South Sound Bird Alliance (formerly Black Hills Audubon) (Laurie Gneiding)

The South Sound Bird Alliance is providing comments to the proposed Chehalis River Basin Flood Damage Reduction Project ("Proposed Action") SEPA EIS, particularly for terrestrial and aquatic flora and fauna and their required habitats (Appendices E, N, O, and P) along with their proposed mitigations. The Proposed Action recommends "to construct a flood retention facility and associated temporary reservoir on the Chehalis River near Pe Ell, Washington, and make changes to the Chehalis-Centralia Airport levee to reduce flood damage in the Chehalis-Centralia area." (Page S-1, ¶2). The temporary reservoir would extend 5.6 miles upstream and cover 824 acres (Appendix 1, Figure 1-4).

The SSBA is strongly opposed to the Proposed Action as it will have significant, irreparable, adverse impacts to the established ecosystems and wildlife as discussed below and summarized in the EIS (Pages S-9 – S-10).

- Adverse impacts to established & sensitive aquatic and terrestrial habitats
- Adverse impacts to over 100 endangered, threatened, and sensitive fauna and flora,
- Adverse impacts to wetlands,
- Adverse impacts to surface water, and
- Adverse impacts to groundwater.

SOUTH SOUND BIRD ALLIANCE
EST. 1973

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South Sound Bird Alliance is a volunteer, non-profit organization of more than 1,300 members in Thurston, Mason, and Lewis Counties whose goals are to promote environmental education and protect our ecosystems for future generations.

SEPA Revised Draft EIS for Chehalis Flood Damage Reduction Project
c/o Bobbak Talebi
Southwest Region Office
P.O. Box 47775
Olympia, WA 98504-7775
submitted online: https://admin.ecology.commentinput.com/?id=6U54ErkfW

February 2, 2026

Dear Mr. Talebi,

The South Sound Bird Alliance is providing comments to the proposed Chehalis River Basin Flood Damage Reduction Project ("Proposed Action") SEPA EIS, particularly for terrestrial and aquatic flora and fauna and their required habitats (Appendices E, N, O, and P) along with their proposed mitigations. The Proposed Action recommends "to construct a flood retention facility and associated temporary reservoir on the Chehalis River near Pe Ell, Washington, and make changes to the Chehalis-Centralia Airport levee to reduce flood damage in the Chehalis-Centralia area." (Page S-1, ¶2). The temporary reservoir would extend 5.6 miles upstream and cover 824 acres (Appendix 1, Figure 1-4).

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- **Adverse impacts to wetlands,**
- **Adverse impacts to surface water, and**
- **Adverse impacts to groundwater**.

1 ADVERSE IMPACTS

1.1 DEGRADATION AND DESTRUCTION OF NATURAL FLOOD MITIGATION

The construction of the Proposed Action will **destroy** over 140 acres of **natural flood mitigation** (wetlands, wetland buffers, stream buffers) and 1.25 miles of the Chehalis River while reservoir inundation will **destroy** nearly 800 additional acres of **natural flood mitigation** and 18 miles of streams. Note: Additional wetlands will be destroyed beyond those quantified in the EIS, as the count did not include Category 1 or IV wetlands (Appendix O, p. 41, ¶4).

1.2 DEGRADATION OF WATER QUALITY

Water quality would be severely impacted by temperature increases, turbidity, and decreased dissolved oxygen with the loss of wetlands and stream/wetland buffers and the likelihood of contamination due to the presence of underground storage tanks (USTs), pesticides used on agricultural lands, and septic systems.

The Proposed Action changes to the Chehalis River channel would further degrade water quality through the increased risk of soil erosion and landslides with ensuing increased sedimentation and/or upstream flooding.

1.3 WILDLIFE IMPACTS

1.3.1 Salmon

The destruction of wetlands and waterbodies and water quality degradation will have significant adverse impacts on all aquatic species within the Proposed Action, including salmon, steelhead, and cutthroat (Appendix E, Table E-1). These **irreparable adverse impacts** will exacerbate the existing concern that "salmon runs are in serious decline in the Chehalis Basin" (EIS report, p. S-1, ¶1 and shown in Appendix E, Table E-10).

1.3.2 Herptiles (Reptiles and Amphibia)

The federally threatened and state endangered Oregon spotted frog, the state endangered Northwestern pond turtle along with four sensitive herptile species (See Table 1 of this document) will be adversely impacted from the Proposed Action (Appendix P, Attachment P-1, Table P.1-7).

