

February 2020

Proposed Chehalis River Basin Flood Damage Reduction Project  
SEPA Draft Environmental Impact Statement

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# Appendix J

## Recreation Discipline Report

Publication No.: 20-06-002



**Accommodation Requests:**

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## About this Document

This discipline report has been prepared as part of the Washington Department of Ecology's (Ecology's) State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) to evaluate a proposal from the Chehalis River Basin Flood Control Zone District (Applicant).

### Proposed Action

The Applicant seeks to construct a new flood retention facility and temporary reservoir near Pe Ell, Washington, and make changes to the Chehalis-Centralia Airport levee in Chehalis, Washington. The purpose of the Applicant's proposal is to reduce flooding originating in the Willapa Hills and improve levee integrity at the Chehalis-Centralia Airport to reduce flood damage in the Chehalis-Centralia area.

### Time Frames for Evaluation

If permitted, the Applicant expects Flood Retention Expandable (FRE) facility construction would begin in 2025 and operations in 2030, and the Airport Levee Changes construction would occur over a 1-year period between 2025 and 2030. The EIS analyzes probable impacts from the Proposed Action and alternatives for construction during the years 2025 to 2030 and for operations from 2030 to 2080. For purposes of analysis, the term "mid-century" applies to the operational period from approximately 2030 to 2060. The term "late-century" applies to the operational period from approximately 2060 to 2080.

### Scenarios Evaluated in the Discipline Report

This report analyzes probable significant environmental impacts from the Proposed Action, the Local Actions Alternative, and the No Action Alternative under the following three flooding scenarios (flow rate is measured at the Grand Mound gage):

- **Major flood:** Water flow rate of 38,800 cubic feet per second (cfs) or greater
- **Catastrophic flood:** Water flow rate of 75,100 cfs
- **Recurring flood:** A major flood or greater that occurs in each of 3 consecutive years

The general area of analysis includes the area in the vicinity of the FRE facility and temporary reservoir; the area in the vicinity of the Airport Levee Changes; and downstream areas of the Chehalis River to approximately river mile 9, just west of Montesano.

### Local Actions Alternative

The Local Actions Alternative represents a local and nonstructural approach to reduce flood damage in the Chehalis-Centralia area. It considers a variety of local-scale actions that approximate the Applicant's purpose through improving floodplain function, land use management actions, buying out at-risk properties or structures, improving flood emergency response actions, and increasing water storage from Pe Ell to Centralia. No flood retention facility or Airport Levee Changes would be constructed.

### No Action

Under the No Action Alternative, no flood retention facility or Airport Levee Changes would be constructed. Basin-wide large and small scale efforts would continue as part of the Chehalis Basin Strategy work, and local flood damage reduction efforts would continue based on local planning and regulatory actions.

## SUMMARY

This report describes recreational opportunities relating to the Chehalis River and its tributaries, forestlands, state parks, and local parks and activities in the study area. Residents and visitors from throughout the state use these areas for fishing, kayaking, whitewater rafting, hiking, hunting, birdwatching, camping, and other recreational activities. The Flood Retention Expandable (FRE) facility site is in the Pe Ell South Permit Area, one of eight Weyerhaeuser permit areas for hunting and camping. The airport levee is near the Riverside Golf Course, which is open to the public. The Riverside RV Park is also located on the golf course's property. There is also a gravel trail on the top of the airport levee used for recreational walking.

Air quality is addressed in the *Air Quality and Greenhouse Gas Discipline Report* (ESA 2020a), noise and vibration are addressed in the *Noise and Vibration Discipline Report* (ESA 2020b), traffic is addressed in the *Transportation Discipline Report* (ESA 2020c), the visual setting addressed in the *Visual Quality Discipline Report* (ESA 2020d), and water quality is addressed in the *Water Discipline Report* (ESA 2020e).

This report also describes probable impacts on recreation from the Proposed Action and alternatives (Local Actions Alternative and No Action Alternative). These impacts are summarized in Tables J-1 and J-2.

**Table J-1**

**Summary of Recreation Impacts from the Proposed Action**

IMPACT	IMPACT FINDING	MITIGATION PROPOSED (SUMMARIZED, SEE SECTION 3.2.4)	SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACT
<b>PROPOSED ACTION (FRE FACILITY AND AIRPORT LEVEE CHANGES) – CONSTRUCTION</b>			
Permanent loss of use of 13.8 miles of the Chehalis River for kayaking, which would begin during construction.	<b>Significant</b>	<b>REC-1:</b> Develop and implement a Recreation Mitigation Plan.	<b>Yes, unless mitigation is feasible</b>
Permanent loss of use of 6.4 miles of the Chehalis River (12.8 miles of riverbank) for recreational fishing, which would begin during construction.	<b>Significant</b>	<b>REC-1:</b> Develop and implement a Recreation Mitigation Plan.	<b>Yes, unless mitigation is feasible</b>
Loss of recreational use at the FRE facility and the temporary inundation area would be a permanent loss to users, and temporary impacts may be avoided by using other areas within the permit area that provide a similar recreational experience.	Moderate	<b>REC-1:</b> Develop and implement a Recreation Mitigation Plan.	No

IMPACT	IMPACT FINDING	MITIGATION PROPOSED (SUMMARIZED, SEE SECTION 3.2.4)	SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACT
Noise from construction of the FRE facility would reduce the recreational experience for nearby hunting, fishing, and camping.	Moderate	None	No
Noise from construction of the FRE facility would cause animals, birds, and fish to leave the area and affect hunters, fishers, and birdwatchers.	Moderate	None	No
Increased use of other recreational areas during construction could decrease the quality of recreation at those sites.	Moderate to minor	None	No
Construction noise and activities would be potentially disruptive to Riverside Golf Course and RV Park.	Minor	None	No
The trail on top of the airport levee would be closed to recreationists during the 1-year construction period.	Minor	None	No
<b>PROPOSED ACTION (FRE FACILITY AND AIRPORT LEVEE CHANGES) – OPERATIONS</b>			
Significant impacts on fish from the Chehalis River headwaters to Rainbow Falls would impact recreational fishing by reducing the number of fish available to be caught.	<b>Significant</b>	<b>REC-1:</b> Develop and implement a Recreation Mitigation Plan. <b>FISH-1:</b> Develop and implement a Fish and Aquatic Species and Habitat Plan.	<b>Yes, unless mitigation is feasible</b>
Permanent loss of recreational use in portion of Pe Ell South Permit Area. Use of other recreational areas could increase due to removal of FRE facility and reservoir area for recreation.	Moderate	<b>REC-1:</b> Develop and implement a Recreation Mitigation Plan.	No
Permanent change to recreational character of the area around the FRE facility site, including visual quality.	Moderate	None	No
No operational impacts on recreational facilities from the Airport Levee Changes.	No impact	None	No

**Table J-2**  
**Summary of Recreation Impacts from Alternatives**

IMPACT	IMPACT FINDING
<b>LOCAL ACTIONS ALTERNATIVE</b>	
Construction activities at or near recreational facilities causing noise, fugitive dust, access issues, and closures.	Moderate to minor
Minor impacts on fish habitat, which in turn could impact recreational fishing by reducing the number of fish available to be caught.	Minor
Flooding at recreational facilities would continue to disrupt recreational use.	<b>Continuing substantial flood risk</b>
<b>NO ACTION ALTERNATIVE</b>	
Flooding at recreational facilities would continue to disrupt recreational use.	<b>Continuing substantial flood risk</b>

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# 1 INTRODUCTION

## 1.1 Resource Description

Recreation provides people with the opportunity to engage with and enjoy the natural and built environment. In the Chehalis Basin, outdoor recreation is an important aspect of life, and it provides economic benefits to communities like Chehalis, Centralia, and Pe Ell. Recreational opportunities include fishing, boating (including kayaking and whitewater boating), hiking, hunting, birdwatching, and camping. Additionally, agritourism, which refers to any activity that brings visitors to farms in the Chehalis Basin for recreational purposes, is another important and expanding resource in the area. Agritourism can include farm tours, fruit and vegetable picking, hosted meals, and events. Recreation resources are governed by state, regional, and local laws, plans, and policies.

## 1.2 Regulatory Context

Table J-3 identifies the laws, plans, and policies relevant to recreation impacts in the study area.

**Table J-3**  
**Regulations, Statutes, and Guidelines for Recreation**

REGULATION, STATUTE, GUIDELINE	DESCRIPTION
<b>FEDERAL</b>	
Executive Order 12962 (Recreational Fisheries)	Mandates federal agencies, to the extent permitted by law and where practical, to improve the “quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities.”
<b>STATE</b>	
<i>Washington State Recreation and Conservation Plan 2018-2022</i>	Provides a strategic direction for how local, regional, state, and federal agencies, tribal governments, and private and non-profit partners can work to together to make sure Washington residents’ outdoor recreation and conservation needs are being met.
Washington Department of Fish and Wildlife (WDFW) Washington Administrative Code (WAC) 220	Identifies the responsibility of WDFW to preserve, protect, perpetuate, and manage the state’s fish and wildlife species.
Revised Code of Washington (RCW) 77.04.012	Identifies the responsibility of WDFW to conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource.
<b>LOCAL</b>	
<i>Lewis County Shoreline Master Program</i>	Establishes goals to provide shoreline recreational opportunities that serve the demands of the citizens and visitors to the county, protect and enhance the public’s visual and physical access to Shorelines of the State to the greatest extent feasible, and increase the amount and diversity of public access opportunities to shorelines.

