US Army Corps
of Engineers ®
Walla Walla District
BUILDING STRONG®

LOWER MONUMENTAL MASTER PLAN REVISION

Lower Monumental Lock and Dam
Lower Snake River
Kahlotus, Washington

ENVIRONMENTAL ASSESSMENT

In compliance with the
National Environmental Policy Act of 1970

ADMINISTRATIVE RECORD – DO NOT DESTROY

PROJECT FILE NUMBER: PPL-C-2019-0023

July 2020

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Acronyms

BGEPA	Bald and Golden Eagle Protection Act
Corps or District	U.S. Army Corps of Engineers, Walla Walla District
EA	Environmental Assessment
ESA	Endangered Species Act
FCRPS	Federal Columbia River Power System
LSRFWCP	Lower Snake River Fish and Wildlife Compensation Plan
MBTA	Migratory Bird Treaty Act
MP	Master Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
OMP	Operational Management Plan
RM	River Mile
USFWS	U.S. Fish and Wildlife Service
WRDA	Water Resource and Development Act

Section 1: Introduction

1.1 Introduction

This environmental assessment (EA) considers, identifies, and describes potential environmental effects associated with the proposed action of revising/updating the 1966 Lower Monumental Lock and Dam Master Plan (MP) for management of recreational, natural, and cultural resources at Lower Monumental Dam Project (Project) on the lower Snake River near Kahlotus, Washington. The U.S. Army Corps of Engineers (Corps) proposes to revise/update the 1966 MP to comply with new Corps policy in Engineering Regulation (ER) and Engineering Pamphlet (EP) 1130-2-550 (Corps 2013), and to respond to regional and Project changes that have occurred since 1966, including changing public use.

The revised MP would be a strategic land use management document that guides the comprehensive management and development of all recreation, natural and cultural resources of the Project for the next 20 years. The revised MP would promote the efficient and cost effective management, development, and use of Project lands. It is an important tool for the responsible stewardship and sustainability of Project resources for the benefit of present and future generations.

As required by the National Environmental Policy Act (NEPA) and subsequent implementing regulations promulgated by the Council on Environmental Quality, this EA is prepared to determine whether the action proposed by the Corps constitutes a ". . . major federal action significantly affecting the quality of the human environment . . . "and whether an environmental impact statement (EIS) is required. The EA is prepared pursuant to NEPA, Council on Environmental Quality (CEQ) regulation (40 CFR, 1500-1517), and the Corps' implementing regulation, Policy and Procedure for Implementing NEPA, Engineering Regulation (ER) 200-2-2 (Corps 1988), Title 33, Code of Federal Regulations, Part 230. The EA covers the proposed action of revising and implementing an updated MP. However, future site-specific actions following revision of the MP (e.g., further development of camping locations), may necessitate additional analysis as required by NEPA.

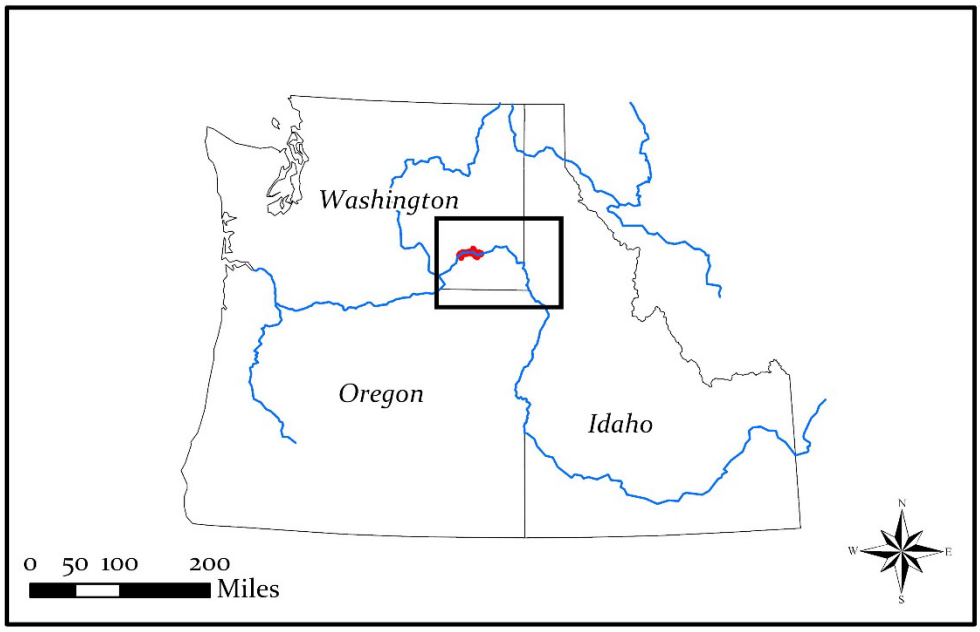
The National Environmental Policy Act is a full disclosure law, providing for public involvement in the NEPA process. All persons and organizations that have a potential interest in major actions proposed by a federal agency – including the public, other federal agencies, state and local agencies, Native American Tribes, and interested stakeholders, are encouraged to participate in the NEPA process.

The Revised MP would guide the Corps responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the Project lands, waters, and associated resources. The Revised MP would deal in concepts, not details, of design or administration. Detailed management and administration functions would be addressed in a five-year Operational Management Plan (OMP), which would implement the concepts of the MP. Actions identified in the OMP would be reviewed annually to identify upcoming actions needing review under NEPA and other applicable environmental laws and regulations.

The Revised MP would not address dam management procedures and functions, including operations and maintenance of the dam and hydropower facilities, navigation locks and channel, levees, fish passage ladders/facilities or emergency flood operations.

1.2 Project Location and Background Information

Lower Monumental Lock and Dam is located on the Snake River, at River Mile (RM) 41.6 (Figure 1-1). The dam and reservoir lie in southeastern Washington, with the right abutment of the dam in Franklin County and the left abutment in Walla Walla County. The reservoir impoundment of the Snake River, called Lake Herbert G. West, extends 28 miles east to the base of Little Goose Lock and Dam near Starbuck, Washington at approximately RM 70.3.



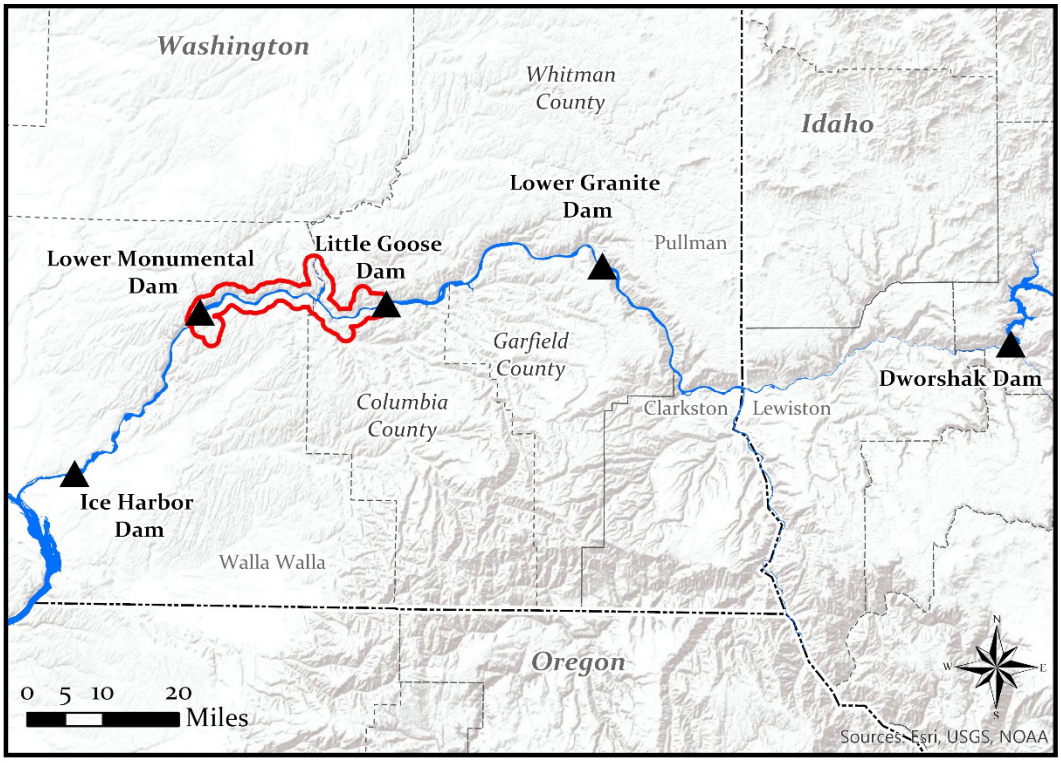


Figure 1-1. Location of Lower Monumental Lock and Dam

Figure 1-2. Photo of Lower Monumental Lock and Dam, Aerial View

1.3 Authorities for the Project

The first formal proposal by Congress for the improvement of the Snake River for navigation and other purposes was made in 1902. This was followed by other actions, notably in 1910 and 1935, leading eventually to the River and Harbor Act of 1945 (Public Law 79-14), which authorized construction of a series of dams on the lower reach of the Snake River downstream from Lewiston. House Document 531, Eighty-First Congress, Second Session, dated March 20, 1950, proposed a four-dam plan with Lower Monumental as the second (heading upstream) unit of the four. The 1966 MP was written in accordance with Engineering Manual 1130-2-302 to provide orderly development, protection, and administration of Project resources. Construction funds for Lower Monumental were first appropriated under Public Law 89-16, dated April 30, 1965. Construction was completed in 1969.

1.4 Authorized Purposes

The purposes of the Project, as originally authorized, include navigation, incidental irrigation and hydroelectric power (if determined warranted). Fish and wildlife conservation and recreation, were added later as additional purposes. As stated above, the Revised/Updated MP would not address authorized purposes of navigation, irrigation, or hydroelectric power.

•Recreation

The Flood Control Act of 1944 (PL 78-534), provided authority to add recreation as a purpose.

There are 8 recreation areas, 101 camping sites, 1 swimming area, 1 playground, and 6 boat launch facilities along the reservoir. There are also 20 habitat management units (HMUs) providing public access for hunting, fishing, hiking, and other nature activities.

Popular recreation activities around the Project include fishing, swimming, picnicking, boating, hunting, and camping (See Table 2.4 in the MP).

•F**ish and Wildlife**

When Congress authorized the Lower Snake River Projects (LSRP), including Lower Monumental, the legislative language did not address fish and wildlife losses resulting from the LSRP or mitigation for any of the losses. Under the Fish and Wildlife Coordination Act of 1958 (FWCA) however, both analysis of fish and wildlife impacts associated with federal water projects and compensation for the loss of fish and wildlife resources and habitat are required. To address FWCA compliance requirements for the LSRP, the Corps developed and completed the Lower Snake River Fish and Wildlife Compensation Plan (LSRFWCP) in June 1975.

The LSRFWCP is a negotiated settlement agreed to by the Corps, Washington Department of Fish and Wildlife (WDFW) and the U.S. Fish and Wildlife Service (USFWS). Its intent is to mitigate for the loss of fish and wildlife resources and their habitat, as well as for the loss of fish- and wildlife-oriented recreational opportunities caused by the construction of the four lower Snake River dams (Corps, 1975). The LSRFWCP was subsequently amended by WRDA 1986 and WRDA 2007. The Corps manages 20 HMUs to provide wildlife habitat to meet the LSRFWCP goals. The alternatives described in Section 2, below, address land classifications related to LSRFWCP mitigation requirements.

1.5 Master Plan History

Lower Monumental Project lands have undergone several changes since the original MP was developed in 1966 (see Chapter 4.2.1 of the MP), but most of these changes were never formalized with an MP revision or supplement. A supplement is a minor change to an MP such as a change in land classification or facility footprint. Supplements should be prepared as often as necessary to ensure MPs remain relevant.

There have been numerous land acquisitions and disposals between 1966 and 2019. Most of the land acquired during this time was to meet mitigation requirements under the LSRFWCP. These mitigation lands were never updated in the MP through the supplement process. Other land classification changes were the result of real estate actions.

One supplement was approved in 1969 to document the acquisition of land adjacent to Lyons Ferry State Park, which would later become Lyons Ferry HMU (see Chapter 4.2.1 of the MP). Full details of the land classification changes are contained in the Revised MP and Appendix E – Detailed Land Classification Changes. Table 1-1 (Section 1.7 in this EA) identifies the total acres for each land classification that changed between 1966 and 2019. This table summarizes the changes in acres across land classifications under the old land classification nomenclature.

1.6 Purpose and Need

The Corps is proposing to revise/update the 1966 Lower Monumental MP for the comprehensive management and development of recreational, natural, and cultural resources at the Project. The Revised MP would promote the efficient and cost effective management, development, and use of Project lands. It would be a vital tool for responsible stewardship and sustainability of Project resources for the benefit of present and future generations.

The purpose of the proposed action is to manage all Project recreational, natural, and cultural resources in a comprehensive manner that complies with applicable laws and Corps policies, including current Corps land use classification standards.

The 1966 MP needs to be updated because it is more than 53 years old and provides an inadequate base with which to evaluate contemporary (current and future) land and resources management. The revised/updated MP would comply with new policy found in the Corps' Engineer Regulation (ER) and Engineer Pamphlet (EP) 1130-2-550, which requires the Project to focus on particular qualities, characteristics, and potentials of Project lands and also provides consistency and compatibility with national objectives and other state and regional goals and programs. The revision and approval of the MP would assure the requirements of Corps' policies are met, and that comments from the public, local, state, federal agencies and Tribes are considered.

Corps regulations require each Civil Works Operating Project (such as Lower Monumental) to develop a Master Plan. As stated in EP 1130-2-550, MP goals must include the following screening criteria (also see Section 2.3):

- Provide the best management practices to respond to regional needs, resource capabilities, suitabilities, and expressed public interests consistent with authorized Project purposes.
- Protect and manage Lower Monumental natural and cultural resources through sustainable environmental stewardship programs.
- Provide public outdoor recreation opportunities that support Project purposes and public demands created by the Project itself while sustaining natural resources.
- Recognize the particular qualities, characteristics, and potentials of the Project.
- Provide consistency and compatibility with national objectives and other state and regional goals and programs.

Due to MP age, changes in techniques and methods required by Corps policy, changes for endangered species management, and substantial increases in public use of the Project, the 1966 MP no longer fulfills the intended purpose. An all-inclusive approach is needed to respond to public requirements while meeting all other Project goals and resource objectives.

The Revised MP would be a document that deals in management concepts, not in the specific details of design or administration. It is intended to serve as a guide for the

orderly and coordinated development, management, and stewardship of all recreational, natural, and cultural resources of the Project. The MP is an overarching framework for the more detailed Operational Management Plan (OMP), which is developed after the MP is completed and updated annually. The MP classifies lands to provide for balanced management of the competing interests of these resources. The Revised MP would respond to changing use, visitor desires, and would comply with current policy.

1.7 Land Classifications

Project land classifications designate the primary use for which Project lands are managed. Project lands are zoned for development and resource management consistent with authorized Project purposes. The currently authorized land classification categories designated in EP 1130-2-550 are:

- **Project Operations:** These are lands required for the dam and associated structures, administrative offices, maintenance compounds, and other areas used for Project operations and maintenance of Lower Monumental.

- **High Density Recreation:** These lands are designated for intensive recreational use to accommodate and support the recreational needs and desires of Project visitors. They include lands where existing or planned major recreational facilities are located; and allow for developed public recreation facilities, concession development, and high-density or high-impact recreational use.

- **Mitigation:** These are lands specifically designated to offset fish and wildlife habitat losses associated with the development of the Lower Monumental Project.

- **Environmentally Sensitive Area:** These are lands where scientific, ecological, cultural, or aesthetic features have been identified.

- **Multiple Resource Managed Lands:** These are lands managed for one or more of the activities described in the following bullets:

    - **Low Density Recreation:** These lands emphasize opportunities for dispersed or low-impact recreation use.

    - **Wildlife Management:** These lands are designated for wildlife management, although all Lower Monumental lands are managed for fish and wildlife habitat in conjunction with other land uses.

    - **Vegetative Management:** These lands focus on the protection and development of forest resources and vegetative cover, although all Lower Monumental lands are primarily managed to protect and develop vegetative cover in conjunction with other land uses.

    - **Future/Inactive Recreation Areas:** These are lands where recreation areas are planned for the future, or lands that contain existing recreation areas that are temporarily closed.

Water Surface: The water surface acreage at the Project is divided into the following zones to support public safety and security:

Restricted: Water areas restricted for Project operations, safety, and security purposes.

Designated No-Wake: Shoreline areas designated to protect recreational water access areas from disturbance, environmentally sensitive shoreline areas, and/or for public safety.

Fish and Wildlife Sanctuary: Annual or seasonal restrictions on areas to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning.

Open Recreation: Those waters available for year-round or seasonal water-based recreational use.

