Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load

Summary of Currently Identified Multi-Parameter TMDL Implementation Actions for the Upper and Middle Deschutes River Watershed

Introduction

The Washington State Department of Ecology (Ecology) has prepared this document to provide a summary of efforts undertaken for the Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load (TMDL). The summary is narrow in scope and discusses only the Upper and Middle Deschutes River Watershed.

Background

Ecology established the Deschutes River, Capitol Lake, and Budd Inlet TMDL Advisory Group (Advisory Group) on February 13, 2009. Using Ecology's Deschutes Watershed Water Quality Study findings, its purpose is to identify implementation actions throughout the watershed that will result in impaired waterbodies meeting the state water quality standards. The Advisory Group is helping Ecology determine "who" needs to do "what" actions to meet this goal. After EPA has approved the TMDL, formal work will begin on the Water Quality Implementation Plan (WQIP). The Advisory Group is not waiting for the WQIP phase to formally begin. Instead, they are already identifying key actions and encouraging the appropriate organizations or property owners to implement them.

Because the Deschutes watershed is so large, and the TMDL is addressing five parameters, the Advisory Group decided to approach the work by segmenting it into the Upper, Middle, and Lower Watersheds. Before beginning the in-depth discussions, the Advisory Group participated in a field trip of the entire watershed in June 2009. Discussions about the Upper Watershed occurred in July, September, and November 2009, and in January, April, and concluded in May 2010. Discussions about the Middle Watershed occurred in May, July, August, September, November, and December 2010, and concluded in January 2011.

Key Elements

Ecology's Water Quality Study Findings, available for public comment in October 2008, identified five pollutants of concern for the Deschutes River Watershed. These are temperature, fine sediments, dissolved oxygen, pH, and fecal coliform bacteria. All are issues throughout the upper and middle sections of the watershed.

The Designated Uses are aquatic life (salmonid spawning, rearing and migration; core summer salmonid habitat); recreation (extraordinary primary contact and primary contact); and water supply (domestic, agricultural activities, and stock watering).

Potential pollutant sources for each parameter

Temperature: lack of riparian shade, low summer streamflows, stormwater runoff, and increased stream surface area

Fine Sediments: natural (landslides, bank erosion), anthropogenic (road building, timber harvest, agricultural activities, and residential development), and increased stormwater runoff

Dissolved Oxygen: high quantity of organic matter and the amount of time it resides in the watershed, and loading in wetlands

pH: natural sources (stormwater, wetlands) and anthropogenic activities

Fecal Coliform Bacteria: humans, domestic animals, agricultural activities, and wildlife

Identified implementation actions for each parameter

Temperature: restore riparian vegetation, restore stream channel characteristics, establish mature riparian vegetation, and enhance instream large woody debris

Fine Sediments: identify and reduce anthropogenic sources, channel and riparian restoration, and adaptive management

Dissolved Oxygen & pH: effective shade from mature vegetation, enhance instream large woody debris, and reduce anthropogenic sources of heat

Fecal Coliform Bacteria: identify and reduce anthropogenic sources

Next steps

While discussions on the main issues for the upper and middle sections of the watershed have concluded, work continues. The Deschutes TMDL Advisory Group is now concentrating on the Lower Watershed. After the conclusion of those discussions, they will look holistically at the entire watershed and begin to formalize implementation strategies for inclusion to the TMDL.

Included with this summary are two sets of slides prepared for the Advisory Group. The first is the Upper Watershed summary presented April 2010. The second is the Middle Watershed summary presented January 2011.

For more information

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