## 2 METHODOLOGY

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### 2.1 Study Area

The study area for recreation consists of areas that are used for recreation near the Flood Retention Expandable (FRE) facility and airport levee sites and in the Chehalis Basin that could be directly or indirectly affected by the construction or operation of the Proposed Action. This includes the area associated with the FRE facility site and construction activities, the area of maximum inundation extent for the temporary reservoir, the area associated with construction and resulting changes to the airport levee, and the area downstream of the FRE facility on the mainstem Chehalis River and lower portions of major tributaries as described below.

The hydrologic effects of the Proposed Action are predicted to occur across more than 100 miles of the Chehalis River and its floodplain, extending from approximately 6 miles upstream of the proposed FRE facility, to the modeled limits of potential late-century catastrophic flooding, about river mile (RM) 9 near Montesano, Washington. This includes the lower portions of major Chehalis River tributaries such as the South Fork Chehalis, Newaukum, and Skookumchuck rivers. Figure J-1 shows the study area.

To characterize the direct and indirect impacts related to recreational fishing, the study area also includes the tributaries to the Chehalis River upstream of the FRE facility and temporary reservoir to the estuary at Grays Harbor, which could be affected by changes in fisheries.

### 2.2 Affected Environment

#### 2.2.1 Recreation Overview

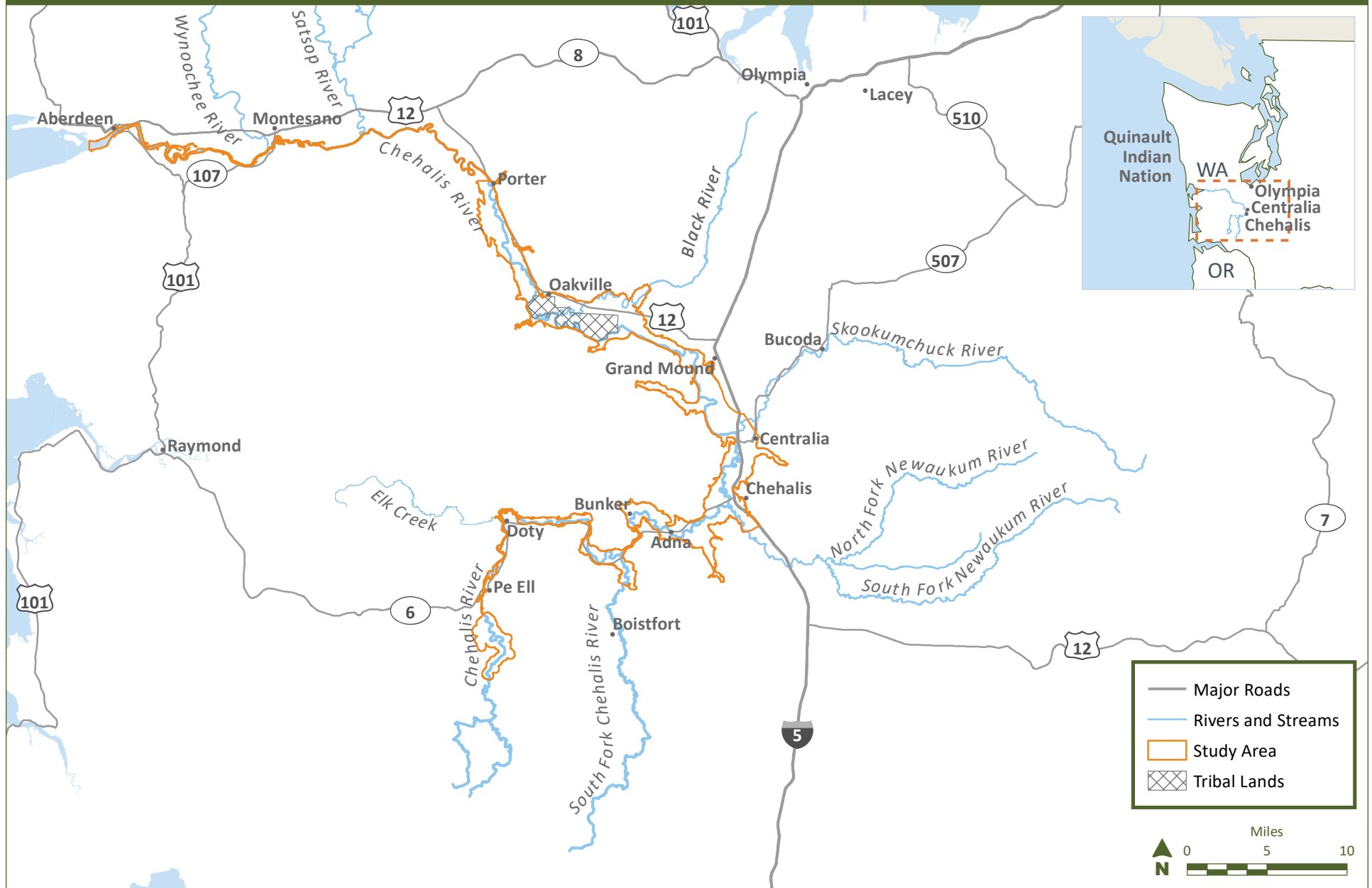
Within the study area, recreational activities occur on the Chehalis River and its tributaries, within forested lands and recreational sites adjacent to the project areas, and within state and local parks adjacent to the Chehalis River or its tributaries. Residents and visitors from throughout the state use these areas for fishing, kayaking, whitewater rafting, hiking, hunting, birdwatching, camping, and other recreational activities.

#### 2.2.2 Fishing and Boating

In-water recreational use of the Chehalis River and its tributaries includes fishing, kayaking, and whitewater rafting. Fishing is a major recreational use in the Chehalis River and its tributaries. The Washington Department of Fish and Wildlife (WDFW) owns and manages multiple access sites where recreationalists can launch their boats on the Chehalis and Black rivers. Bank fishing is also popular at these sites. WDFW also owns and manages properties within, at, or near the Chehalis River and its tributaries within the study area. These areas are open to the public and support recreation.



Figure J-1  
Recreation Study Area



WDFW is responsible for monitoring the freshwater salmon sport catch for rivers in the Chehalis River system. The most recent data are from April 2016 through March 2017. Table J-4 shows numbers and types of salmon caught in rivers in the Chehalis River system during that time period.

Annual adjustments are made to regulations and seasons for recreational fishing based on annual abundances. These may include temporary harvest closures.

**Table J-4**

**Salmon Sport Catch in Grays Harbor, the Chehalis River, and its Tributaries from April 2016 through March 2017**

RIVER	TOTAL CATCH	SPECIES	MONTHS
Chehalis River	2,001	<ul style="list-style-type: none"> <li>• Chinook salmon (105)</li> <li>• Chum salmon (10)</li> <li>• Coho salmon (799)</li> <li>• Jack Chinook salmon (240)</li> <li>• Jack coho salmon (847)</li> </ul>	June to December
Satsop River	1,337	<ul style="list-style-type: none"> <li>• Chinook salmon (231)</li> <li>• Chum salmon (117)</li> <li>• Coho salmon (661)</li> <li>• Jack Chinook salmon (68)</li> <li>• Jack coho salmon (260)</li> </ul>	September to March
Skookumchuck River	115	<ul style="list-style-type: none"> <li>• Coho salmon (115)</li> </ul>	October to December
Grays Harbor	819	<ul style="list-style-type: none"> <li>• Chinook salmon (361)</li> <li>• Coho salmon (406)</li> <li>• Jack Chinook salmon (25)</li> <li>• Jack coho salmon (27)</li> </ul>	August to November
Humptulips River	4,598	<ul style="list-style-type: none"> <li>• Chinook salmon (2,284)</li> <li>• Chum salmon (116)</li> <li>• Coho salmon (1,839)</li> <li>• Jack Chinook salmon (320)</li> <li>• Jack coho salmon (39)</li> </ul>	September to January

Source: WDFW 2018

WDFW also reports on salmon fishing by county of residence. Although salmon caught by residents of each county were not necessarily caught within that county or within the Chehalis River or its tributaries, the numbers reported indicate the importance of economic and recreational opportunities for Washington residents. In 2016, a total of 10,273 Lewis County residents (13.3% of the county population) filled out catch record cards, with a total of 8,634 freshwater salmon and 1,827 marine salmon caught (an average of 1.02 salmon caught per card). A total of 9,857 Grays Harbor County residents (13.8% of the population) filled out catch record cards, with a total of 4,726 freshwater salmon and 2,1617 marine salmon caught (an average of 0.74 salmon caught per card). A total of 19,836

Thurston County residents (7.2% of the population) filled out catch record cards, with 7,174 freshwater and 5,651 marine salmon caught (an average of 0.65 salmon per card). Additionally, 84.5% of salmon catch record cards statewide show zero salmon caught (WDFW 2018). The steelhead catch for Grays Harbor, the Chehalis River, and its tributaries from April 2016 to March 2017 is displayed in Table J-5. Other native and non-native fish are also harvested recreationally within the study area.

