

FINAL DRAFT CUMULATIVE IMPACTS ANALYSIS REPORT – FRANKLIN COUNTY SHORELINE MASTER PROGRAM UPDATE



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Prepared for Franklin County

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LIST OF ACRONYMS AND ABBREVIATIONS

County	Franklin County
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
HPA	Hydraulic Project Approval
IAC	Inventory, Analysis, and Characterization
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OHWM	ordinary high water mark
RCW	Revised Code of Washington
SMA	Shoreline Management Act
SMP	Shoreline Master Program
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WQC	Water Quality Certification

1 INTRODUCTION

1.1 Report Purpose

Franklin County (County) is in the process of updating its Shoreline Master Program (SMP). The County received grant funding from the Washington State Department of Ecology (Ecology) to develop an updated SMP. A primary purpose of this effort is to update the SMP to comply with Chapter 90.58 of the Revised Code of Washington (RCW), the Shoreline Management Act (SMA), and Ecology's 2003 SMP Guidelines (Chapter 173-26 of the Washington Administrative Code [WAC]).

The guidelines require the County demonstrate the updated SMP will result in no net loss to shoreline ecological functions during implementation. Developing this conclusion requires an examination of projected future development, how this development may risk ecological function, and regulatory and non-regulatory actions, including restoration plans, which can influence this risk.

WAC 173-26-201(2)c provides this guidance for protection of ecological functions of shorelines:

"Master programs shall contain policies and regulations that assure, at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources. To achieve this standard while accommodating appropriate and necessary shoreline uses and development, master programs should establish and apply:

- *Environment designations with appropriate use and development standards; and*
- *Provisions to address the impacts of specific common shoreline uses, development activities and modification actions; and*
- *Provisions for the protection of critical areas within the shoreline; and*
- *Provisions for mitigation measures and methods to address unanticipated impacts.*

When based on the inventory and analysis requirements and completed consistent with the specific provisions of these guidelines, the master program should ensure that development will be protective of ecological functions necessary to sustain existing shoreline natural resources and meet the standard. The concept of "net" as

used herein, recognizes that any development has potential or actual, short-term or long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.

Master programs shall also include policies that promote restoration of ecological functions, as provided in WAC 173-26-201 (2)(f), where such functions are found to have been impaired based on analysis described in WAC 173-26-201 (3)(d)(i). It is intended that local government, through the master program, along with other regulatory and nonregulatory programs, contribute to restoration by planning for and fostering restoration and that such restoration occur through a combination of public and private programs and actions. Local government should identify restoration opportunities through the shoreline inventory process and authorize, coordinate and facilitate appropriate publicly and privately initiated restoration projects within their master programs. The goal of this effort is master programs which include planning elements that, when implemented, serve to improve the overall condition of habitat and resources within the shoreline area of each city and county.”

Combined with the Restoration Plan (Anchor QEA 2015a), the Cumulative Impacts Analysis Report is the final analysis step for the County’s comprehensive SMP updates. This report includes a brief introduction to the County; a more detailed discussion of the setting is available through the Inventory Analysis and Characterization (IAC) Report (Anchor QEA 2014). Also included is a discussion of anticipated development within the next 20 years. This is based on the land capacity analysis, presented in the IAC Report, which is further refined based on the foreseeable rate of development within each shoreline reach during the next 20 years. Potential impacts to ecological functions from this development are identified, along with provisions to address these impacts. Finally, based on

all of these inputs, the anticipated future performance for each shoreline area is addressed. Overall, this report will serve to demonstrate future development under the proposed SMP will result in no net loss of shoreline ecological function in County.

2 SETTING

Franklin County is located in the eastern portion of Washington State and encompasses a total area of 1,265 square miles (3276 square kilometers), of which 1,220 square miles (3161 square kilometers) are land and 44 square miles (115 square kilometers; 3.5%) are water. The County is bordered by Adams County to the north, Whitman County to the east, Walla Walla County to the southeast, Benton County to the west and southwest, and Grant County to the northwest. The City of Pasco is located in the southwest corner of Franklin County along the Columbia River; however, Pasco is not included in this SMP and Cumulative Impact Analysis. A separate analysis has been prepared for the City of Pasco (Anchor QEA 2015b).

The County is located in the Central Basin region of Washington (NOAA 2015a and 2015b). This region is the driest region in eastern Washington. The annual precipitation ranges from 7 inches in the drier southern slopes of the Saddle Mountain to 15 inches in the vicinity of the Blue Mountains. Snowfall varies from 10 to 35 inches and typically occurs after the first of December through the end of February. The Central Basin is subject to Chinook winds, which produce a rapid rise in temperature. A few damaging hailstorms are reported in the agricultural areas each summer. Monthly average high temperature in January is near 40°F in the lower Yakima valley, and average low temperatures are between 15 to 25°F. In the summer, monthly average high temperatures are in the low 90s, and low temperatures occur in the upper 50s (WRCC 2015).

The Columbia River forms the western boundary of the County. It is bounded by the Snake River to the south and the Palouse River to the east. The County shoreline also includes several lakes and reservoirs. The County shoreline contains a mix of agricultural and residential uses on private lands, and open space, parks, and recreational opportunities on publicly owned lands. Agriculture is the most common shoreline use, accounting for more than 75 % of the overall shoreline use, and comprising irrigated and non-irrigated practices with low residential density. Federal Reserve land accounts for approximately 21% of shoreline use within the county, including a major portion of the Columbia River shoreline on the north side of the County, which is part of the Hanford Reach National

Monument's Wahluke unit. The remaining shoreline area comprises Rural Remote, Rural Settlement, and Rural Shoreline Development land uses.

3 REASONABLY FORESEEABLE FUTURE DEVELOPMENT AND POTENTIAL IMPACTS TO ECOLOGICAL FUNCTION

3.1 Foreseeable Future Development

Franklin County has an estimated population of 86,600, based on 2014 Office of Financial Management data. From 2010 to 2014, the population growth has been about 10.79% with annual growth rate ranging from 2.12 to 2.99% (OFM 2014). With the positive population trends, some additional development within the County's shoreline is anticipated throughout the next 20 years. Similar to the entire County's land-use pattern, Agricultural use dominates the County's shoreline land use, comprising more than 75% of the overall shoreline land use. The Federal Reserve in the northwest corner of the County contains about 21% of the shoreline area. The remaining 3% of the shoreline area comprises Rural Remote, Rural Settlement, and Rural Shoreline Development land uses. Public lands within shoreline areas are owned by multiple state and federal agencies such as the Washington Department of Natural Resources, U.S. Department of Energy, Washington State Department of Parks and Recreation, Washington State Department of Transportation, and Washington State Department of Fish and Wildlife (WDFW). The U.S. Army Corps of Engineers (USACE) also manages portions of shoreline along the Columbia and Snake Rivers.

The County has limited development potential on its northwest side along the Columbia River shoreline Reaches 1 through 3. The Palouse and Snake rivers' shorelines, as well as the Mesa Area, Scooteney Reservoir, and Wahluke lake groups shorelines are also expected to experience less future development pressure. Much of the shoreline in these areas is either owned by public agencies for parks or other public purposes, or they contain high banks unsuitable for development.

