US Army Corps
of Engineers
Walla Walla District

Environmental Assessment

Mill Creek Project
Master Plan
Walla Walla, Washington

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SECTION 1 - INTRODUCTION

1.1 Introduction

This environmental assessment (EA) considers and describes potential environmental effects associated with adoption of an updated Master Plan (MP) for management of natural, cultural and recreational resources at Mill Creek Project (MCP). The new MP would be a strategic land use management document that guides the comprehensive management and development of all project recreation, natural and cultural resources throughout the life of the water resource project. The new MP would promote the efficient and cost effective management, development, and use of project lands. It is a vital 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 assessment is prepared to determine whether the action proposed by the U.S. Army Corps of Engineers (Corps) constitutes a ". . . major Federal action significantly affecting the quality of the human environment . . . "and whether an environmental impact statement 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 action of adopting a new MP. Future site-specific development, operations and maintenance actions that may transpire following adoption of the new MP, will undergo separate (tiered) 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 other federal agencies, state and local agencies, Native American tribes, interested stakeholders, and minority, low-income, or disadvantaged populations are encouraged to participate in the NEPA process.

The new 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 MP would be a dynamic operational document projecting what could and should happen over the life of the project and is flexible based upon changing conditions. The MP would deal in concepts, not details, of design or administration. Detailed management and administration functions will be addressed in a 5-year Operational Management Plan (OMP), which implements the concepts of the MP into operational actions. Tiered analysis of the OMP is the primary way that future detailed, site specific actions would be addressed fully under NEPA.

The MP would not address flood risk management procedures and functions, including operations and maintenance of the earthen dam, levees, diversion or division structures, and emergency flood operations.

1.2 Project Location and Background

Located approximately 3.5 miles east of the city of Walla Walla, the Mill Creek Project at river mile (RM) 11.5 is located within the Mill Creek watershed, a sub basin of the Walla Walla River watershed. Mill Creek basin is located in southeastern Washington State. Mill Creek is 37 miles long from headwater to confluence with the Walla Walla River. It flows for 15 miles in a relatively deep and narrow canyon, through mountainous terrain and then over an alluvial fan, through the city of Walla Walla. Stream elevations range from 5,500 feet in the headwaters to about 590 feet at its confluence with the Walla Walla River. Mill Creek drains an area of 165 square miles. The project lies within Walla Walla County.

Mill Creek Project and Bennington Lake are part of a larger flood risk management project for the city of Walla Walla, identified as the Mill Creek Flood Control Project (MCFCP), authorized in 1938 under public law 75-761. Construction of the flood structures was completed in 1942. The federally owned portion of the MCFCP is located between river mile (RM) 10.4 and 11.5 on Mill Creek. The lower six miles of the MCFCP (RM 4.5 to approximately RM 10.4) are owned and managed by the Mill Creek Flood Control Zone District (MCFCZD). The Federal Project (MCP) is composed of the flood risk management features and recreation, fish and wildlife areas and appurtenances as identified below.

The MCP boundary is shown on Figure 1-1. The site includes a total of approximately 700 acres (611.46 acres in fee title within the MCP boundary, and an easement and reservation rights on 87.27 acres). Pertinent project features are shown in Figure 1-2, including Rooks Park, Bennington Lake and associated public use facilities, a diversion dam and levees on Mill Creek channel, an intake canal from the diversion dam to the lake, an off-stream storage dam, and two return canals; Russell Creek and Mill Creek.

The MCP has a 1993 MP, which was approved to replace the original master planning documents; Mill Creek Design Memorandum 1, dated May 1961; Design Memorandum 2, dated February 1962; and Supplement 1 to Design Memorandum 2, dated 1 May 1965. It is necessary to update the 1993 MP to comply with new Corps' policy in Engineering Pamphlet (EP) 1130-2-550 (Corps, 2013), and to respond to regional and project changes that have occurred since 1993, including increasing public use.

The MP update would provide a comprehensive description of the project, a discussion of factors influencing resource management and development, identification and discussion of special issues, a synopsis of public involvement and input to the planning

process, and description of past, present, and proposed development. It would also incorporate current Corps' land use classification standards, include contemporary requirements mandated by federal environmental laws, and better reflect the Corps' Environmental Operating Principles, natural resource management mission and environmental stewardship and ecosystem management principles.