**Table J-5**

**Steelhead Sport Catch in Grays Harbor, the Chehalis River, and its Tributaries from April 2016 to March 2017**

WATER	RACE	TOTAL CATCH	MONTHS
Chehalis River above Black River	Winter	264	April to March
Chehalis River below Black River	Summer	20	August to September
	Winter	216	December to March
Chehalis River, South Fork	Winter	29	November to February
Cloquallum Creek	Summer	4	June to August
Newaukum River	Winter	41	November to February
Satsop River	Summer	23	June to October
	Winter	753	November to March
Satsop River, West Fork	Summer	2	September
	Winter	42	January to February
Skookumchuck River	Summer	12	July to August
	Winter	1,607	December to March
Van Winkle Creek	Summer	13	June to September
	Winter	62	November to January
Wishkah River	Winter	16	November to February
Wynoochee River	Summer	1,212	June to October
	Winter	2,078	November to March
Hoquiam River	Winter	4	January
Humptulips River	Summer	310	June to October
	Winter	1,075	November to March
Humptulips River, East Fork	Summer	6	June
	Winter	25	February to March
Humptulips River, West Fork	Winter	12	December to January
Stevens Creek	Winter	211	December to February
Grays Harbor	Summer	9	July
	Winter	8	December

Source: WDFW 2018

In addition to fishing, boaters use the Chehalis River and its tributaries for kayaking, canoeing, and whitewater rafting. Boat access points and boat launches are available throughout the Chehalis Basin. Many are owned and operated by WDFW, while others are in local parks, such as Fort Borst Park in Centralia.

The American Whitewater Association (AWA) rates whitewater rapids from Class I to Class VI based on their difficulty. Class I rapids are the easiest to navigate, while Class V rapids are for experts and Class VI rapids are classified as extreme or exploratory rapids. Table J-6 lists the river reaches in the Chehalis Basin and their whitewater class. AWA states the Class III whitewater run is one of the longer stretches of continuous whitewater in the state. For the West Fork to Pe Ell section, access requires a Weyerhaeuser permit and it extends approximately 13.8 miles. A put-in site is identified by AWA near the confluence of the East and West forks with a take-out at a bridge near Pe Ell.

**Table J-6**  
**Whitewater Classes of Rivers in the Chehalis Basin**

RIVER	REACH	CLASS	APPROXIMATE LENGTH (MILES)
East Fork Chehalis	Mile 3 to Chehalis River	III	3
West Fork Chehalis	Mile 3 to Chehalis River	III–IV	3
Chehalis	West Fork to Pe Ell	III–IV	13.8
	Pe Ell to Doty	II	6
	Rainbow Falls to Meeskill	II	3.2

Source: American Whitewater Association 2019

### **2.2.2.1 Parks on the Chehalis River and Its Tributaries**

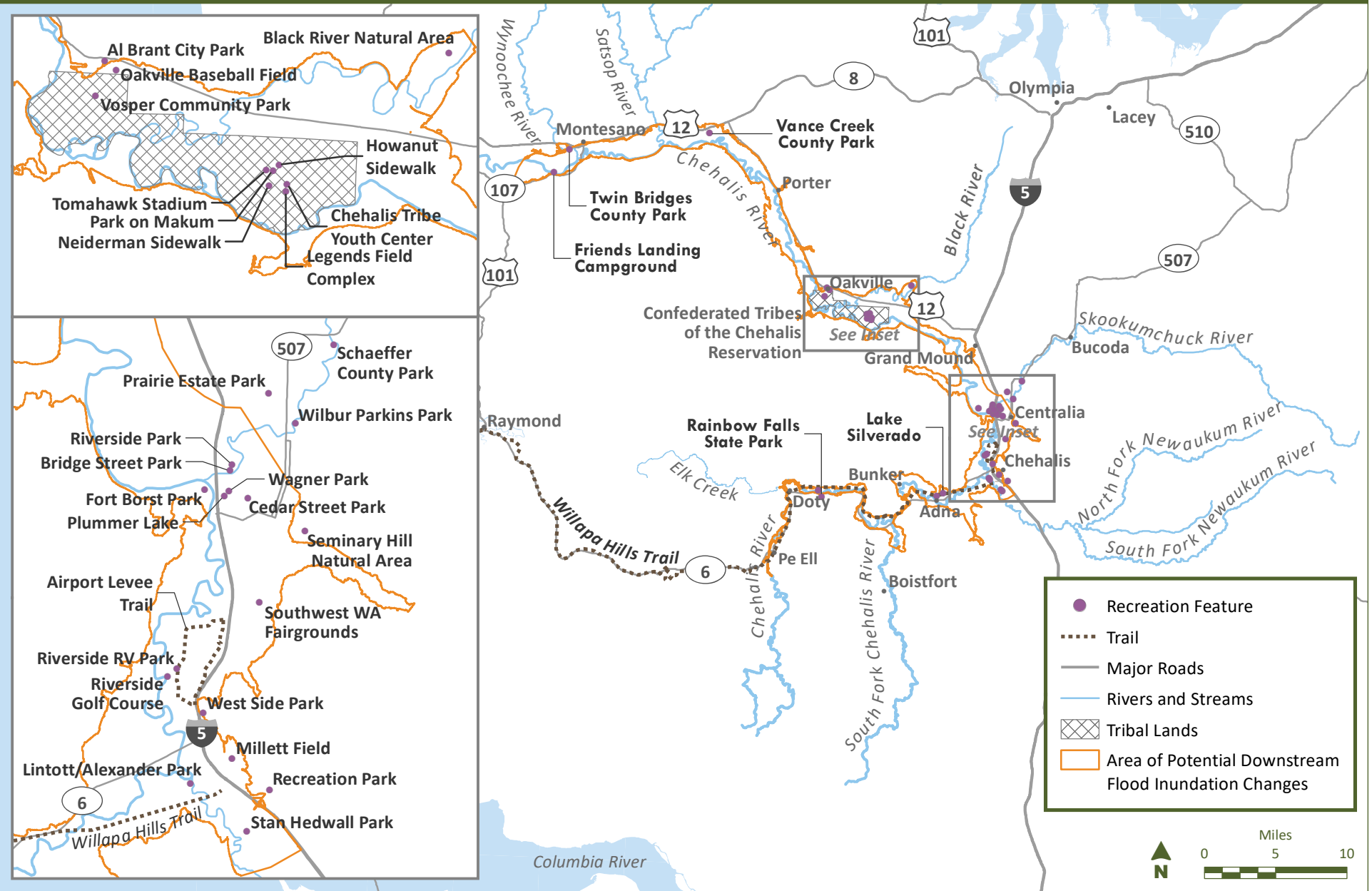
Many state, county, and city parks are directly adjacent to the Chehalis River and its tributaries. County and city parks adjacent to the Chehalis River and its tributaries range from small neighborhood parks to large recreation areas. For example, Fort Borst Park is the largest park in Centralia at 121 acres. It features trails, fields, gardens, rentable kitchens and shelters, bathrooms, a public boat ramp on the Chehalis River, and several historic buildings (City of Centralia 2019). The park is located at the confluence of the Chehalis and Skookumchuck rivers in the 100-year floodplain, and it has flooded during past major storm events.

While open space is often thought of as a compatible floodplain land use, parks with structures and improvements can be damaged by flooding. Rainbow Falls State Park and the Willapa Hills State Park Trail are two major state parks that suffered damages in the December 2007 flood.

Figure J-2 shows parks and other recreational facilities in the study area.

Figure J-2

Recreation Features Potentially Impacted by Flood Inundation Changes



#### 2.2.2.1.1 *Rainbow Falls State Park*

Rainbow Falls State Park is owned and operated by the Washington State Parks and Recreation Commission (Washington State Parks) and is located on the Chehalis River near Dryad. The park, built in 1935 by the Civilian Conservation Corps, is 129 acres with 3,400 feet of shoreline on the Chehalis River. The park features 3 miles of hiking trails through old-growth forest; an access trail to the Willapa Hills State Park Trail; horseshoe pits; interpretive signage; a softball field; 53 campsites (including partial utility RV campsites, horse campsites, and hiker- and biker-only sites); a kitchen shelter with water, electricity, and 15 picnic tables (which can be reserved); 21 additional day use picnic tables; a group campsite (which can also be reserved); a metal-detecting area; a dump station; and restrooms featuring two showers (WSP 2019a, 2019b). The park is also used for fishing, swimming, birdwatching, and wildlife viewing.

