DEPARTMENT OF ECOLOGY
State of Washington

WATER RESOURCES FACT SHEET

Interstate 5 Flooding
Photo Credit: Rollingbay Works

CHEHALIS BASIN STRATEGY
PROGRAMMATIC EIS

This programmatic Environmental Impact Statement (EIS) evaluates options to reduce flood damage and restore aquatic species habitat in the Chehalis River Basin.

These options are made up of actions, grouped into programs called alternatives.

The basin has experienced both major flooding and wide-spread degradation of aquatic species habitat. These problems have continued for almost 100 years without a coordinated response.

The Chehalis Basin Strategy will need to provide a long-term, integrated approach to positively effect change in the Chehalis Basin.

Special accommodations

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Programmatic EIS: How it's different

A programmatic State Environmental Policy Act (SEPA) review considers the effects of a broad proposal or planning-level decisions. The impact assessment in a programmatic EIS is more qualitative than a project-specific environmental review. Mitigation measures are also more general and focus on actions that could be implemented or might be required.

How are impacts on water resources measured?

The Chehalis Basin encompasses approximately 2,700 square miles and is one of the largest river basins in Washington. The water resources studied for the EIS include surface and groundwater quality and quantity. For simplicity in this document, we're calling water quantity, the amount of water, water abundance. Water use and water rights conditions were also studied. Understanding these resources helps us understand how effective an alternative will be, as well as the potential impacts. The draft programmatic EIS evaluates how individual actions and combined alternatives would affect both local and basin-wide water resources.

What impacts are analyzed?

In the draft EIS , Ecology identifies and studies both short- and long-term impacts, whether they are beneficial or adverse. Potential negative impacts are explained and determined to be minor, moderate or significant.

Minor impacts are usually small, and easily mitigated. Moderate impacts are adverse, affect a relatively small area within the Chehalis Basin, and are not likely to exceed regulatory limits or criteria. Significant impacts affect relatively larger areas and are more severe. Impacts that are considered significant are more likely to exceed regulatory limits or criteria and are difficult to mitigate.

This fact sheet provides a general overview for public outreach purposes. This summary does not include all aspects of the analysis. Detailed analysis, data and findings can be found in the draft EIS, Chapters 4 and 5, online at **http://chehalisbasinstrategy.com/eis-library/**.

Water abundance can refer to flow velocities or to inundation extents during floods.

Photo Credit: Kevin Burman

Irrigation to support farming in the middle Chehalis Basin

Photo Credit: Anchor QEA

How the action elements affect water resources

Impacts to water resources from the action elements in the EIS range from beneficial to adverse and significant. Aquatic Species Habitat actions generally benefit water resources by improving riparian conditions, reconnecting floodplains and improving groundwater recharge.

Local-Scale Flood Damage Reduction actions both benefit and adversely impact water resources to a minor degree. Reducing flooding in areas could improve water quality by reducing contaminants picked up by floodwaters. However, local projects like flood-proofing and bank stabilization may deflect floodwaters and increase the speed and depth of floodwater traveling upstream and downstream, affecting water abundance.

Impacts from Large-Scale Flood Damage Reduction actions range from beneficial to significant, adverse impacts. Adverse impacts could include short-term impacts from construction and long-term impacts from permanent changes to site conditions.

How the combined alternatives affect water resources

Alternative 1 includes a dam and either a permanent or temporary reservoir, raising the Chehalis-Centralia Airport levee, and building a levee around low-lying portions of Aberdeen and Hoquiam. Alternative 1 would result in the greatest adverse impacts to surface water quality because of the dam and reservoir. The dam and reservoir would likely cause increased water temperatures and cloudiness in portions of the Chehalis River.

Alternative 1 has the most potential benefit to water abundance, as it reduces the scale and depth of floods more than other alternatives on a basin-wide scale. This alternative could reduce groundwater recharge downstream of the dam since less of the floodplain would be under water during a flood. However, a permanent reservoir could control the release of water during dry summer months, which could increase downstream groundwater recharge in comparison to current conditions. This would also likely benefit water quality during summer because it could reduce downstream water temperatures in areas.

Alternatives 2 and 3 do not have significant adverse impacts on surface water quality, and may result in localized water quality improvement from implementing Aquatic Species Habitat actions. Alternatives 2 and 3 would not significantly impact surface water abundance, however the walls and levees of Alternative 2 could increase flood depths in nearby areas, which would cause moderate localized water abundance impacts.

Alternative 4 would benefit surface water quality as Aquatic Species Habitat actions and Restorative Flood Protection treatments are put into place. This alternative reduces flood depths downstream of the treatment areas, but also increases flood storage within treatment areas. It is anticipated that Alternative 4 would improve shallow groundwater levels in floodplain treatment areas.