

**GIBBONS CREEK FECAL COLIFORM TOTAL MAXIMUM DAILY LOAD:
REPORT ON April 22, 2008 ADAPTIVE MANAGEMENT MEETING
(June 13, 2008)**

Participants

Tom Gonzales, Clark County Public Health
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Meeting Objectives

- Discuss accomplishments since July 2007 relative to the Gibbons Creek Fecal Coliform Total Maximum Daily Load Detailed Implementation Plan.
- Discuss the need to develop additional control measures to reduce fecal coliform concentrations in the watershed.

Background

Gibbons Creek is located in eastern Clark County and flows into the Columbia River just east of the city of Washougal (Figure 1). Land use consists of small farms in the upper part of the watershed and subdivisions, a school, and a golf course in the lower part of the watershed. Many of the older homes in the Gibbons Creek basin have on-site disposal systems (septic systems). There are no known point sources of water pollution within the watershed.

Based on fecal coliform data collected at one location in Gibbons Creek during 1991 and 1992, the creek was included on the 1996 303(d) list, the first comprehensive listing of impaired surface waters in the state. In 1994 and 1995, Department of Ecology collected additional data at six locations on Gibbons Creek, Campen Creek and two unnamed tributaries to Gibbons Creek. Those data also showed fecal coliform impairments. Department of Ecology prepared and submitted a Total Maximum Daily Load (TMDL) report to the U.S. Environmental Protection Agency in August 2000 that calculates the amount of pollution reduction necessary to bring Gibbons Creek into compliance with water quality standards. The subsequent August 2005 Detailed Implementation Plan (DIP) outlines pollution control measures and reduction targets anticipated to improve water quality in the Gibbons Creek watershed. Control measures focus on 1) reducing the amount of animal waste entering the creek, and 2) locating and eliminating sources of human fecal coliform contamination.

The first adaptive management meeting for the TMDL was held on July 5, 2007 (see http://www.ecy.wa.gov/programs/wq/tmdl/gibbons_cr/gibbons_cr_tmdl.html). Participants noted that although substantial progress has been made in terms of implementing activities described in the DIP, elevated fecal coliform levels persist in the watershed. The group agreed to meet again in spring 2008 to discuss accomplishments since the 2007 meeting and determine if implementation activities listed in the 2005 DIP are adequate.

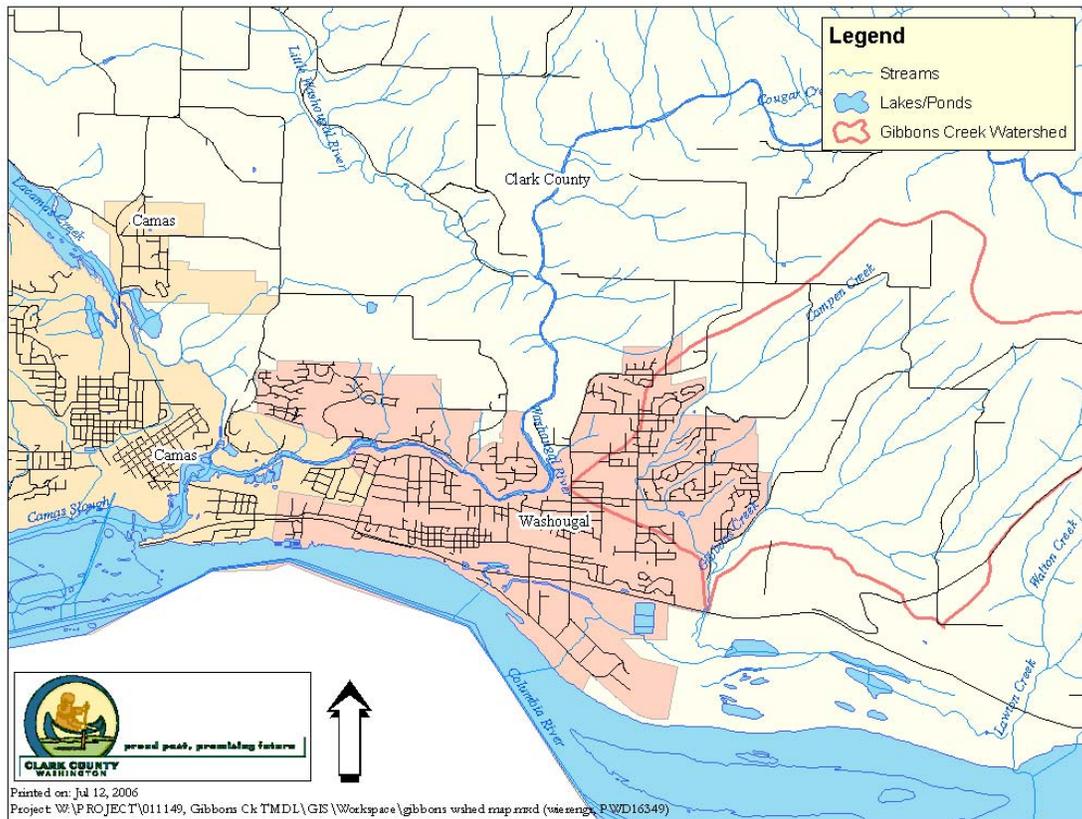


Figure 1. Map of Gibbons Creek watershed (courtesy of Clark County Clean Water Program).