The park has a north area and a south area separated by the Chehalis River. During the 2007 flood, the bridge connecting the two sides collapsed into the Chehalis River. Without the bridge, the north portion of the park (featuring campsites, restrooms, the softball field, and access to the Willapa Hills State Park Trail) is connected to the south portion (featuring hiking trails; WSP 2019b) using Leudinghaus Road. The south portion of the park is accessible from SR 6.

#### 2.2.2.1.2 *Willapa Hills State Park Trail*

The Willapa Hills State Park Trail is a 56-mile-long multiuse trail owned and operated by Washington State Parks, with segments that are accessible to bicycle and horseback riders. The trail runs from Chehalis to South Bend, passing Rainbow Falls State Park and Pe Ell. Several bridges on the trail were washed out in the December 2007 flood, all of which have now been repaired (Discover Lewis County 2018). The improved trail is now complete through Lewis County, with 27 miles of continuous trail from mile 0 at Chehalis to mile 27 west of Pe Ell. From mile 27 to mile 52 (near Raymond), the trail is unimproved. There are 10 miles of trail between miles 42 and 52 in Pacific County that Washington State Parks is currently seeking funding to develop further (WSP 2019c).

#### 2.2.2.1.3 *Southwest Washington Fairgrounds*

The Southwest Washington Fairgrounds are in unincorporated Lewis County between Centralia and Chehalis. The Southwest Washington Fair is held annually for 6 days in August, but the fairgrounds are used throughout the year for other events, including auctions, car shows, and gun shows. Facilities on the fairground site are rentable, including pavilions, stages, an expo hall, and a barn. Portions of the fairgrounds are used for RV storage from October through March. Campsites are also available during the fair and year-round.

The fairgrounds are in the 100-year floodplain and have a history of flooding. In November 1986 (a 100-year flood), flood levels at the fairgrounds reached 9 feet (Chehalis River Basin Flood Authority 2010). In January 1990, the levee around the fairgrounds was overtopped. There is no outlet for draining floodwaters from the fairgrounds (Brown and Caldwell 2008). The fairgrounds were flooded in the 2007

flood (similar to a 500-year flood), during which many buildings on the grounds were damaged, and again during the 2009 flood (7-year flood).

#### 2.2.2.1.4 WDFW Access Sites and Properties

There are many access sites and properties owned and managed by WDFW for public access. Some WDFW-owned properties are managed for water access by other agencies. Table J-7 lists the sites and properties located in the study area.

**Table J-7**

**WDFW Access Sites and Properties in Study Area**

RIVER	REACH
Chehalis River	<ul style="list-style-type: none"> <li>Porter Bridge Access Area</li> <li>Hoxit Unit / Chehalis Wildlife Area</li> <li>Davis Creek WLA Unit / Scatter Creek Wildlife Area</li> <li>Oakville-Chehalis River Access Area</li> <li>Bob Oke Game Farm (pheasant rearing facility)</li> <li>Borst property (including boat ramp; managed by the City of Centralia as part of Fort Borst Park)</li> <li>Hayes Lake property (unmanaged WDFW land)</li> <li>Plummer Lake property (managed by the City of Centralia as the Plummer Lake Boat Launch)</li> <li>Rainbow Falls property (unmanaged WDFW land)</li> </ul>
Black River	<ul style="list-style-type: none"> <li>Oakville-Black River Access Area</li> <li>Black River Unit / Scatter Creek Wildlife Area</li> <li>Gate Access Area</li> </ul>

#### 2.2.2.1.5 Local Parks

There are many local parks in the study area. Local parks provide recreational features including playgrounds, fields, athletic courts, boat ramps, trails, and restrooms. The level of sensitivity to flooding varies by park. Some parks feature largely open space in floodplain areas and incur little damage if flooded, while others feature structures such as rentable outdoor shelters, public restrooms, and RV areas that do incur damage. Some parks offer recreational access to the Chehalis River through public boat ramps and fishing areas. A full inventory of local parks within the study area is shown in Figure J-2.

#### 2.2.2.1.6 Agritourism

Farming is a major land use in the Chehalis Basin, and farmers in the basin encourage agritourism as a recreational use, drawing tourists from other areas of Western Washington. Weekly farmer's markets are held in Centralia, Chehalis, and Pe Ell. The Centralia Farmer's Market features vegetable seedlings, baked goods, meat, fruit, and vegetables. The Community Farmer's Market in Chehalis offers prepared food, live music, and a children's program in addition to local fruits and vegetables. The 2018 Lewis

*County Farm Guide* lists five farm-to-table restaurants in Chehalis and one in Centralia. The Farm Guide also lists about 25 farms in the Chehalis Basin that provide recreational opportunities such as tours, U-Pick, festivals, venue rental, on-farm sales, classes and workshops, and children and family activities (Discover Lewis County et al. 2018).

### **2.2.3 Recreation at Project Sites**

The areas proposed for the FRE facility and the Airport Levee Changes (Proposed Action) are in the vicinity of recreational sites, as described here.

#### **2.2.3.1 Proposed FRE Facility Site**

The proposed FRE facility site is on land currently owned by Weyerhaeuser and the Panesko Tree Farm. Weyerhaeuser sells recreational access permits for hunting, fishing access, and camping on its lands. The FRE facility site is in the Pe Ell South Permit Area, one of eight Weyerhaeuser permit areas throughout the state. For 2015 to 2016, 550 permits were sold for the Pe Ell South Permit Area. Weyerhaeuser sold all of the motorized and non-motorized permits available for sale in the Pe Ell South Permit Area for the recreation year of August 2018 through July 2019 (Weyerhaeuser 2019). These permits allow access to areas of the Ryderwood and Willapa Hills Game Management Units. The non-motorized permit allows travel by hiking, biking, and horseback riding for day use opportunities. Additionally, this permit provides access to areas with mushrooms, berries, streams with fishing, and populations of elk, deer, and grouse. The motorized permit allows entrance into the permit area with a licensed vehicle and offers overnight camping with opportunities to hike, horseback ride, mountain bike, hunt, and fish. This permit allows for the taking of firewood, berries, and mushrooms from the permit area for personal use. The Pe Ell South Permit Area, totaling 98,049 acres, encompasses a much larger area than the FRE facility (34.9 acres) and temporary reservoir area (847 acres).

In addition to the limited and fee-based private recreation on Weyerhaeuser land, the reach of the Chehalis River that includes the proposed FRE facility site is listed as a Class III–IV whitewater area by the AWA, as described previously.

#### **2.2.3.2 Airport Levee Changes Area**

The airport levee is near the privately owned Riverside Golf Course, which is open to the public. The golf course is between the Chehalis-Centralia Airport and the Chehalis River. The golf course features a clubhouse structure with a restaurant and an outdoor covered pavilion that is rentable for private parties. Riverside RV Park is also on the golf course property.

The top of the airport levee has a gravel surface and is generally approximately 15 to 20 feet wide, though the width varies from 10 to 45 feet across the length of the levee. The levee is used as an informal walking trail and is accessible from several points, including a staircase across the street from the entrance to the Riverside Golf Course. The trail along the top of the levee is approximately 1.75 miles long. Figure J-3 shows recreation in the vicinity of the airport levee.



Figure J-3

Recreation Features Near the Chehalis-Centralia Airport



## 2.3 Studies and Reports Referenced/Used

Information about recreational uses and areas in the study area was obtained from WDFW, recreational organizations, Washington State Parks, local documents, and landowners. Studies and reports used include the following:

- *Chehalis Basin Strategy Programmatic Environmental Impact Statement* (Ecology 2017)
- *Lewis County Comprehensive Flood Hazard Management Plan* (Brown and Caldwell 2008)
- *Washington State Sport Catch Report 2016* (WDFW 2018)
- *National Whitewater Inventory* (American Whitewater Association 2019)
- *Rainbow Falls State Park* (WSP 2019a)
- *Rainbow Falls State Park Brochure and Map* (WSP 2019b)
- *Willapa Hills State Park Trail* (WSP 2019c)
- *Two New Willapa Hills Trail Bridges Now Open* (Discover Lewis County 2018)
- *2018 Lewis County Farm Guide* (Discover Lewis County et al. 2018)
- *Borst Park* (City of Centralia 2019)
- *Premier Outdoor Recreation FAQ* (Weyerhaeuser 2019)

## 2.4 Technical Approach

To examine the probable impacts on recreation, all existing and potential opportunities for recreation in the study area were identified by reviewing maps, agency websites, and other information sources. Information regarding the type and use of each of the potentially affected recreational opportunities was then collected from resources such as WDFW recreational fishing data and park websites. Impacts on recreation were qualitatively assessed based on an evaluation of how construction and routine operation could disturb recreational uses. Possible impacts from construction include noise, dust, visibility, traffic (including detours), and changes in access that could alter the user experience. Other impacts that were analyzed included permanent or temporary loss of access to areas for recreation, a change in flood levels (increase or reduction), or changes to in-water recreation (e.g., fishing, rafting).