The most intense residential development within the County's shoreline is anticipated on the Columbia River Reach 4 within the Rural Shoreline Development land-use designated area. The Eagle Lakes Group shoreline is mostly under private ownership and has the capacity to be developed in future based on the currently allowed zoning densities. However, the future developments can be impacted by the existence of steep slopes, as well as physical access to

the site or the site's access to utilities. Additionally, these lakes are managed for private recreation activity, and this use is expected to continue for the foreseeable future.

Future development would mostly include recreational improvements and shoreline residential development, with limited new commercial and industrial development expected. Potential for future development is summarized in Table 16 of the IAC Report. Table 1 presents a number of development indicators and details for each shoreline reach by environment designations.

- **Developable Areas** – Presents the vacant areas either subdivided or not yet platted
- **Anticipated Development** – Includes the anticipated residential, commercial, or recreational development in the next 20 years
- **Environment Designations** – Identifies the environment designations for each reach that are tied to the anticipated development

Table 1
Franklin County Shorelines Development Indicators

Columbia River – Reach 1	
Total Area: 627 acres	
Future Development Constraints: Hanford Reach National Monument, managed by Ecology	
Environment Designations	Anticipated Development
Natural	Potential boat-in campsites along the Hanford Reach, depending on the implementation of the Hanford Reach National Monument Comprehensive Conservation Plan
Columbia River – Reach 2	
Total Area: 167 acres	
Future Development Constraints: Federal ownership of land, high bank, parallel road along the shoreline	
Environment Designation	Anticipated Development
Natural	No new development is anticipated
Agricultural	Potential for three dwelling units within the agricultural areas
Rural Conservancy	No new development is anticipated
Recreation Conservancy	No new development is anticipated
Columbia River – Reach 3	
Total Area: 124 acres	
Future Development Constraints: High bank, parallel road along the shoreline, agricultural use	
Environment Designation	Anticipated Development

Table 1
Franklin County Shorelines Development Indicators

Natural	No new development is anticipated
Agricultural	No new development is anticipated
Rural Conservancy	Potential for four dwelling units
Columbia River – Reach 4	
Total Area: 133 acres	
Future Development Constraints: Parallel road and easements along the shoreline, developed areas	
Environment Designation	Anticipated Development
Natural	No new development is anticipated
Agricultural	No new development is anticipated
Rural Conservancy	Potential river access points to connect to Shoreline Road, expansion of Sacajawea Heritage Trail and raised viewing decks, boat basin and launch
Recreation	Limited recreational development, including public access expansion on Dent Road right of way adjacent to the Pasco Ranch boat moorage
High Intensity – Industrial	No new development is anticipated
Shoreline Residential	Potential expansion of Sacajawea Heritage Trail and potential development of 70 dwelling units on existing vacant lots or large lots that could be subdivided
Palouse River	
Total Area: 374 acres	
Future Development Constraints: Park and publicly owned lands that are less likely to be developed	
Environment Designation	Anticipated Development
Natural	No new development is anticipated
Agricultural	No new development is anticipated
Rural Conservancy	No new development is anticipated
Recreation	No new development is anticipated
Snake River – Reach 1	
Total Area: 699 acres	
Future Development Constraints: Mostly publicly owned lands that are less likely to be developed	
Environment Designation	Anticipated Development
Rural Conservancy	No new development is anticipated
Recreation Conservancy	No new development is anticipated
Recreation	No new development is anticipated; potential for some improvement as the Lyons Ferry State Park is reopened
High Intensity – Industrial	No new development is anticipated

Table 1
Franklin County Shorelines Development Indicators

Snake River – Reach 2	
Total Area: 474 acres	
Future Development Constraints: Mostly park and publicly owned lands that are less likely to be developed	
Environment Designation	Anticipated Development
Rural Conservancy	No new development is anticipated
Recreation Conservancy	Potential for improvements along the Columbia Plateau Trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage
Recreation	No new development is anticipated
High Intensity – Industrial	No new development is anticipated
Snake River – Reach 3	
Total Area: 603 acres	
Future Development Constraints: Some park land and publicly owned land	
Environment Designation	Anticipated Development
Agricultural	No new development is anticipated
Rural Conservancy	No new development is anticipated
Recreation Conservancy	Potential for improvements along the Columbia Plateau Trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage
Recreation	No new development is anticipated
Shoreline Residential	Few lots have portions within shoreline; no potential for developments to take place within shoreline
Snake River – Reach 4	
Total Area: 185 acres	
Future Development Constraints: Park easement and already developed areas	
Environment Designation	Anticipated Development
Natural	No new development is anticipated
Agricultural	No new development is anticipated
Rural Conservancy	Potential for improvements along the Columbia Plateau Trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage
High Intensity	No new development is anticipated
Mesa Area Lakes Group	
Total Area: 646 acres	
Future Development Constraints: Public ownership of land for part of the shoreline area; limited access roads	
Environment Designation	Anticipated Development
Agricultural	No new development is anticipated

Table 1
Franklin County Shorelines Development Indicators

Rural Conservancy	Potential development of 10 dwelling units mostly on Mesa Lake shoreline, on lots mostly of 20 acres or more in size
Scooteney Reservoir Lake Group	
Total Area: 1526 acres	
Future Development Constraints: Public ownership of land for part of the shoreline area	
Environment Designation	Anticipated Development
Agricultural	No new development is anticipated
Rural Conservancy	Potential development of 10 dwelling units mostly on lots mostly of 20 acres or more in size
Recreation Conservancy	No new development is anticipated
Recreation	No new development is anticipated
High Intensity	No new development is anticipated
Eagle Lakes Group	
Total Area: 988 acres	
Future Development Constraints: Portion of shoreline under federal ownership; current irrigation and agricultural use	
Environment Designation	Anticipated Development
Rural Conservancy	Potential development of 24 dwelling units mostly on lots mostly of 20 acres or more in size
Wahluke Lakes Group	
Total Area: 390 acres	
Future Development Constraints: Public ownership of land; current agricultural use	
Environment Designation	Anticipated Development
Rural Conservancy	No new development is anticipated

3.2 Potential Impacts to Ecological Function from Development

Conventional development can lead to negative impacts to the ecological function of shorelines. The degree of impacts can be tied to the intensity of development, the intensity of human use, the buffer distance between upland development and the shoreline (whether shoreline features such as over-water structures and bank hardening are included), and the maintenance operation procedures and materials used. Potential impacts are described below based on the categories of Hydrology, Sediment, Water Quality, and Habitat.

3.2.1 Hydrology

Impervious surfaces affect subsurface storage and flows, and shoreline hardening can affect subsurface water supply cycle, which impact hyporheic exchange. Over-water structures can affect surface flow dynamics (creating eddies, which are localized changes in water velocity).

3.2.2 Sediment

Sheet flow from impervious surfaces can increase soil erosion and impact the natural nutrient cycles. Vegetation removal also increases soil erosion. Shoreline hardening can affect the sediment supply cycle impacting hyporheic exchange. It can also increase wave energy and thus soil/sediment erosion at the toe of slope and transfer energy downstream/down current of the hardened area. Wakes from recreation vessels can further exacerbate soil and sediment erosion issues.

3.2.3 Water Quality

Impervious surfaces affect nutrient cycling, and runoff from these surfaces may include toxins or pathogens affecting water quality. Vegetation alterations have similar impacts and may also increase water temperatures due to the loss of overhanging canopies. Landscaped areas where fertilizers, herbicides, and/or pesticides are used contribute to harmful toxin inputs into the aquatic environment. At boat ramps, gasoline and other chemicals associated with vessel and truck operations and maintenance can potentially enter the aquatic environment.