1.3.3 Birds

Over 50 bird species were observed within the Proposed Action; however, it was noted that the list was not all encompassing (Appendix P, Attachment P-1,Table P.1-8). Of the birds listed, most were, at a minimum, designated as priority habitat and species (PHS) for recreational, commercial and/or tribal importance, and **ten are listed as sensitive, Federal or state threatened or endangered species** (Table 1 of this document). As stated in the EIS, birds such as the marbled murrelet, bald/golden eagles, hawks, owls and other raptor species that use trees for perching, foraging, and nesting "would not adapt well to the temporal and in some areas permanent loss of forested vegetation" (Appendix P, p. 88).

1.3.4 Mammals

The following species would be **irrevocably affected** (Table 1):

- Two Federal and state endangered mammals (gray wolf, woodland caribou)
- Three Federal threatened mammals (fisher, wolverine, all three subspecies of pocket gophers)
- Three state endangered species (Fisher, western gray squirrel, Cascade red fox)
- One state threatened species (all three subspecies of pocket gopher)
- Nine species that are either candidates for state listing or classified as PHS.

In addition to the loss of threatened and endangered species, small mammals such as rabbits, squirrels, chipmunks and other rodents that form the basis of the food chain would die due to

habitat loss and the inability to relocate during inundation. Bats and large mammalian species such as black bear, bobcats (*Lynx rufus*), and cougar would be displaced due to habitat loss and may suffer starvation due to disruption of the foodchain from loss of the smaller mammals.

1.3.5 Vegetation

Over 1100 acres of sensitive forest (evergreen, deciduous, mixed), scrub-shrub, herbaceous, and riparian habitats are associated with the Proposed Action (Appendix P, Table P-6) with over 800 acres slated for clear-cutting. Thus, all wildlife that these habitats support, including US and Washington endangered, threatened, and species of greatest conservation concern (SGCN) as well as priority habitat and species (PHS) for recreational, commercial and/or tribal importance will be **irrevocably removed**.

Sixty-nine endangered, threatened and/or sensitive species (1 US endangered, 5 US sensitive, 10 Washington endangered, 9 Washington threatened, and 44 Washington sensitive) plant species are listed within critical habitats within the Proposed Action (Tables P.1-1, P.1-3, P.1.4, P.1-5). The affected vegetation is provided in Table 1 within this document.

1.3.6 Habitats

The Proposed Action includes construction of a dam (on soil, not bedrock), maintenance areas, three rock quarries, associated access roads, and buffers and during inundation of the reservoir will require removal of the following (Appendix P, Tables P-6 - P-8):

Impacted Terrestrial Habitat	**Dam Construction (acres)**	**Reservoir Inundation (acres)**	**Downstream (acres)**	**Impacted Wildlife (Table P.1-7 – P.1-10)**
Forests[1]	800	1660	3980	Band-tailed pigeon, black-backed woodpecker, cavity-nesting ducks, mountain quail, northern goshawk, northern spotted owl, slender-billed white-breasted nuthatch, sooty grouse, Vaux's swift, wild turkey, blue-gray tail dropper, Johnson's hairstreak, Puget blue, elk, fisher, Pacific marten, mountain goat, wolverine, Olympic marmot, Western gray squirrel
Scrub-Shrub	200	203	117	Marbled murrelet, western toad, Columbia torrent salamander, Dunn's salamander, Van Dyke's salamander, and Townsend's big-eared bat, Oregon vesper sparrow, streaked horned lark, Columbian black-tailed deer

[1] Includes evergreen, deciduous, and mixed forests

Impacted Terrestrial Habitat	Dam Construction (acres)	Reservoir Inundation (acres)	Downstream (acres)	Impacted Wildlife (Table P.1-7 – P.1-10)
Herbaceous	60	195	16	Mardon skipper, monarch butterfly, Suckley's cuckoo bumblebee, western bumble bee, valley silverspot, Puget blue, Taylor's checkerspot, pocket gophers
Wetlands	30.5	172	16443	Oregon spotted frog, northwestern pond turtle, wood duck, great blue heron, Beller's ground beetle

Two state Wildlife Areas that are protected for specific species and habitats will also be flooded during inundation of the reservoir (Appendix P, p.30):

- 1230 acres of Chehalis Wildlife Area – Grays Harbor
- 5020 acres of Scatter Creek Wildlife Area (Grays Harbor/Thurston Co)

2 COMMENTS TO MITIGATION MEASURES

The EIS has described proposed mitigation measures for the Proposed Action. Mitigations proposed for wildlife and habitat (Appendix P) include revegetation, habitat enhancement, conservation, long-term monitoring and "compensation for temporal and permanent loss of habitat functions" (Appendix P, page v). Following are SSBA's comments on the mitigation measures.