To identify the potential impacts, a geographic information system (GIS) map of flood inundation levels under various scenarios was reviewed. Additionally, other discipline reports were reviewed to identify impacts on noise, fish, wildlife, and land use as they relate to recreation. The analysis also considered the impact on County and City plans and policies relating to recreation in or near waterbodies.



## 3 TECHNICAL ANALYSIS AND RESULTS

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### 3.1 Overview

This section describes the probable recreation impacts from the Proposed Action (Section 3.2), Local Actions Alternative (Section 3.3), and No Action Alternative (Section 3.4). This section also evaluates required permit conditions and planning document requirements that could address the impacts identified (Section 3.2.3). When probable significant adverse environmental impacts remain after considering these, this report identifies mitigation measures that could avoid, minimize, or reduce the identified impact below the level of significance (Section 3.2.4).

Other discipline reports describe impacts to resources that relate to recreation, including impacts to fish (*Fish Species and Habitats Discipline Report* [Anchor QEA 2020a]); impacts to wildlife (*Wildlife Species and Habitats Discipline Report* [Anchor QEA 2020b]); impacts to humans from noise (*Noise and Vibration Discipline Report* [ESA 2020b]); impacts to air quality (*Air Quality and Greenhouse Gas Discipline Report* [ESA 2020a]); and impacts to visual resources (*Visual Quality Discipline Report* [ESA 2020d]). Findings from these reports applicable to recreation are noted in the sections that follow.

### 3.2 Proposed Action

#### 3.2.1 Impacts from Construction

This section describes the impacts from construction of a flood retention facility (referred to as an FRE facility) and associated activities including removal of trees within the temporary reservoir and for the FRE facility, development of quarries to provide aggregate for the FRE facility, constructing or upgrading roads to the quarry, constructing a temporary bypass tunnel, and constructing and operating a temporary fish trap-and-transport facility. It also describes the impacts from construction activities associated with changes to the airport levee.

After construction begins, recreation would not be allowed within the FRE facility and temporary reservoir for the life of the facility. All non-flood-tolerant trees and flood-tolerant trees greater than 6 inches diameter at breast height (dbh) would be permanently removed from the temporary reservoir, changing the recreational character of the immediate area.

##### 3.2.1.1 Direct

###### 3.2.1.1.1 Flood Retention Expandable Facility

The FRE facility would permanently change the recreational character of the immediate area. The Chehalis River Basin Flood Control Zone District (Applicant) would remove all non-flood-tolerant trees and trees over 6 inches dbh within a 600-acre area and replace them with flood-tolerant scrub-shrub vegetation. This adverse impact on the visual quality of the area is analyzed in detail in the *Visual Quality*

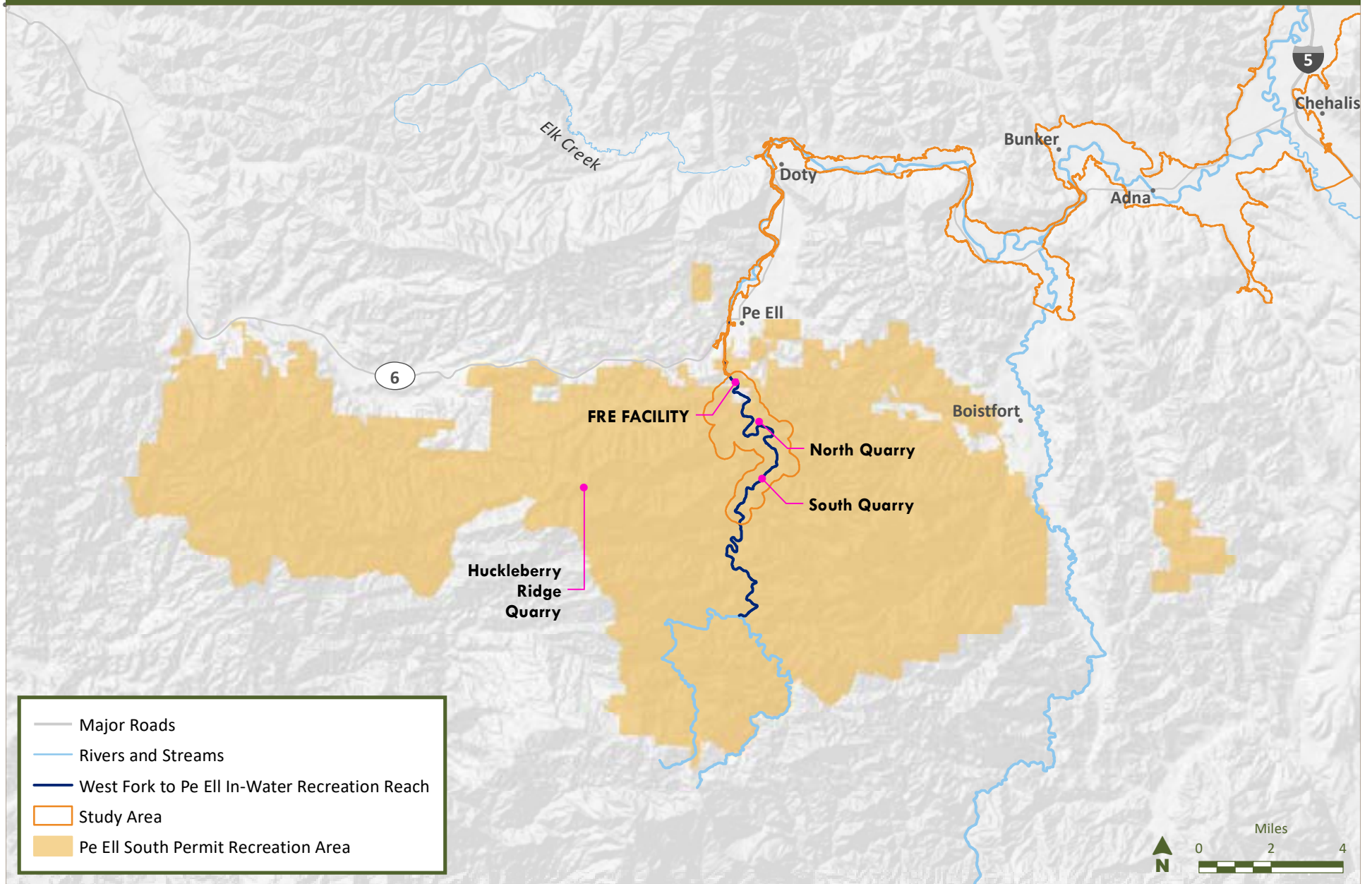
*Discipline Report*, which found the visual changes would be noticeable to recreationists utilizing the area around the facility; impacts would be **moderate** for recreationists due to the location (ESA 2020c). Although recreationalists purchasing a Weyerhaeuser permit may use the area around the FRE facility, the facility and temporary reservoir will be closed to recreational use, minimizing the potential visual impact.

Recreation would not be allowed within the FRE facility and temporary reservoir during construction or operation. This would eliminate fishing, camping, and hunting in these areas. The 13.8 miles of Class III and IV whitewater of the West Fork to Pe Ell section, including access points for put-in and pull-out, would be closed to kayaking and whitewater rafting. Within the temporary reservoir area, 6.4 miles of river would be closed to fishing, including 12.8 miles of bank access along the Chehalis River and tributaries. The FRE facility covers 34.9 acres and the temporary reservoir area covers 847 acres in Weyerhaeuser's Pe Ell South Permit Area (Figure J-4). While part of the permit area within the FRE facility and temporary reservoir would be closed for recreation due to the Proposed Action, the remaining area would continue to remain open to recreational users. This permanent loss of access for kayaking, whitewater rafting, fishing, camping, and hunting would be a **significant** adverse impact.

Mitigation is proposed for the Applicant to develop a Recreation Mitigation Plan to mitigate impacts on kayaking, whitewater rafting, and fishing access in the temporary reservoir area; however, there is uncertainty if the implementation of a plan is technically feasible or economically practicable. Therefore, construction of the Proposed Action would have **significant and unavoidable** adverse environmental impacts on recreation, unless the Applicant develops a Recreation Mitigation Plan to address the significant adverse impacts and for which implementation is feasible.

Some recreational users may choose not to use nearby portions of the Pe Ell South Permit Area during the construction period. However, other areas within the permit area would remain available. Construction impacts on recreation such as hunting, camping, and horseback riding in the vicinity of the FRE facility would be **moderate**. While the loss of recreational use at the FRE facility and the temporary inundation area would be a permanent loss to users, impacts may be avoided by using other parts of the permit area that provide similar recreational experiences. Construction impacts would be minimized through the use of best management practices associated with permit requirements. Additional detail on best management practices can be found in the *Noise and Vibration Discipline Report* and the *Air Quality and Greenhouse Gas Discipline Report*.

