

Applegate Subbasin TMDLs

Background

Of the 700 miles of streams and creeks in the Applegate Subbasin, approximately 130 miles do not meet water quality standards. This fact sheet summarizes DEQ's upcoming plan to address water pollution in the Applegate Subbasin.



Applegate Subbasin TMDL Area.

The federal Clean Water Act requires DEQ to develop a plan with goals and pollution control targets for improving water quality in watersheds where water quality standards are not met. DEQ is doing this in the Applegate Subbasin by establishing limits known as Total Maximum Daily Loads (TMDLs) for each pollutant entering the water.

A TMDL describes the amount (load) of each pollutant a waterway can receive and meet water quality standards. A TMDL takes into account the pollution from all sources.

The Applegate Subbasin TMDL addresses the violation of three water quality parameters: temperature, sedimentation, and biological criteria.

In the temperature TMDL, the pollutant is heat and applies to all streams in the Applegate Subbasin. The sources for this additional heat include current and past agricultural, urban and forest practices and other human activities that remove trees next to streams or increase the width of the stream channel.

In the sedimentation TMDL, the pollutant is sediments that enter the stream via erosion. This TMDL applies only to Beaver Creek. The sources for these additional sediments include current and past agricultural, urban, forest, and road construction practices and other human activities that destabilize slopes and increase the velocity of runoff.

In the biological criteria TMDL, stream insect populations (macroinvertebrates) are being adversely affected by pollutants. The pollutants have been determined to be heat and sediments. The sources for these two pollutants are addressed by the TMDLs for temperature and sedimentation and apply only to Beaver Creek.

Allocating loads

The TMDL defines the amount of heat and sediment that can be added and still be protective of the river. These amounts are known as "loads." The TMDL divides these load amounts among the various sources. The result is called the load allocation.

For temperature, DEQ has allocated all non-point source loading to natural sources. Any human activity that will result in increasing the amount of heat energy reaching any stream in the Applegate Subbasin is deemed unacceptable. Temperature simulations indicate that temperatures in most river reaches will still be above the water quality criteria when all human-caused increases in heat are removed and shade reaches its maximum. This condition is called system potential and is the target for the temperature TMDL. It includes targets for riparian vegetation given natural growth rates, reasonable average mature tree heights, and narrower river channels.

For sedimentation, all non-point source loading has been allocated to natural sources. Any human activity that will result in increasing the amount of sediment reaching Beaver Creek is deemed unacceptable. To meet the sediment load allocation the following three targets have been set: 1) restore system potential riparian vegetation within the Beaver Creek Watershed, 2) achieve road density targets set by the TMDL for each drainage, 3) achieve road crossing targets set by the TMDL for each drainage.

Plan implementation

State water quality standards require that a water quality management plan (WQMP) be developed and implemented by all sources that may impact water quality in the Applegate Subbasin. The plans identify the technologies, best management practices, and/or measures and approaches to be implemented by each source to reduce pollution.

An agricultural water quality management plan, which addresses stream heating and



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sedimentation from agricultural activities, has been adopted for the basin. Stream heating and sedimentation from forestry activities on private lands will be controlled through the implementation of measures in the Oregon Forest Practices Act. On federal forestlands the Northwest Forest Plan will serve to protect water quality.

For other potential land uses plans will be developed by Jackson and Josephine counties. These jurisdictions will identify appropriate limits, best management practices, measures and approaches to best meet the TMDL.

Adaptive management

DEQ recognizes that there are uncertainties in the development of any TMDL. It may also take a significant amount of time to achieve the standards.

DEQ proposes to use an adaptive management approach on the Applegate Subbasin TMDL.

This means reviewing the progress made towards achieving the TMDL every five years. DEQ expects each management agency to track plan implementation and progress. If implementation or management techniques prove inadequate, DEQ expects the management agencies to revise their plans.

If DEQ, in consultation with the management agencies, concludes that all feasible steps have been taken to meet the TMDL and attainment of the water quality standard is not practicable, DEQ will reopen and revise the TMDL as appropriate. DEQ will also consider reopening the TMDL if new information indicates that the TMDL should be modified.

For more information

For more information about the Applegate Subbasin TMDL, contact Bill Meyers 541-776-6010 x253. You can also contact him by email, at Meyers.Bill@deq.state.or.us.