3.2.4 Habitat

Development, including shoreline infrastructure, can replace habitat patches and fragment patches and/or corridors. Disturbance may increase invasive wildlife and plant species limiting resources for native species. Over-water structures alter sediment, organic material pathways, and the photic zone. Aquatic fill can affect spawning habitat, and shoreline hardening may replace variable-sized nearshore sediment materials with large homogenous substrates that are less conducive to threatened and endangered aquatic species. Artificial light and increased noise can disturb native wildlife species.

4 PROTECTION PROVISIONS OF THE PROPOSED SHORELINE MASTER PROGRAM AND ESTABLISHED REGULATION

The County's SMP will work in conjunction with other city, state, and federal regulations and programs that aim to protect ecological resources and the health and well-being of citizens. The following section summarizes the critical area state and federal regulations and plans for restoration. It also describes activities that will be exempt from shoreline development permits that are administered through the SMP.

4.1 Critical Area Protection and Mitigation

The County has sensitive area regulations for wetlands, geologically hazardous areas, and fish and wildlife habitat conservation areas. The Sensitive Areas Code also describes general mitigation requirements, including avoiding, minimizing, rectifying, or compensating for adverse impacts to these areas or their buffers. Existing sensitive area regulations were updated for the shoreline to be consistent with Ecology's *Wetland & CAO Updates: Guidance for Small Cities, Eastern Washington Edition* (Ecology 2010), the *Washington State Wetland Rating System for Eastern Washington* (Ecology Publication No. 14-06-030; Ecology 2014), and the SMA. .

4.2 Beneficial Effects of Established Regulation and Recreational Land Management Agreement

Certain state and federal agencies have jurisdiction over certain types of potential development impacts within the County's shoreline jurisdiction, in addition to the SMP requirements. Development thresholds that commonly lead to federal agency consultation include proposals that may impact federally listed fish or wildlife, wetlands, and streams; affect the floodplain or floodway; or include clearing and grading of land.

The updated SMP regulations are meant to be consistent with and work in concert with the following existing state and federal regulations:

- **Hydraulic Project Approval (HPA)** – The HPA is administered by the WDFW. Any work that uses, diverts, obstructs, or changes the natural flow of beds or banks of state waters is subject to WDFW regulation and could require HPA approval. This could

include any projects within the shoreline jurisdiction that require construction below or over the ordinary high water mark (OHWM) of lakes, rivers, and streams. This could also include projects that propose creating new impervious surfaces that would increase stormwater runoff to the waters of the state.

- **National Pollutant Discharge Elimination System (NPDES)** – NPDES permits are administered by Ecology. Any activity that results in the discharge of wastewater to surface water from industrial facilities to municipal wastewater treatment plants requires an NPDES permit. In addition, activities that result in stormwater discharge from industrial facilities, construction sites larger than 1 acre, and municipal stormwater systems that serve more than 100,000 people require an NPDES permit.
- **Clean Water Act (CWA) Section 404 Permit (Section 404)** – The Federal CWA provides the regulatory structure that authorizes the discharge of pollutants from point sources to waters of the United States. Section 404 of the CWA regulates the discharge of dredged or fill material into the water of the United States, including wetlands. USACE administers and enforces the 404 Permit, including individual permit decisions and jurisdictional determinations.
- **CWA Section 401 Water Quality Certification (Section 401)** – Section 401 of the CWA requires that activities under Section 404 meet the state water quality standards. Ecology reviews and certifies that a proposed project meets the state's standards with the issuance of the Section 401 Water Quality Certification (WQC). The WQC is required for all general and individual Section 404 Permits.
- **Section 10 Rivers and Harbors Act (Section 10)** – In conjunction with the Section 404 Permit, USACE also administers the Section 10 Permit. All projects and activities that take place in navigable waters of the United States are subject to a Section 10 Permit.
- **Endangered Species Act (ESA) Compliance** – The ESA serves to protect and recover threatened and endangered species and the habitat these species depend on. The National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) jointly administer ESA compliance. Projects that are associated with federal funding or that require approvals for activities that may affect ESA-listed species will trigger compliance.

4.3 Restoration Opportunities

Some opportunities exist for restoration of the County shorelines, as presented in this section.

4.3.1 General Restoration Opportunities

Various ecological benefits can be realized if shoreline impairments are addressed by restoration in the County. The habitat plans and programs described in Section 3 of this document describe direction and/or recommendations for actions to address many of the impairments that occur within their jurisdiction or area of interest. Table 1 shows the restoration or protection opportunities these plans and programs have identified, including the reasons for the habitat impairment, and a summary of the ecological benefits to be realized from the project.

Opportunities identified include establishing or protecting sensitive habitats such as riparian, wetland, or shrub-steppe habitats. This could be accomplished by consolidating or restricting access to these areas by livestock and recreationists. In addition, plans and programs suggest incorporating habitat diversity and complexity into new or enhanced habitats, especially aquatic areas that have been simplified by channelization or shoreline hardening. Former wetland and floodplain areas could be reconnected to their source waters, and removal of shoreline armoring could be conducted where soft shore stabilization techniques may be appropriate. For shrub-steppe in particular, WDFW has recommended specific measures for shrub-steppe habitat restoration (WDFW 2011a) and has given direction for managing these habitats in developed areas (WDFW 2011b). Protecting or improving water quality was also a key element of habitat management under these plans, including using the most recent stormwater controls and managing temperature and nutrient loading from local sources.

The following benefits to ecological functions can be derived as a result of implementing the restoration and protection opportunities identified in Table 1:

- Improved vegetation recruitment for riparian, shrub steppe, and wetland habitats
- Improved temperature, dissolved oxygen, toxin, and pathogen management capabilities

- Increased habitat for aquatic and terrestrial species foraging, breeding, nesting, and migration
- Increased hyporheic exchange, groundwater recharge, and water storage
- Increased subsurface infiltration and flow and surface water quality protection
- Reduced soil erosion
- Reduced excess nutrient sources to improve water quality

4.3.2 Site-specific Restoration and Protection Opportunities

Although most plans and programs from the SMP jurisdictional area address large-scale direction and management, there is a small set of actions that are named or planned for specific areas. Table 2 lists these locations and opportunities, and includes the source document or project proponent, as well as the impairment to be addressed and the key benefits to ecological function expected as a result of the project implementation. Table 3 provides a summary of the County shoreline reaches, level of existing function, key stressors, and restoration and protection opportunities as included in Appendix A of the IAC Report.

