



# Focus

---

## Water Quality in the Colville River Watershed

---

### **Colville River water cleanup plan for bacteria**

---

The Colville River and many of its tributaries do not meet Washington's surface water-quality standards for fecal coliform bacteria. Fecal coliform bacteria are found in the waste of warm-blooded animals such as dogs, cats, cows, birds, humans, and wild animals. High levels of fecal coliform bacteria in water bodies can affect public health, economy, and environmental quality of a community.

### **Background**

---

The Stevens County Conservation District (SCCD) has been addressing natural resource concerns for Stevens County residents for many years. In 1991 the SCCD began the *Colville River Watershed Ranking and Planning Project* funded by a Centennial Clean Water Fund grant from the Washington Department of Ecology (Ecology). A lack of riparian vegetation and increased fecal coliform bacteria levels along many reaches of the Colville River were identified as significant problems. These water-quality concerns were documented about eight years ago and were confirmed by additional sampling between 1994 and 2000. Although water quality has improved in the Colville River and its tributaries, the river still violates state water-quality standards and is listed on the federal Clean Water Act's (CWA) 303(d) list of impaired water bodies

The CWA requires states to set surface water-quality standards to protect public and environmental health. The Colville River is designated a "Class A" water body which means the water should be safe for particular beneficial uses including swimming, boating, and fishing. Water bodies that do not meet water-quality standards are placed on the 303(d) list of impaired water bodies. States must establish maximum limits on the amounts of pollutants that can be discharged to a listed water body and still meet water-quality standards. These limits are called water cleanup plans or Total Maximum Daily Loads (TMDL).

The water cleanup plan or TMDL includes an initial assessment of the water quality problems, a technical analysis to determine how much pollution must be reduced to protect the water, the selection and implementation of appropriate control measures, and follow-up monitoring to determine the success of the complete effort. TMDLs are established for each water-quality problem as necessary, to protect all designated beneficial uses of the water body. Beneficial uses may include swimming, boating, fishing, aquatic habitat and aesthetic value as well as being a source of drinking, irrigation, and industrial water.

### **Where does fecal coliform bacteria come from?**

---

Fecal coliform bacteria occur naturally in the digestive tract of warm-blooded animals to help digest food. Sources of fecal coliform bacteria pollution in the Colville River watershed include human (leaking septic systems), domestic animals (cattle, horses, and pets), birds, and wild animals.

## **Why is fecal coliform bacteria so important?**

---

The amount of fecal coliform in a stream or lake increases as the amount of sewage, manure and/or animal waste entering the water increases. The presence of fecal coliform bacteria indicates an increased likelihood that other viruses and bacteria (called pathogens) also are present. These pathogens can be accidentally swallowed with water, or they can enter the body through small cuts, abrasions or mucus membranes when recreating in and on the water.

Some pathogens can cause minor symptoms like upset stomach, diarrhea, ear infections, and rashes. Some, like *E. coli*, hepatitis, and *Salmonella*, can have very severe health effects. Washington's water-quality standard for fecal coliform bacteria is set to protect public health.

## **Current situation**

---

In 2000 the SCCD began working on the *Restoring Colville River Watershed Health Project* funded by a nonpoint source fund grant from Ecology. Water-quality monitoring required by this grant has supplied the necessary data to develop a technical study for this TMDL. This data is being used in a computer model to determine how much the fecal coliform sources must be reduced to meet water-quality standards.

Ecology's technical report on the Colville River bacteria TMDL is due in late spring 2002 and will be available for public review. This report will summarize the findings of the study and computer modeling. It also will recommend how much fecal coliform must be reduced from its sources. Ecology will hold public meetings to seek assistance from local citizens, cities and businesses on strategies to reduce the pollution and meet water-quality standards. These strategies will be developed into a summary implementation strategy (SIS) document. The SIS and technical report will be incorporated into a submittal package and will be sent to the Environmental Protection Agency (EPA) for approval. The public will have a 30-45 day period, in the fall of 2002, in which to comment on the submittal package.

## **Existing measures and controls to address fecal coliform**

---

Several efforts are ongoing to reduce bacteria pollution in the Colville River watershed. Stevens County Public Utility District (PUD) has constructed several publicly-owned wastewater treatment systems (POTWs) that eliminate the use of private septic systems. Consequently, this reduces the amount of human fecal coliform leaking from septic systems.

The Stevens County Conservation District, the Natural Resource Conservation Service and WSU Extension Office offer assistance to farmers with farm/animal management plans that help farmers comply with state and federal laws. Also, all dairies in the watershed are implementing a dairy nutrient management plan that addresses water-quality issues in developing dairy farm plans. For more information, please contact:

**Dennis Murray**  
Department of Ecology  
(509) 329-3493  
[demu461@ecy.wa.gov](mailto:demu461@ecy.wa.gov)

*If you have special accommodation needs or require this document in an alternative format, please call Elaine Snouwaert at (509) 329-3503 or TTY (for the speech and hearing impaired) at 711 or 1-800-833-6388.*