Figure J-4  
Pe Ell South Permit Area



Construction noise and dust could be noticeable to recreational users of nearby portions of the permit area during the 5-year construction period. The increased road use to the quarry sites and FRE facility as well as construction at the facility may increase the amount of dust in the air. As described in the *Noise and Vibration Discipline Report*, construction activities at the FRE facility, temporary reservoir, roads, and quarries would result in increased noise levels that could disturb surrounding recreational uses. Construction noise and activities could be particularly disruptive to hunters and anglers because wildlife and fish could leave the area during construction (see the *Wildlife Species and Habitats Discipline Report*). Noise impacts to animals and fish are discussed in the *Wildlife Species and Habitats* and *Fish Species and Habitats Discipline Reports*. These reports found that noise impacts would be significant for wildlife and fish species within the FRE facility and temporary reservoir areas (which would not be open to the public). This would have a **moderate** impact on hunters, fishers, and birdwatchers by causing birds, other animals, and fish to leave areas near the FRE facility and quarry areas, reducing the recreational experience for nearby hunting, fishing, and camping.

#### 3.2.1.1.2 *Airport Levee Changes*

Construction of the Airport Levee Changes would last for up to 1 year and would occur in the vicinity of the Riverside Golf Course and RV Park. Recreational users of the golf course and RV park would notice increased noise and dust. Construction traffic would likely cause delays in getting to the golf course and RV park. If staging areas were located on the Riverside Golf Course and RV Park property, parking for golf course users or for RVs would be limited during the construction period. Construction impacts on the Riverside Golf Course and RV Park would be **minor** because they would be temporary and limited to the construction period. Additional information can be found in the *Noise and Vibration Discipline Report*, *Air Quality and Greenhouse Gas Discipline Report*, and *Transportation Discipline Report* (ESA 2020c).

The trail on top of airport levee would be closed to recreationists during the construction period. This adverse impact would be **minor** because the impact would be temporary and limited to the construction period, and recreational users could access other nearby walking trails during that time.

### 3.2.1.2 **Indirect**

#### 3.2.1.2.1 *Flood Retention Expandable Facility*

During construction of the FRE facility, some recreational users may choose to visit other areas of Weyerhaeuser's Pe Ell South Permit Area or go to other recreational areas. This could result in an increase in the use of other recreational facilities in the Chehalis Basin. This could also lead to a temporary increase in demand for permits at other Weyerhaeuser permit areas, such as the Pe Ell North Permit Area. Increased use of other recreational areas could decrease the quality of recreation for other users as sites become crowded. Additional costs to travel may occur based on the starting location of the recreational users. Impacts would be **moderate** at other nearby locations.

#### 3.2.1.2.2 Airport Levee Changes

The trail on top of the airport levee would be closed to recreationists during the 1-year construction period. This adverse impact would be **minor** because the impact would be temporary and limited to the construction period, and recreational users could access other nearby walking trails during that time. The trail would reopen after construction so there are **no** impacts during operation of the levee.

### 3.2.2 Impacts from Operation

This section describes the impacts from operation of the FRE facility, including recreational impacts resulting from the change of land use from commercial forestry to the FRE facility and temporary reservoir, and the changed airport levee. It also describes changes in inundation throughout the study area.

#### 3.2.2.1 Direct

##### 3.2.2.1.1 Flood Retention Expandable Facility

The FRE facility would permanently change the recreational character of the immediate area as described earlier. The closure within the Pe Ell South Permit Area that would occur during construction would be a permanent closure and is a **moderate** impact.

As described in Section 3.2.1, construction of the FRE facility would permanently close areas to kayakers, whitewater rafters, anglers, birdwatchers, campers, hikers, and hunters and this would continue during facility operations. The 13.8 miles of Class III and IV whitewater of the West Fork to Pe Ell section, including access points for put-in and pull-out, would be closed to kayaking and whitewater rafting. Within the temporary reservoir area, 6.4 miles of river would be closed to fishing, including 12.8 miles of bank access along the Chehalis River and tributaries. The FRE facility covers 34.9 acres and the temporary reservoir area covers 847 acres in Weyerhaeuser's Pe Ell South Permit Area (Figure J-4). This permanent loss of access for kayaking, whitewater rafting, fishing, camping, and hunting would be a **significant** adverse impact.

As described in the *Wildlife Species and Habitats* and *Fish Species and Habitats Discipline Reports*, the Proposed Action would have **significant** impacts on fish, which in turn would impact recreational fishing by reducing the number of fish available to be caught. There were 529 steelhead harvested in the sport fisheries within the entire Chehalis River from April 2016 to March 2017. Data do not specify how many steelhead were harvested at the FRE facility and inundation area; however, a reduction in salmon and steelhead abundance and the permanent loss of 12.8 miles of fishing access would reduce the ability to catch fish above and below the FRE facility, resulting in **significant** impacts on recreational fishing.

Mitigation is proposed for the Applicant to develop a Recreation Mitigation Plan to mitigate impacts on recreation; however, there is uncertainty if the implementation of a plan is technically feasible or economically practicable. Therefore, operation of the Proposed Action would have **significant and**

**unavoidable** adverse environmental impacts on recreation, unless the Applicant develops a Recreation Mitigation Plan to address the significant adverse impacts and for which implementation is feasible.

#### **3.2.2.1.2**      *Airport Levee Changes*

Following construction of the Airport Levee Changes, the trail on the top of the levee would reopen. While the elevation of the trail would be 4 to 7 feet higher than it is now, the recreational quality of the trail would not change. Therefore, there would be **no impact** on recreation.

Operation of the raised levee alone would increase the risk of flooding to the golf course and RV park because floodwaters would no longer spill over into the airport as they do currently, thereby increasing flood elevations on the riverward side of the levee. As described in the *Water Discipline Report* (ESA 2020e), HEC-RAS hydraulic modeling performed in 2017 showed that changes to the airport levee, considered alone, would increase floodwater elevations immediately upstream and downstream of the levee by less than a foot during a catastrophic flood (ESA 2020d; Ecology 2017). However, when paired with the FRE facility, flood levels originating from the Chehalis River headwaters would be reduced. Thus, the operation of the levee would not have adverse impacts on recreation unless the Airport Levee Changes were completed prior to operation of the FRE facility and a catastrophic flood occurred before the FRE facility was operational.

#### **3.2.2.1.3**      *Changes in Inundation*

The FRE facility, combined with the Airport Levee Changes, would reduce flood inundation levels for recreational facilities downstream of the FRE facility. The degree of reduction in inundation would vary by flood scenario and location. Five recreational sites (Rainbow Falls State Park, Riverside Golf Course and RV Park, Southwest Washington Fairgrounds, Fort Borst Park, and Vance Creek County Park) are described here. Flood depths at specific points at each park are included in Table J-8 (major floods) and Table J-9 (catastrophic floods).

Most of Rainbow Falls State Park is not within the floodplain. With the FRE facility, flows within the channel would be reduced compared to the No Action Alternative. Modeling indicates that the flood level within the river channel would be variable depending on location. During a mid-century major flood without the Proposed Action, depths in the river channel at a select location (at the upstream end of Rainbow Falls State Park) would be about 21 feet (Table J-8). During a mid-century major flood with the FRE facility in place, the depth would be about 15 feet. During a late-century catastrophic flood, the depth in the river channel without the FRE facility would be about 29 feet; with the FRE facility in place, depths in the river channel would be about 21 feet (Table J-9). Under all scenarios, the park itself would not be inundated.

Under all flood scenarios, both with and without the FRE facility in place, the Riverside Golf Course and RV Park would be fully inundated during a major or catastrophic flood. Although the Riverside Golf Course and RV Park would be fully inundated during a mid-century or late-century major or catastrophic flood, a mid-century major flood and late-century catastrophic flood are described here to illustrate the



range of flood events. Under the No Action Alternative, flood levels would range from 0 to 20 feet during a mid-century major flood. During a late-century catastrophic flood, depths would range from 5 to 20 feet. With the FRE facility in place, depths would be lower in any given location (around 1 to 2 feet lower), but the area would still be inundated. Flood levels would be lower at the clubhouse than at other areas of the golf course. The clubhouse would be inundated with under 5 feet of floodwaters during a late-century catastrophic flood under the No Action Alternative, and under 4 feet with the Proposed Action in place. Under a major flood with the Proposed Action in operation, the clubhouse would not be inundated. Figure J-5a shows the Riverside Golf Course during a late-century catastrophic flood under both the No Action Alternative and the Proposed Action.

The Southwest Washington Fairgrounds would not be inundated during a mid-century or late-century major flood, under either the No Action Alternative or the Proposed Action (Table J-8). Under a catastrophic flood, however, the fairgrounds would be inundated with around 13 feet of water in mid-century and around 14 feet of water in late-century without the FRE facility in operation (Table J-9). With the FRE facility in operation, flood levels at the fairgrounds would be between 5 and 25 feet under either the mid-century or late-century scenario. Figure J-5a shows the Southwest Washington Fairgrounds during a late-century catastrophic flood under both the No Action Alternative and the Proposed Action.

