

WA Department of Ecology
Attn: SEPA #202504854

Re: Draft EIS, Chehalis River Basin Flood Reduction Project

To Whom It May Concern:

The Xerces Society for Invertebrate Conservation is an international nonprofit organization that protects the natural world through the conservation of invertebrates and their habitats. As a science-based organization, we both conduct our own research and rely upon the most up-to-date information to guide our conservation work. We are committed to protecting a diversity of invertebrate species, including freshwater mussels (a major conservation focus for our organization) from a wide variety of both direct and indirect threats to these species and their habitats. With extensive local knowledge of freshwater mussels in the Chehalis Basin developed through close collaboration with natural resources staff with the Chehalis Tribe, as well as state and federal agency staff over the last decade¹, we appreciate the opportunity to provide input on the draft EIS for the Chehalis River Basin Flood Control Zone District's proposed *Chehalis River Basin Flood Reduction Project*.

We understand the purpose of the *Project* is to “construct...a flood retention facility and temporary reservoir near Pe Ell and mak[e] changes to the Chehalis-Centralia Airport levee.” Washington Department of Ecology’s review of the proposed project and two alternatives reports included consideration of potential project impacts on aquatic species and habitats, which includes shellfish and other aquatic macroinvertebrates. These species are described as “critical to the physical, cultural, and spiritual well-being of Tribal nations.”

Freshwater mussels constitute an important component of the basin’s aquatic and riparian habitats. Mussels provide a range of valuable ecosystem services. As filter feeders, they can substantially improve water quality and clarity, removing pollutants such as pharmaceuticals and *E. coli* from the water column. Many aquatic species have been shown to have improved survival, increased abundance, and better health and growth rates in the presence of native freshwater mussel populations. Mussels directly provide habitat and resources to imperiled fish and are a valuable food source for other species.² They are also of significant cultural importance regionally.

Freshwater mussel habitat spans the Chehalis, where mussels may inhabit the benthos as well as instream bank habitat. Freshwater mussels are relatively long-lived (reaching 10-100 years of age) and generally permanently sessile. They require the presence of fish to complete reproduction. Unfortunately, freshwater mussels are also among the most imperiled species globally, and research by Xerces Society staff and coauthors³ has shown that western species like the western pearlshell (*Margaritifera falcata*), western ridged mussel (*Gonidea angulata*), and floaters (genus *Anodonta*) are

¹ Blevins, E. (2025) An Assessment of Freshwater Mussel Distribution, Status, and Health in the Chehalis River Basin WA, USA. Final Project Report to the U.S. Fish and Wildlife Service by the Xerces Society for Invertebrate Conservation. USFWS Award # F19AC00507.

² Vaughn, C. C. (2017) Ecosystem services provided by freshwater mussels. *Hydrobiologia*, 1–13.

³ Blevins, E., S. Jepsen, J. Brim Box, D. Nez, J. Howard, A. Maine, and C. O’Brien. (2017) Extinction risk of western North American freshwater mussels: *Anodonta nuttalliana*, the *Anodonta oregonensis/kennerlyi* clade, *Gonidea angulata*, and *Margaritifera falcata*. *Freshwater Mollusk Biology and Conservation* 20:71–88.

declining in distribution, particularly within the region. One species present in the river, the western ridged mussel is highly imperiled in the river downstream of Pe Ell; it is also currently under review for listing under the federal Endangered Species Act.

Freshwater mussels require the presence of specific host fish, burrowing substrate, and year-round water to persist. Where conditions are favorable, mussels can achieve high densities, referred to as mussel beds, which can cover large areas whose densities may reach several hundred per square meter. As such, the ecosystem services provided by existing mussel beds can be significant. Activities that alter freshwater mussel beds or their habitat may require years to decades for recolonization and recovery to pre-impact abundance, during which time important ecosystem services are diminished or lost.⁴ Substantial mussel beds are known to occur downstream of the proposed flood retention facility, with mussels also documented upstream,¹ and would be subject to impacts identified in the draft EIS, such as changes to water temperature, clarity, and dissolved oxygen; changes to flows affecting habitat development, channel migration, and natural stream inputs, such as large wood; and impacts to fish passage. Alterations to river processes and subsequently bank or instream habitat can harm freshwater mussel beds, whether temporary or permanent. This includes actions described in the referenced *Project*.

The “significant and unavoidable adverse impacts on Tribal resources” and “significant adverse impacts related to fish species and habitats” identified in the draft EIS for the proposed project necessitate the need for alternative solutions. Implementing a set of diverse and targeted approaches that can improve existing conditions for local communities and the river environment would better serve as the focus of future actions within the basin. Examples include investment in habitat restoration activities, such as providing for off-channel and floodplain water storage, or construction activities, such as the removal of undersized or impassible culverts or stream crossings.

The status of freshwater mussel populations in the basin is already of concern, with multiple species already subject to a variety of threats that will not be improved, and in fact will be further impacted by the proposed project. We urge the state to select alternatives to the proposed project based on the findings of this draft EIS.

Respectfully,



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⁴ DuBose, T. P., Atkinson, C. L., Vaughn, C. C., & Golladay, S. W. (2019) Drought-Induced, Punctuated Loss of Freshwater Mussels Alters Ecosystem Function Across Temporal Scales. *Frontiers in Ecology and Evolution*, 7, 274.