Table 2
Site-specific Restoration and Protection Opportunities

No.	Area	Location	Restoration/Protection Opportunities	Priority ¹	Source	Key Impairments	Key Benefits to Ecological Functions
1	Snake River	Reaches 1 to 4	Explore opportunities to protect intact riparian areas	High	ESA Snake River Sockeye Recovery Plan (page 297; NOAA 2014)	Riparian vegetation	Riparian vegetation recruitment
2	Snake River	Reaches 1 to 4	Explore opportunities to protect remaining high-quality, off-channel habitat, and restore areas with potential opportunities	Moderate	ESA Snake River Sockeye Recovery Plan 2014 (page 297)	Habitat quality	Aquatic species rearing habitat improvements
3	Snake River	Reaches 1 to 4	Identify water quality sources and implement best management practices	Moderate	ESA Snake River Sockeye Recovery Plan 2014 (page 298)	Water quality	Reduced excess nutrient sources to improve water quality
4	Snake River	Reaches 1 to 4	Implement Water Quality Plan for total dissolved gas and temperature	Moderate	ESA Snake River Sockeye Recovery Plan 2014 (page 298)	Water quality	Temperature/dissolved oxygen improvements
5	Snake River	Subreach 4a, (Ice Harbor and Lower Monumental dams)	Implement and improve deterrent devices to keep avian predators away from juvenile salmonid concentration areas	Moderate	ESA Snake River Sockeye Recovery Plan 2014 (page 299)	Predators	Aquatic species rearing habitat improvements
6	Snake River	At dams (Ice Harbor and Lower Monumental)	Encourage educational and monitoring projects and enforce laws to stop spread of invasive species	Moderate	ESA Snake River Sockeye Recovery Plan 2014 (page 300)	Non-native species	Increased habitat for aquatic and terrestrial species foraging/breeding/nesting/migration
7	Snake River	Mainstem	Retain shade along stream channels and augment summer flows	Moderate	ESA Snake River Sockeye Recovery Plan 2014 (page 300)	Water quality	Temperature/dissolved oxygen improvements
8	Snake River	Subreach 1a	Plant riparian vegetation in the bare areas along the Lyons Ferry Fish Hatchery shoreline	High	IAC Report	Riparian vegetation	Riparian vegetation recruitment
9	Snake River	Subreach 2d	Soft shoreline stabilization and riparian vegetation enactment in the area west of Windust Park along Burr Canyon Road	High	IAC Report	Riparian vegetation, shoreline stabilization	Riparian vegetation recruitment/ reduce erosion
10	Columbia River	Subreach 2c	Plant riparian vegetation in degraded areas	High	IAC Report	Riparian vegetation	Riparian vegetation recruitment
11	Columbia River	Subreach 4a	Replant riparian vegetation in degraded areas	High	IAC Report	Riparian vegetation, shoreline stabilization	Riparian vegetation recruitment/ reduce erosion
12	Columbia River	Subreach 4a	Remove non-native vegetation in the upland and replant with native shrub-steppe species	Moderate	IAC Report	Non-native species, shrub-steppe rehabilitation	Riparian vegetation recruitment/ native grasslands and shrub-steppe improvements
13	Columbia River	Subreach 4a	Install soft shoreline stabilization and replant riparian vegetation around the irrigation outfall	High	IAC Report	Riparian vegetation, shoreline stabilization	Riparian vegetation recruitment/ reduce erosion ecological processes
14	Columbia River	Subreach 4c	Replant degraded riparian vegetation	High	IAC Report	Riparian vegetation	Riparian vegetation recruitment

Notes:

1 = Very High – Habitat protection projects or actions that have a high likelihood of successfully addressing restoration of ecosystem functions and a high certainty of funding; or address critically important species and habitat concerns; High – Restoration of ecosystem functions (funded actions take higher priority within this category); and Moderate – Restoration of habitat structure (funded actions take higher priority within this category)

ESA = Endangered Species Act

IAC = Inventory, Analysis, and Characterization

Table 3
Key Stressors and General Restoration and Protection Opportunities

Reach	Reach Description	Shoreline Jurisdiction	Subreach	Level of Existing Function	Key Stressors						Restoration/Protection Opportunities									
					Agriculture	Hydrologic Management Regimes	In-water or Overwater Development	Recreation	Upland Development	Vegetation (i.e., invasive or non-native species)	Consolidate Water Access Trails	Protect Existing/Replant Degraded Riparian and Wetland Habitat	Protect Existing/Replant Degraded Shrub-steppe Habitat	Incorporate Aquatic Habitat Complexity	Incorporate Soft Bank Stabilization Techniques	Incentivize Creating Vegetated Filters Adjacent to Agricultural Fields	Incentivize Replacing Residential Lawns with Native Vegetation	Invasive Species Management	Implement Stormwater Controls for New Development	Manage Livestock and Recreational Access Areas
Columbia River Reach 1	Columbia River from Grant County boundary to downstream of Savage Island	1,735 acres	SR 1a	Partially Functioning				•	•		HR-CCP, IAC	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC				IAC	
			SR 1b	Functioning				•												
			SR 1c	Functioning				•			HR-CCP, IAC	HR-CCP, IAC	HR-CCP, IAC						IAC	
			SR 1d	Partially Functioning				•			HR-CCP, IAC	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC				IAC	
			SR 1e	Functioning (Island), Partially Functioning (Mainland)				•	•		HR-CCP, IAC	HR-CCP, IAC	IAC						IAC	
Columbia River Reach 2	Columbia River from the downstream end of Savage Island to Baxter Canyon	897 acres	SR 2a	Partially Functioning					•		IAC	IAC	HR-CCP, IAC						IAC	
			SR 2b	Partially Functioning			•	•		•	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 2c	Impaired	•			•	•		IAC	HR-CCP, IAC	IAC						IAC	
			SR 2d	Partially Functioning				•			IAC	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC				IAC	
			SR 2e	Partially Functioning				•	•		HR-CCP, IAC	IAC	HR-CCP, IAC						IAC	
Columbia River Reach 3	Columbia River from Baxter Canyon to Sagemoor Road	603 acres	SR 3a	Partially Functioning				•	•		HR-CCP	HR-CCP	HR-CCP	IAC	IAC				IAC	
			SR 3b	Partially Functioning	•				•							IAC	IAC		IAC	
			SR 3c	Partially Functioning				•	•		HR-CCP, IAC	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC				IAC	
			SR 3d	Partially Functioning	•				•							IAC			IAC	

Table 3
Key Stressors and General Restoration and Protection Opportunities

Reach	Reach Description	Shoreline Jurisdiction	Subreach	Level of Existing Function	Key Stressors						Restoration/Protection Opportunities									
					Agriculture	Hydrologic Management Regimes	In-water or Overwater Development	Recreation	Upland Development	Vegetation (i.e., invasive or non-native species)	Consolidate Water Access Trails	Protect Existing/Replant Degraded Riparian and Wetland Habitat	Protect Existing/Replant Degraded Shrub-steppe Habitat	Incorporate Aquatic Habitat Complexity	Incorporate Soft Bank Stabilization Techniques	Incentivize Creating Vegetated Filters Adjacent to Agricultural Fields	Incentivize Replacing Residential Lawns with Native Vegetation	Invasive Species Management	Implement Stormwater Controls for New Development	Manage Livestock and Recreational Access Areas
Columbia River Reach 4	Columbia River from Sagemoor Road to Interstate 182 Bridge	866 acres	SR 4a	Impaired				•	•		HR-CCP	HR-CCP, IAC	HR-CCP, IAC			IAC	IAC		IAC	
			SR 4b	Partially Functioning	•				•							IAC				
			SR 4c	Partially Functioning					•			HR-CCP, IAC	HR-CCP, IAC				IAC		IAC	
			SR 4d	Partially Functioning					•			HR-CCP, IAC	IAC				IAC		IAC	
			SR 4e	Partially Functioning					•		HR-CCP, IAC	HR-CCP, IAC	IAC				IAC		IAC	
Palouse River Reach 1	Palouse River from Adams/Whitman County Boundary to the confluence with Snake River	1,136 acres	SR 1a	Partially Functioning	•											IAC			IAC	
			SR 1b	Functioning				•	•	•		HR-CCP		IAC	IAC				IAC	
			SR 1c	Partially Functioning				•	•		IAC	IAC	HR-CCP, IAC			IAC			IAC	
			SR 1d	Partially Functioning		•		•	•			HR-CCP, IAC	HR-CCP, IAC			IAC			IAC	
Snake River Reach 1	Snake River from the Confluence with Palouse River to Lower Monumental Dam	2,660 acres	SR 1a	Impaired (eastern half); Functioning (western half)					•			IAC	HR-CCP, IAC			IAC			IAC	
			SR 1b	Partially Functioning	•		•		•	•		IAC	HR-CCP, IAC			IAC			IAC	
			SR 1c	Functioning					•			IAC	HR-CCP, IAC						IAC	
			SR 1d	Partially functioning	•						HR-CCP	IAC	HR-CCP, IAC							
			SR 1e	Partially functioning	•	•					HR-CCP	IAC	HR-CCP, IAC							
			SR 1f	Partially functioning	•	•			•	•		IAC	HR-CCP, IAC			IAC			IAC	