2.1 FISH & AQUATIC SPECIES

The proposed mitigation will cause severe harm to fish and aquatic species as they respond to the multiple stressors associated with being moved around in high concentrations by truck as stated in the EIS (p.S-9, ¶3,4,5) and as described below:

- Significantly increased blood levels of plasma lactate, chloride, sodium, and osmolality and lowered plasma potassium were observed after three minutes of exhaustive exercise. Elevated glucose levels (females only) and exacerbated high lactate levels were observed after one minute of air exposure following the exercise (Gale et al., 2011[2]).
- Physiological stress from rapid changes in water quality and temperature consisting of increased cortisol, glucose, and lactate concentrations at five times normal levels (Roberts et al., 2024[3]). Increased cortisol indicates reduced relative fish fitness and lowers survival rates to adulthood (Schreck et al., 1989[4])

[2] Gale, MK, SG Hinch, EJ Eliason, SJ Cooke, DA Patterson, 2011. Physiological impairment of adult sockeye salmon in freshwater after simulated capture-and-release across a range of temperatures. *Fisheries Research* 112: 85-95.
[3] Roberts, D, CL Madliger, AI Mokdad, TE Pitcher, 2024. Comparing the stress physiology of hard- and soft-released juvenile Atlantic salmon after transportation for reintroduction. *North American Journal of Fisheries Management* 44: 1268-1279. DOI: 10.1002/nafm.11045
[4] Schreck, CB, MR Solazzi, SL Johnson, TE Nickelson, 1989. Transportation stress affects performance of coho salmon, *Oncorhynchus kisutch*. *Aquaculture* 82: 15-20.

- Air exposure precluded equilibrium maintenance in 100% of fish tested (n=101) upon return to water at temperatures of 21°C and less than 50% at 13°C (Gale et al., 2011).
- External and internal damage occurring during collection and transport, immediate or delayed mortality, and sub-lethal effects altering behavior such as delayed or slow migration (Bass et al., 2019[5])
- Stress causes increased vulnerability to predators during or following capture (Bass et al., 2019)
- Infection of other fish during storage from agents such as the protozoan *Candidatus samositica*, reducing the likelihood of arriving on spawning grounds (Bass et al., 2019).

2.2 TERRESTRIAL FAUNA/FLORA

The habitat of a minimum of 69 Federal/Washington threatened, endangered, sensitive or tribally important species will be *destroyed* furthering the already imperiled status of these fauna and flora.

- Land acquisition or monetary compensation for land are not comparable to established habitat; decades would be necessary to re-establish the existing habitats.

The applicant indicates species relocation (Appendix P, Table P-18; p. 98, bullet 4); however, this process often fails due to:

- Release duration to the new habitat. Animals require at least two years to become familiar with their new habitat in order to find mates and adequate food.
- Contamination in the new habitat may adversely affect reproduction and other bodily functions.
- Injuries sustained before or during the translocation.
- Acute/chronic stress responses.
    - The initial acute response is “fight or flight” which is mediated by epinephrine and norepinephrine (adrenaline and noradrenaline). The secondary acute response is an increase in glucocorticoid hormones that lasts for 15-60 min which temporarily suspends functions that are not essential to immediate survival such as inhibition of reproduction and suppression of the immune system (Parker et al., 2012[6]).
    - Chronic stress causes immune and reproductive suppression and altered metabolism resulting in decreased reproduction, disease, starvation, and predation (Parker et al., 2012).
- Lack of a sustained and viable population e.g., terrestrial vertebrates require at least 20-50 individuals for a 75% success rate (Morris et al., 2021),

[5] Bass, AL, SG Hinch, AK Teffer, DA Patterson, KM Miller, 2019. Fisheries capture and infectious agents are associated with travel rate and survival of Chinook salmon during spawning migrations. *Fisheries Research* 209:156-166.

