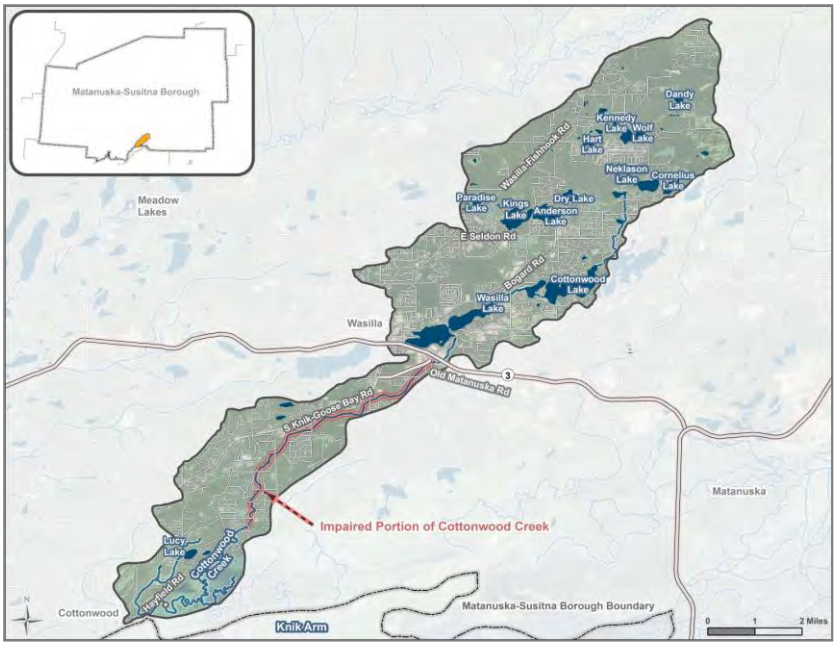
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Water

Cottonwood Creek Fecal Coliform Bacteria
Draft Total Maximum Daily Load (TMDL) Summary

1. What is the problem with Cottonwood Creek water quality?

Cottonwood Creek is polluted due to excessive and persistent fecal coliform bacteria. The source of the pollution is rainwater and snow melt coming in contact with the bacteria then flowing to the creek. Cottonwood Creek is part of a 39.4 square mile spring-fed watershed located near Wasilla in south-central Alaska.

The State of Alaska included 7 miles of Cottonwood Creek on the impaired waters list based on several years of fecal coliform bacteria sampling.



2. What are fecal coliform bacteria, where do they come from and why should I care?

Fecal coliform bacteria are naturally found in the digestive tracts of all warm blooded animals and humans. They are used as indicators of possible sewage contamination because they are commonly found in human and animal feces. Although fecal coliform bacteria are generally not harmful themselves, they indicate the possible presence of other disease-causing bacteria, viruses, and protozoans that also live in human and animal digestive systems. Because of this, contact with fecal coliform bacteria could pose health risks.

On-site septic systems which are poorly maintained, domestic and wild animal manure, and polluted storm runoff are common sources of fecal contamination to lakes and streams including Cottonwood Creek.

3. How will the water quality be improved?

DEC has developed a water body recovery plan, called a Total Maximum Daily Load (TMDL) and is asking for your input. The plan is designed to improve water quality in Cottonwood Creek. The plan emphasizes cleaning up possible fecal coliform bacteria sources while also preventing new sources.

What are three important "fixes" for cleaning up Cottonwood Creek?

- ✓ Clean up after pets and livestock so that fecal material does not reach the creek.
- ✓ Make sure your septic system is properly installed, inspected and maintained regularly.
- ✓ Keep the naturally vegetated corridor along the creek to filter pollutants.

DEC is currently working with partners to implement several of the actions described in the plan. Specifically:

- *Cottonwood Creek Septic Cooperatives* – a program where several homeowners pump their septic system at one time and receive a discount. Contact Catherine at 841-2226.
- *National Water Quality Initiative* – a federal program that works with landowners who have livestock to improve water quality in runoff. Contact Keith at 373-6492 x 101.
- *Streambank Restoration* – a federal program with funding opportunities for creek-side homeowners to conduct streambank restoration to improve the vegetated buffer area. Contact Elizabeth at (907) 271-2718.

In addition, the Matanuska Susitna Borough recently adopted a Stormwater Management Plan. Many of the voluntary activities which the borough and others will be undertaking will assist in improving the water quality of Cottonwood Creek by reducing the amount and types of pollutants entering the creek's water.

4. What is the Total Maximum Daily Load (TMDL)?

The TMDL is basically a "pollutant budget". This budget is an important component of the overall recovery plan. The budget calculates the maximum amount of fecal coliform bacteria that can enter Cottonwood Creek while still meeting the state's allowed limit.

The TMDL budget was developed using standard mathematical equations, actual creek water quality data, and other landscape and weather measurements. The calculations show the pollutant reductions needed to have the creek meet the state's allowed bacteria limit (see table below). The draft TMDL explains these calculations in detail.

A TMDL is established to meet the requirements of Section 303(d)(1)(C) of the Clean Water Act.

5. How can I learn more about this draft TMDL recovery plan or make comments?

The draft TMDL is available at http://dec.alaska.gov/water/wnpspc/protection_restoration/cottonwoodcreek/index.html or upon request. DEC is specifically asking for public review and comments at this time.

Written public comments must be mailed, faxed, emailed, or hand delivered to the address below before 5:00 PM on January 30, 2015.

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Annual Pollution Limits Discussed in the Plan

Waterbody	Fecal coliform bacteria (fc/year)					Percent Reduction to Load Allocation
	Existing Load	Loading Capacity	Future Wasteload Allocation[1]	Load Allocation	Margin of Safety[2]	
Cottonwood Creek	1.81×10^{13}	1.97×10^{12}	1.39×10^{12}	3.84×10^{11}	1.97×10^{11}	90%

[1]The Future Wasteload Allocation is currently considered to be part of the Load Allocation until the expected MS4 permit is in place.
[2]A margin of safety was included explicitly as 10 percent of the loading capacity.