The large-scale changes in land ownership and use over 53 years throughout the Project, along with the nomenclature changes, should have been documented in a Master Plan revision or supplement before now. However, due to multiple constraints, this would be the first full revision of the MP. The proposed 2020 Master Plan Revision is an opportunity to document these changes and to ensure that the public record accurately reflects the management of lands at the Project, as well as to classify lands for future use in order to best manage Project recreational, natural, and cultural resources. Table 1-1, below summarizes the changes in acreage under the old land classification nomenclature.

Table 1-1. Land Classification Changes from 1966 to 2019

Land Use Classification	1966 Acres	2019 Acres
Not Classified	4,048.7	3,166.8
Project Operations	360.6	360.6
Public Port Terminal	114.4	98.6
Industrial Use and Access	1,192.2	1,092.5
General Access	232.4	232.4
Initial Development	1,227.7	1,224.6
Wildlife	658.6	1,912.6
To be Transferred	1,238.9	0
Total Acres	9,073.6	8,088.2

In order to revise the MP, the Corps needed to translate the old land classifications to the currently authorized land classifications under EP 1130-2-550. Table 1-2, below is a rough translation between the two different classification nomenclatures.

Table 1-2. Old Land Classification Nomenclature and New Land Classification Nomenclature

Old Land Classifications	New Land Classifications
Project Operations • Project Operations • Public Port Terminal • Industrial Use and Access	Project Operations
Recreation • General Access • Initial Development • Group Camping	High Density Recreation
----- ----- Future Development Wildlife Special	Multiple Resource Management • Low Density Recreation • Future and Inactive Recreation Areas • Wildlife Management • Vegetative Management
To be Transferred	----
Not Classified	----
----	Mitigation

Using the information in Table 1-2 and current management strategies for each land management unit, the Corps developed several alternatives to be analyzed for the proposed MP revision, which are discussed in Section 2 of this EA.

Section 2: Alternatives

2.1 Introduction

Revising the Lower Monumental MP is a somewhat complex task. Substantial changes have taken place in the region over the last 53 years including increased human population, and increased commercial, industrial, and residential development. The passage of the National Environmental Policy Act in 1969 and the Endangered Species Act in 1973 have added environmental compliance requirements that now must be considered. Columbia and Snake River fish have been listed under the Endangered Species Act; Lake West is now designated as Critical Habitat for the listed species. Compliance with the National Historic Preservation Act, and the Subsequent 2009 Federal Columbia River Power System Programmatic Agreement have created extensive resource management programs that integrate with broad management practices. The Corps strives to attain balance while comprehensively managing and developing natural, cultural, and recreational resources at all Project lands, and therefore follows a systematic process for developing and formulating a number of viable alternatives to find the best option to satisfy the purpose and need of the proposed action.

2.2 Alternative Development and Evaluation

NEPA requires federal agencies to consider a reasonable range of alternatives during the planning process. Alternatives considered under NEPA must include, at least, the proposed action and the “No Action” Alternative, which provides a baseline from which to compare other alternatives. In the case of an ongoing program, the No Action Alternative is no change from the current management direction or level of management intensity.

Therefore, to help facilitate the identification and evaluation of a reasonable range of alternatives, the Corps scheduled a 45-day “scoping period” from August 12 to September 30, 2019 to give the interested public; local, state and federal agencies; and Tribes an opportunity to provide input into the “scope” of the proposed MP Revision. The scoping period included two public meetings, one in Dayton, Washington on August 20, 2019 and one in Pasco, Washington on August 21, 2019. The meetings were designed to inform the public regarding the MP revision/update process (Figure 2-1) and receive comments on how users would like to see the Corps manage the recreational, natural, and cultural resources in the future.

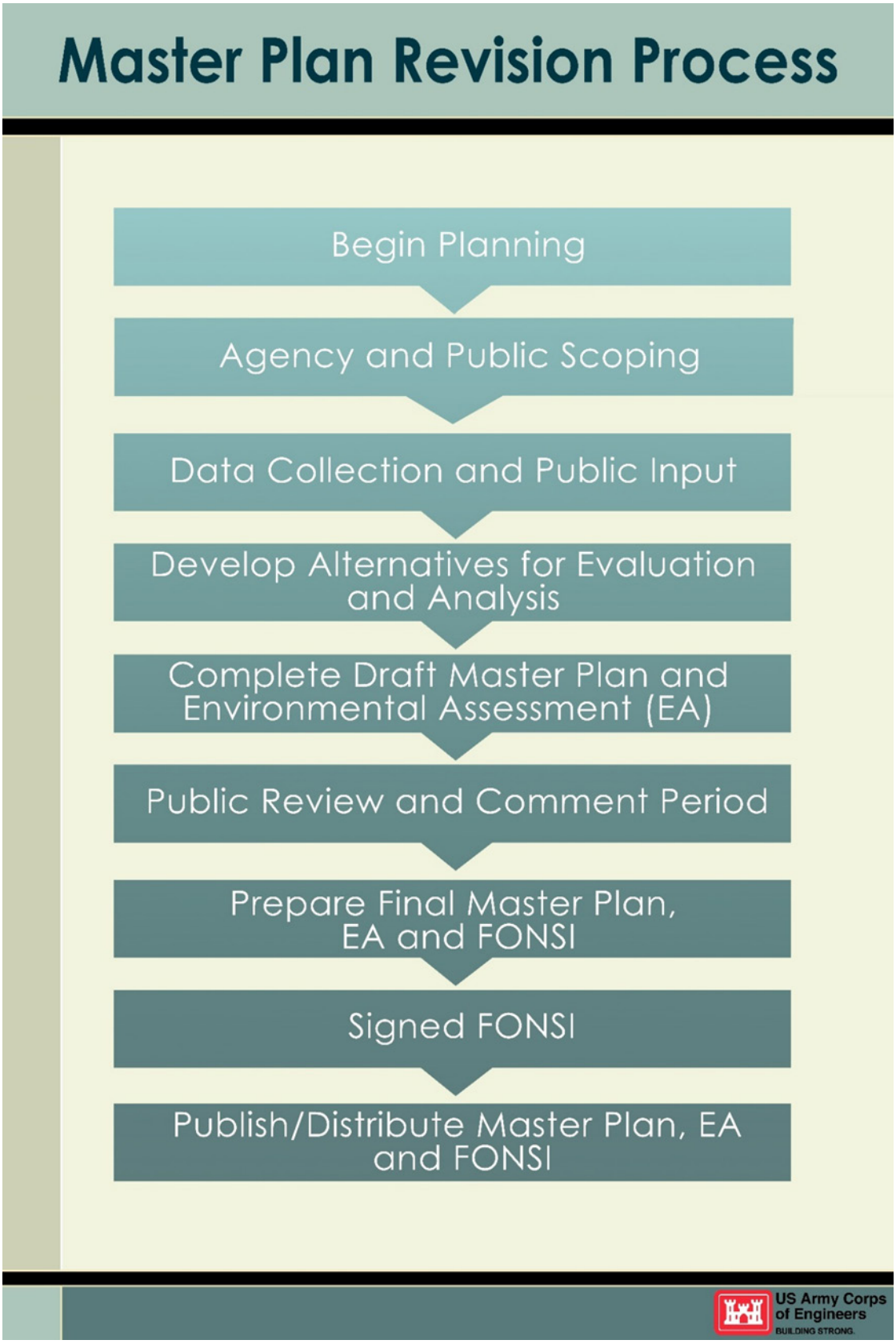


Figure 2-1. The Master Plan Revision Process

In addition, the proposed MP Revision is directed by specific Corps policy which informs consideration of alternatives for strategic Project development and management. Formulation and establishment of resource objectives (ROs) for each Civil Works Project is required by Engineer Pamphlet (EP) 1130-2-435, (Corps, 1987). ROs are clearly written statements that respond to identified issues and specify measurable and attainable activities for resource development and/or management of the lands and waters under jurisdiction of the Walla Walla District at the Lower Monumental Project.

Proposed MP Revision Resource Objectives

1. General Resource Objectives

a. Safety and Security – Provide use areas and facilities that are safe and provide the public with safe and healthful recreational opportunities.

b. Aesthetic Resource – Plan all management actions with consideration given to landscape quality and aesthetics.

c. Facilities Management – Ensure all current and future facilities are maintained and meet federal and state design standards.

d. Real Estate Management – Prevent unintentional trespass and negative impacts associated with encroachments on government property while allowing state, county, municipal, and private entities opportunities to provide public recreation services.

2. Recreation Resource Objectives

a. Land and Water Accessibility – Provide use areas and facilities that are accessible for all Lower Monumental Project visitors.

b. Interpretive Services and Outreach Programs – Interpretive services would focus on agency, District, and Lower Monumental Project missions, benefits, and opportunities. Interpretive services at the Project will be used to enhance public education and safety through promoting public awareness, understanding and appreciation of the Project and its resources.

c. Recreation Optimization and Sustainability – Use leveraged resources when possible to maintain and improve recreation facilities that reduce operations and maintenance costs while meeting public demand.

d. Quality Outdoor Recreation in Rural Settings (Low Density Use) - Operate and maintain multi-purpose facilities, as well as develop new facilities that meet public demand, to provide opportunities for multiple user groups in a rural setting.

3. **Environmental Stewardship**

a. **Riparian and Wetland Protection** – Protect and limit impacts to wetlands and riparian corridors on the Project in conjunction with missions, water quality, and fish and wildlife benefits.

b. **Fish and Wildlife Habitat Management** – Conserve, protect, restore, and/or enhance habitat and habitat components important to the survival and proliferation of threatened, endangered, special status, regionally important, and LSRFWCP habitat and species on Project lands.

c. **Cultural Resources Management** – Inventory, record, and evaluate cultural resources per legal requirements of NHPA. Preserve resources as per ARPA, NAGPRA, and Treaty responsibilities. Pursue enforcement actions under Title 36, or through local law enforcement, in the event of destruction, injury, defacement, removal or any alteration of public property, including historical and archaeological features (36 CFR § 327.14). Convey importance of cultural resources and proactive planning to Project staff through planning documents and the Historic Properties Management Plan (Hicks 2000), and update those documents as appropriate.

d. **Integrated Pest Management** – Minimize negative impacts to native flora and fauna and damage to government facilities by reducing and/or eradicating invasive and nuisance species on Lower Monumental lands.

e. **Fire Management -** Minimize the negative effects of wildfires, including impacts to federal property and the recreating public.

2.3 Screening Criteria

In order for any alternative to be acceptable for further evaluation it must meet certain objectives, or screening criteria.

Screening criteria help eliminate those alternatives that could not reasonably or practically meet the proposed action purpose and need. When setting up screening criteria, the Corps closely re-evaluated the purpose and need of the proposed action, which is to manage all Lower Monumental recreational, natural, and cultural resources in a comprehensive manner that complies with applicable laws and Corps policies, including current Corps land classification standards. In this re-evaluation, it became evident that truly achieving a balance between the Corps natural resource management mission and environmental stewardship/ecosystem management principles was key to successfully updating the Lower Monumental MP.

With these objectives in mind, the Corps developed the following technical and environmental screening criteria:

- (1) provide the best management practices to respond to regional needs, resource capabilities, and expressed public interests consistent with authorized Project purposes,
- (2) protect and manage Lower Monumental natural and historic/cultural resources through sustainable environmental stewardship programs,
- (3) provide public outdoor recreation opportunities that support Project purposes and public demands created by the Project itself while sustaining natural resources,
- (4) recognize the particular qualities, characteristics, and potentials of the Project,
- (5) provide consistency and compatibility with national objectives and other state and regional goals and programs.

After developing screening criteria, the Corps' Interdisciplinary Product Delivery Team (PDT) formulated alternatives to be considered.

2.4 Alternatives

The PDT evaluated all options and developed a reasonable range of alternatives to include the No Action Alternative which is required by NEPA, Alternative 2 that focuses on balanced uses, Alternative 3 that focuses on cultural resources, Alternative 4 that focuses on recreation, and Alternative 5 that focuses on wildlife. The five alternatives initially considered in this EA include:

2.4.1 Alternative 1: No Action Alternative (No Change to Current Practice)

If Alternative 1 was adopted, the Corps would not revise or updated the 1966 MP. Instead, the Corps would continue with the current management practices based on strategy and guidelines in the 1966 MP, the 1969 supplement, and legal mitigation requirements implemented since 1966.

In order to compare acreage across land classifications for all alternatives, the land classifications were converted to currently authorized land classifications as shown in Table 1-2 on page 9. See Table 2-1 on page 17 to see how approximately 8,088 acres of land and water are classified amongst seven land classifications including 3,166 acres of land currently not classified.

2.4.2 Alternative 2: Balanced Use Alternative

Alternative 2 constitutes the proposed action of a MP Revision which focuses on Project characteristics and potential and also aligns with national objectives and state and regional goals and programs. The revision and approval of the MP would assure the requirements of Corps' policies are met, and that comments from the public, local, state, federal agencies and Tribes are considered.

Alternative 2 was developed in order to balance designed visitor use with recreational, natural, and cultural resource sustainability. The Balanced Use Alternative would meet all the conditions of the stated purpose and need and responds to current Corps policy and regulations. It would provide the required analysis for regional needs, resource capabilities and suitability, and a comprehensive recreation program.

The Balanced Use Alternative would incorporate current Corps of Engineers land classification standards (including updated land classification maps), include contemporary requirements mandated by federal environmental laws, and reflect the Corps of Engineers Environmental Operating Principles, natural resource management mission and environmental stewardship and ecosystem management principles.

The Balanced Use Alternative would include the development of ROs that were not part of the 1966 MP. The ROs would be consistent with current Corps regulations, authorized Project purposes, federal laws and directives, and would take into consideration regional needs, resource capabilities, state comprehensive outdoor recreation plans, cultural and natural resources, and public input. See Table 2-1 on page 17 to understand how the Balanced Use Alternative would distribute approximately 14,632 acres of land and water amongst nine land classifications.

2.4.3 Alternative 3: Cultural Resources Focus Alternative

Alternative 3 would be a MP Revision emphasizing changes to land classifications along the shoreline in order to devise a framework that would maximize the development of OMPs focused on protection of cultural resources.

The Cultural Resources Focus Alternative would consider known cultural resources and existing ways that the Corps manages the land for multiple uses. This alternative proposes to change the current land classifications along the shoreline (for a distance of 100 to 300 feet inland) to the “Environmentally Sensitive Area” classification in largely “natural” areas that are within Traditional Cultural Properties (TCPs) and Historic Properties of Religious and Cultural Significance to Indian Tribes (HPRCSITs) (Table 2-1). Land classification focused on cultural resource management would subsequently ensure that future OMPs limit impacts to these resources. Intrusions on lands classified for maximum protection of cultural resources would result in OMPs that would not allow for manmade intrusions such as powerlines, non-Project roads, and water and sewer lines, but may still allow for mitigation under the LSRFWCP. Areas within TCPs and HPRCSITs where there is already development, such as Lower Monumental Dam, roads, railroads, powerlines, existing leases and easements, and recreation areas (except Riparia Campground) would not be changed to this classification. See Table 2-1 on page 17 to understand how the Cultural Resource Focus Alternative would distribute approximately 14,635 acres of land and water amongst nine land classifications.

The Cultural Resource Focus Alternative would also change a majority of Lyons Ferry Habitat Management Unit (HMU) and Tucannon HMU from MRM-WM to the “Environmentally Sensitive Area” classification. Both of these HMUs contain sensitive cultural resources of importance to local Tribes. The Palouse Canyon and the mouth of the Tucannon River are both largely undeveloped areas, where natural resources of importance to the Tribes, “First Foods – water, fish, big game, roots and berries – and

the places, habitats and environmental conditions that support and sustain them, then, now, and forever" are on display and largely unaltered by development.

Lastly, this alternative would also call for the closure of the Riparia Campground located on the north shore of Lake West at River Mile 67. The Riparia Campground is built within the remains of the historic Texas City, which was at one time the largest city on the Lower Snake River, and is also of ongoing importance to local Tribes.

2.4.4 Alternative 4: Recreation Focus Alternative

Alternative 4 would be a MP Revision emphasizing changes to land classifications intended to expand recreational opportunities on Corps-managed lands as proposed in future OMPs. PDT personnel identified potential land classifications and land management units to change to either High Density Recreation (HDR, also called parks) or Multiple Resource Management – Low Density Recreation (MRM-LDR). This would include changing Operations and Multiple Resource Management – Wildlife Management (MRM-WM) lands as well as converting MRM-LDR lands to HDR. PDT staff assessed site suitability and used recent visitation trends and scoping comments to determine which land management units to convert. Selection of this alternative would allow for the creation of new parks, easier access, and upgraded or new visitor facilities. See Table 2-1 on page 17 to understand how the Recreation Focus Alternative would distribute approximately 14,632 acres of land and water amongst nine land classifications.