Table 3
Key Stressors and General Restoration and Protection Opportunities

Reach	Reach Description	Shoreline Jurisdiction	Subreach	Level of Existing Function	Key Stressors						Restoration/Protection Opportunities									
					Agriculture	Hydrologic Management Regimes	In-water or Overwater Development	Recreation	Upland Development	Vegetation (i.e., invasive or non-native species)	Consolidate Water Access Trails	Protect Existing/Replant Degraded Riparian and Wetland Habitat	Protect Existing/Replant Degraded Shrub-steppe Habitat	Incorporate Aquatic Habitat Complexity	Incorporate Soft Bank Stabilization Techniques	Incentivize Creating Vegetated Filters Adjacent to Agricultural Fields	Incentivize Replacing Residential Lawns with Native Vegetation	Invasive Species Management	Implement Stormwater Controls for New Development	Manage Livestock and Recreational Access Areas
			SR 1g	Partially functioning	•	•	•		•		HR-CCP	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC				IAC	
			SR 1h	Partially functioning		•		•	•		IAC	HR-CCP, IAC	HR-CCP, IAC	IAC	IAC				IAC	
Snake River Reach 2	Snake River from Lower Monumental Dam to McCoy Canyon	2,591 acres	SR 2a	Impaired		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 2b	Partially Functioning					•			IAC	HR-CCP, IAC						IAC	
			SR 2c	Partially Functioning			•					HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 2d	Impaired					•				HR-CCP, IAC						IAC	
			SR 2e	Partially Functioning				•	•		HR-CCP	HR-CCP, IAC	HR-CCP, IAC						IAC	
			SR 2f	Partially Functioning				•	•		HR-CCP	HR-CCP, IAC	HR-CCP, IAC							
			SR 2g	Partially Functioning				•			HR-CCP	IAC	HR-CCP, IAC						IAC	
Snake River Reach 3	Snake River from McCoy Canyon to Ice Harbor Dam	3,048 acres	SR 3a	Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 3b	Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 3c	Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 3d	Partially Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 3e	Functioning		•		•	•		IAC	IAC	IAC	IAC	IAC			IAC		
			SR 3f	Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	

Table 3
Key Stressors and General Restoration and Protection Opportunities

Reach	Reach Description	Shoreline Jurisdiction	Subreach	Level of Existing Function	Key Stressors						Restoration/Protection Opportunities									
					Agriculture	Hydrologic Management Regimes	In-water or Overwater Development	Recreation	Upland Development	Vegetation (i.e., invasive or non-native species)	Consolidate Water Access Trails	Protect Existing/Replant Degraded Riparian and Wetland Habitat	Protect Existing/Replant Degraded Shrub-steppe Habitat	Incorporate Aquatic Habitat Complexity	Incorporate Soft Bank Stabilization Techniques	Incentivize Creating Vegetated Filters Adjacent to Agricultural Fields	Incentivize Replacing Residential Lawns with Native Vegetation	Invasive Species Management	Implement Stormwater Controls for New Development	Manage Livestock and Recreational Access Areas
			SR 3g	Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 3h	Partially Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 3i	Partially Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
Snake River Reach 4	Snake River from Ice Harbor Dam to US 12 Bridge	1,196 acres	SR 4a	Partially Functioning		•		•	•		IAC	HR-CCP, IAC	IAC	IAC	IAC				IAC	
			SR 4b	Low Functioning		•	•	•	•		IAC	HR-CCP, IAC		IAC	IAC				IAC	
Mesa Area Lakes Group	Along Interstate 395 between Connell and Mesa	Mesa Lake, 100 acres; Clark Pond, 68 acres; T-Lake, 309 acres; and Unnamed Lake, 170 acres	N/A	Functioning	•			•										IAC		IAC
Scooteney Reservoir Lakes Group	Consists of five lakes to the south of Adams County boundary and to the east of US 17	Scooteney Reservoir, 1,186 acres; Chance Lake, 46 acres; Camp Lake, 107 acres; Unnamed Lake 1, 112 acres; and Unnamed Lake 2, 75 acres	N/A	Functioning	•			•										IAC		IAC
Eagle Lakes Group	Consists of six lakes located to the south of Adams County	Eagle Lake 1, 150 acres; Eagle Lake 2, 59 acres; Scooteney Lake,	N/A	Functioning	•			•										IAC		IAC

Table 3
Key Stressors and General Restoration and Protection Opportunities

Reach	Reach Description	Shoreline Jurisdiction	Subreach	Level of Existing Function	Key Stressors						Restoration/Protection Opportunities									
					Agriculture	Hydrologic Management Regimes	In-water or Overwater Development	Recreation	Upland Development	Vegetation (i.e., invasive or non-native species)	Consolidate Water Access Trails	Protect Existing/Replant Degraded Riparian and Wetland Habitat	Protect Existing/Replant Degraded Shrub-steppe Habitat	Incorporate Aquatic Habitat Complexity	Incorporate Soft Bank Stabilization Techniques	Incentivize Creating Vegetated Filters Adjacent to Agricultural Fields	Incentivize Replacing Residential Lawns with Native Vegetation	Invasive Species Management	Implement Stormwater Controls for New Development	Manage Livestock and Recreational Access Areas
	boundary and the east of Sagehill Road	340 acres; Eagle Lake 3, 155 acres; Eagle Lake 4, 284 acres; and Bailie Lake, 141 acres																		
Wahluke Lakes Group	Northwest corner of the county between the Columbia River and Sagehill Road	Wahluke Slope HMA_W (118 acres) and Wahluke Slope HMA_N (130 acres)	N/A	Functioning	•			•										IAC		IAC

Notes:
HR-CCP – Hanford Reach National Monument: Final Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 2014)
IAC – Inventory, Analysis, and Characterization Report (Anchor QEA 2014)

4.4 Environment Designations

The County has designated shorelines pursuant to RCW 90.58 by defining them, providing criteria for their identification, and establishing the shoreline ecological functions to be protected. Project proponents are responsible for determining whether a shoreline exists and is regulated pursuant to the SMP. The SMP classifies the County's shoreline into eight shoreline environment designations, listed here with their purpose:

