improve water quality in the Bear-Evans Watershed, but more work is needed. Working with community partners, we can identify and correct the remaining problem sources of bacteria in the watershed.

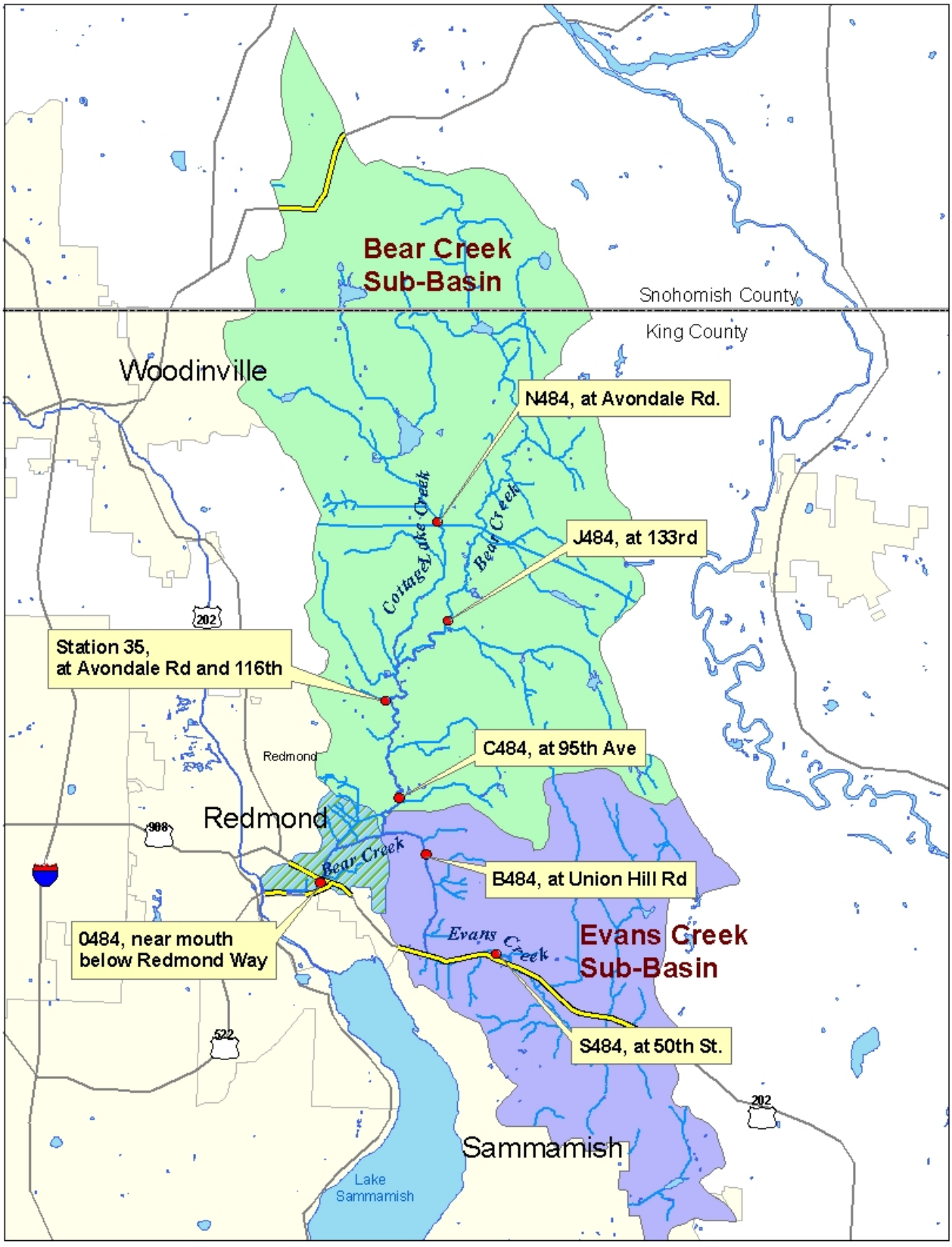
*WORKING AS PARTNERS, WE CAN ALL RESTORE AND HELP PROTECT CLEAN AND HEALTHY STREAMS.*

## What did we learn and what does the report tell us?

- More than 30 years of data show bacteria pollution levels have generally declined in the Bear Creek system, especially near the mouth of Bear Creek since 1994. In more recent years, the Evans Creek branch of the system shows lower bacteria pollution levels than the Bear Creek branch.
- Bacteria pollution varies seasonally near the mouth of Bear Creek. In the dry season (May-Sept), bacteria concentrations are highest. In contrast, during the wet season (Oct-Apr), the total numbers of bacteria in the creek per day are the highest—more stormwater runoff means larger amounts of bacteria into the creek.
- It will take an estimated 57 to 91 percent reduction in current bacteria loadings to bring the creeks to state water quality standards.
- **We must all work together to fix this.** By doing our part and helping our neighbors better understand the problem and solutions, we can track and control bacteria sources.

## Here are *SEVEN SIMPLE THINGS* we can all do to protect our water:

1. **CHECK your on-site septic system.** Make *$ure* yours is working right; test regularly (every three years) and pump when needed.
2. **DISPOSE of household hazardous waste properly.** Learn the *important* information about which products are hazardous or dangerous to health and how to properly dispose of them. DON'T FLUSH DRUGS!
3. **MANAGE livestock.** Water animals away from streams or lakes; safeguard manure piles from rain and surface run-off. Contact your local Conservation District for help.
4. **PROTECT natural vegetation.** Consider additional plantings to help filter pollutants and prevent run-off from reaching streams, lakes, and rivers. Use minimal fertilizers, pesticides, and water to cause the least impact to ground water and water bodies.
5. **RECYCLE and PREVENT litter From people and pets.** Put *recycling* in proper containers. Double-bag and put *pet waste* and other litter with garbage.
6. **WASH vehicles at commercial carwash or on lawns.** Dirty run-off from driveways may carry greasy, oily, and soapy water straight to our streams and rivers, feeding unwelcome 'problem' water weeds and reducing the oxygen needed for healthy waters.
7. **PARTICIPATE!** If you see a spill or illegal dumping, call your nearest Department of Ecology regional office, or call 800-258-5990. Work with local government and environmental groups; help keep yourself and others informed!


Bear Creek
Sub-Basin
Snohomish County
King County
Woodinville
N484, at Avondale Rd.
Cottage Lake Creek
Bear Creek
J484, at 133rd
202
Station 35,
at Avondale Rd and 116th
Redmond
C484, at 95th Ave
Redmond
908
Bear Creek
B484, at Union Hill Rd
0484, near mouth
below Redmond Way
Evans Creek
Evans Creek
Sub-Basin
S484, at 50th St.
522
202
Sammamish
Lake
Sammamish