2.4.5 Alternative 5: Wildlife Focus Alternative

Alternative 5 would be a MP Revision emphasizing changes to land classifications intended to prioritize preservation and enhancement of wildlife resources and habitat in future OMPs. This alternative would focus on changes to land classifications to maximize preservation and enhancement of wildlife resources and habitat. PDT personnel identified land management units to convert to MRM-WM from Operations and MRM-LDR which would benefit wildlife. Personnel identified areas with wildlife habitat potential and lower visitation to select sites for conversion to MRM-WM. Selection of this alternative would reduce recreation opportunities and allow for the creation or enhancement of better wildlife habitat on Corps-managed lands. See Table 2-1 on page 17 to understand how the Wildlife Focus Alternative would distribute approximately 14,632 acres of land and water amongst nine land classifications.

Table 2-1. Alternative Matrix. Acres by Land Classification for each Alternative

LAND CLASSIFICATION NOMENCLATURE 2020	ALTERNATIVES				
	NO ACTION	BALANCED USE	CULTURAL RESOURCE FOCUS	RECREATION FOCUS	WILDLIFE FOCUS
Operations	1,551.7	760.0	754.5	760.0	760.0
High Density Recreation (HDR)	1,457.0	320.0	317.4	371.4	320.0
Multiple Resource Management (MRM) Low Density Recreation (LDR)	0	19.6	6.4	5.4	5.4
Multiple Resource Management (MRM) Wildlife Management (WM)	1,912.6	2,489.0	1,897.5	2,489.0	2,527.0
Multiple Resource Management (MRM) Future or Inactive Recreation Areas (FIRA)	0	37.2	37.2	0	0
Environmentally Sensitive Areas	0	792.4	2,359.7	792.4	792.4
Mitigation	0	3,643.0	2,778.0[1]	3,643.0	3,656.5[2]
Water Surface	0*	6,571.2	6,484.6[3]	6,571.2	6,571.2
Not Classified	3,166.8	0	0	0	0
TOTALS	8,088.1	14,632.4	14,635.4**	14,632.4	14,632.4

Source: Nomenclature from Engineering Pamphlet 1130-2-550
*Water surface acres were not classified in the 1966 MP
**This number is higher because more land was classified ESA

[1] Some mitigation acreage was included as ESA for this alternative, making mitigation acreage lower.
[2] Sites adjacent to mitigation acres were converted to mitigation instead of MRM-WM in this alternative for ease of management.
[3] Some open recreation surface water acreage was included as ESA for this alternative, making open recreation acreage lower.

2.5 The Screening Process

Once the screening criteria was developed and the alternatives were formulated, the PDT compared the alternatives against the screening criteria by placing them in a table (Table 2-2). Alternatives that met all five screening criteria were carried forward for environmental analysis in Chapter 3. Alternatives that did not meet all five screening criteria were eliminated from further consideration.

Alternatives are marked as "Y" if they meet the definition of the criteria and "N" if they do not. Only Alternative 2 meets all criteria.

Table 2-2. The Screening Process

SCREENING CRITERIA	ALTERNATIVES				
	NO ACTION	BALANCED USE (REVISE MP)	CULTURAL RESOURCE FOCUS	RECREATION FOCUS	WILDLIFE FOCUS
Provide best management practices to respond to regional needs, resource capabilities, and expressed public interests consistent with authorized Project purposes	N	Y	N	N	N
Protect and manage Project natural and cultural resources through sustainable environmental stewardship programs	Y	Y	Y	Y	Y
Provide public outdoor recreation opportunities that support Project purposes and public demands created by the Project itself while sustaining natural resources	N	Y	N	Y	N
Recognize particular qualities, characteristics, and potentials of the Project	N	Y	Y	Y	Y
Provide consistency and compatibility with national objectives and other state and regional goals and programs	N	Y	N	N	N

2.6 Alternatives Carried Forward for Detailed Analysis

- Alternative 1: No Action Alternative (No Change to Current Practice)
- Alternative 2: Balanced Use Alternative (Proposed Action)

Alternative 1 (No Action/No Change to Current Practice) will be carried forward to Chapter 3 "Affected Environment and Environmental Consequences" as required by NEPA, providing a basis for comparison with other alternatives. Under this alternative,

the Corps would continue to use the 1966 MP with its associated management practices, and not implement a MP revision/update. The 1966 MP does not provide a regional analysis of recreation and ecosystem needs, Project resource capabilities, recreation program analysis, and cumulative effects assessment, which are essential to the balanced approach and requirements of current Corps MP policy. Although the Corps currently uses the 1966 MP, the document does not fulfill all current Corps requirements for an approved MP.

Alternative 2, the Balanced Use Alternative, would meet all the conditions of the stated purpose and need, and would respond to current Corps policy and regulations. The Balanced Use Alternative would help focus on four primary components that were not included in the 1966 document, or that require expanded analysis, including: (1) regional investigation of recreational, natural, cultural and overall ecosystem needs; (2) Project resource capabilities and suitability; (3) expressed public interests that are compatible with authorized purposes; and (4) NEPA compliance (this EA), including a comprehensive cumulative effects analysis. Alternative 2 will be carried forward to Chapter 3 as the Proposed Action Alternative.

2.7 Alternatives Removed From Further Consideration

- Alternative 3: Cultural Resources Focus Alternative
- Alternative 4: Recreation Focus Alternative
- Alternative 5: Wildlife Focus Alternative

Alternatives 3, 4 and 5 all fail to fully respond to the purpose and need identified for the proposed action. Of critical importance is the need to emphasize that a Revised MP would seek to balance protection and conservation of natural and cultural resources with recreational development and use. These alternatives do not consider Project-wide resource capability, and are not consistent with multiple use authorized Project purposes. Alternatives 3, 4, and 5 have, therefore, been eliminated from further consideration as not satisfying the purpose and need for the proposed action, as identified in Section 1.6.

Section 3: Affected Environment and Environmental Effects

3.1 Introduction

This section describes the affected environment and evaluates potential environmental effects on those resources for each alternative. Alternative 1 (No Action) and Alternative 2 (Balanced Use) were carried forward for analysis.

The following descriptors are used in the body of this chapter for consistency in describing impact intensity in relation to significance:

- No or Negligible Impact: The action would result in no effect or the effect would not change the resource condition in a perceptible way. Negligible is defined as of such little consequences as to not require additional consideration or mitigation.
- Minor Impact: The effect to the resource would be perceptible; however, the effect would not be major and unlikely to result in an overall change in resource character.
- Moderate Impact: The effect to the resource would be perceptible and may result in an overall change in resource character. Moderate impacts are not significant due to their limited context (the geographic, biophysical, and social context in which the effects would occur) or intensity (the severity of the impact, in whatever context it occurs).
- Significant Impact: The effect to the resource would be perceptible and may be severe. The effect would likely result in an overall change in resource character. The determination of significant impact to any resource would require the completion of an Environmental Impact Statement.
- Direct Impacts: Direct effects are caused by the action and occur at the same time and place. Activities that occur from implementation of the proposed action would directly affect a change, and initial effects would be immediately evident.
- Indirect Impacts: Indirect effects are caused by the action but are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Activities that occur from implementation of the proposed action would not affect this change, but would enable change to occur, or change would occur later in time, or farther in distance than the actions.
- Cumulative Impacts: Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

3.2 Environmental Evaluation by Resource

The following resource areas were evaluated: Land Use, Recreation, Vegetation, Geologic Features and Soils, Threatened and Endangered Species, Wildlife, Water Quality, Aquatic Resources, Socioeconomics and Environmental Justice, Cultural Resources, Climate Change Analysis, and Cumulative Effects. It was determined that it was not necessary to evaluate Aesthetics/Visual Quality, Noise, or Air Quality as implementation of the Balanced Use Alternative would have no or negligible effects on these resources (Table 3-1).

Table 3-1. Environmental resources not evaluated further

Environmental Component	Explanation
Aesthetics/Visual Quality	Aesthetics/Visual resources would evolve in the action area through natural processes as vegetation matures, or streambanks erode, or through changes occurring on adjacent lands within the view shed. Aesthetics/Visual Quality would be negligibly impacted by the MP Revision.
Noise	The proposed action is located within a rural area with relatively few noise sources. Sources may include boat operation along the Snake River and vehicle use. Noise levels would be negligibly impacted by the MP Revision.
Air Quality	The project area meets Washington State's ambient air quality standards and is in "attainment." No Statement of Conformity is needed in attainment areas, such as Franklin and Walla Walla counties. Air quality would be negligibly impacted by the proposed action.

3.2.1 Land Use

Affected Environment

The Lower Monumental Project is located in the Columbia Plateau region about 41 miles northeast of Pasco, Washington near the town of Kahlotus. Franklin and Walla Walla counties border the river. The area is characterized by a rolling rural landscape, dominated by agricultural areas and grasslands. The primary land use in Franklin County is cropland (72.3%), pastureland (21.5%), and other land use makes up the remaining 6.2% (USDA 2012a). The primary land use in Walla Walla County is cropland (87.7%), pastureland (7%), with other land uses making up the remaining 5.3% (USDA 2012b).

Chapter 4.2.1 of the MP provides a brief overview of the land classification changes that have occurred from 1966 to 2019. Section 4.2.2 of the MP shows how the Project lands would be classified and discusses the management and use of the lands assigned to each land classification, in connection with the appropriate resource objectives identified in Chapter 3 of the MP.

Project lands are classified to designate the primary use for which those lands are managed. The classification process considers public input, and regional and Project specific resource requirements. Land classification also takes into account what resources are present, the accessibility of the site, and public desirability for the site.

Lands in the Project area are classified for recreation, wildlife habitat, and operational needs. Public recreation use of the Project lands are described below in Section 3.2.2 (Recreation). Lands classified as wildlife habitat can be used by the public for hunting, fishing, bird watching, and viewing. The Corps manages these lands to provide wildlife with habitat and migration corridors as described in Section 3.2.4 (Wildlife).

Environmental Consequences

Alternative 1 – No Action. Under the No Action Alternative, land classifications and land use potential on Corps managed properties would continue as outlined in the 1966 MP. There would be no short-term impacts to land use under this alternative. However, long-term impacts would become more direct if land designated for recreation is developed and the potential for increased public access to the Corps managed lands is realized. As undeveloped designated recreation land currently supports vegetation communities that create wildlife habitat, there would be moderate impacts to that land use as potential recreation areas are developed. Additionally, because the No Action Alternative is more focused on the development of recreational areas, there is less focus on the management, or protection of, natural and cultural resources, and those resources could be damaged or removed as more acres would be converted to recreation.

Although there would remain the potential for recreational land development, that potential has not been realized. In fact, Separate NEPA compliance would be conducted if potential recreational land was proposed to be developed, so although the No Action Alternative leaves the potential for recreational land development open, the No Action Alternative itself would not have a significant impact on land use.

Alternative 2 - Balanced Use Alternative. Short-term and long-term impacts to land use from the Balanced Use Alternative would be the same or similar to the No Action Alternative. However, there would be long-term moderate beneficial direct and indirect impacts from the implementation of the Balanced Use Alternative, because the Balanced Use Alternative removes the potential to develop land for recreation and focuses instead on the protection of natural and cultural resources. Designated recreation land would be decreased by a total of 1,080 acres, not including open recreation on the water, and land designated to protect natural and cultural resources would increase by 5,012 acres (Table 3-2).

Table 3-2. Land Classification Changes from 2019 to 2020

Land Classification	Changes in acres
High Density Recreation	-1,137.1
Multiple Resource Management- Low Density Recreation	+19.6
Future or Inactive Recreation Areas	+37.2
Project Operations	- 791.7
*Designated No Wake Zone	+ 65.8
Environmentally Sensitive Areas	+ 792.4
Mitigation	+ 3,643.0
Multiple Resource Management- Wildlife Management	+576.4
*Open Recreation	+ 6396.2
*Restricted	+ 109.2

* The water surface was not classified in 1966, so increase is due to surface water classification per EP 1130-2-550.

Further, the Balanced Use Alternative would classify lands according to the required analysis for regional needs, resource capabilities and suitability, and would provide a comprehensive recreation program. The Balanced Use Alternative would not substantially reduce or eliminate current land use access, and therefore would not have significant impacts.

3.2.2 Recreation

Affected Environment

Lower Monumental Lock and Dam forms Lake West which extends over a 28-mile reach of the Snake River above River Mile 41. Lake West has a surface area of 6,571 acres and 78 miles of shoreline. Lake West offers 8 day-use areas, 101 camping sites, 6 boat launch areas, and 1 designated swimming beach; however, recreation development in the upper part of Lake West is limited due to high cliffs that surround the reservoir. Recreational activities take place throughout the year, with the highest activity levels during the fair weather periods of late spring, summer and early autumn.

Lower Monumental staff manage 20 habitat mitigation units (HMUs) comprising around 6,132 acres. The HMUs offer wildlife hunting and viewing opportunities and some of the HMUs contain campsites and boat launches. Hunting opportunities include big game, upland gamebirds, and waterfowl.

Most recreation is related to the water resources presented by the Snake River such as boating. Much of the boating is related to fishing; however, waterskiing, tubing, wake boarding, jet skiing, sailing, kayaking, and canoeing are also important boating activities. Most anglers fish for steelhead (*Oncorhynchus mykiss*), walleye (*Sander vitreus*), Chinook salmon (*O. tshawytscha*), and smallmouth bass (*Micropterus dolomieu*).

Environmental Consequences

Alternative 1 – No Action. There would be negligible short-term impacts to recreation from the No Action Alternative, because there are no sudden surges in recreational use predicted and because there are no planned changes to recreational land available. The No Action Alternative allows for the additional development of designated recreation areas as local and regional populations grow. There would be moderate direct and indirect long-term beneficial impacts from the No Action Alternative if parks

are developed and recreational use is increased. However, it's unlikely that long-term visitation trends would support the increased recreational development.

There would be no permanent loss of existing recreational opportunities as a result of the No Action Alternative. In fact there is the potential for recreation growth and development. Therefore there would be no significant impact to recreation.

Alternative 2 – Balanced Use Alternative. Short-term impacts to recreation from the Balanced Use Alternative would be the same or similar to the No Action Alternative. However, there would be moderate direct long-term impacts to recreation from the Balanced Use Alternative. Implementation of the Balanced Use Alternative would result in the loss of 1,137 acres of land classified as HDR. However, recreation opportunities such as hiking, hunting, and bird watching would remain available in HMUs and opportunities for these activities would increase with the increase in land designated for Mitigation and MRM-WM uses.

The Balanced Use Alternative would provide a comprehensive and efficient recreation program based on public demand, while balancing the need to protect natural and cultural resources on Project lands. There would be no permanent loss of existing recreation or decrease of recreational use resulting from the Balanced use Alternative. There would be a loss of area available for future recreational development. All land reclassifications under the Balanced Use Alternative allow for recreation except three: restricted, project operations, and environmentally sensitive areas. Therefore there would be no significant impact to recreation.

3.2.3 Vegetation

Affected Environment

The Project area is located primarily in a grasslands/shrub-steppe zone. Three types of vegetation classes occur in the area adjacent to the Snake River: riparian (lies adjacent to streams and rivers), wetlands (occur where groundwater saturates the surface layer of soil during a portion of the growing season), and upland (grassland/shrubland areas).

Riparian

Floodplains consisting of rich alluvial soils associated with the Snake River supported riparian vegetation along the river prior to construction of dams. These included terraces with woody vegetation, which were too dry to be classified as wetlands, sand and gravel bars, wet meadows, flood-scoured areas, and other stream-related habitats. Riparian areas serve as important wildlife habitat and are integral to the function of river aquatic ecosystems. The two significant native plant communities which grow along the riparian edge in this area are Black Cottonwood (*Populus trichocarpa*) and Coyote Willow (*Salix exigua*) (Bailey, 2008a; Bailey, 2008b). On irrigated lands the most prevalent tree species is Russian olive (*Elaeagnus angustifolia*) and the most dominant shrub is Himalayan blackberry (*Rubus armeniacus*), which grow in impenetrable masses. Both species are non-native and form thickets that prohibit the growth of other species.

Wetlands

Wetland habitats are important ecological features providing a multitude of benefits to the human environment and a unique variety of fish, wildlife, and plant species that are adapted to survive at least part of their life cycle in aquatic environments. Wetlands are areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (40 CFR 232.2 Clean Water Act - Definitions). Wetlands are usually a transitional area between upland habitats and aquatic habitats. Because wetlands, including riparian habitats, are dependent on the duration of seasonal inundation, these habitats are sensitive to changes in Project operations influenced by river flows and precipitation patterns.

Emergent wetlands are restricted by the steep shorelines, seasonal drawdowns, and shorter-term fluctuations that also influence other habitat types. Emergent wetlands occur along the shoreline primarily in embayments, the mouths of small streams, and in the confluences of larger tributary streams and rivers. Common plants present in emergent wetlands include cattails (*Typha sp.*), horsetail (*Equisetum sp.*), bulrush (*Cyperaceae sp.*), and sedges (*Carex sp.*). Invasive species such as common reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), pondweed (*Potamogeton sp.*), parrotweed (Bocconia frutescens), duckweed (Lemnoideae sp.), invasive Elodea, knotweed (*Polygonum sp.*), milfoil (*Myriophyllum sp.*), flowering rush (*Butomus umbellatus*), yellow flag iris (*Iris pseudacorus*), purple loosestrife (*Lythrum salicaria*), salt cedar (*Tamarix sp.*), Japanese knotweed (*Reynoutria japonica*), and western false indigo became a dominant species in some areas.