- **Aquatic** – This environment designation is used to protect, restore, and manage the unique characteristics and resources of the areas waterward of OHWM.
- **Natural** – This environment designation is used to protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline ecological functions less tolerant of human use. These systems require only very low-intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes. Consistent with the policies of the designation, restoration of degraded shorelines within this environment is appropriate.
- **Agriculture** – This environment designation is used to protect shoreline ecological functions, conserve existing natural and agricultural resources in order to provide for sustained resource use, and maintain natural processes. In addition to existing and future agricultural uses, examples of uses that are appropriate in Agriculture shoreline environment include low-impact, passive-recreation uses, natural resource-based low-intensity uses, development in support of agricultural uses, and low-intensity residential development.
- **Rural Conservancy** – This environment designation is used to protect shoreline ecological functions; conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use; achieve natural floodplain processes where applicable; and provide recreational opportunities. In addition to existing agriculture uses, examples of uses that are appropriate in a Rural Conservancy shoreline designation include low-impact, passive-recreation uses, water-oriented commercial development, and low-intensity residential development.
- **Recreation Conservancy** – This environment designation is used to provide continued and enhanced recreational opportunities, while protecting shoreline ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, and achieve natural floodplain

processes where applicable. Examples of uses that are appropriate in a Recreation Conservancy shoreline designation include public lands with low-impact recreation uses, and water-oriented commercial development.

- **Recreation** – This environment designation is used to provide for water-oriented recreational uses with some commercial uses and residential mixed uses, to support recreational uses, while protecting existing ecological functions, conserving existing natural resources, and restoring ecological functions in areas that have been previously degraded.
- **High Intensity – Industrial** – This environment designation is used to provide for public and private industrial uses that need a shoreline location for operation and are associated with water-oriented commerce and industry. Examples of uses that are appropriate in a High Intensity – Industrial shoreline environment include water-oriented power generation, irrigation water supply diversion or conveyance, transportation, navigation uses, grain elevators, fish hatcheries, barge and conveyance facilities, and similar uses. This environment may also provide for some recreation, while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded.
- **Shoreline Residential** – This environment designation is used to accommodate primarily residential development and appurtenant structures, but it also allows other types of development consistent with this chapter. An additional purpose is to provide appropriate public access and recreational uses.

The environment designations for the County are based on ecological function protection, physical limitations of the shoreline, and existing and planned or envisioned development. These environment designations are one of the key tools for achieving the no-net-loss standard for ecological function and achieving other policy goals within the SMP. For each environment designation, the SMP indicates which shoreline activities, uses, developments, and modifications may be allowed or prohibited within the shoreline jurisdiction. Activities, uses, developments, and modifications are classified as follows:

1. **Permitted Uses** – Require a Shoreline Substantial Development Permit or a Shoreline Exemption.
2. **Conditional Uses** – Require a Shoreline Conditional Use Permit.

3. **Prohibited** – These activities, uses, developments, and modifications are not allowed and cannot be permitted through a Variance (i.e., only allowed where extraordinary circumstances would impose unnecessary hardships or thwart State Use preference policies) or Shoreline Conditional Use Permit.

These designations are summarized within the Shoreline Use and Modification Matrix and Shoreline Development Standards tables within the SMP.

4.5 Exempt Activities

The following types of development are exempt from substantial development permit requirements (WAC 173-27-040); however, these activities must comply with all development standards, such as setbacks and other regulations, in the local SMP:

- **Normal maintenance or repair of existing structures** – Maintenance or repair of existing lawful structures and developments is exempted when they are subject to damage by accident, fire, or the elements.
- **Owner-occupied single-family residences** – These residences are exempt when they are less than 35 feet above ground level and appurtenant structures, such as garages, decks, driveways, fences, utilities, and grading requires moving less than 250 cubic yards of material.
- **Building bulkheads to protect single-family residences** – State rules specify that a bulkhead should be installed at or near OHWM and be for the sole purpose of protecting an existing single-family residence and/or appurtenant structures. A bulkhead cannot be exempted if constructed for the purpose of creating dry land.
- **Constructing docks designed for pleasure craft** – This exemption is only for a dock designed for pleasure craft only and for the private, noncommercial use of the owner, lessee, or contract purchaser of single- and multiple-family residences. The fair market value of the dock shall not exceed \$10,000 in fresh waters.
- **Certain agricultural construction activities and practices** – These practices include feedlots, processing plants, and other commercial ventures; irrigation and drainage activities, including operation and maintenance of existing canals, reservoirs, and irrigation facilities; and operation of dikes, ditches, drains, and other facilities existing on September 8, 1975.

- **Emergency construction to protect property from the elements** – This exemption applies for emergency construction that is necessary to protect property from damage by the elements. Emergency construction does not include building new permanent protective structures, which previously did not exist. Restoration actions include control of aquatic noxious weeds; improving fish or wildlife habitat or fish passage; cleaning toxic waste; controlling weeds; or restoring watersheds. A special kind of exemption, defined in the Model Toxic Control Act RCW 70.105D, is exempt from all procedural requirements, but not substantive requirements of the SMA and the local SMP.
- **Site exploration and investigation activities** – Activities performed in preparation for applying for a development authorization are exempt if they conform to conditions listed in RCW 90.58.030.(3).(e).xi.
- **Building navigation aids and marking property lines** – Navigational aids such as channel markers and anchor buoys are exempt from permit requirements.

4.6 Response to Unanticipated Impacts

Policies within the SMP provide the process for protecting shoreline ecological function from anticipated and unanticipated development through the environment designations, setbacks, and mitigation standards. Additional provisions within the SMP to protect shoreline ecological function from unanticipated development, conditional uses, and unique development situations are as follows:

- Buffers and setbacks provisions
- Public input requirements for conditional use-permitted development
- Review by the County and Ecology for conditional use-permitted development and variances
- Civil penalties for unauthorized development
- A strict no net loss policy
- The Restoration Plan (Anchor QEA 2015) provides actions to improve habitat over current conditions and also provide ideas for how to mitigate for development impacts

5 ASSESSMENT OF CUMULATIVE IMPACTS

The assessment of cumulative impacts combines existing conditions and environment designations and anticipated development by proposed environment designation with the potential ecological risks that characterize unregulated development. The provisions within the proposed SMP that can address the risks to ecological functions are also identified, allowing an assessment of the future performance of net effect. Table 4 summarizes these elements for each shoreline reach.