Flood inundation at Fort Borst Park in Centralia would vary under the different flood scenarios, but would be lower under all scenarios with the FRE facility in place. For example, under a mid-century major flood without the FRE facility in place, a band of the park just south of the athletic fields would be inundated by 0 to 2 feet of water; with the FRE facility in place, the park would not be inundated. In a catastrophic flood (either mid-century or late-century), the entire park would be inundated by floodwaters, but depths would be lower by about 2 feet with the FRE facility in place. Figure J-5b shows Fort Borst Park during a mid-century major flood and a late-century catastrophic flood under both the No Action Alternative and the Proposed Action.

Vance Creek County Park, outside of Elma, features two lakes, fishing ponds, and a parking area. Portions of the park would be flooded under all scenarios. Under the No Action Alternative, the entrance to the parking area, off Wenzel Slough Road, would be inundated by less than a foot of water under a late-century major flood. With the FRE facility in place, the entrance of the park would not be inundated during a major flood. During a catastrophic flood, the entrance to the park would be inundated under both the No Action Alternative and the Proposed Action. However, the level of inundation would be lower with the Proposed Action.

**Table J-8**

**Maximum Inundation Depths (in Feet) Predicted from a Major Flood at Selected Recreation Sites**

SITE	MID-CENTURY			LATE-CENTURY		
	NO ACTION	PROPOSED ACTION	DIFFERENCE	NO ACTION	PROPOSED ACTION	DIFFERENCE
Rainbow Falls State Park (depths in river channel at west end of park)	20.51	14.79	-5.72	21.85	15.61	-6.24
Riverside Golf Course (clubhouse)	0.02	0	-0.02	0.46	0	-0.46
Southwest Washington Fairgrounds (center of field)	0	0	0	0	0	0
Fort Borst Park (south end of parking lot)	0.44	0.00	-0.44	1.51	0.26	-1.25
Vance Creek Park (entrance from Wenzel Slough Road)	0	0	0	0.19	0	-0.19

**Table J-9**

**Maximum Inundation Depths (in Feet) Predicted from a Catastrophic Flood at Selected Recreation Sites**

SITE	MID-CENTURY			LATE-CENTURY		
	NO ACTION	PROPOSED ACTION	DIFFERENCE	NO ACTION	PROPOSED ACTION	DIFFERENCE
Rainbow Falls State Park (river channel)	27.77	20.19	-7.58	28.87	21.44	-7.43
Riverside Golf Course (clubhouse)	3.80	2.52	-1.28	4.90	3.83	-1.07
Southwest Washington Fairgrounds (center of field)	12.98	10.33	-2.65	14.32	11.17	-3.15
Fort Borst Park (south end of parking lot)	5.04	3.28	-1.76	6.22	4.12	-2.10
Vance Creek Park (entrance from Wenzel Slough Road)	3.28	2.39	-0.89	4.27	3.13	-1.14

The recurring flood scenario refers to a major or greater flood that occurs 3 consecutive years in a row. During a recurring flood scenario, most recreational facilities in the study area would flood to some degree 3 years in a row. While the Proposed Action would reduce the flood elevations of each major or catastrophic flood at recreational facilities in the study area, most would still be inundated to some degree (see Tables J-8 and J-9). This frequency of flooding would be disruptive to recreational use of these facilities, because a single year often is not long enough to repair flood damages. Therefore, a recurring flood scenario would cause damage that would remain difficult to repair, even with the Proposed Action in place.

Figure J-5a

Predicted Changes in Inundation Depths at Select Recreation Sites

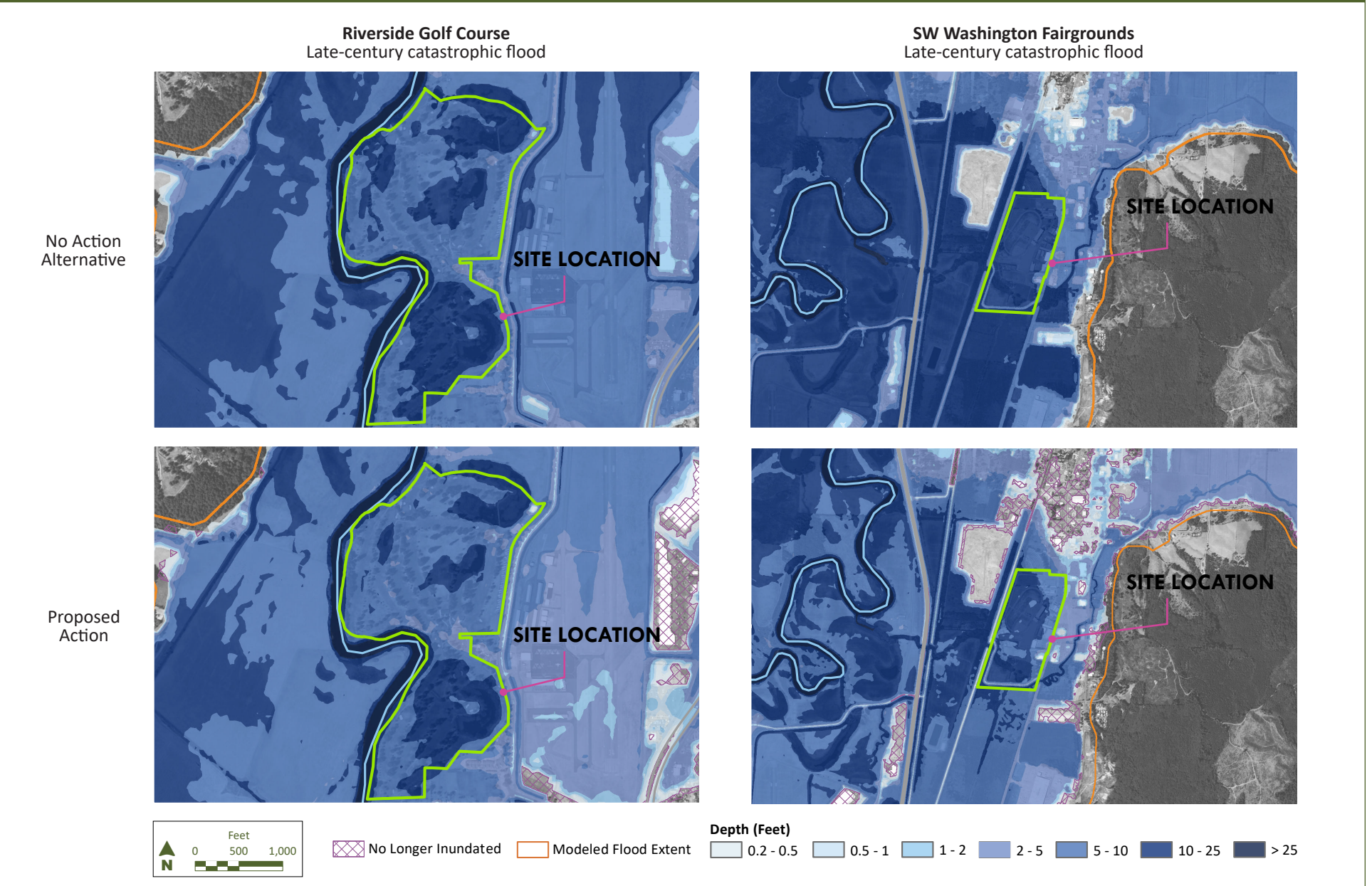
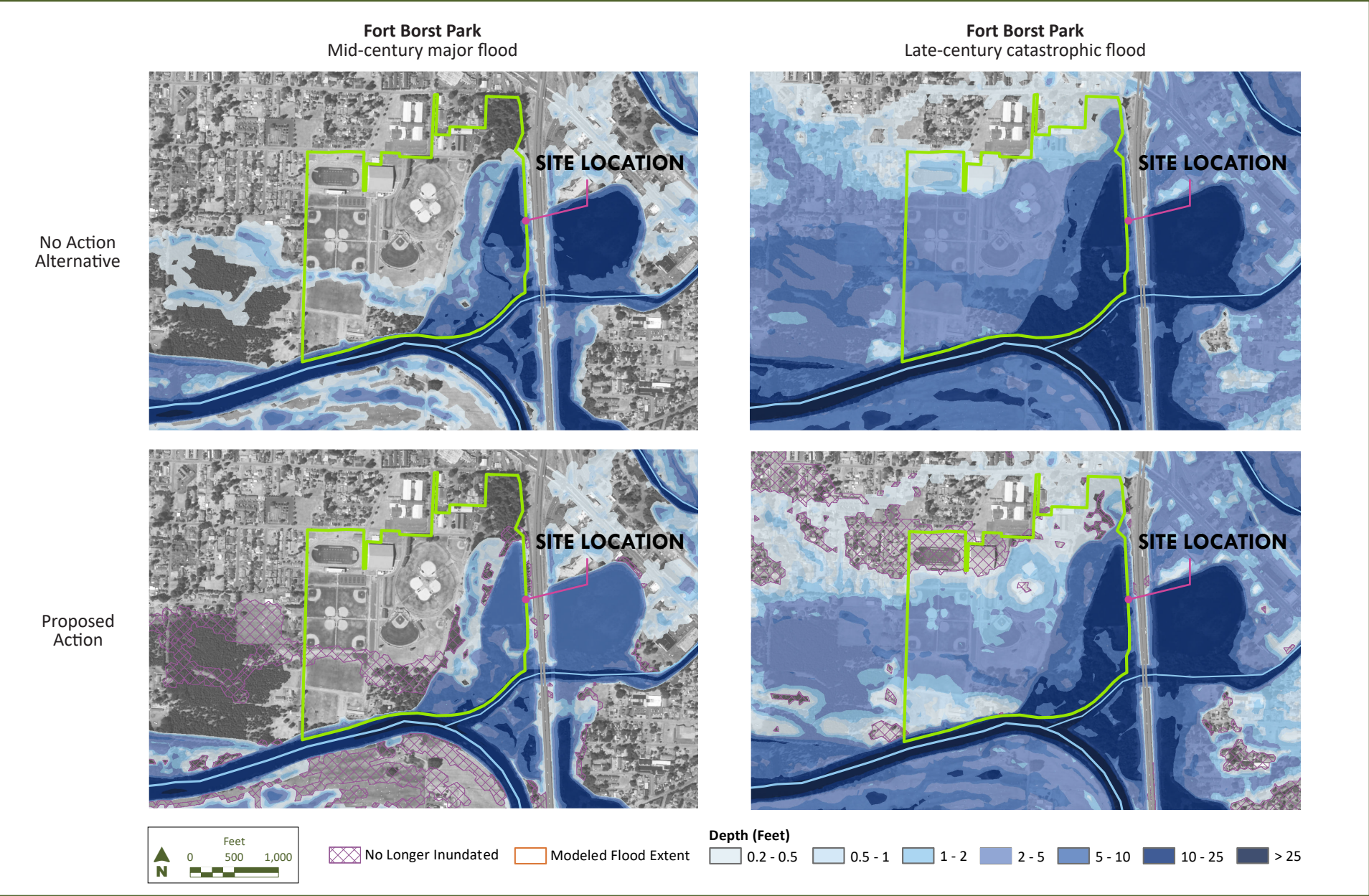