Based on the U.S. Fish and Wildlife National Wetland Inventory maps, approximately 60 of the 90 acres of wetlands around Lake West are identified as freshwater emergent wetlands. Another 25 acres are identified as freshwater forested shrub wetlands. The highest acreages of freshwater emergent wetlands are located at Lyon’s Ferry HMU (about 61 acres, Figure 3-1) and Tucannon HMU (about 22 acres, Figure 3-1), the remaining seven acres are scattered throughout the Lake West shoreline.

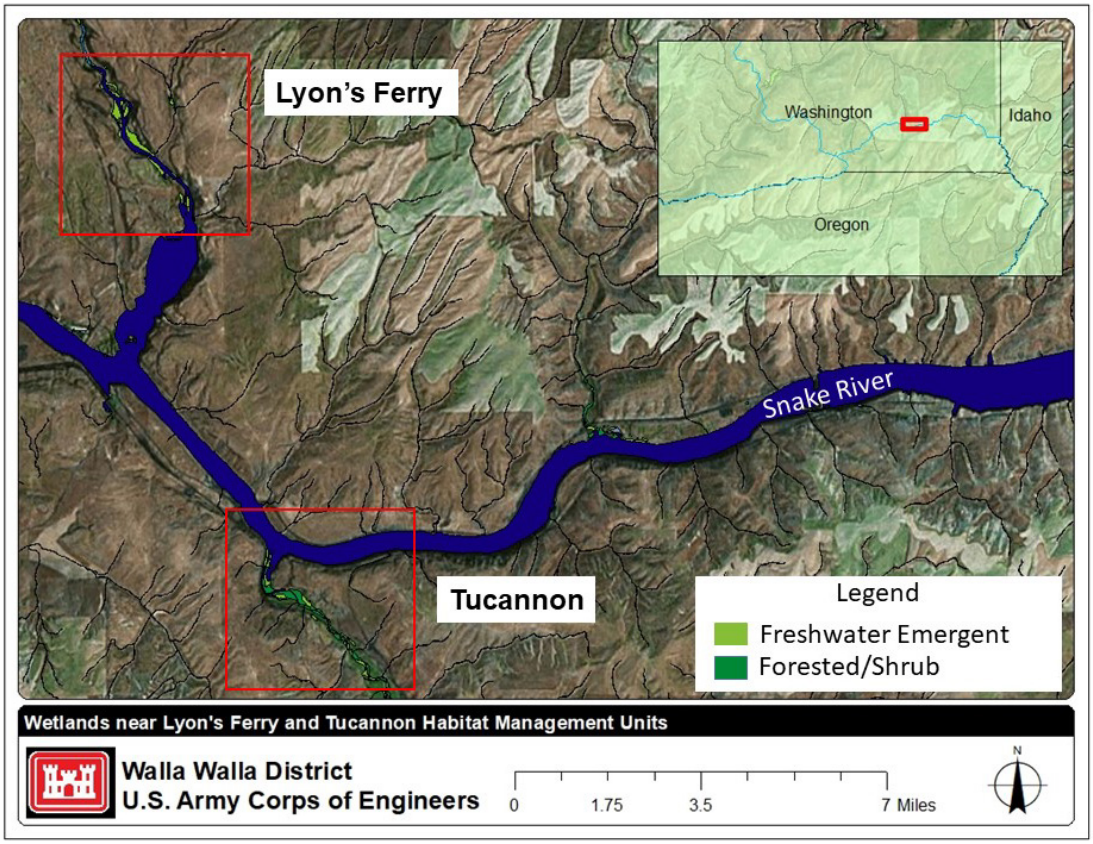


Figure 3-1. Location of Freshwater Wetlands at Lyon's Ferry and Tucannon HMU

Upland Community

The upland vegetation in the study area is typical of steppe communities in the Columbia Basin Province, which are dominated by rabbitbrush (*Chrysothamnus sp.*), cheatgrass (*Bromus tectorum*), and remnant bunchgrasses such as Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and Sandberg's bluegrass (*Poa secunda*), while shrub-steppe communities are co-dominated by sagebrushes, such as big sagebrush (*Artemisia tridentate)*, gray rabbitbrush (*Chrysothamnus sp.*), serviceberry (*Amelanchier alnifolia*), currant (*Ribes sp.*), antelope bitterbrush (*Purshia tridentata*).and non-native cheatgrass (Corps, 2002).

Common forbs include arrowleaf balsamroot (*Balsamorhiza sagittata*), yarrow (*Achillea millefolium*), various buckwheats (*Polygonaceae sp.*), blanket flower (*Gaillardia sp*.), various parsleys (*Apiaceae sp.*), and lupines (*Lupinus sp.*).

Presently, about 19 percent of the Lower Monumental Project is classified as wildlife under the 1966 MP. These areas mainly consist of grassland and shrub-steppe. Habitat management around Lake West has focused on grassland enhancement and vegetation diversity, including efforts to increase riparian habitat through the planting of shrubs and trees to compensate for habitat lost after dam construction (under the LSRFWCP as well as environmental stewardship). A wildlife contract has been in place for over 20 years to control noxious weeds, manage native grasses, plant wildlife food plots, and plant native trees and shrubs.

Environmental Consequences

Alternative 1 – No Action. No lands are currently classified as Mitigation or Environmentally Sensitive Areas in the 1966 MP. Only about 19 percent of Project lands are classified as wildlife lands providing any type of long-term vegetation protection. The rest of the land is designated for recreation and has the potential to be further developed for recreational use. The potential increase in recreational areas available to the public increases the potential for moderate direct and indirect long-term negative effects vegetation. Trampling, unauthorized digging, and other ground disturbance related to recreational activity would all increase and have a negative direct impact on vegetation. Additionally, existing vegetation, including riparian and wetland vegetation, may be removed during construction which would cause the potential for soil erosion and subsequent stormwater runoff into the Snake River.

Although there would remain the potential for recreational land development, that potential has not been realized. Separate NEPA compliance would be conducted if potential recreational land was proposed to be developed, so although the No Action Alternative leaves the potential for recreational land development open, the No Action Alternative itself would not have a significant impact on vegetation.

Alternative 2 – Balanced Use Alternative. Short-term impacts from the implementation of the Balanced Use Alternative to vegetation would be the same or similar to the No Action Alternative. There would be both direct and indirect moderate beneficial long-term effects to vegetation from increasing the acres classified as Mitigation, MRM-WM, and Environmentally Sensitive Areas. Land classified as Mitigation would increase by 3,643 acres, MRM-WM would increase by 576 acres, and Environmentally Sensitive Areas would increase by 792 acres as a result of implementing the Balanced Use Alternative; these are all land classifications that prioritize developing, enhancing, and maintaining healthy native vegetation communities. Beneficial direct impacts would come from vegetation plantings on Mitigation and MRM-WM lands and from new land management practices ensuring vegetation health. Indirect benefits would come from the decreased potential for recreational development and corresponding public use and the addition of Designated No Wake Zone which would reduce Streambank erosion where vegetation grows. The Balanced Use Alternative would not have negative significant impacts, because the reclassification of the land and associated land management practices would be beneficial to vegetation.

3.2.4 Wildlife

Affected Environment

The Lower Monumental Project provides fish and wildlife habitat for over 250 species. Corps-managed HMUs provide public hunting and fishing opportunities, as well as access to view wildlife for educational, recreational, and aesthetic experiences.

Riparian corridors (rivers, streams, and adjacent lands) are particularly valuable habitats for wildlife. This includes many of what are ordinarily thought of as "upland" species as well as wetland species. Many mammals, birds, and reptiles are dependent on undeveloped, vegetated riparian areas along rivers and streams for habitat and migration corridors.

Mammal species dependent upon the habitats provided by rivers, streams and associated ponds and wetlands include mink (*Neovison vison*), muskrat (*Ondatra zibethicus*), river otter (*Lontra canadensis*), American water shrew (*Sorex palustris*), American beaver (*Castor canadensis*), and moose (*Alces alces*). Many other species, however, spend much of their lives within the habitats immediately surrounding the waterways; they are dependent on mixed upland and lowland habitat. Species in this category include everything from raccoon (*Procyon lotor*) to deer (*Odocoileus sp.)*, which often forage in the water. Bats often forage on insects above the water. All of these species, as well as many others, occasionally use river corridors as travel routes.

Common mammal species include: mule deer (*O. hemionus*), white-tailed deer (*O. virginianus*), Rocky Mountain elk (*Cervus elaphus nelsoni*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), American badger (*Taxidea taxus*), striped skunk (*Mephitis mephitis*), cottontail (*Sylvilagus nuttalli*), white-tailed jackrabbits (*Lepus townsendii*), muskrat (*Ondatra zibethicus*), North American beaver (*Castor canadensis*), raccoon, Virginia opossum (*Didelphis virginiana*), common porcupine (*Erethizon dorsatum*), western small-footed myotis (*Myotis ciliolabrum*), little brown myotis (*Myotis lucifugus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), canyon bat (*Parastrellus hesperus*), Townsend's big-eared bat (*Corynorhinus townsendii*), big brown bat (*Eptesicus fuscus*), voles (*Microtus sp.*), and mice (*Peromyscus sp.*).

Riparian and wetland habitat provides essential habitat for migrating birds and waterfowl. Many other shorebird species occur along rivers where appropriate mud bars develop. Belted kingfishers (*Megaceryle alcyon*) patrol the river in search of small fish. Osprey (*Pandion haliaetus*) flourish along rivers and heron and bittern depend to a large extent on riparian corridors for food, roosting and nesting sites. Bald eagles (*Haliaeetus leucocephalus*) frequent riverine corridors in search of fish and roosting areas. Birds such as cormorants, night herons, and gulls are present in the area in search of good feeding regions. River corridors are also major migration routes for many species of songbirds such as vireos, flycatchers, thrushes, tanagers, and wood warblers. Common bird species found within the Lower Monumental Project area include:

Waterfowl*:* mallard (*Anas platyrhynchos*), gadwall (*Anas strepera*), cinnamon teal (*Anas cyanoptera*), American wigeon (*Anas Americana*), northern shoveler (*Anas clypeata*), northern pintail (*Anas acuta*), green-winged teal (Anas carolinensis), canvasback (*Aythya valisineria*), redhead ducks (*Aythya americana*), lesser scaup (Aythya affinis), ring-necked duck (*Aythya collaris*), common merganser (*Mergus merganser*), common goldeneye (*Bucephala clangula*), Canada geese (Branta canadensis), tundra swan (*Cygnus columbianus*), American coot (*Fulica americana*), pied-billed grebe (*Podilymbus podiceps*), eared grebe (*Podiceps nigricollis*), and western grebe (*Aechmophorus occidentalis*).

Game birds: mourning dove (*Zenaida macroura*), California quail (*Callipepla californica*), ring-necked pheasant, Chukar (*Alectoris chukar*), gray partridge (*Perdix perdix*), and wild turkey (*Meleagris gallopavo*).

Raptors: osprey (*Pandion haliaetus*), northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), Swainson’s hawk (*Buteo swainsonii*), Rough-legged hawk (*Buteo lagopus*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter*

cooperii), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), western screech owl (*Megascops kennicottii*), great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), short-eared owl (*Asio flammeus*), long-eared owl (*Asio otus*), northern saw-whet owl (*Aegolius acadicus*), burrowing owl (*Athene cunicularia*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), and peregrine falcon (*Falco peregrinus*).

Many of the reptiles associated with riparian and wetland habitats in the United States (turtles, snakes, and a few lizards) are the opposites of amphibians in life history strategy. They differ by using riparian and wetland areas for food and cover, but move to the habitat edge or to drier land to deposit eggs (Clark 1979). Common reptile species include: Western painted turtle (*Chrysemys picta*), red-eared slider (*Trachemys scripta elegans*), pygmy short-horned lizard (*Phrynosoma douglasii*), western fence lizard (*Sceloporus occidentalis*), sagebrush lizard (*Sceloporus graciosus*), western skink (*Plestiodon skiltonianus*), rubber boa (*Charina bottae*), North American racer (*Coluber constrictor*), gopher snake (*Pituophis catenifer catenifer*), and western rattlesnake (*Crotalus viridis*).

Environmental Consequences

Alternative 1 – No Action. There would be minor short-term impacts to wildlife species from the No Action Alternative. Moderate direct long-term impacts to wildlife would occur with increased human presence in HMUs and recreational areas. The potential increase in recreational areas available to the public increases the potential for direct and indirect negative effects to wildlife. Development of recreation areas and increased public access would make these areas less hospitable for wildlife, resulting in decreased wildlife habitat and wildlife would likely move to alternative habitat areas of lesser habitat value.

Although there would remain the potential for recreational land development, that potential has not been realized. Separate NEPA compliance would be conducted if potential recreational land was proposed to be developed, so although the No Action Alternative leaves the potential for recreational land development open, the No Action Alternative itself would not have a significant impact on wildlife.

Alternative 2 – Balanced Use Alternative. Short-term impacts to wildlife from the implementation of the Balanced Use Alternative would be the same or similar to the No Action Alternative. However, there would be direct moderate benefits to wildlife in the long-term. Land classified for wildlife management would increase by 576 acres as a result of the Balanced Use Alternative. Mitigation lands and Environmentally Sensitive Areas would increase by almost 4,435 combined acres. These lands would be a direct benefit to wildlife in the area by providing food, shelter, and migration corridors.

The Balanced Use Alternative would comply with new Corps guidance, and would provide analysis of use, demand, carrying capacity, and environmental and social effects of proposed actions. Utilizing the guidance and updated analysis would assist in sustaining the long-term natural ecosystem process for many habitats and populations of wildlife species that use and/or require the habitat characteristics associated with Project lands.

The Balanced Use Alternative would not cause substantial loss of populations or habitat and therefore would have no significant impact. Overall, wildlife populations would benefit from the new land designations in the Balanced Use Alternative.

3.2.5 Water Quality

Affected Environment

The water quality in the Snake River Basin is affected by many past and present influences, including human population growth and associated pollutants, water withdrawal for irrigation (and irrigation return flows), dam structures and operations (federal and non-federal), and land use practices including mining, domesticated livestock, agriculture, industry (pulp and paper mills), logging (silviculture and forest management), and recreation (e.g., shoreline erosion). New pollutants are continually being identified, such as pharmaceuticals (Nielsen et al. 2015).

The Washington State Department of Ecology (Ecology) has placed the lower Snake River in the Project area on the Section 303(d) list due to impairment by temperature, dissolved oxygen, and total chlordane.

Temperature is generally high in the summer months, though it is moderated by cold water releases from Dworshak Dam. Summer releases from Dworshak Dam are used to reduce water temperatures downstream in the lower Snake River (Lower Granite, Little Goose, Lower Monumental, and Ice Harbor reservoirs) where temperatures historically exceeded the current state of Washington standard of 68°F (20°C). The cooling effect in the lower Snake River diminishes at each successive downstream reservoir and the frequency of exceedances above the standard increases. Winter water temperatures are typically in the low 30s°F (0 to 2°C) range, with some surface icing during colder winters.

Water temperature is one of the most important characteristics of an aquatic system affecting dissolved oxygen levels. The solubility of oxygen decreases as water temperature increases, so cold water can hold more dissolved oxygen than warm water. In winter and early spring, when the water temperature is low, the dissolved oxygen concentration is higher. In summer and fall, when the water temperature is high, the dissolved-oxygen concentration is low.

Chlordan, is an organochlorine compound used as a pesticide for termite-treatment until it was banned in 1988. Chemical contamination can become high in waterbodies due to agricultural runoff. Fillet samples of channel catfish exceeded the National Toxics Rule criterion for Total Chlordane in Lake West (Seiders et al. 2007).

The existing National Pollutant Discharge Elimination System program regulates certain identified compounds from point sources, but other unaccounted for pollutants may also be present.

Environmental Consequences

Alternative 1 – No Action. There would be minor short-term indirect impacts to water quality from the No Action Alternative, because water quality would remain at risk due to temperature impacts. Any future development of recreation lands would have minor

indirect impacts to water quality in the long-term from construction activities and any increase in impermeable and paved surfaces. Existing vegetation, including riparian and wetland vegetation, may be removed during construction which would cause the potential for soil erosion and subsequent stormwater runoff into the Snake River. Washington State water quality regulations (173-201A WAC) indicate that actions shall not cause turbidity to exceed 5 NTU over background limits when the background turbidity is 50 NTU or less; monitors would be in place during any future activity to ensure turbidity does not exceed these standards. Impermeable surfaces would increase runoff of oils, sediment, and other contaminants.