[6] Parker KA, MJ Dickens, RH Clarke, TG Lovegrove, 2012. *The Theory and Practice of Catching, Holding, Moving and Releasing Animals*. Reintroduction Biology: Integrating Science and Management. JG Ewen, P. Armstrong, KA Park, PJ Seddon, editors

- Introduction of parasites or disease to the new habitat (Dodd and Seigel, 1991[7], Fischer and Lindenmayer, 2000[8]; Griffith et al., 1993[9]; Letty et al., 2015[10]; Morris et al., 2021[11]).

Therefore, these mitigation measures do not allow for species' survival in the present and will adversely affect future populations because species' translocation often fails and land compensation would take decades or longer to provide an adequately restored, usable habitat with viable, self-sustaining populations.

2.3 HABITAT

Restoration of these wetlands is reliant on inundation from some combination of surface flow, groundwater discharge, and precipitation and must have a hydrologic regime sufficient to develop hydric soils and support hydrophytic vegetation. Wetland loss and degradation occur with the alteration of flood regimes, soil characteristics, nutrient dynamics, groundwater levels, and regional climate will limit functional capacity along with the regional complement of species (Spieles 2022[12]).

However, severe impacts to the area hydrology during construction, i.e., decreased groundwater levels and surface water flows, will occur (Appendix N, Table N-1) and likely **result in an insufficient water table for wetlands to remain in their current state**.

The "inundation of the temporary reservoir and conversion from river to an open-water reservoir would result in permanent loss or alteration of river functions and habitats along the Chehalis River and tributaries" (Appendix N, Section 3.2.2.1.1.1). **These significant, permanent impacts will preclude the restoration of any wetlands downstream areas as this land will be underwater.**

Based on the above significant and irreparable impacts to endangered, threatened, and sensitive wildlife and habitats and groundwater and surface water, the SSBA strongly recommends cancelling this project.

Regards,

South Sound Bird Alliance Conservation Committee

Laurie Gneiding, MSc., CEP

Betsy Norton
Charlotte Persons

[7] Dodd, CK and RA Seigel, 1991. Relocation, Repatriation, and Translocation of Amphibians and Reptiles: Are They Conservations Strategies That Work? *Herpetologica* 47(3): p.336-350.
[8] Fischer, J and DB Lindenmayer, 2000. An assessment of the published results of animal relocations. *Biological Conservation* 96(1): 1-11.
[9] Griffith, B., JM Scott, JW Carpenter, 1993. Animal Translocations and Potential Disease Transmission. *Journal of Zoo and Wildlife Medicine* 24(3): p.231-236
[10] Letty, J, S. Marchandeau, J. Aubineau, 2007. *Ècoscience* 14(4), p. 420-431
[11] Morris, SD, BW Brook, KE Moseby, CN Johnson, 2021. Factors affecting success of conservation translocations of terrestrial vertebrates: A global systematic review. Global Ecology and Conservation 28. https://doi.org/10.1016/j.gecco.2021.e01630
[12] Spieles, DJ, 2022. Wetland Construction, Restoration, and Integration: A Comparative Review. Land 11(4): 554. **https://doi.org/10.3390/land11040554**

Table 1. List of Endangered, Threatened, and Sensitive Flora and Fauna Impacted within the Project Area

COMMON NAME (SCIENTIFIC NAME)	ENDANGERED/THREATENED STATUS						
	US-E	US-T	US-SS	WA-E	WA-T	WA-CL	WA-PHS
Herptiles							
Cascade torrent salamander (*Rhyacotriton cascadae*)						X	
Dunn's salamander (*Plethodon dunni*)						X	
Oregon spotted frog (*Rana pretiosa*)		X		X			
Van Dyke's salamander (*Plethodon vandyke*)						X	
Western toad (*Anaxyrus boreas*)						X	
Northwestern pond turtle (*Actinemys marmorata*)		proposed		X			
Birds							
Common loon (*Gavia immer*)						X	X
Golden eagle (*Aquila chrysaetos*)						X	X
Marbled murrelet (*Brachyramphus marmoratus*)		X		X			X
Northern goshawk (Accipter gentilis)						X	
Northern spotted owl (*Strix occidentalis caurina*)		X		X			
Oregon vesper sparrow (*Pooecetes gramineus affinis*)				X			
Slender-billed white-breasted nuthatch (*Sitta carolinensis aculeata*)						X	
Streaked horned lark (*Ermophila alprestris strigata*)		X		X			
Western grebe (*Aechmophorus occidentalis*)						X	
Yellow-billed cuckoo (*Coccyzus americanus*)	X	X		X			
Cavity nesting ducks (Barrow's goldeneye, bufflehead, hooded merganser, wood duck)							X