Figure 1-1. Mill Creek Project Boundary

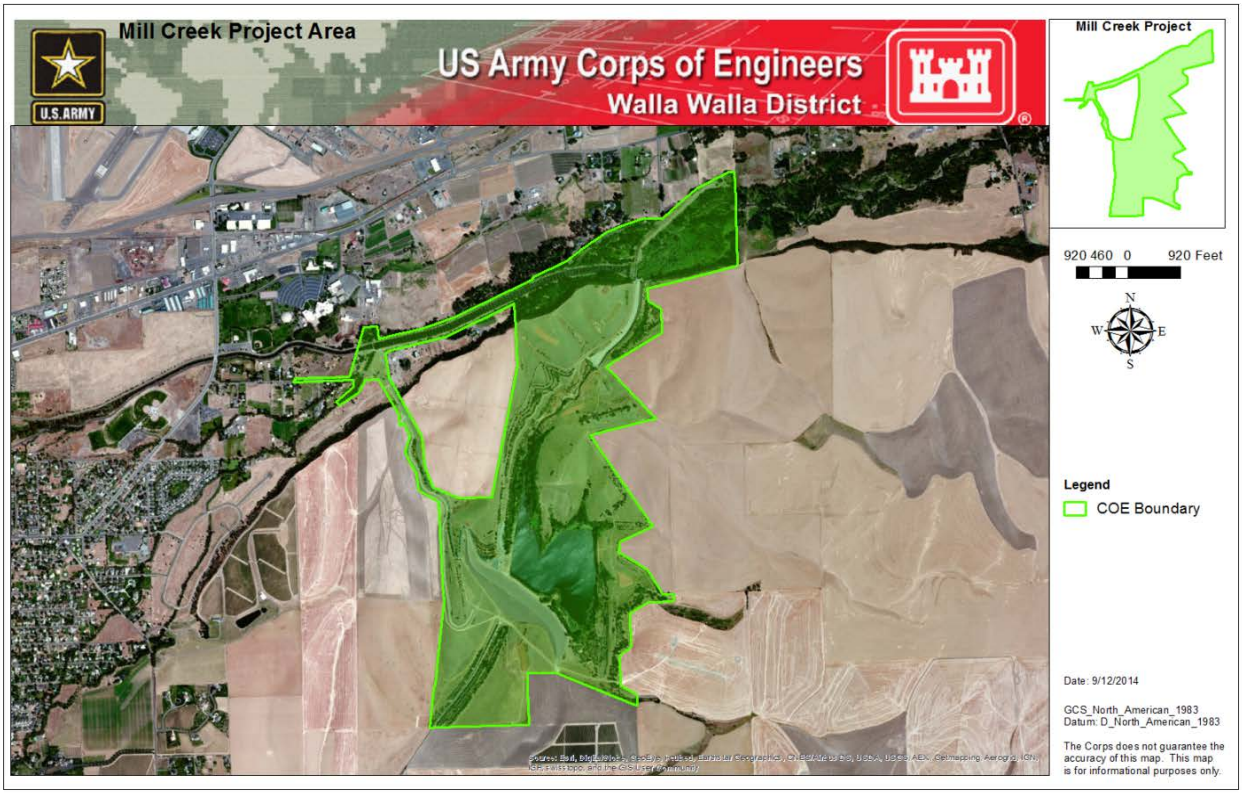
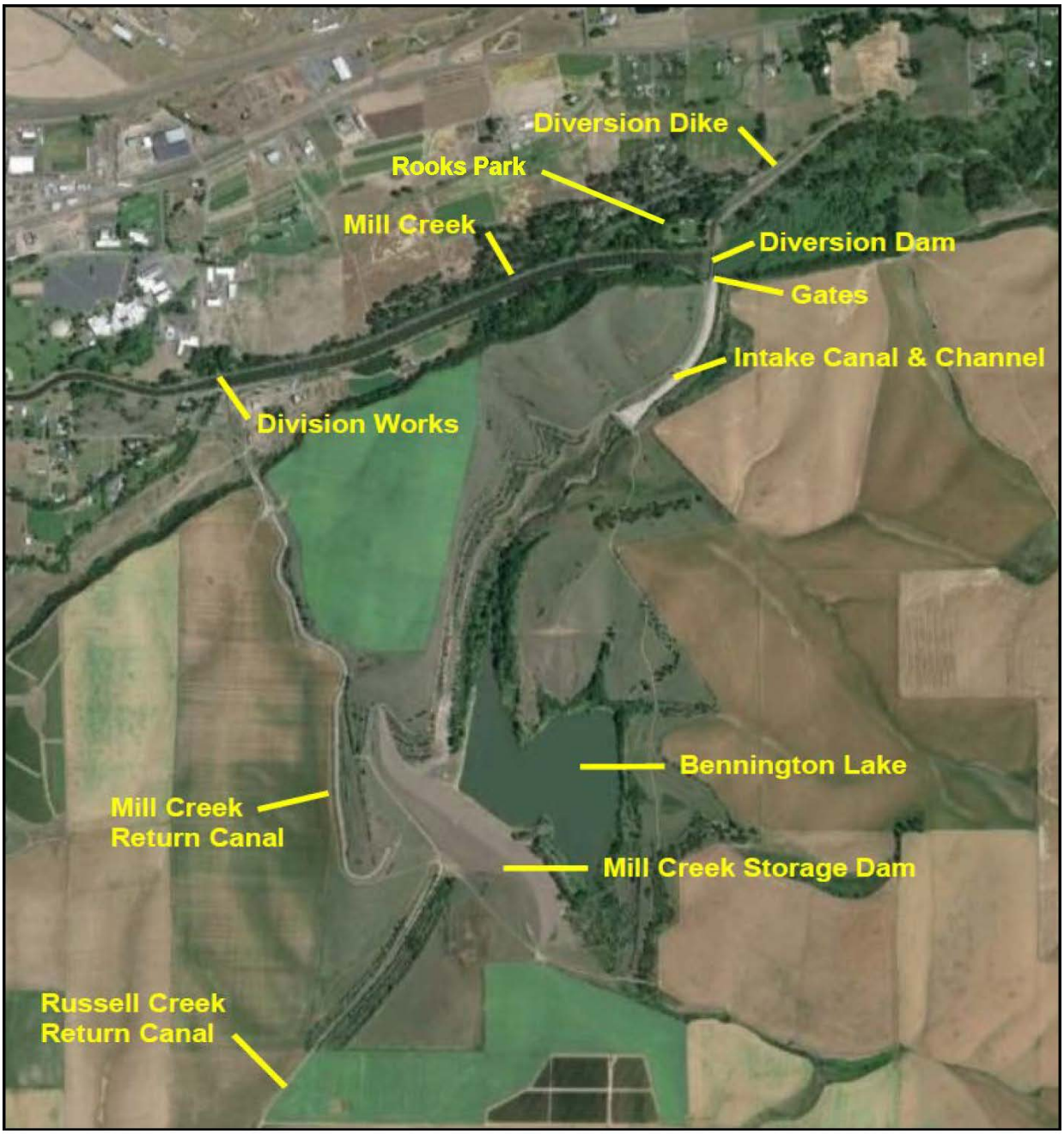