Although there would remain the potential for recreational land development, that potential has not been realized. Separate NEPA compliance would be conducted if potential recreational land was proposed to be developed, so although the No Action Alternative leaves the potential for recreational land development open, the No Action Alternative itself would not have a significant impact on water quality.

Alternative 2 – Balanced Use Alternative. Short-term benefits to water quality would be the same or similar to the No Action Alternative. Long-term benefits from water quality would come from the increases in lands classified as Mitigation and MRM-WM would drive these impacts. Lands classified as Mitigation and MRM-WM are generally more protective of water quality due to decreased development, lack of impermeable surfaces, and increased emphasis on healthy vegetation communities. New plantings on mitigation lands would increase thermal cover in areas with little shade from vegetation which would slightly reduce water temperatures and increase dissolved oxygen which are two water quality impairments mentioned above. Designated No Wake Zones would help reduce stream bank erosion and reduce turbidity caused by motor boats. The Balanced Use Alternative would not cause release of pollutants, result in substantial permanent impairment of beneficial recreational use, prevent the implementation of state water quality management plans, or create nuisance conditions. The No Action Alternative would have no significant impact to water quality for these reasons.

3.2.6 Aquatic Resources

Surface water in the Snake River Basin supports a wide variety of resident and anadromous fish and other aquatic organisms and wildlife. The Snake River is home to 35 native fish species including both resident and anadromous species in the Project area. Lake West has a combination of fish species common to both reservoir environments and rivers. Native, anadromous species include Chinook salmon, sockeye salmon (*Oncorhynchus nerka*), and steehead, while native resident species include bull trout (*Salvelinus confluentus*), northern pikeminnow (*Ptychocheilus oregonensis*), chiselmouth (*Acrocheilus alutaceus*), and white sturgeon (*Acipenser transmontanus*). In addition, a variety of introduced fish species are present including largemouth bass (*Micropterus salmoides*), smallmouth bass, white crappie (*Pomoxis annularis*), black crappie (*Pomoxis nigromaculatus*), common carp (*Cyprinus carpio*), walleye, channel catfish (*Ictalurus punctatus)*, and lake trout (*Salvelinus namaycush*).

Aquatic habitat elements, such as refugia, substrate, pool frequency, and pool quality, are impaired in the Project area. Little to no off channel habitats exist in this reach of the lower Snake River and sources of refugia materials such as large woody debris are

limited in Lake West. Substrate is impacted by the deposition of sand and silt in some areas of the Snake River.

Environmental Consequences

Alternative 1 – No Action. Short-term and long-term impacts from the No Action Alternative to aquatic species would be the same or similar to the impacts discussed for the No Action Alternative in Section 3.2.5 (Water Quality). Any future development of recreation lands would have minor indirect impacts to aquatic species in the long-term from construction activities and any increase in impermeable and paved surfaces. Existing vegetation, including riparian and wetland vegetation, may be removed during construction which would cause the potential for soil erosion and subsequent stormwater runoff into the Snake River.

Erosion and storm runoff would create short-term turbidity plumes. Any future project-related turbidity increases would be localized to the construction site, and approximately 300 feet downstream, and limited to the in-water work window. Fish native to the Snake River are adapted for short-term turbidity pulses and salmonids have been observed to move laterally and downstream to avoid turbid plumes (Lloyd et al. 1987; McLeay et al. 1984; McLeay et al. 1987; Scannell 1988; Servizi and Martens 1991; Sigler et al. 1984).

Impermeable surfaces would increase runoff of oils, sediment, and other contaminants which would pose short- and long-term impacts to aquatic species if not mitigated using best management practices to reduce run-off into the river. Specific adverse effects to aquatic wildlife are dependent on a number of factors including the dosage, duration, exposure, and particular species being exposed.

Although there would remain the potential for recreational land development, that potential has not been realized. Separate NEPA compliance would be conducted if potential recreational land was proposed to be developed, so although the No Action Alternative leaves the potential for recreational land development open, the No Action Alternative itself would not have a significant impact on aquatic resources.

Alternative 2 – Balanced Use Alternative. Short-term benefits to aquatic resources would be the same or similar to the No Action Alternative. There would be minor beneficial indirect long-term impacts to aquatic resources from implementation of the Balanced Use Alternative. Large increases in lands classified as Mitigation and MRM-WM would drive these positive impacts.

Lands classified as Mitigation and MRM-WM are generally more protective of the river itself due to decreased development, lack of impermeable surfaces, and increased emphasis on healthy vegetation communities. New plantings on mitigation lands would increase thermal cover in areas with little shade from vegetation which would slightly reduce water temperatures and increase dissolved oxygen which are two water quality impairments mentioned above. Because motor boat-caused stream bank erosion and the resulting turbidity is detrimental to fish, the Designated No Wake Zones would be a benefit to aquatic resources along the shoreline. The Balanced Use Alternative would not cause substantial loss of aquatic species populations or habitat or inhibit the movement or migration of fish. For these reasons the Balanced Use Alternative would have no significant impact to aquatic resources.

3.2.7 Threatened and Endangered Species

Affected Environment

There are seven species listed under the Endangered Species Act (ESA) in the Project area. These include: Snake River spring/summer and fall chinook (*Oncorhynchus tshawytscha*), Snake River sockeye (*O. nerka*), Snake River steelhead (*O. mykiss*), bull trout (*Salvelinus confluentus*), Spalding's catchfly (*Silene spaldingii*), and yellow-billed cuckoo (*Coccyzus americanus*). The lower Snake River and its tributaries within the Project area contain designated critical habitat for all ESA-listed fish.

Snake River Spring/Summer Chinook Salmon

Snake River spring/summer Chinook salmon were listed as threatened on April 22, 1992, and include all natural-origin populations in the Tucannon, Grande Ronde, Imnaha, Salmon, and mainstem Snake Rivers. Adult and juvenile spring/summer Chinook salmon generally only migrate through the Project area. A number of limiting factors, including degraded freshwater spawning and rearing habitat, the hydropower system, and harvest, affect these populations.

Snake River Fall Chinook Salmon

Snake River fall Chinook salmon were listed as threatened on June 28, 2005 and reaffirmed April 14, 2014 (79 Federal Register 20802). Historically, the lower and middle Snake River populations formed the two major population groups, however, the construction of Hells Canyon Dam extirpated the middle Snake River population. Spawning populations presently occur in the mainstem Snake River below Hells Canyon Dam, Lower Granite Dam, and in the lower reaches of the Clearwater, Grande Ronde, Tucannon, Salmon, and Imnaha Rivers. Fall Chinook salmon migrate through the Project area, fall Chinook smolts likely rear in the lower Snake River within the Project area, and a small population of adults typically spawn in the Snake River immediately below Lower Granite Dam.

Snake River Sockeye Salmon

Snake River sockeye salmon were listed as endangered on November 20, 1991. Sockeye generally only migrate through the Project area, but adults have been known to hold up below Lower Granite Dam in the summer when high water temperature impedes migration.

Snake River Steelhead

Snake River steelhead were listed as threatened on August 18, 1997, and protective regulations were issued under section 4(d) of the Endangered Species Act on July 10, 2000. Their threatened status was reaffirmed on January 5, 2006, and again on April 14, 2014. This distinct population segment includes populations below natural and manmade impassable barriers in streams in the Snake River basin of southeast Washington, northeast Oregon, and Idaho. Steelhead typically migrate through the Project area.

Bull Trout

The United States Fish and Wildlife Services (USFWS) issued a final rule listing the Columbia River Basin population of bull trout as a threatened species on June 10, 1998. Bull trout are currently listed throughout their range in the western United States as a threatened species. Historically, bull trout were found in about 60 percent of the Columbia River Basin. They now occur in less than half of their historic range. Populations remain in portions of Oregon, Washington, Idaho, Montana, and Nevada (USFWS 2014).

Lower Monumental Dam fish passage is necessary for migratory bull trout from core areas in the Walla Walla River and Tucannon River subbasins to interact with migratory bull trout from core areas in the Asotin Creek, Grande Ronde River, or Imnaha River subbasins. The Tucannon River is the most likely origin of many of the bull trout observed at Lower Monumental Dam because of its relatively healthy migratory population and proximity (Barrows et al. 2016).

Spalding's Catchfly

Spalding's Catchfly was listed as threatened on October 10, 2001. This plant is found predominantly in grasslands and sagebrush-steppe. Its current range extends through northeast Oregon, western Idaho, and southeast Washington, encompassing the Project area. To date, no Spalding's catchfly have been documented on Project lands (Trumbo 2018).

Western Yellow-Billed Cuckoo

The western yellow-billed cuckoo was listed as threatened on October 3, 2014. Critical habitat was also proposed for designation at that time, but not in Washington. In the Pacific Northwest, the species was fairly common in willow bottoms along the Willamette and Columbia Rivers in Oregon, and in the Puget Sound lowlands and along the lower Columbia River in Washington, but was rare east of the Cascade Mountains in these states.

The analysis below focuses on the aquatic threatened and endangered species (salmonids and bull trout) present in Lake Bryan. Terrestrial threatened and endangered species (Spalding's catchfly and yellow billed cuckoo) are not known to be present on any of the Corps managed lands covered under the MP.

Environmental Consequences

Alternative 1 – No Action. There would be no short-term or long-term impacts to ESA-listed species under the No Action Alternative. Effects to aquatic threatened and endangered species would be the same or similar to the impacts discussed in Section 3.2.6 (Aquatic Resources). The No Action Alternative would not have a significant impact to threatened and endangered species, because it would not put threatened or endangered populations in jeopardy or adversely impact critical habitat as defined by the ESA.

Alternative 2 – Balanced Use Alternative. Short-term impacts to threatened and endangered species would be the same or similar as the No Action Alternative. Land classification changes that provide additional natural resource protections or mitigation would have minor beneficial long-term impacts to threatened and endangered species.

For example, increases in acreage of Environmentally Sensitive Areas, which are managed to protect ecological features provide additional long-term protection to threatened and endangered species. Additionally, increases to wildlife and mitigation lands would indirectly benefit threatened and endangered species through planting and invasive management in riparian areas. The Balanced Use Alternative would not have a significant impact, because it would not put threatened or endangered populations in jeopardy or adversely impact critical habitat as defined by the ESA.

3.2.8 Geologic Features and Soils

Lake West is physiographically situated near the eastern margin of the Columbia Plateau in the canyon eroded by the Snake River into the Columbia River basalts. The loess covered hills and slopes extending back from the canyon are a part of the great eastern Washington dryland wheat farming region. In the canyon are several extensive bars above the reservoir shoreline. Otherwise, the river occupies most of the narrow canyon bottom, which is closely flanked by steep talus slopes below basalt cliffs.

The seven most abundant soil types surrounding Lake West are Roloff-rock outcrop-rubble land complex, Magallon very rocky very fine sandy complex, rock outcrop, Magallon sandy loam, basalt rockland steep, Starbuck-Alpowa complex, basalt rockland undulating to hilly. The abundant soil types consist of both loess and silt, which are highly erodible by wind or water, and unweathered bedrock which is not highly erodible. Three of the soil types are classified as farmland of statewide importance, see Table 3-3.

Table 3-3. Soil Classifications of the most abundant soil types

Soil Type	Farmland Classification	Parent Material
Roloff-rock outcrop-rubble land complex	Not prime farmland	Loess and glaciofluvial deposits
Magallon very rocky very fine sandy complex	Farmland of statewide importance	Loess and basalt alluvium over glacial outwash
Rock outcrop	Not prime farmland	Unweathered bedrock
Magallon sandy loam	Not prime farmland	Vocanic ash and loess over glacial outwash
Basalt rockland, steep	Not prime farmland	Unweathered bedrock
Starbuck-Alpowa complex	Not prime farmland	Volcanic ash and loess over residuum weathered from basalt
Basalt rockland, undulating to hilly	Not prime farmland	Unweathered bedrock

Environmental Consequences

Alternative 1 – No Action. There would be no short-term impacts to geologic features or soil under the No Action Alternative. Any future development of recreation lands would have moderate direct impacts to soils in the long-term from construction activities. Existing vegetation may be removed during construction which would cause the potential for soil erosion. The No Action Alternative would not result in soil erosion or the loss of topsoil and therefore would not have significant impacts to geologic features and soils.

Alternative 2 – Balanced Use Alternative. The short-term impacts to geologic features and soils would be the same or similar to the No Action Alternative. There would be minor long-term indirect benefits to soils because increased plantings would reduce soil erosion and acreage set aside for preservation of environmentally sensitive resources would protect soils from human activities such as digging, excavating, or compaction from vehicle or foot traffic. Additionally, Designated No Wake Zones would help reduce stream bank soil erosion. The Balanced Use Alternative would not result in soil erosion or the loss of topsoil and therefore would not have significant impacts to geologic features and soils, any impacts would be beneficial.

3.2.9 Socioeconomics and Environmental Justice

The Lower Monumental Project, located in southeastern Washington, occupies portions of Franklin and Walla Walla counties.

Population and Demographics

Franklin County currently has a population of about 95,000 residents. Pasco is the largest city within Franklin County with about 75,000 residents. The town closest to Lower Monumental is Kahlotus, Washington in Franklin County. The population of Kahlotus is 195 residents. Walla Walla County currently has a population of about 61,000 residents. Walla Walla is the largest city within Walla Walla County with about 33,000 residents.

Franklin County has the youngest and most diverse population. Racial diversity in Franklin County is nearly double both the Washington State and national averages. Franklin and Walla Walla counties are both below the Washington State average for populations with high school degrees. Populations with college degrees is lower in both counties than both the Washington State and national averages. Area employment has largely recovered from the national recession in 2008-2010, and incomes have continued to increase throughout the region; however, Walla Walla County still has a lower population in the labor force and a lower median income than both the Washington State and the national averages (Table 3-4).

Table 3-4. Education and Income for Franklin and Walla Walla Counties compared (U.S. Census Bureau 2019 data)

Demographic	Franklin County	Walla Walla County	Washington State	National
Persons under 18	32.4%	21.0%	22.1%	22.4%
Persons Over 65	9.2%	18.1%	15.4%	16%
Percent Minority	60.9%	27.4%	34%	39.1%
High School Graduates	74.8%	87.8%	91.1%	87.7%
4-Year Degree or Higher	17.3%	28.6%	35.3%	31.5%
Percent In Labor Force	65.9%	57.7%	63.5%	62.9%
Median Household Income	$62,002	$56,533	$70,116	$60,293

Environmental Justice

As outlined in Executive Order 12898, federal agencies must evaluate environmental justice issues related to any project proposed for implementation. This evaluation includes identification of minority and low-income populations, identification of any negative project impacts that would disproportionately affect these minority groups or low-income and proposed mitigation to offset the projected negative impacts. The evaluation of environmental justice issues includes an identification of high minority and low-income populations in the Lower Monumental Project area.

Minority Groups

While less racially diverse than other areas of the country, the two counties are home to people of a broad variety of races. The majority of the population in the two counties is white. The second highest racial identity is Hispanic or Latino (Table 3-5).

Table 3-5. Racial Identification in the Two Counties.

Race	Franklin County	Walla Walla County	Washington State
White	89.9%	91.3%	78.9%
Black or African American	2.9%	2.3%	4.3%
American Indian and Alaskan Native	1.7%	1.4%	1.9%
Asian	2.4%	1.8%	9.3%
Native Hawaiian and Other Pacific Islander	0.4%	0.4%	0.8%
Hispanic or Latino	53.5%	21.5%	12.9%

Note that percentages do not add to 100, as categories are not mutually exclusive (U.S. Census Bureau 2019 data).

Low-income

Both Franklin (15.9%) and Walla Walla (14.4%) counties have higher poverty rates than both the Washington State (12.2%) and national (13.1%) averages. The largest demographics living in poverty in Franklin County are females 6 - 11, followed by males < 5 and then females 35 - 44. The largest demographics living in poverty in Walla Walla County are females 18 - 24, followed by males 18 - 24 and then females 35 - 44 (Census Bureau 2018).

Environmental Consequences

Alternative 1 – No Action. There would be no short-term impacts to socioeconomics and environmental justice under the No Action Alternative. Corps land management would continue as normal and would not require additional employees for maintenance or operational tasks. Visitors would continue to utilize Project facilities without disparity for economic considerations.

The No Action Alternative would not lead to actions that exceed the capacity of the surrounding communities to absorb or result in the unfair treatment of specific income or minority groups. The No Action Alternative would not have significant impacts to socioeconomics or environmental justice for these reasons.

Alternative 2 –Balanced Use Alternative. Short-term impacts to socioeconomics and environmental justice under the Balanced Use Alternative would be the same or similar to the No Action Alternative.

The Balanced Use Alternative would provide the required analysis for regional needs, resource capabilities and suitability, and a comprehensive recreation program. As such, the Balanced Use Alternative would better serve the needs of the public and by providing the types of opportunities the public would expressed they want. The Balanced Use Alternative increases lands available for hunting and fishing in the HMUs and parks.