Figure J-5b  
Predicted Changes in Inundation Depths at Select Recreation Sites



### **3.2.2.2 Indirect**

#### **3.2.2.2.1 Flood Retention Expandable Facility**

Because of the permanent loss of whitewater rafting, kayaking, hunting, camping, and fishing opportunities at the FRE facility site, the operation of the FRE facility may result in an increased use of other areas of the Chehalis Basin for similar recreational opportunities. This could potentially decrease the quality of recreation at other sites if those sites were to become more crowded. Additional costs to travel may occur based on the starting location of the recreational users. Hunting, camping, rafting, kayaking, and fishing uses displaced by the FRE facility would likely be distributed across the Chehalis Basin; therefore, indirect adverse impacts would be **moderate** at any given nearby site.

#### **3.2.2.2.2 Airport Levee Changes**

**No indirect impacts** on recreation from the operation of the Airport Levee Changes are anticipated.

### **3.2.3 Required Permits**

No permits for recreation are required to construct or operate the Proposed Action. Required shoreline permits are described and identified in the *Land Use Discipline Report* (Anchor QEA 2020c). The following licenses/permits would be required for the Proposed Action to address construction-related air emissions and noise levels and are described in the *Air Quality and Greenhouse Gas Discipline Report* and *Noise and Vibration Discipline Report*:

- Air Discharge Permit (Southwest Regional Clean Air Agency [SWCAA])
- Permit for Nonroad Engines (SWCAA)
- Open Burning Permit (SWCAA)
- Washington State Explosives License (Washington State Department of Labor and Industries)
- Federal Explosives License/Permit (Bureau of Alcohol, Tobacco, and Firearms)

### **3.2.4 Proposed Mitigation Measures**

This section describes the mitigation measures proposed for the Applicant to implement that would reduce and would compensate for impacts related to recreation from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to compliance with environmental permits, plans, and authorizations described in Section 3.2.3 that would be required for the Proposed Action.

- **REC-1 (Recreation Mitigation Plan):** To reduce impacts on recreational users from construction and operation of the Proposed Action, mitigation is proposed for the Applicant to develop a Recreation Mitigation Plan to identify and implement potential mitigation. Lewis County Parks and Recreation Department and WDFW will review the plan.

#### Other Related Mitigation Measures

- **FISH-1 (Fish and Aquatic Species and Habitat Plan):** To mitigate the impacts on fish and aquatic species and habitats associated with construction and operation of the Proposed Action, mitigation is proposed for the Applicant to develop and implement a Fish and Aquatic Species and Habitat Plan (for details, see *Fish Species and Habitat Discipline Report*).

### 3.2.5 Significant and Unavoidable Adverse Environmental Impacts

There is uncertainty if mitigation is technically feasible or economically practicable, therefore, the Proposed Action would have **significant and unavoidable** adverse environmental impacts on recreation, as follows:

- Elimination of a 13.8-mile reach for kayaking and whitewater rafting on the Chehalis River within the FRE facility site and temporary reservoir
- Elimination of 12.8 miles of riverbank fishing on the Chehalis River within the FRE facility site and temporary reservoir
- Reduction in fish available for recreational fishing in the Chehalis River

The Applicant may provide a Recreation Mitigation Plan as described above. If agencies determine the plan addresses the significant adverse impacts and the implementation is feasible, then the impacts would be addressed as part of implementation of the plan.

### 3.3 Local Actions Alternative

#### 3.3.1 Impacts from Construction

This section analyzes the potential impacts from construction of local actions such as strategic floodproofing (elevating buildings, building berms or floodwalls), floodplain storage improvement (placing wood in rivers, restoring riparian areas, reforesting floodplain areas), and channel migration protection (placement of wood in rivers).

##### 3.3.1.1 Direct

Construction activities for local actions could occur at or adjacent to recreational facilities such as parks. If this were the case, recreationists could experience noise, dust, and access issues. If construction activities took place at a park, the park or portions of the park could be closed during construction. Because construction would be temporary and short term, these adverse impacts would range from **moderate to minor**, depending on the proximity to recreation.

##### 3.3.1.2 Indirect

**No indirect impacts** on recreation from the construction of the Local Actions Alternative are anticipated.

#### 3.3.2 Impacts from Operation

This section analyzes the potential impacts from operation and implementation of local actions, such as adopting higher development and construction standards, strategic floodproofing, buy-out of at-risk properties or structures, floodplain storage improvement, channel migration protection, and early flood warning systems.

##### 3.3.3 Direct

As described in the *Fish Species and Habitats Discipline Report*, the Local Actions Alternative would have **minor** adverse impacts to recreational fishing. Impacts on other recreational opportunities from operation of the Local Actions Alternative are not likely. Implementing land use management changes, buy-outs of high-risk properties or structures, and improvements to the early flood warning system would have no effect on other recreational opportunities. If local actions such as floodproofing were applied to recreational facilities, they would reduce flood damage to those facilities during flooding. This could include installing farm pads to provide high ground to protect livestock and equipment at agricultural operations used for agritourism.

Recreational facilities throughout the study area would continue to experience **substantial flood risk**. Under the Local Actions Alternative, recreation facilities would continue to be vulnerable to closure and damage during both major and catastrophic floods. Floods would continue to affect structures and facilities within recreation areas where local actions are not applied. Floods would continue to displace recreational uses until floodwaters recede and could cause long-term damage and loss of access.

**3.3.3.1      *Indirect***

**No indirect impacts** on recreation from the operation of the Local Actions Alternative are anticipated.



### **3.4 No Action Alternative**

The No Action Alternative would include a mix of regulatory programs intended to reduce flood impacts, projects intended to improve ecological functions of streams and floodplains, and ongoing land uses, development, and timber harvest. The No Action Alternative activities that could affect recreation are culvert replacement and ongoing land uses including development and timber harvest. Stream and floodplain restoration efforts that will occur include the Chehalis Basin Strategy-led Aquatic Species Restoration Plan and U.S. Fish and Wildlife Service Chehalis Fisheries Restoration Program, both of which may result in broad restoration efforts spread across the entire Chehalis Basin. The *Fish Species and Habitat Discipline Report* includes details on impacts to fish species under the No Action Alternative.

Recreational facilities throughout the study area would continue to experience **substantial flood risk**. Flooding at parks and other recreational facilities would not be substantially reduced through implementation of flood damage reduction actions included in the No Action Alternative. Floods would continue to affect structures and facilities within recreation areas, and access roads and bridges to recreational facilities (such as Rainbow Falls State Park and the Willapa Hills State Park Trail) would remain at risk of being damaged by floodwaters. Floods would continue to displace recreational uses until floodwaters recede and could cause long-term damage and loss of access.

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