Accomplishments from July 2007 through April 2008

City of Washougal (based on a conversation with Trevor Evers, Public Works Director, subsequent to the April 22 meeting):

- In late 2007, Washougal established a stormwater utility, which allows the city to develop a budget specifically for stormwater activities. In summer 2008, the city will begin discussing potential stormwater rates with the goal of imposing stormwater fees by the end of the year.
- The city hired a consulting firm that prepared the city’s stormwater management plan and an intern who worked full-time for a number of months preparing Washougal’s first annual report for their Phase II National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit. Both the plan and the annual report were submitted to the Department of Ecology in March 2008. According to Ecology Municipal Stormwater staff, both documents are excellent.

Clark County Public Health:

- In October 2007, Clark County Board of Health approved an ordinance strengthening regulations related to on-site septic systems. The ordinance includes:

- mapping of all septic systems in the county over a 4-year period.
- more frequent inspection and maintenance of systems. Conventional gravity systems must be inspected every three years, all other systems must be inspected every year, and all on-site systems must be inspected within one year of sale of a house.
- requirements for some houses to connect to the public sewer when an on-site septic system is failing.
- reports on operation and maintenance inspections and pumping of septic systems will be submitted electronically to facilitate reporting to the Public Health database.
- Results to date indicate the aggressive inspection and maintenance requirements will significantly reduce on-site septic system problems in the county. Countywide results include the following:
 - inspectors appear to be well-trained due to more testing and an active audit program.
 - the number of inspections has increased substantially, with approximately 1,006 inspections conducted in March 2008. This number was particularly high due to a backlog of past-due notices having been mailed out to residents in February. Health Department staff estimate that, on average, 700 inspections will be completed each month.
 - inspections are showing about a 33% deficiency rate, with the majority of the deficiencies in the moderate to low category, e.g., cracked septic tank lid, septic tank needing pumped, filter clogged, or inspection port damaged.
 - nearly 2-3% of inspected on-site septic systems (six to nine systems per month) have failed, i.e., surfacing or ponding sewage.
 - only 48 homeowners have chosen to do their own inspections, and 40% of the self-inspections have been audited.
 - it is important to continue education and outreach efforts.
- In May 2008, Clark County Community Services is scheduled to vote on a proposal for a community development block grant that would provide money to assist low-income families with repair or replacement of failing on-site septic systems.

Clark County Clean Water Program:

Clark County fulfills activities associated with the Gibbons Creek TMDL through implementation of its Stormwater Management Program.

- In summer 2007, as part of their Stormwater Needs Assessment Program (SNAP), county staff walked the lower portions of Campen and Gibbons Creeks in the unincorporated area of the watershed to document stormwater outfalls. Staff identified 131 outfalls--predominantly ditches. Grab samples were taken at all outfalls with flowing water. No illicit discharges of fecal coliform were detected. The county intends to re-sample the outfalls about once every five years.
- In January 2008, as another component of SNAP, the county conducted a stream feature inventory documenting stormwater-related issues for

approximately 4.5 miles of stream corridor in the unincorporated areas of the watershed. The feature inventory will be used to develop a list of potential projects/activities to improve stream health. The report describing the results of both components of the SNAP in the Gibbons Creek watershed will be completed in May 2008.

- In July 2007, Clark County Clean Water Program staff were considering conducting additional fecal coliform monitoring in the Gibbons Creek watershed. They ultimately decided not to re-initiate monitoring at this time.

Clark Conservation District (CCD):

- During the second year of their Department of Ecology grant project (G0600179), CCD staff walked all stream reaches outside of the Washougal city limits and conducted visual animal counts. Survey results have been entered into a GIS database.
 - within city limits, CCD staff found few pets.
 - in the unincorporated area, they found 62 horses and 177 livestock (llamas, goats and cows).
 - the survey indicated no obvious problems such as too many animals on a small property, livestock in the creek, or animal overuse of riparian areas.
 - as a follow-up to the survey, the CCD will send letters to all landowners adjacent to the creek offering assistance with watershed protection activities such as livestock fencing, riparian planting, and off-channel watering systems.
- In July 2008, CCD staff will submit a proposal to Clark County Commissioners requesting a \$5/parcel per year assessment that would be used to enhance the CCD's ability to implement some new programs, including:
 - a septic system assistance program that would provide grants to homeowners in the district to pay for inspections and/or repairs. The CCD would work with Clark County Health Department staff to determine funding priorities.
- Clark County passed an Agricultural Habitat Conservation Ordinance that took effect in July 2007. This is a complaint-driven process that will trigger a visit by a code enforcement officer. If the officer identifies a problem, the landowner will be referred to CCD or others to assist the landowner in developing a plan to correct the problem.