Anticipated development is based on a qualitative land-capacity analysis and discussions with County planners through the environment designation development process. The environment designations also determine permitted, permitted as an accessory unit, permitted as special use, and prohibited uses of the shoreline as shown in the Use Tables within the SMP regulations.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Columbia River Reach 1	Natural	Functioning-Partially Functioning	Potential boat-in campsites	None	USFWS management of the area	No development is anticipated. The camping activity would be limited to temporary access in areas, typically below the OHWM. This area will continue to function as a Hanford Reach National Monument and National Wildlife Refuge consistent with the USFWS management plan.
Columbia River Reach 2	Natural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 2	Agricultural	Impaired	Up to 3 dwelling units	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	Residential development provisions (18.16.430) A. Single-family residential development is a preferred use when it is developed in a manner consistent with SMP provisions. B. Residential development shall be located and constructed to result in no net loss of shoreline ecological function. C. Lots for residential use shall have a maximum density consistent with Franklin County Comprehensive Plan and zoning regulations. D. Accessory uses and structures shall be located outside of the riparian buffer, unless the structure is or supports a water-dependent use. Storage structures to support water-related uses are not water-dependent uses and therefore shall be located outside of the riparian buffer. E. All residential development shall be located or designed in such a manner as to prevent measurable degradation of water quality from stormwater runoff. Adequate mitigation measures shall be required and implemented where there is the reasonable potential for such adverse effect on water quality. F. New shoreline residences and appurtenant structures shall be sufficiently set back from steep slopes and shorelines vulnerable to erosion so that structural improvements, including bluff walls and other shoreline stabilization and flood-control structures, are not necessary to protect proposed residences and associated uses. G. New floating residences and overwater residential structures shall be prohibited in shoreline jurisdiction. H. New, multi-unit residential development, including duplexes, fourplexes, and the subdivision of land into five or more lots, shall make adequate provisions for public access consistent with the regulations set forth in FCC 18.16.260, Public Access. I. New residential development shall connect with sewer systems, when available. J. All new residential development shall meet the vegetation management provisions contained in FCC 18.16.240, Shoreline Vegetation Conservation, and FCC 18.16.560, Fish and Wildlife Habitat Conservation Areas.	<p>The Agricultural environment designation was applied to partially functioning or impacted areas that are suitable for future development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers, as applicable will be applied based on wetland type and land-use intensity to protect wetland functions. A riparian buffer will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection, and vegetation-conservation provisions will be applied to protect shoreline functions from future development.</p> <p>The County's SMP Restoration Plan lists a restoration action in these reaches to enhance/protect riparian habitat. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Columbia River Reach 2	Rural Conservancy	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 2	Recreation Conservancy	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 3	Natural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 3	Agricultural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 3	Rural Conservancy	Partially Functioning	Up to 4 dwelling units	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See residential development provisions (18.16.430)	<p>The Rural Conservancy environment designation was applied to partially impacted areas that are suitable for future maintenance development based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. A riparian buffer will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection, and vegetation-conservation provisions will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Columbia River Reach 4	Natural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 4	Agricultural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Columbia River Reach 4	Rural Conservancy	Impaired – Partially Functioning	Potential river access points to connect to Shoreline Road, expansion of Sacajawea Heritage Trail and raised viewing decks, boat basin and launch	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	Recreational development (18.16.420) A. General Preferences: <ol style="list-style-type: none"> Recreational uses and facilities shall include features that relate to access, enjoyment, and use of Franklin County shorelines. Both passive and active shoreline recreation uses are allowed. Water-oriented recreational uses and activities are preferred in shoreline jurisdiction. Water-dependent recreational uses shall be preferred as a first priority and water-related and water-enjoyment recreational uses as a second priority. Existing passive recreational opportunities, including nature appreciation, non-motorized trails, environmental interpretation, and native habitat protection, shall be maintained. Preference shall be given to the development and enhancement of public access to the shoreline to increase fishing, boating, and other water-related recreational opportunities. B. General Performance Standards: <ol style="list-style-type: none"> The potential adverse impacts of all recreational uses shall be mitigated and adequate provisions for shoreline rehabilitation shall be made part of any proposed recreational use or development to ensure no net loss of shoreline ecological function. Sites with fragile and unique shoreline conditions, such as high-quality wetlands and wildlife habitats, shall be used only for non-intensive recreation activities such as trails, viewpoints, interpretive signage, and similar passive and low-impact facilities that result in no net loss of shoreline ecological function, and do not require the construction and placement of permanent structures. For proposed recreation developments that require the use of fertilizers, pesticides, or other toxic chemicals, the proponent shall specify the BMPs to be used to prevent these applications and resultant leachate from entering adjacent waters. Recreational developments shall be located and designed to preserve, enhance, or create scenic views and vistas. 	<p>The Rural Conservancy environment designation was applied to partially impacted areas that are suitable for future maintenance development based on some impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. A riparian buffer will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection, and vegetation-conservation provisions will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
					<p>5. In approving shoreline recreational developments, the Shoreline Administrator shall ensure that the development will maintain, enhance, or restore desirable shoreline features including unique and fragile areas, scenic views, and aesthetic values. The Shoreline Administrator may, therefore, adjust or prescribe project dimensions, on-site location of project components, intensity of use, screening, lighting, parking, and setback requirements.</p> <p>C. Signs indicating the public's right to access shoreline areas shall be installed and maintained in conspicuous locations at all points of access.</p> <p>D. Recreational developments shall provide facilities for non-motorized access to the shoreline, such as pedestrian and bicycle paths, and equestrian access, as applicable. New motorized vehicle access shall be located and managed to protect riparian, wetlands, and shrub steppe habitat functions and value.</p> <p>E. Proposals for recreational developments shall include a landscape plan indicating how native, self-sustaining vegetation is incorporated into the proposal to maintain ecological functions. The removal of on-site native vegetation shall be limited to the minimum necessary for the development of permitted structures or facilities and shall be consistent with provisions of FCC 18.16.240, Shoreline Vegetation Conservation, and FCC 18.16, Article V, Critical Areas.</p> <p>F. Accessory uses and support facilities such as maintenance facilities, utilities, and other non-water-oriented uses shall be consolidated and located in upland areas outside shoreline, wetland, and riparian buffers unless such facilities, utilities, and uses are allowed in shoreline buffers based on the regulations of this SMP.</p> <p>G. The placement of picnic tables, playground apparatus, and other similar minor components within the floodways shall be permitted, provided such structures are located and installed in such a manner as to prevent them from being swept away during a flood event.</p> <p>H. Recreational facilities shall make adequate provisions, such as screening, landscaping buffer strips, fences, and signs, to prevent trespass upon adjacent properties and to protect the value and enjoyment of adjacent or nearby private properties and natural areas, as applicable.</p> <p>I. Recreational or structures are only allowed to be built over water when they provide public access or facilitate a water-dependent use and shall be the minimum size necessary to accommodate the permitted activity.</p> <p>J. Recreational developments shall make adequate provisions for:</p> <ol style="list-style-type: none">1. On-site and off-site access and, where appropriate, equestrian access;2. Appropriate water supply and waste disposal methods; and3. Security and fire protection.	