COMMON NAME (SCIENTIFIC NAME)	ENDANGERED/THREATENED STATUS						
	US-E	US-T	US-SS	WA-E	WA-T	WA-CL	WA-PHS
Mammals[13]							
Gray wolf (*Canis lupus*)	X			X			
Fisher (*Pekania pennanti*)		X		X			
Western gray squirrel (*Sciurus griseus*)				X			
Cascade red fox (*Vulpes vulpes cascadensis*)				X			
Woodland caribou (*Rangifer tarandus caribou*)	X			X			
Columbian black-tailed deer (*Odocoileus heminous columbianus*)							X
Elk (Cervus elaphus)							X
Pocket gophers (*Thomomys mazama, ssp. pugetensis, glacialis, tumuli*)		X			X		
Pacific marten (*Martes caurina*)							X
Mountain goat (*Oreamnos americanus*)							X
Olympic marmot (Marmota olympus)						X	
Townsend's big-eared bat (*Corynorhinus townsendii*)						X	
Keen's myotis bat (*Myotis keenii*)						X	
White-tailed jackrabbit (*Lepus townsendii*)						X	
Wolverine (*Gulo gulo luscus*)		X				X	
Vegetation							
Kincaid's sulfur lupine (*Lupinus sulphureus ssp. kincaidii*)		X		X			
Frigid kittentails (*Synthyris schizantha*)			X	X			
Frigid shooting star (*Primula austrofrigidum*)			X	X			
Nelson's checker-mallow (*Sidalcea nelsoniana*)				X			
Pacific peavine (*Lathyrus vestitus v. ochropetalus*)				X			
Pale larkspur (*Delphinum leucophaeum*)				X			

[13] https://wdfw.wa.gov/sites/default/files/2024-03/wa-state-listed-and-candidate-species-list.pdf

COMMON NAME (SCIENTIFIC NAME)	ENDANGERED/THREATENED STATUS						
	US-E	US-T	US-SS	WA-E	WA-T	WA-CL	WA-PHS
Sandhill crane (*Grus canadensis fabida*)				X			
Thin-leaved peavine (*Lathyrus holochlorus*)				X			
Thompson's fleabane (*Erigeron peregrinus v. thompsonii*)				X			
Weak thistle (*Cirsium remotifolium v. remotifolium*)				X			
Golden paintbrush (*Casatilleja levisecta*)					X		
Hairy-stemmed checker-mallow (*Sidalcea hirtipes*)			X		X		
Hall's aster (*Symphpyotrichum hallii*)			X		X		
Menzies' burnet (*Sanguisorba menziesii*)					X		
Mt. Ranier lousewort (*Pedicularis rainerensis*)					X		
Olympic fawn-lily (*Erythronium quinaultense*)			X		X		
Salmon Jacob's ladder (*Polemonum carneum*)					X		
Rose checker-mallow (*Sidalcea virgata*)					X		
Water howelia (*Howelia aquatilis*)					X		
Insects							
Beller's ground beetle (*Agonium belleri*)						X	
Blue-gray taildropper (*Prophysaon coeruleum*)						X	
Maka copper (*Lycaena mariposa charlottensis*)						X	
Mardon skipper (*Polites mardon*)			X	X			
Monarch butterfly (*Danaus plexippus*)		Proposed				X	
Pacific clubtail (*Gomphus kurilis*)						X	

COMMON NAME (SCIENTIFIC NAME)	ENDANGERED/THREATENED STATUS						
	US-E	**US-T**	**US-SS**	**WA-E**	**WA-T**	**WA-CL**	**WA-PHS**
Puget blue (*Plebejus icariodes blackmore*)						X	
Suckley's cuckoo bumble bee (*Bombus suckleyi*)		Proposed				Greatest conserv-ation concern	
Taylor's checkerspot (*Euphydryas editha taylori*)	X			X			
Western bumblebee (*Bombus occidentalis*)						X	
Valley silverspot (*Speyeria zerene bremnerii*)						X	
Johnson's hairstreak (*Mitoura johnsoni*)						X	

NOTES: CL – candidate for listing, T = threatened, E = endangered, SS – sensitive species; PHS - priority habitat and species