The Balanced Use Alternative would have minor long-term benefits by increasing public access to the Little Goose Project lands. Increased mitigation lands would lead to more planting and land management contracts or increase the need for new hires by the Corps to perform these tasks internally; and increased high density recreation or multiple resource management would create more areas accessible for free recreational opportunities. The Balanced Use Alternative would not lead to actions that exceed the capacity of the surrounding communities to absorb or result in the unfair treatment of specific income or minority groups. The implementation of the Balanced Use Alternative would not have significant impacts to socioeconomics or environmental justice for these reasons.

3.2.10 Cultural Resources

Affected Environment

Cultural resources are usually identified as the remnants of past human lifeways, such as archaeological sites, artifacts, graves, historic buildings, trails, and other inanimate

objects or areas. However, cultural resources also include areas of ongoing importance and use by Tribes and the public.

There is ample evidence that native people, including the Nez Perce, Palus, and Cayuse lived along the Snake, Palouse, and Tucannon Rivers in the Lower Monumental Project area for thousands of years. Their ongoing presence is indicated through oral history provided by descendants of the Native American inhabitants, allotment and homestead records, ethnographic research, museum collections, and from archaeological site investigations. The archaeological sites found on Project lands and throughout the region represent a full range of lifeways, including plant, animal, and toolstone procurement, food processing and storage, rock imagery, ceremonial aspects, and habitation sites ranging from small camps to large villages. These areas not only represent long ago activities, they are still of living importance today to multiple Tribes, including the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Colville Reservation, the Nez Perce Tribe, and the Wanapum Band.

Important camps and village sites are found along the Snake, Palouse, and Tucannon Rivers, as well as locations used for fishing, hunting, and gathering of food, medicines, toolstones, and other resources (Hunn et al. 2015, Scheuerman and Trafzer 2015, Nez Perce Tribe 2003). The river served as an important travel corridor, and trails led through and across Corps land to the prairies and high country where resources were found at different times of the year. Salmon and other fish were and continue to be an important source of food to all of these Tribes. Tribal members lived along the Snake, Tucannon, and Paulouse rivers into the twentieth century, and in some cases the Corps acquired land from tribal owners at the time of dam construction. In and surrounding Project lands, there are landscape features that have tribal stories associated with them, or in some cases, names that have been carried over into the modern lexicon. The words Palouse, Tucannon, Texas Rapids, Khalotus, etc. originate from languages spoken by the earliest inhabitants of the region.

A number of historic period sites are also present, including those related to agriculture, transportation, industry, and homesteads. Lower Monumental Dam was constructed more than 50 years ago, and is now considered a cultural resource. Several towns and railroad sidings were inundated following construction of the dam, including Ayer and Texas City.

Cultural resource studies in the Lower Monumental area really began in earnest in the mid-twentieth century, largely related to dam building, but there are earlier works that provide information on the resources and inhabitants of the area. Euroamerican explorers, missionaries, and ethnographers reported on their interactions with the Cayuse, Nez Perce, and Palus people living in the Lower Monumental area throughout the 1800s, and into the 1900s. The Smithsonian Institute's River Basin Surveys program in the 1940s kicked off cultural resources management at the Lower Monumental Project with an archaeological survey. The surveyors noted that extensive looting had already taken place at many sites. They recorded 10 archaeological sites and one paleontological site, and recommended further work at four sites (Osborne 1948). The archaeologists during that survey relied on local informants who helped to identify the most well-known archaeological sites. Several excavations were then funded by the National Park Service at Lower Monumental during the 1950s and 1960s.

The work was conducted by archaeologists from Washington State University (WSU), at Three Springs Bar, the Trestle Site, Squirt Cave, Palus Village, and Marmes Rockshelter. Excavations at Lower Monumental continued into the 1970s to 1990s, including when archaeological sites were found to be in the path of fish hatchery and recreation site development, or were being disturbed by looting or reservoir related erosion. While considerable effort is represented in the early investigations at Lower Monumental, there are undoubtedly many undocumented sites located under the waters of the reservoir, since most of effort prior to inundation was concentrated at less than a dozen better known sites.

While earlier surveys were mainly concerned with locating the most spectacular archaeological sites, later work has emphasized comprehensive survey coverage of all Project land. Most of the Project land at Lower Monumental that is located above high water was archaeologically surveyed or resurveyed during four surveys occurring in 1988, 1993, 2000, and 2012 (Draper and Brauner 1989, Hicks 1994, Miller 2001, Schalk et al. 2013). At this time, about 6,700 acres have been surveyed at the Project. Underwater surveys have not been prioritized at this time due to poor underwater visibility, high cost, and the ongoing needs for work on lands and sites that are not inundated. Other surveys, documentation, and excavations have been conducted prior to proposed development, maintenance, or habitat management projects. Archaeological sites are visited on a regular basis to determine if they have been harmed by natural, visitor, or Corps actions.

As part of this ongoing work, the Corps has a responsibility to document and evaluate archaeological sites, historic building, structures, objects, and districts for listingon the National Register of Historic Places (NRHP). Lower Monumental has one site and one district listed on the NRHP. These sites are the Marmes Rockshelter, listed as a National Historic Landmark, and the Palouse Canyon Archaeological District which encompasses numerous archaeological sites. These listed properties represent a continuum of Native American occupation of the area, from the Windust phase to the contact period. There are 189 documented archaeological sites, and 18 isolated finds (single artifacts not within a site) located on Project lands. These include 163 precontact sites, 26 historic sites, and two multicomponent sites that date to the precontact and historic periods.

Traditional Cultural Properties, which includes Historic Properties of Religious and Cultural Significance to Indian Tribes, are areas tied to beliefs, customs, and practices of a living community. TCPs have been identified at Lower Monumental by the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, the Confederated Tribes and Bands of the Yakama Nation, and the Wanapum band. One joint NRHP nomination has been prepared by the Corps, with contributions from the tribes for the Palus Village/Canyon Traditional Cultural Property.

Historic built resources, including buildings, structures, and objects, have been recorded to a limited extent on Project lands. In 1969, the Lower Monumental Dam exterior structure was completed, and the reservoir behind it was filled, meaning that the dam is now over 50 years of age. The Washington State Historic Preservation Office (SHPO) concurred in 2020 the dam is eligible for listing on the NRHP. Other structures, including a Bonneville Power Administration (BPA) substation, the Joso Trestle, an

Inland Power transmission line, and the Snake River Bridge/Lyons Ferry Bridge have also been documented, but these four resources are not owned by the Corps and are maintained by other entities. Two objects, including a monument at Lyons Ferry Park and the Lyons Ferry, are located on Corps land.

In summary, evidence of thousands of years of human prehistory and history are represented at Lower Monumental. The area contains great cultural significance to numerous Tribes.

Environmental Consequences

Alternative 1 – No Action. Under the No Action Alternative, there would be no changes to any process affecting cultural resource management. The existing land classifications provide a blueprint for appropriate uses, and under the No Action Alternative the Corps would continue to operate these areas under its current classification. The No Action Alternative uses outdated land classifications, and does not have a classification for Environmentally Sensitive Areas. Actions implemented under the No Action Alternative would continue to be subject to consultation under Section 106 of the National Historic Preservation Act (NHPA), which provides for the avoidance, minimization, and mitigation of potential impacts. Cultural resources would continue to be affected by natural processes, recreation, Corps land management, and other uses. As the existing land use classifications are only a blueprint to guide future work, the continued use of the current land classification system would have no significant impacts to cultural resources.

Alternative 2 – Balanced Use Alternative. Impacts to cultural and historic properties would be the same or similar to the No Action Alternative because the land use classifications only create a blueprint for future proposals. However, the designation of areas as environmentally sensitive may have a moderate, benefical effect regarding the cumulative effects of future land use activity or limitation of activities. The establishment of 792 acres of land classified as Environmentally Sensitive Areas (classified for cultural or natural resource benefit) could provide beneficial long-term moderate, cumulative impacts to historic and cultural properties by limiting the types of authorized uses in these areas. The Corps would continue to review individual undertakings, and consult with the Washington SHPO and affiliated Tribes in accordance with Section 106 of the NHPA, which provides for the avoidance, minimization, and mitigation of potential impacts. Cultural resources would continue to be affected by natural processes, recreation, Corps land management, and other uses. As the proposed land use classifications are only a blueprint to guide future work, the Balanced Use Alternative would have no significant impacts to cultural resources.

3.3 Climate Change Analysis

Earth’s climate is now changing faster than at any point in the history of modern civilization. Climate shapes where and how people live and the environment. Natural ecosystems, agricultural systems, water resources, and the benefits they provide to society are adapted to past climate conditions and their natural range of variability. The assumption that current and future climate conditions will resemble the recent past is no longer valid (U.S. Global Change Research Program [USGCRP] 2017).

Existing Conditions

The Snake River Basin experiences seasonal variations in temperature and geographic variations in precipitation. The Lower Monumental Project area lies in the path of prevailing westerly winds and is largely influenced by air from the Pacific Ocean. Winters are generally damp and foggy with an average daily high of 32 degrees Fahrenheit (°F) in January. Occasionally, polar outbreaks of cold air pass over the Rocky Mountains, resulting in short periods of extremely low temperatures. Summers are hot and dry. The hot season lasts for two and a half months, with an average daily high of around 84°F in July. Average and extreme temperatures for January and July around Lake west are provided in Table 3-6 The average frost-free period extends from late May through September, and the average growing season is about 130 days.

Table 3-6. January and July Temperature in the Snake River Basin

Month	Average Maximum	Average Minimum	Average Monthly	Extreme
January	38	20	27	-15
July	87	49	87	112

Future outlook

Annual trends of warming temperatures, earlier spring snow melt, and reduced snowpack are already affecting water resources in the western United States, and these trends are expected to continue (USGCRP 2017). Temperatures in the region have warmed about 1.5 degrees Fahrenheit since the 1970s and are expected to warm another 1 to 4 degrees Fahrenheit by the 2030s (River Management Joint Operating Committee [RMJOC] 2018). Numerous studies have projected that as warming continues, snowpack in the Snake River Basin region is likely to decline as more winter precipitation falls as rain instead of snow, fall and winter streamflows will tend to increase, peak seasonal snowmelt season will tend to occur earlier in the spring with higher flow peaks, and summer flows will likely decrease. The period of low summer flows that historically extend from mid-July to October may shift earlier over time (RMJOC 2018).

Reduced precipitation during the summer months would impact vegetation type and quantity, resulting in changes to wildlife habitat, including food sources, cover vegetation, and possibly reproduction areas. Along with rising air temperatures, there would be a corresponding rise in stream temperature. Higher temperatures would increase evaporation rates from the Lake West, reducing the flow through the reservoir, and increasing water temperature, impacting aquatic flora and fauna. This would likely reduce the quality and suitability of fish and wildlife habitat in the Lower Monumental Project area.

Climate change is expected to have important consequences for water quality conditions across the Snake River Basin. In addition to causing increased temperatures and altered flow regimes, climate change also has the potential to alter stream networks and erosion regimes (Lettenmaier et al. 2008 and USFS 2010).

Environmental Consequences

Alternative 1 – No Action. There would be no impacts to climate change as a result of implementing the No Action Alternative, unless recreational land is developed. The No Action Alternative would have negligible, de minimus impacts to climate change from the emissions of construction equipment's combustible engines if recreational land is developed in the Project area.

However, climate change would have moderate impacts to the Corps managed lands and land uses by changing weather patterns and flow regimes. Changing weather could shift flow regimes to earlier in the year if more precipitation falls as rain instead of snow. Hotter summers could dry out vegetation, reducing wildlife habitat value, and shifting recreational use to cooler seasons. Increasing air temperatures may increase the temperature of the water in the summer and lower the amount of dissolved oxygen which would further degrade water quality and negatively impact aquatic life habitat. There would be no impacts to geologic features and soils, socioeconomics, environmental justice, or historic and cultural resources.

There are no federal, state, or local thresholds of significance for climate change impacts and therefore no definitive determination of significance is given in this EA for the No Action Alternative. Any future construction activities that could emit greenhouse gasses or in other ways affect climate change would be assessed separately at that time.

Alternative 2 – Balanced Use Alternative. Impacts to climate change from implementing the Balanced Use Alternative would be negligible or de minimus. The Balanced Use Alternative reduces the potential to develop land for recreational uses, which reduce the carbon emissions from the emissions of construction equipment's combustible engines in the project area. Short-term impacts from climate change would be the same or similar as the No Action Alternative. Impacts from climate change would be slightly alleviated by increasing mitigation lands and practices by increasing the amount of overwater vegetation shade.

There are no federal, state, or local thresholds of significance for climate change impacts and therefore no definitive determination of significance is given in this EA for the Revised MP. Any future construction activities that could emit greenhouse gasses or in other ways affect climate change would be assessed separately at that time.

3.4 Cumulative Effects

The National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing the Act require Federal agencies to consider the cumulative effects of their actions. Cumulative effects are defined as effects "on the environment which result from incremental impact of an action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time" (40 CFR § 1508.7).

The primary goal of a cumulative effects analysis is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative effects of other past, present, and reasonably foreseeable future actions.

The Corps used the technical analysis conducted in this EA to identify and focus on cumulative effects that are “truly meaningful” in terms of local and regional importance. While the EA addresses the effects of alternatives on the range of resources representative of the human and natural environment, not all of those resources need to be included in the cumulative effects analysis – just those that are relevant to the decision to be made on the proposed action. The Corps has identified the following resources that are notable for their importance to the area and potential for cumulative effects. Those resources are:

- Recreation
- Water quality and Aquatic Resources
- Threatened and Endangered Species
- Vegetation and Wildlife

Resources are discussed in terms of their cumulative effect boundary (spatial and temporal), the historic condition and impacts to the resources, present condition and impacts to the resources, reasonably foreseeable future actions that may affect the resources, and the effects to the resource by the MP alternatives when added to other past, present, and future actions.

This section evaluates the cumulative effects of actions that could potentially affect the same environmental resources as those discussed earlier in this EA. The scope of this analysis extends beyond the Project to other areas that sustain the resources of concern. A resource may be differentially impacted in both time and space. The implication of those impacts depends on the characteristics of the resource, the magnitude, and scale of the action’s impacts, and the environmental setting (EPA 1999).

3.4.1 Geographic and Temporal Scope of Cumulative Effects Analysis

Guidance for setting appropriate boundaries for a cumulative effect analysis is available from CEQ (CEQ 1997) and EPA (EPA 1999). Generally, the scope of cumulative effects analysis should be broader than the scope of analysis used in assessing direct or indirect effects. “Geographic boundaries and time periods used in cumulative impact analysis should be based on all resources of concern and all of the actions that may contribute, along with the project effects, to cumulative impacts” (EPA 1999). The analysis should delineate appropriate geographic areas including natural ecological boundaries, whenever possible, and should evaluate the time period of the project’s effects.

The resources assessed have experienced various impacts since approximately 1960, when dam construction was contemplated. Actions such as construction and operations of dams and associated levee systems, agricultural development, road building, development of cities and urbanization have negatively and positively impacted resources.

Discussed below are the past, present, and reasonably foreseeable future actions that were considered for the cumulative effects analysis, the effects of the actions on the resources assessed, and a summary of the cumulative effects of the alternatives. Table 3-7 summarizes the geographic and temporal boundaries used in this cumulative effects analysis.

Table 3-7. Geographic and Temporal Boundaries of Cumulative Effects Area

Resource	Geographic Boundary	Temporal Boundary
Recreation	Approximately Snake River Mile 41 to Snake River mile 69	56 years
Water Quality and Aquatic Resources		
Threatened and Endangered Species		
Vegetation and Wildlife		

The geographic boundary for the cumulative effects analysis includes actions taking place along the Snake River at Lake West. The timeframe of 56 years was identified based on the completion of the Project in 1969, 51 years ago, and an additional five years into the future; only actions that are reasonably foreseeable are included. To be reasonably foreseeable, there must be a strong indication that an action/event will occur or be conducted. Strong indication means the action is planned, or budgeted, or has NEPA coverage completed.

3.4.2 Past, Present, and Reasonably Foreseeable Future Actions and Implications for Resources

The following sections present summaries of past, present, and reasonably foreseeable future actions considered in this cumulative effects analysis, and the effects of those actions on the resources considered.

3.4.3 Past Actions

As development increased in the middle Columbia River Basin, the amount of human-caused impact on the rivers and associated resources increased. Development in the region included building numerous dams throughout the watershed and the subsequent formation of their reservoirs, including the construction of Lower Monumental Lock and Dam. Additional past actions included construction of highways, roads and railroads, urban development, industrial growth, and agriculture.

Most past actions were related to the Corps construction of Lower Monumental Lock and Dam and associated facilities in the 1960s. The construction of the dam resulted in Lake West being formed with slack water extending up the Snake River. A variety of recreational sites were created at that time.

Project lands designated and some additional lands were acquired by the Corps as part of the LSRFWCP to mitigate for impacts associated with loss of fish and wildlife habitat from the construction of the four lower Snake River dams, including Lower Monumental Lock and Dam. A total of 20 HMUs were developed in the Project area. Habitat developments, including vegetation plantings have been conducted up to the present time to develop and improve wildlife habitat on Corps lands.