Department of Ecology:

- Continuation of ongoing activities; no new activities initiated.

Discussion Related to the Need for Additional Implementation Activities

- Dry well on-site septic systems will continue to be a problem.
- Untreated runoff from surface roads is difficult to control.
- Livestock and stormwater outfalls outside of Washougal city limits have been ruled out as the obvious cause of elevated fecal coliform concentrations.
- The next logical step is to conduct an illicit discharge survey of outfalls inside city limits to try to find significant sources of fecal coliform.
- Source identification monitoring by Ecology is not necessary at this time. General source areas have been identified through previous monitoring, and

upcoming stream surveys (see following bullet) may identify specific locations for investigation. The group will consider the use of emerging bacterial source tracking technologies as a component of future monitoring. After a city illicit discharge survey, regardless of the results, the most prudent approach may be to give the municipal stormwater and on-site septic system regulations enough time to have an impact in the watershed.

- The group agreed to meet again in spring 2009 to discuss progress in implementing the TMDL.

Table 1. Goals and Accomplishments Associated with Gibbons Creek Fecal Coliform Total Maximum Daily Load Detailed Implementation Plan (accomplishments since July 2007 are in bold; details on previous accomplishments can be found in the July 5, 2007, meeting report at http://www.ecy.wa.gov/programs/wq/tmdl/gibbons_cr/gibbons_cr_tmdl.html).

Agency/Organization	Goals	Accomplishments
City of Washougal	Reduce contribution from stormwater	<ul style="list-style-type: none"> - Ongoing inspection of stormwater system - Mapping of city stormwater system complete - Proposal to tighten stormwater regulations; first step was establishment of a stormwater utility in late 2007; plan is to impose fees by end of 2008
	Eliminate septic system use and connect all residences/businesses to city sewer system	Ongoing maintenance and improvement of existing sewer lines
	Educate septic system owners about inspection and operation of septic system and encourage connection to city sewer system	Has not been initiated
	Conduct water quality monitoring	Analyzed samples collected by Clark County Clean Water Program from April 2004 to August 2007
Clark County Health Department	Reduce fecal coliform input from on-site septic systems	<ul style="list-style-type: none"> - County septic system regulations strengthened in October 2007 resulting in significant increase in number of inspections - Surveyed 179 homeowners about their septic systems - Added 60 properties to septic system database
	Educate septic system owners about inspection and operation of septic system	<ul style="list-style-type: none"> - Conducted 3 workshops - Distributed educational material to 810 homeowners - Provided technical assistance to 184 homeowners - Sent 366 reminders for septic system operation and maintenance

Clark County Clean Water Program	Initiate a water quality monitoring program	<ul style="list-style-type: none"> - Established a volunteer monitoring project that collected monthly fecal coliform and turbidity data from April 2004 to April 2006 - Volunteer monitoring program collected quarterly baseline water quality data from August 2004 through August 2007 - Established and populated a monitoring database - Analyzed data and determined water quality problems persist
	Reduce contribution from stormwater	<ul style="list-style-type: none"> - Screened 131 stormwater outfalls outside city limits for illicit discharges; data indicated no illicit discharges in unincorporated Clark County - Conducted a feature inventory to document potential stormwater-related issues outside the city
Clark Conservation District (with Natural Resources Conservation Service)	Conduct livestock survey	<ul style="list-style-type: none"> - Completed survey within city limits in 2006 - Completed survey outside city limits in 2007 and entered all data in a GIS database <p>Planned:</p> <ul style="list-style-type: none"> - Requesting a county assessment that would be used to fund septic system assistance and conservation programs throughout the district - Will work with landowners that are referred to the CCD because of violation of the Agricultural Habitat Conservation Ordinance
	Provide outreach and education to livestock owners	<p>Planned:</p> <ul style="list-style-type: none"> - Will send letters offering assistance on watershed protection activities to all landowners along creek

Department of Ecology	Conduct inspections of permitted and non-permitted activities	Ongoing
	Provide assistance to local interests in obtaining grant and loan funds	Ongoing
	Conduct source identification monitoring	Has not been initiated; not necessary at this time
	Conduct effectiveness monitoring	Will do when appropriate