Figure 1-2. Mill Creek Project Features



1.3 Authorities for the Project

The following history of authorizations for this project provides context for how the MCFCP was initially developed and is presently managed. The primary purpose of the Project is to provide flood risk management to Walla Walla, by diverting floodwater off-stream to the Mill Creek Storage Dam (Bennington Lake). The Project manages flood risk to Walla Walla areas bordering Mill Creek, Yellowhawk Creek, and Garrison Creek, downstream of the Mill Creek Diversion Dam.

Following the flood of 1931, which caused extensive damage to Walla Walla, the Flood Control Act of 1938, Public Law (PL) 750-761, authorized an off-stream storage project upstream from Walla Walla. This authorization also included the completion of a flood control channel through Walla Walla. The Flood Control Act of 1938 was amended by the Flood Control Act of 1941, PL 77-228. This amendment added the reconstruction of bridges across Mill Creek in Walla Walla, the extra cost of right-of-way, and more construction measures to ensure the safety of the earthen storage dam. The Flood Control Act of 1944, PL 78-53, authorized the MCP for recreation. This proposed action is being conducted on Corps of Engineers, Walla Walla District, owned and managed land. See figure 1-1 for identification of MCP boundaries.

The off-channel storage reservoir was referred to by the Corps as Mill Creek Reservoir from 1938 to 1972, and as Mill Creek Lake until 1992. On October 31, 1992, President George H.W. Bush signed The Water Resources Development Act of 1992 (PL 105-580) into law. This act renamed the reservoir after the late Virgil B. Bennington who, while President of the Walla Walla Chamber of Commerce, successfully lobbied Congress for flood protection for the city of Walla Walla.

1.4 Purpose and Need

The purpose of this action is to adopt an updated Mill Creek Project MP for the comprehensive management and development of natural, recreational and cultural resources at the Project. The MP will promote the efficient and cost effective management, development, and use of project lands and be a vital tool for responsible stewardship and sustainability of project resources for the benefit of present and future generations. Updating the MP is needed because the existing MP is more than 20 years old and provides an inadequate base with which to evaluate contemporary (current and future) land and resources management (e.g. increasing demand for recreational opportunities).