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
					<p>K. Structures associated with recreational development shall not exceed 35 feet in height, except for as noted in FCC 18.16.210, Development Standards, when such structures document that the height beyond 35 feet will not obstruct the view of a substantial number of adjoining residences.</p> <p>L. Recreational development shall minimize effective impervious surfaces in shoreline jurisdiction and incorporate low-impact development techniques.</p> <p>Boat launch provisions (18.16.320 (B))</p> <p>1. Boat launches accessory to single-family and multi-family residential uses are prohibited.</p> <p>2. Private boat launches shall be allowed only for water-dependent uses and marinas and only when it is demonstrated that public boat launches will not feasibly serve the use. Rail and track systems shall be preferred over concrete ramps.</p> <p>3. Public boat launch facilities may be allowed in areas where no launching opportunities exist within close proximity of a site (within less than 3 miles distance by road on a waterbody).</p> <p>4. Boat launch and haul-out facilities, such as ramps, marine travel lifts and marine railways, and minor accessory buildings, shall be designed and constructed in a manner that minimizes adverse impacts on fluvial processes, biological functions, aquatic and riparian habitats, water quality, navigation, and neighboring uses.</p> <p>5. Boat launch facilities shall be designed and constructed using methods/technology that have been recognized and approved by state and federal resource agencies as the best currently available.</p> <p>6. New public boat launches for general public use, or expansion of public boat launches by adding launch lanes shall demonstrate that:</p> <p>a. Water depths are adequate to avoid the need for dredging and eliminate or minimize potential loss of shoreline ecological functions or other shoreline resources from offshore or foreshore channel dredging.</p> <p>b. Adjacent residential properties will not be adversely affected by adverse proximity impacts such as noise, light and glare, or scale and aesthetic impacts. Fencing or landscape areas may be required to provide a visual screen.</p> <p>c. Exterior lighting will not adversely impact aquatic species.</p> <p>d. Adequate provisions are made for restroom, sewage, and solid waste disposal facilities in compliance with applicable health regulations.</p> <p>e. Access and parking shall not produce traffic hazards, shall not result in excessive noise or other impacts, shall minimize traffic impacts on nearby streets, and shall include adequate parking for boat trailers. Parking on public streets may be allowed for peak periods if it is demonstrated that such parking will not adversely impact through traffic or residential uses.</p>	

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Columbia River Reach 4	Recreation	Partially Functioning	Limited recreational development, including public access expansion on Dent Road right-of-way	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See recreational development provisions (18.16.420)	<p>The Recreation environment designation was applied to partially impacted areas that are suitable for future recreational development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. Riparian buffers will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Columbia River Reach 4	High Intensity – Industrial	Impaired	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Columbia River Reach 4	Shoreline Residential	Partially Functioning	Potential development of 70 dwelling units	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See residential development provisions (18.16.430)	<p>The Shoreline Residential environment designation was applied to impacted areas that are suitable for future development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. Riparian buffers will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection and vegetation-conservation provisions will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions. Private residential development could be as many as 70 units within the Shoreline Residential area. Any dock development for these units would require mitigation under the McNary Pool Management Plan, along with provisions included in the SMP that avoid and minimize habitat impacts for juvenile salmonids.</p> <p>No net loss of ecological function is anticipated as SMP provisions are applied.</p>
Palouse River	Natural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Palouse River	Agricultural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Palouse River	Rural Conservancy	Functioning – Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Palouse River	Recreation	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 1	Rural Conservancy	Functioning - Impaired	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 1	Recreation Conservancy	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 1	Recreation	Impaired - Partially Functioning	Potential for some recreation improvement as the Lyons Ferry State Park is reopened	Hydrology: Moderate Sediment: Low Water Quality: Moderate Habitat: Moderate	See recreational development provisions (18.16.420)	<p>The Recreation environment designation was applied to partially impacted areas that are suitable for future recreational development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. Riparian buffers will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Snake River Reach 1	High Intensity – Industrial	Impaired - Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	
Snake River Reach 2	Rural Conservancy	Impaired – Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	
Snake River Reach 2	Recreation Conservancy	Impaired – Partially Functioning	Potential for improvements along the Columbia Plateau Trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	See recreational development provisions (18.16.420)	<p>The Recreation Conservancy environment designation was applied to partially impacted areas that are suitable for future recreational development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. Riparian buffers will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Snake River Reach 2	Recreation	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 2	High Intensity – Industrial	Impaired	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Snake River Reach 3	Agricultural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 3	Rural Conservancy	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 3	Recreation Conservancy	Functioning – Partially Functioning	Potential for improvements along the Columbia Plateau Trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	See recreational development provisions (18.16.420)	<p>The Recreation environment designation was applied to partially impacted areas that are suitable for future recreational development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. Riparian buffers will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Snake River Reach 3	Recreation	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 3	Shoreline Residential	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Snake River Reach 4	Natural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 4	Agricultural	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 4	Rural Conservancy	Partially Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Snake River Reach 4	Recreation Conservancy	Partially Functioning	Potential for improvements along the Columbia Plateau Trail, where feasible, such as providing new trailheads to be established in specific locations, improving campsite facilities, and providing interpretive signage.	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	See recreational development provisions (18.16.420)	<p>The Recreation environment designation was applied to partially impacted areas that are suitable for future recreational development or redevelopment based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. Riparian buffers will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Snake River Reach 4	High Intensity	Partially Functioning – Low Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Mesa Area Lakes Group	Agricultural	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Mesa Area Lakes Group	Rural Conservancy	Functioning	Potential development of 10 dwelling units mostly on Mesa Lake shoreline	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	See residential development provisions (18.16.430)	<p>The Rural Conservancy environment designation was applied to impacted areas that are suitable for future maintenance development based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. A riparian buffer will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection, and vegetation-conservation provisions will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Sooteney Reservoir Lake Group	Agricultural	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Scooteney Reservoir Lake Group	Rural Conservancy	Functioning	Potential development of 10 dwelling units	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	See residential development provisions (18.16.430)	<p>The Rural Conservancy environment designation was applied to impacted areas that are suitable for future maintenance development based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. A riparian buffer will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection and vegetation-conservation provisions will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Scooteney Reservoir Lake Group	Recreation Conservancy	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Scooteney Reservoir Lake Group	Recreation	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.
Scooteney Reservoir Lake Group	High Intensity	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Table 4
Cumulative Impacts Analysis

Location	Environment Designations	Level of Existing Function	Types of Anticipated Development	Degree of Impact to Ecological Functions	Provisions to Address Risk	Future Performance/Net Effect
Eagle Lakes Group	Rural Conservancy	Functioning	Potential development of 24 dwelling units	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	See residential development provisions (18.16.430)	<p>The Rural Conservancy environment designation was applied to impacted areas that are suitable for future maintenance development based on existing impairment of ecological functions. Impacts to remaining ecological functions in this reach will be avoided, minimized, and mitigated per the SMP provisions described in the Provisions to Address Risk column.</p> <p>Wetland buffers will be applied based on wetland type and land-use intensity to protect wetland functions. A riparian buffer will be applied to protect riparian and upland habitat, water quality, and other functions. Additionally, environmental and water quality protection, and vegetation-conservation provisions will be applied to protect shoreline functions from future development. Unavoidable impacts from future development will be mitigated consistent with mitigation sequencing provisions.</p> <p>No net loss of ecological function is anticipated when SMP provisions are applied and restoration is implemented.</p>
Wahluke Lakes Group	Rural Conservancy	Functioning	No development is anticipated	Hydrology: Low Sediment: Low Water Quality: Low Habitat: Low	N/A	No development is anticipated.

Notes:
BMP = best management practice
N/A = not applicable
OHWM = ordinary high water mark
SMP = Shoreline Master Program
USFWS = U.S. Fish and Wildlife Service

As described in Table 4, the SMP will protect the baseline ecological functions within the County. The features that will provide this protection include the SMP environment designations and general requirements, the shoreline modification and use provisions, and, finally, the Restoration Plan (Anchor QEA 2015). The SMP is expected to accommodate reasonable foreseeable shoreline development while affording these protections and restoration initiatives throughout the next 20 years. All of these provisions will result in no net loss of shoreline ecological function in the County and may actually lead to an improvement or gain of ecological function over time.

6 REFERENCES

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