Other past actions along the lower Snake River that could have a cumulative impact include the construction of marinas, construction of highways, roads, and railroads, installation of underground irrigation lines, installation of overhead powerlines and associated infrastructure, urban development, industrial growth, and agriculture.

3.4.3.1 Effects of Past Actions on Resources

Recreation

Recreational opportunities dramatically increased with the creation of Lake West. Recreational facilities offering day-use opportunities, picnicking, hiking, boating, camping, hunting, wildlife viewing and many other activities were developed. Over time, some facilities required increased maintenance to remain operational.

Water Quality and Aquatic Resources

Water quality in the lower Snake River has been significantly altered by the construction of Lower Monumental Lock and Dam, construction of highways, roads and railroads, urban development, industrial growth, agriculture, timber harvest, and mining activities. These developments would have led to an increase in impervious surfaces and loss of riparian habitat which would lead to increased surface water runoff and erosion of the stream bank into the river.

Activities such as mining, logging, and agriculture have introduced large volumes of sediment from early earth moving practices and lack of care in assuring natural character of basin waterways. Runoff of irrigation water, polluted with pesticides and fertilizers has contributed excessive nutrients, elevated levels of chemicals, and substantial amounts of sediment to natural waterways. Construction of highways and roads has contributed to increased surface water runoff polluted with petroleum products.

Aquatic resources have been impacted by the large volumes of sediment from early earth moving practices during dam construction and the general development discussed above. Large areas of riparian habitat and wetlands have been flooded by the formation of Lake West resulting in a loss of wildlife habitat. Surface water runoff was sourced from irrigation water polluted with pesticides and fertilizers, mining activities polluted with extensive chemicals, and roadways polluted with petroleum products.

Threatened and Endangered Species

The Snake River habitat is thought to produce predevelopment runs of 1.40 million chinook, 225,700 steelhead, and 57,400 sockeye within approximately 7,700 miles of stream habitat. That habitat was about 65% of the total habitat available to Chinook

salmon in the Columbia River Basin and 79% of the total stream miles, or kilometers, available upstream of the present Bonneville Dam (PFMC 1979 and Chapman and Chandler 2001).

These conditions have substantially changed or no longer exist in the lower Snake River. Native salmonid species in the Snake River decreased from historical population levels as a consequence of hydropower development, habitat degradation and loss, and a variety of ocean conditions including currents, pollution, temperatures changes, and nutrient base.

The construction of Lower Monumental Lock and Dam eliminated some of the primary production areas for anadromous fish species by inundating large amounts of spawning and rearing habitat in the mainstem river and tributaries. The formation of the reservoir and loss of spawning and rearing habitat has contributed to the reduced distribution and abundance of salmon in the system.

Vegetation and Wildlife

Loss of riparian vegetation and wildlife habitat associated with the construction of Lower Monumental Lock and Dam and the subsequent filling of Lake West was the main wildlife impact in the Project area in the past. Additional tree removal and shoreline work related to construction and maintenance of recreational facilities also impacted riparian wildlife habitat. Habitat studies were conducted to determine the extent of impacts to wildlife habitat. The LSRFWCP was developed to mitigate for those impacts.

3.4.4 Present Actions

There are approximately 8,061 acres of Project lands surrounding Lake West used for public recreation purposes, wildlife habitat, and water-connected industrial development. These lands include fee lands that are federally owned and managed by the Corps in addition to 1,668 acres of easement lands to which the Corps has specific rights or easements (such as flowage or access). Other present actions can be found in Section 3.2.2 (Recreation).

Present actions include regular operation and maintenance activities at Corps recreational facilities. Specific Corps present actions include ongoing vegetation plantings at Project HMUs and other locations as actions associated with the LSRFWCP are completed. The regular treatment of invasive plants as locations are identified is occurring under the provisions of the Corps' Programmatic Pest Management Plan (Corps 2013b). Other present actions include lock and dam operations, use of roads and railroads, agricultural practices on surrounding lands.

3.4.4.1 Effects of Present Actions on Resources

Recreation

Recreation lands surrounding Lower Monumental Lock and Dam are managed in accordance to the 1966 Master Plan. Impacts caused by recreational use and activities are discussed in Section 3.2.2 (Recreation).

Water Quality and Aquatic Resources

A variety of contaminants enter the river from point and non-point sources such as industrial discharges and runoff from urban, agricultural. Runoff of irrigation water polluted with pesticides and fertilizers can contribute excessive nutrients, elevated levels of chemicals and substantial amounts of sediment to natural waterways further degrading the water quality of the system.

Rural land uses for residential, commercial, industrial, and recreational activities like boating can contribute pollutants and sediments to surface waters as well. Watercraft using the docks could adversely affect water quality along the shoreline. Many watercraft leak small amounts of fuel and oil. Engines and hydraulic components also leak petroleum products into the bilge water, which is ultimately pumped into the reservoir. Allowing watercraft to be moored increases the occurrence of petroleum products contaminating water along the shoreline.

Impacts from potential contaminant spills could be significant depending on the nature and quantity of the contaminants involved. Smaller, more frequent spills may add to the degradation of the aquatic environment. These spills may occur at any time throughout the action area with different parties responsible for the contamination. Turbidity in the water as a result of propeller wash, and wave action against the shoreline caused by boats could also negatively affect water quality.

Discharge from a chlorine-bleaching pulp mill on the Clearwater River likely affects water quality in the lower Snake River. Other present water quality issues are discussed in Section 3.2.5 (Water Quality and Aquatic Resources).

The construction of reservoirs associated with hydrosystem projects has facilitated the spread and establishment of many aquatic nonnative species, as well as the expansion of native species suited to these lotic environments (Harvey and Karieva 2005, Havel et al. 2005). These aquatic invasive species can impact the health of the water systems and the native aquatic species that live there. This is certainly the case with smallmouth and largemouth bass (*Micropterus salmoides*), which are aggressive predators consuming virtually any prey smaller than the size of their gape.

Populations of exotic, temperate mesotherms (intermediate between warm-blooded and cold-blooded) and eurytherms (species that can tolerate a wide range of temperatures) seem to thrive in reservoirs once established and can have a detrimental impact on native fish populations. For example, non-indigenous predatory fish such as bass and walleye could have a large impact on native salmonid populations through increased predation on out-migrating juveniles (Draheim et al. 2007). In fact, the presence of

nonindigenous fishes poses one of the greatest threats to the persistence of healthy native fish populations (Lassuy 1995, Richter et al. 1997, Rahel 2002).

Nonnative aquatic plant species alter habitat and ecosystem functions. This shift may be detrimental to native fish species dependent on detrital food webs that peak in winter/spring (Blossey et al. 2001). Eurasian water milfoil forms dense mats of vegetation that can depress dissolved oxygen concentrations at the sediment water interface as they decompose, having significant effects on various aspects of aquatic ecosystem structure and function (Cronin et al. 2006, Unmuth et al. 2000).

Another threat to aquatic resources is the variety of contaminants that enter the lower Snake River from point and non-point sources. Aquatic resources that use reservoirs such as Lake West for foraging, breeding, and rearing become exposed to the contaminants entering the river. Even when released in small concentrations, contaminants can accumulate in benthic organisms and biomagnify to top level predators. The role of bed sediment in contaminant transfer to biota in the river is unknown (USFWS 2004).

The current dam system causes sedimentary materials to be deposited in lower velocity areas creating problems with aquatic habitat and system management including changes in aquatic biota. Changes to reservoirs due to dredging should not introduce nonindigenous species or contaminates unless dredge materials are dumped into different reservoirs than they were removed. However, dredged spoils could affect the survival or wellbeing of native organisms or species assemblages by altering water quality or habitat attributes (USACE and EPA 2002).

Threatened and Endangered Species

Endangered salmonid species within the geographic boundary are affected by an array of environmental conditions and changes such as increasing water temperatures, changes to water quality parameters, changes to water velocity through reservoirs, habitat degradation, changing turbidity, shifting seasonal patterns, changing volumes of river flow, passage effects at dams, changes in predators and predation rates, agriculture, and overfishing.

Snake River Chinook and steelhead currently pass through eight dams (Bonneville to Lower Granite). Adult fish migrate back to their spawning grounds using fish ladders and juvenile fish pass the dams by many routes including: juvenile bypass systems, spillways and turbines, or by transport in barges or trucks. Major improvements made to lower Snake River dams (Lower Monumental included) enable juvenile and adult fish to more easily pass. Also about a third of the juvenile Chinook and steelhead that migrate through the lower Snake and Columbia Rivers are transported downriver by barge with close to 100% survival (Federal Caucus 2018).

For the period from 2005 to 2010 mean juvenile fish travel time from Lower Granite to McNary Dam was 11.2 days, compared to 21.3 days for the same reach during the preceding era from 1998 to 2004. System monitoring indicates that the faster migration reflects the combined effects of flow augmentation, spill, and recently installed surface bypass systems.

The construction and operation of the lower Snake River dams have altered historic habitats and created new, hybrid habitats. These altered habitats support a wide range

of predator species including native and non-native predatory fish species, such as northern pikeminnow and small mouth bass, and predator birds such as terns, cormorants, gulls, mergansers, and pelicans.

It is estimated that fish-eating birds consume 35 percent of the juvenile upper Columbia River spring Chinook salmon as they migrate downriver to the Pacific Ocean each spring. Northern pikeminnow also prey on millions of juvenile salmon and steelhead in the reservoirs behind Columbia and Snake River dams every year. Other current causes of salmon mortality in the Columbia River are natural (66%), nonfishing (13%), commercial fishing (13%), tribal (6%), and angling (1%) (OSU 2002).

Another important change is an increasing proportion of hatchery-reared fish in the salmon population. The majority of spring Chinook salmon, summer Chinook salmon, and steelhead counts in recent years showed that most of these fish originated from hatcheries. Only about one-fourth or less of spring/summer Chinook salmon and steelhead that returned to the lower Snake River in the past two decades have been of wild origin; thus, about 75 percent of the spring/summer adult Chinook salmon that return to the Snake River are produced in hatcheries. The proportion of wild fish in the salmon population is an issue important to long-term survival of the species because they preserve a diverse and rich store of genetic variation (NRC 1996).

The four highest salmonid returns have all been in the past 15 years and adult spring Chinook returns to Bonneville Dam were the fourth highest on record in 2015 (counts go back to 1938, averaging less than 100,000 per year). Juvenile dam survival estimates of 86 to 99% have been demonstrated at all lower Snake River dams. The latest test results are showing that surface passage, combined with refined spill operations, has reduced the percentage of fish that go through powerhouses, turbines and bypass facilities, decreased fish travel time through the system and increased overall dam survival. Spilling water over hydroelectric dams, rather than running it through turbines, is generally seen as the safest method to get the young salmon and steelhead past the dams on their way to the ocean.

The Corps continues to make modifications to juvenile bypass systems to improve survival. Screened juvenile bypass systems are now in place at seven of the eight Lower Columbia and Snake River dams. These bypass systems guide fish away from turbines by means of submerged screens installed in the turbine intakes. The proportion of juvenile fish passing through non-turbine routes is now typically above 87% for spring migrants and 70% for summer migrants at all dams.

Vegetation and Wildlife

Vegetation plantings and treatments of invasive plants would continue to improve wildlife habitat in the Project area. Riparian plantings of willows, black cottonwood, and other species would create habitat for birds, mammals, reptiles, and amphibians creating shoreline conditions similar to what existed before the construction of Lower Monumental Lock and Dam.

3.4.5 Reasonably Foreseeable Future Actions

Human population in the region may reach 40 to 100 million by the end of the twenty-first century. Estimates of population growth for the interior Columbia River Basin range

from 0.3 percent per year (based on birth and death rates in the 1980s) to 1.6 percent per year (including immigration) by 2040 (McCool and Haynes 1996). The pressures for water uses and related services (e.g., hydroelectricity) would grow as the region's population grows likely requiring additional diversions of water from the lower Snake River and tributaries.

Future actions in the Project area include continuing operation and maintenance of Corps facilities and the following proposed actions:

- Maintenance projects including: Juvenile Fish Facility coffer dam repair, lock concrete repair, installing juvenile fish bypass pipe thermal expansion joints, and replacing upstream floating guide wall cables.
- Dredging of recreational boat marinas.
- Continued planting of native vegetation at HMUs and other Project locations for wildlife habitat and recreational values.

3.4.5.1 Effects of Reasonably Foreseeable Future Actions on Resources

Recreation

Future population growth would occur increasing use of recreation facilities. Increased visitation at the Project would require management to prevent user conflicts where there are physical limitations based on total recreation lands available. Improved wildlife habitat could increase hunting opportunities and an increase in riparian vegetation could increase desirable fishing locations.

Water Quality and Aquatic Resources

Dredging recreational boat marinas would have minor short-term negative effects on water quality due to increased turbidity levels during dredging. Water quality impacts would occur for a short distance, approximately 300 feet, downstream while the dredge is operating.

Average background turbidity in the Snake River averages less than 10 nephalometric turbidity units (NTUs). Data from the compliance boundary floats for the lower Snake River Programmatic Sediment Management Plan Final Environmental Impact Statement (Corp 2014) showed that turbidity levels did not exceed the 5 NTUs criteria 99.4 percent of the time. Results from the lateral station showed higher turbidity levels; however, the 4-hour criterion was still achieved 97.7 percent of the time when the surface and deeper data were pooled. Additionally, changes to reservoirs due to dredging should not introduce nonindigenous species or contaminants unless dredged material is dumped into different reservoirs than they were removed. Dredging recreational boat marinas or for replacing the guide wall cables would have no long-term adverse impact to aquatic resources.

Threatened and Endangered Species

Regional population increase could continue to have profound effects on salmonid populations. Nearly all the Columbia River Basin's economic activities have affected

Columbia and Snake River salmonids and salmonid habitat. The fact that so many human actions have affected salmonid habitat in so many different ways confounds scientific investigations of the relative impacts of a given activity (ies). As a previous National Research Council committee that reviewed Columbia River salmon management stated, “As long as human populations and economic activities continue to increase, so will the challenge of successfully solving the salmon problem” (NRC 1996).

Installation of the thermal expansions in the juvenile fish bypass pipe would ensure the proper operation of the system for safe fish passage around the dam. Other impacts to threatened and endangered species would be similar to those described in aquatic resources.

Vegetation and Wildlife

Reasonably foreseeable future actions within the Project area would generally have beneficial impacts on wildlife in the area. Habitat would continue to be managed for multiple wildlife species, particularly in riparian and shoreline locations. Reclassifications to Environmentally Sensitive Areas would provide long-term protection for wildlife.

Impacts from LSRFWCP vegetation plantings would continue providing positive impacts to wildlife as vegetation grows, creating more vertical structure and habitat diversity. Additional vegetation planting would provide similar benefits.

3.4.6 Summary of Cumulative Effects of Past, Present, and Reasonably Foreseeable Future Actions on Resources

Alternative 1: No Action. The No Action Alternative would not designate No Wake Zones that would protect riparian areas and decrease soils erosion and turbidity to protect water quality. The No Action Alternative would not increase mitigation lands that provide additional restoration opportunities through plantings and active management over more acres, i.e., Environmentally Sensitive Areas. Increased restoration provides benefits to plants and wildlife, including threatened or endangered fish species. The No Action Alternative, when combined with past, present, and reasonably foreseeable future actions would have direct minor to moderate adverse cumulative impacts to all resources discussed in Section 3.4 (Cumulative Effects).

Alternative 2: Balanced Use Alternative. The Balanced Use Alternative would reduce the potential for future recreational development and increase environmentally protected areas. The Balanced Use Alternative would improve wildlife habitat, and provide more protection to cultural resources and set aside Environmentally Sensitive Areas. The Balanced Use Alternative would guide the comprehensive management and any development of all Project recreation, natural and cultural resources into the future. It would promote stewardship and sustainability of Project resources. This alternative would have beneficial impacts to present and foreseeable future cumulative impacts and would not have significant detrimental impacts.

3.5 Selection of Recommended Plan

Revising the 1966 MP with the Balanced Use Alternative is the recommended plan. The intent of the Balanced Use Alternative is to develop a guide for the sustainable use of resources at Lower Monumental Project. The EP 1130-2-550, (Corps 2013) provides the following MP guidance: "A current, approved MP is necessary before any new development, construction, consolidation, or land use change can be pursued. These activities will not be included in budget submissions unless they are included in an approved MP." The primary objective of implementing the Balanced Use Alternative is to publish a clear, concise, and strategic land use document that will guide the comprehensive management and development of all Lower Monumental Project recreational, natural, and cultural resources.

The Balanced Use Alternative would provide conceptual guidelines for the effective management of the Project. Guidelines were developed in accordance with the Corps master planning process. Preparation of the Revised MP required: (1) an appraisal of the natural and human-related resource conditions of the Project and the surrounding region, and (2) an examination of environmental and administrative constraints and influences. The Revised MP seeks to balance the use of recreational, natural, and cultural resources of the Project based on resource objectives, public needs, and operational efficiency.