The updated MP would comply with new policy found in Corps' EP 1130-2-550, which requires the Project to focus on particular qualities, characteristics, and potentials of the Project and provides consistency and compatibility with national objectives and other

state and regional goals and programs. The approval and adoption of the MP would assure the requirements of Corps' policies are met and comments from the public, local, state, federal agencies and tribes are addressed.

Corps' regulations require each Civil Works operating project to develop a master plan. As stated in the EP 1130-2-550, MP goals must include the following:

- Provide the best management practices to respond to regional needs, resource capabilities, suitability's, and expressed public interests consistent with authorized project purposes;
- Protect and manage project 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 project 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 a combination of age, changes in techniques and methods required by Corps' policy, changes for endangered species management, as well as substantial increases in public use of the Project, the 1993 MP no longer fulfills the intended purpose. An all-inclusive approach is needed to respond to public requirements while meeting all other Project goals. The proposed MP would be a dynamic document that deals in management concepts, not in the specific details of design or administration. It would provide for balanced resource management under special programs, such as environmentally sensitive areas, cultural resources protection, and protection of endangered species and critical habitat. The proposed MP would respond to increased and changing use, visitor desires, and would bring the Mill Creek Project into compliance with current policy.

SECTION 2 – ALTERNATIVES

2.1 Identification of Alternatives

This section identifies a range of alternatives that may respond to the purpose and need identified in Section 1, above. A reasonable range of alternatives was initially considered and discussed at a comparable level of detail. The proposed update of the MP is directed by specific Corps' policy which informs consideration of alternatives for strategic project development and management. Alternatives are screened out if they do not conform to policy and don't meet the stated purpose and need.

The alternatives considered in this EA include:

1) No Action/No Change (NA/NC). Current management based on strategy and guidelines in the 1993 MP;

2) Balanced MP (Proposed MP). MP update based on new Corps' policy, balancing designed visitor use with environmental and cultural resource sustainability;

3) MP Maximizing Natural Resource Preservation. MP update focused on preservation of natural resources and deemphasizing recreational development, access and visitor use;

4) MP Maximizing Recreation. MP update focused on expanding access and visitor facility development and deemphasizing preservation of natural resources.

Alternatives considered are further described below.

- **Alternative 1: No Action/No Change**

  Inclusion of the NA/NC alternative is prescribed by CEQ regulations and serves as the benchmark against which other alternatives are evaluated. Under the NA/NC Alternative the District would not approve the adoption or implementation of the Proposed MP and would not meet current policy goals of regular update and approval of a master planning document. The 1993 Master Plan would continue to provide the only source of comprehensive management guidance with its associated Resource Objectives (ROs), Land Classifications (LCs), Management Units (MUs), and strategies for the development and management of project resources.

  The NA/NC alternative would not meet the purpose and need stated in Section 1 above, but NEPA requires analysis of a "No Action" alternative

as a baseline with which to compare other alternatives. The “no action” alternative does not mean there will be no environmental effects from this alternative.

- **Alternative 2: Proposed Balanced MP**

  The Proposed MP alternative would seek to replace the 1993 MP, providing up-to-date management planning that is compliant with Corps’ policy. This Proposed MP would address important updates in response to changes in regional demographics, recreation use and demand, amenities within the project, current environmental conditions, and pertinent laws and policies. The Proposed MP alternative would provide strategic comprehensive management and development of all project recreational, natural, and cultural resources throughout the life of the Corps project. It would also guide planning for efficient and cost-effective management and development for comprehensive use, responsible stewardship, and sustainability.

- **Alternative 3: MP Maximizing Natural Resource Preservation**

  This alternative would require development and implementation of a MP comprehensive long-term strategy that would prioritize maintenance, operations and development for natural resource protection and preservation for the life of the project. Recreation development and use, multiple maintenance efforts for facilities, roads, trails and vegetation, and common access to some lands and waters would be restricted to protect plant, wildlife and fisheries species over other project uses. Project ROs and LCs would be developed to emphasize protection of specific habitats, animals and plants. LCs would restrict access in some areas for the purpose of environmental resource protection. This plan would restrict public access on or around the reservoir and stream for the enhancement of fish and wildlife species.

- **Alternative 4: MP Maximizing Recreation**

  This alternative would develop and put into practice a MP comprehensive long-term strategy to manage and utilize Mill Creek project lands and waters for maximum recreation facilities development and visitor use on all lands for the life of the project. Many LCs currently allow some recreational use. Under this alternative, ROs and LCs would be developed to provide enhanced opportunity for Corps’ and possibly commercial recreational development on all lands. The LCs currently

used for low density recreation and resource protection would be considered for change to alternate high density recreation and commercial development and use.