The Revised MP would be a living document establishing the basic direction for management and development of the Lower Monumental Project in agreement with the capabilities of the resource and public needs. The Revised MP would be flexible in supplementation can be achieved through a formal process that addresses unforeseen needs. The Revised MP would be reviewed every five years to facilitate the evaluation and utilization of new information as it becomes available.

Section 4: Compliance with Applicable Environmental Laws and Regulations

Section 4 identifies the legal, policy, and regulatory requirements applicable to the Proposed Action Alternative. The updated MP will not, when adopted, authorize any new site specific actions. Site specific actions may require subsequent NEPA review and would be identified in future 5-year OMPs. The following paragraphs address the principal environmental review and consultation requirements applicable to the proposed updated MP. Pertinent federal treaties, statutes, and Executive Orders (EO) are included.

4.1 TREATIES AND NATIVE AMERICAN TRIBES

Treaties are legally binding contracts between sovereign nations that establish those nations' political and property relations. Treaties between Native American tribes and the United States confirm each nation's rights and privileges. In most of these treaties, the tribes ceded title to vast amounts of land to the United States, but reserved certain lands (reservations) and rights for themselves and their future generations. For example, Article 3 of the Nez Perce Treaty provides for "the right of taking fish at all usual and accustomed places in common with citizens of the territory, and of erecting temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land" (Treaty of June 11, 1855, Treaty with the Nez Perces, 12 Stat. 957 (1859)). Like other treaty obligations of the United States, Indian treaties are considered to be "the supreme law of the land," and they are the foundation upon which federal Indian law and the federal Indian trust relationship is based.

Implementation of Alternative 2, the Balanced Use Alternative, would not affect treaty rights or resources. The MP is a planning document providing conceptual guidance regarding NRM and does not cause any new site specific actions. Individual site-specific undertakings would be subject to review under applicable federal laws.

4.2 FEDERAL LAWS

4.2.1 National Environmental Policy Act

As required by NEPA and subsequent implementing regulations promulgated by the Council on Environmental Quality, this EA was prepared in order to determine whether the proposed action constitutes a "…major Federal action significantly affecting the quality of the human environment…" and whether an Environmental Impact Statement is required.

This EA considers and describes potential environmental effects associated with adoption of an updated MP for management of recreational, natural, and cultural resources at Lower Monumental Project. The Corps will circulate the Draft FONSI and EA to other federal and state agencies, Tribes, and the public for a 30-day review and comment period. While preparing the EA, the Corps did not identify any impacts that

would significantly affect the quality of the human environment. If no such impacts are identified during the public review process, compliance with NEPA would be achieved upon the signing of the FONSI which would be posted to the Corps website and available to the public.

Implementation of Alternative 2, the Balanced Use Alternative would be in compliance with this Act. Subsequent implementing actions would be subject to further tiered review under NEPA.

4.2.2 Endangered Species Act

The Endangered Species Act (ESA) established a national program for the conservation of threatened and endangered fish, wildlife and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires federal agencies to consult with the USFWS and NMFS (the Services), as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. Section 7(c) of the ESA and the federal regulations on endangered species coordination (50 CFR §402.12) require that federal agencies prepare biological assessments (BA) of the potential effects of major actions on listed species and their critical habitat.

The Revised MP includes concepts, not details of design or administration. Detailed management and administration functions would be addressed in an OMP, which implements the concepts of the MP into operational actions. Due to the lack of details, it is not possible to determine what effects there might be to ESA-listed species. Development of the Revised MP would have no effect on ESA-listed species and no ESA consultation is required at this time.

The Corps is considering programmatic consultation for potential effects of boat docks and boat ramp maintenance under a separate effort.

4.2.3 Magnuson-Stevens Fishery Conservation and Management Act (MSA)-Essential Fish Habitat

The consultation requirement of section 305(b) of the MSA directs federal agencies to consult with NMFS on all actions, or proposed actions that may adversely affect Essential Fish Habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810).

Chinook and coho salmon are the only species in the area protected by the MSA. Implementation of the Balanced Use Alternative would have no adverse effect on Chinook, or coho EFH and would be in compliance with this Act.

4.2.4 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) requires consultation with the USFWS and state fish and wildlife agencies to evaluate the impacts to fish and wildlife species where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted…or otherwise controlled or modified" by any agency under a federal permit or license. The FWCA also requires equal consideration and coordination of wildlife conservation with other water resources development programs.

The Lower Snake River Fish and Wildlife Compensation Plan was developed under the FWCA. Many of the environmental improvements on Corps lands stem from that plan.

Implementation of Alternative 2 would not be subject to the Act as it would not "result in the control or modification of a natural stream or body of water. Implementing future plans or actions would require subsequent review to ensure compliance with FWCA.

4.2.5 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, as amended) prohibits the taking of and commerce in migratory birds (live or dead), any parts of migratory birds, their feathers, or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. There is also a memorandum of understanding between the Department of Defense and the U.S. Fish and Wildlife Service, signed July 31, 2006, to promote the conservation of migratory birds.

A wide variety of species listed under the MBTA occur on Corps managed lands within the Lower Monumental Project area. There would be no take of migratory birds and the proposed action would not conflict with the purpose of the MBTA. The adoption of the Revised MP would be in compliance with the MBTA. Depending on the nature or type of proposed future actions, subsequent environmental compliance would be required to ensure compliance with the MBTA.

4.2.6 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions, primarily for Native American Tribes. Take under the BGEPA includes both direct taking of individuals and take due to disturbance. Disturbance is further defined in 50 CFR 22.3.

Bald and golden eagles are known to nest and roost on Corps managed lands in the Lower Monumental Project area. While all nest sites have not been formally documented in the District, locations of some nests are known.

Implementation of the Balanced Use Alternative would be in compliance with the BGEPA and would not result in disturbance or take of bald or golden eagles. Depending on the nature or type of proposed future actions, subsequent environmental compliance would be required to ensure compliance with the BGEPA.

4.2.7 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 as amended directs federal agencies to assume responsibility for all cultural resources under their jurisdiction. Section 106 of NHPA requires agencies to consider the potential effect of their actions on properties that are listed, or are eligible for listing, on the National Register of Historic Places (NRHP). The NHPA implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, requires that the federal agency consult with the State Historic Preservation Officer (SHPO), Tribes and interested parties to ensure that all historic properties are adequately identified, evaluated and considered in planning for proposed undertakings.

The Corps has previously acknowledged that the ongoing operation of Lower Monumental Dam is an adverse effect under NHPA as part of the Federal Columbia River Power System (FCRPS) Programmatic Agreement (BPA et al. 2009). The FCRPS is a series of 14 hydroelectric power projects in the Columbia River Basin located on the mainstem Columbia River and in several of its major tributaries that provide about one-third of the electricity used in the Pacific Northwest. The 2009 FCRPS Programmatic Agreement outlines that some of the effects to cultural resources include "inundation, erosion, exposure, and other factors" (BPA et al. 2009:2). The Programmatic Agreement outlines a series of "standards, requirements, and obligations for compliance with Section 106 with NHPA" that must be met by the Corps, BPA, and Bureau of Reclamation (BPA et al. 2009:4). As part of the program, the Corps has responsibility to address compliance requirements (i.e. review undertakings, seek to minimize adverse effects, and conduct mitigation if they cannot be minimized); collaborate with consulting parties; adhere to professional standards; provide public benefit from resource management; maintain confidentiality; and comply with these principles during the 20-year lifespan of the Programmatic Agreement.

On August 5, 2019, the Corps sent letters initiating consultation and an invitation to public scoping meetings to the Washington Department of Archaeology and Historic Preservation (DAHP), the Confederated Tribes of the Colville Reservation (Colville), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Confederated Tribes and Bands of the Yakama Nation (Yakama), the Wanapum Band, and the Nez Perce Tribe. The Corps received written responses from DAHP, the Colville, and the CTUIR. In their written scoping comments, DAHP and the CTUIR asked for a meeting with Corps personnel for further discussion. Corps staff met with DAHP in Olympia, Washington on December 3, 2019, and with the CTUIR in Mission, Oregon on January 30, 2020.

The Revised MP would not authorize any new site specific actions, and therefore does not have the potential to cause effects to historic properties. The land use classifications provide a blueprint for management actions that may be appropriate in different areas on Corps land. However, implementation of site-specific actions would be identified in future 5-year OMPs. Those actions would require tiered NEPA review and compliance specific to all applicable laws. Since specific actions having the potential to affect cultural resources would be reviewed separately, the Revised MP has no potential to cause effects.

4.2.8 American Indian Religious Freedom Act (AIRFA)

The American Indian Religious Freedom Act (AIRFA) of 1978 (42 USCA 1996) established protection and preservation of Native Americans' rights of freedom of belief, expression, and exercise of traditional religions. Courts have interpreted AIRFA to mean that public officials must consider Native Americans' AIRFA interests before undertaking actions that might harm those interests.

The Corps respects AIRFA and is receptive to tribal comments at any time. Implementation of Alternative 2, the Balanced Use Alternative, is in compliance with AIRFA. The MP is a planning document providing conceptual guidance regarding NRM and does not cause any new site specific actions or changes to tribal access for exercising religious freedoms. Individual site-specific undertakings would be subject to review under applicable federal laws, including AIRFA.

4.2.9 Clean Water Act

The Federal Water Pollution Control Act (33 U.S.C. §1251 et seq., as amended) is more commonly referred to as the Clean Water Act. This act is the primary legislative vehicle for federal water pollution control programs and the basic structure for regulating discharges of pollutants into waters of the United States. The act was established to restore and maintain the chemical, physical, and biological integrity of the Nation's waters and sets goals to eliminate discharges of pollutants into navigable water, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment. The act has been amended numerous times and given a number of titles and codifications.

Section 404 regulates activities within waters of the U.S., which includes the Snake River and its surrounding tributaries. The Corps is responsible for implementing and complying with these regulations. The intent of the Revised MP is to provide additional protection as responsible stewardship and sustainability are priority.

Revision of the MP would not require or trigger compliance with the CWA

Future site specific actions would be reviewed, as appropriate, for compliance with the CWA.

4.2.10 Clean Air Act (CAA)

The CAA of 1970, as amended, established a comprehensive program for improving and maintaining air quality throughout the United States. Its goals are achieved through permitting of stationary sources, restricting the emission of toxic substances from stationary and mobile sources, and establishing National Ambient Air Quality Standards (NAAQS). Title IV of the CAA includes provisions for complying with noise pollution standards.

Adoption of the Revised MP would have no adverse impacts on air quality and be in compliance with the Act. Implementing future plans or actions would require subsequent review to ensure compliance with the CAA.

4.3 Executive Orders

4.3.1 Executive Order 11988, Floodplain Management

This Executive Order outlines the responsibilities of federal agencies in the role of floodplain management. Each agency must evaluate the potential effects of actions on floodplains and avoid undertaking actions that directly or indirectly induce development in the floodplain or adversely affect natural floodplain values.

The proposed action of revising the MP would not change floodplain function or increase floodplain development in the proposed action area.

4.3.2 Executive Order 11990, Protection of Wetlands

This Executive Order (EO) requires federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Wetlands would not be detrimentally impacted by the Balanced Use Alternative. A detailed review of site specific actions would be completed to ensure wetland values and functions would not be affected. Implementing future plans or actions would require subsequent review to ensure compliance with this EO.

4.3.3 Executive Order 12898, Environmental Justice

This EO requires federal agencies to consider and minimize potential impacts to subsistence, low income, or minority communities. The goal is to ensure that no person or group of people shoulder a disproportionate share of negative environmental impacts resulting from the execution of the country's domestic and foreign policy programs.

The Revised MP is a conceptual planning document for strategic land management and development of project recreation, natural and cultural resources. It is intended for responsible stewardship and sustainability of resources. The Revised MP would not direct specific actions that would cause a disproportionate share of negative environmental impacts to a person or group of people.

Adoption of the Revised MP would not conflict with requirements of this EO. Implementing future plans or actions would require subsequent review to ensure compliance with this EO.

4.3.4 Executive Order 13007, Native American Sacred Sites

Executive Order 13007 directs federal agencies to accommodate access to and ceremonial use of tribal sacred sites by tribal religious practitioners. Agencies are to avoid adversely affecting the physical integrity of such sacred sites and to maintain the confidentiality of sacred sites when appropriate. The act encourages government-to-

government consultation with tribes concerning sacred sites. Some sacred sites may qualify as historic properties under the NHPA.

Adoption of the Revised MP would not have potential to affect any Native American sacred sites. The Revised MP is a planning document and does not authorize any new site specific actions. The Corps would continue to consult with Native American Tribes regarding Sacred Site on Lower Monumental Project Lands.

4.3.5 Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, November 6, 2000, and Presidential Memorandum, "Government to Government Relations with Native American Tribal Governments, April 29, 1994

Executive Order 13175 sets forth guidelines for all federal agencies to establish regular and meaningful consultation and collaboration with Indian tribal officials in the development of federal policies that have tribal implications; strengthen the United States government-to-government relationships with Indian tribes; and reduce the imposition of unfunded mandates on Indian tribes.

The Presidential Memorandum of 1994 states in part that, "each…department and agency shall consult, to the greatest extent practicable and permitted by law, with tribal governments prior to taking actions that affect federally recognized tribal governments."

On August 5, 2019, the Corps sent letters initiating consultation, an invitation to public scoping meetings, and offered government-to-government consultation to federally recognized Tribes. The letters were sent to the Confederated Tribes of the Colville Reservation (Colville), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Confederated Tribes and Bands of the Yakama Nation (Yakama), the Nez Perce Tribe, and the Wanapum Band, a non-federally recognized Indian group. The Colville and the CTUIR provided written comments. In their written scoping comments, CTUIR asked for a meeting with Corps personnel to address their comments. That meeting was held on January 30, 2020 at CTUIR Headquarters in Mission, Oregon.

The Revised MP would not authorize any new site specific actions, which could have tribal implications or affect tribal governments. Site-specific actions would be identified in future 5-year OMPs, and those actions may require tiered NEPA review and compliance specific to all applicable laws.

4.4 State and Local Regulations

State, county, and/or local laws and regulations may also be applicable to any potential action, based on aspects of the individual action. The action of revising the MP would not trigger compliance with any state, county, or local laws and regulations. On a case by case basis these requirements would be addressed for site specific actions under OMPs.

Section 5 – Consultation, Coordination and Public Involvement

5.1 Agency Consultation

On August 5, 2019, the Corps sent a letter initiating consultation and an invitation to public meetings to the Washington Department of Archaeology and Historic Preservation (DAHP), the Confederated Tribes of the Colville Reservation (Colville), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Confederated Tribes and Bands of the Yakama Nation (Yakama), the Wanapum Band, and the Nez Perce Tribe. The Colville and the CTUIR provided written comments, and DAHP and the CTUIR requested an in-person meeting with Corps personnel. The meeting with DAHP was held between cultural resources staff at DAHP offices in Olympia, Washington on December 3, 2019. The CTUIR meeting was held between staff representing multiple disciplines on January 30, 2020 at CTUIR Headquarters in Mission, Oregon.

5.2 Public Involvement

5.2.1 Scoping

A public scoping process for the Revised MP was initiated on August 12, 2019 and ended on September 30, 2019. Letters announcing the scoping period were sent to interested public, Tribes, organizations, stakeholders, federal and state congressional offices, and agencies offering the opportunity to comment on the scope of the proposed action (revising the MP).

The scoping period included two public meetings, one in Dayton, Washington on August 20, 2019 and one in Pasco, Washington on August 21, 2019. Scoping meetings are a useful tool to obtain information from the public, Tribes, and state and governmental agencies. For a planning process such as the MP revision, the scoping process was also used as an opportunity to get input about the vision for the MP revision and the issues that the MP should address where possible. The meetings were attended by fewer than ten individuals. The Corps received about ten suggestions and comments related to management issues, cultural resources, and recreation at Lower Monumental. A majority of the comments focused on:

- Cultural and Historic Resources
- Recreational opportunities
- Dam removal
- Boat basin silt issue

A large number of form letters advocating for dam removal were also received, however because dam removal is outside the authority of the MP revision, those letters were noted but not considered in the scope.

The general concepts presented included providing access to Lower Monumental Project and surrounding areas, to enhance the wildlife habitat and recreational

opportunities. Comments compiled from attendees at the public scoping meetings, received via email and physical mail, and other sources were used to revise and update the MP.

5.2.2 Draft Document Review

The Draft MP, Draft FONSI and this EA will be released to the public, Tribes, agencies and interested parties on July 20, 2020 for a 30 day review and comment period. All documents can be viewed on the Corps website at:

https://www.nww.usace.army.mil/Locations/District-Locks-and-Dams/Lower-Monumental-Lock-and-Dam/Lower-Monumental-Master-Plan/

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