2.2 Screening of Alternatives

When screening alternatives, the Corps is obligated to consider the stated purpose and need (Section 1.4) and assure compliance with applicable laws/regulations and Corps' policies. The Corps developed the following general screening criteria for all alternatives considered:

A Provide the best management practices to respond to regional needs, resource capabilities, suitability's, changing use and expressed public interests consistent with authorized project purposes;

B Protect and manage project natural and cultural resources through sustainable environmental stewardship programs; e.g. environmentally sensitive areas; protection of endangered species and critical habitat; and cultural resource protection.

C Provide public outdoor recreation opportunities that support project purposes, public demands created by the project itself while sustaining balance with project natural resources;

D Recognize the particular qualities, characteristics, and potentials of the project;

E Provide consistency and compatibility with national objectives and other state and regional goals and programs;

F Comply with specific requirements of Corps policy for Master Plan approval.

Table 2-1 illustrates screening of the four alternatives for each of the criteria described above. Alternatives are marked as "Y" if they meet the definition of the criteria and "N" if they do not. Only the Proposed MP meets all criteria.

Table 2-1 Alternatives Matrix

Alternative	Criteria								
	A	**B**	**C**	**D**	**E**	**F**			
1- No Action / No Change MP	N	Y	N	Y	N	N			
2- Proposed Balanced MP	Y	Y	Y	Y	Y	Y			
3- Maximize Natural Resource Preservation MP	N	Y	N	N	N	N			
4- Maximize Recreation MP	N	N	Y	N	N	N			

For Alternative 1 (NA/NC), the Corps would continue to use the 1993 MP with its associated management practices, and not implement a MP update. The 1993 MP would not update a regional analysis of recreation and ecosystem needs, project resource capabilities and suitability, 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 1993 MP, the document does not fulfill all current Corps' requirements for an approved MP. Alternative 1 will be carried forward in this analysis, providing a basis for comparison with other alternatives.

Alternative 2 (Balanced MP) meets all the conditions of the stated purpose and need and responds to current Corps' policy and regulations. It provides the required analysis for regional needs, resource capabilities and suitability, and a comprehensive recreation program. Alternative 2 will be carried forward in this analysis as the Proposed MP.

2.3 Alternatives Removed From Further Consideration

Alternative 3, "MP Maximizing Natural Resource Preservation" would include development and implementation of MP documentation to prioritize management, operation and maintenance of Project lands and waters specifically to preserve natural resources. Alternative 4, "MP Maximizing Recreation", would include development and implementation of MP documentation to prioritize enhancement and expansion of recreation use, programs and facilities. Neither alternative 3 nor alternative 4 fully

respond to the purpose and need identified for this action. Of critical importance is the need to emphasize that an approved Corps' MP would be stewardship driven and must seek to balance recreational development and use with protection and conservation of natural and cultural resources. These alternatives do not consider project-wide resource capability and suitability, and are not consistent with multiple use authorized project purposes. Alternative 3 and Alternative 4 have, therefore, been eliminated from further consideration.

2.4 Alternatives Carried Forward for Detailed Analysis

2.4.1 General

The following section generally describes Alternative 1, NA/NC, using the 1993 MP and Alternative 2, the Proposed MP. The 1993 MP and draft Proposed MP, written more than 20 years apart, were developed based on different regulations and Corps' policies. No comprehensive revision to the MP has been done since 1993. The 1993 MP and the Proposed MP are conceptual planning documents that do not direct specific actions, such as ground disturbing activities that would cause direct impacts to recreation, natural and cultural resources. Using the 1993 MP or the Proposed MP would influence planning and management of the Project and how all resources are best administered. The MPs provide guidance for planning future work to meet resource objectives.

The 1993 MP was based on new MP guidance at that time. The document envisioned and described a number of recreation amenities which were never constructed. The MP also included an extensive resource inventory for the Project and the surrounding area. The Proposed MP would address management and policy necessary to accommodate regional and local changing conditions at Mill Creek Project. Of substantial importance for the update is the addition of new recreation uses to be considered and a significant growing public demand for recreation and natural resources.

Although somewhat different in content, generally both documents utilize a standard practice of identifying resource objectives, land classifications, and designation of management units for recreation use potential, resource protection, and maintenance practices. Project ROs are clearly written statements that are specific to a project or project area. They specify the selected option(s) for resource use, development, and management. They must be consistent with authorized project purposes, Federal laws and directives, regional needs, resource capabilities, and expressed public desires. Formulation and establishment of ROs for each civil works project is required by Engineer Regulation (ER) 1130-2-435, (Corps, 1987). Project LCs indicate the primary use for which the project lands are managed. A Project MU is a tract of land designated, based on land classification, to achieve or contribute towards the achievement of project objectives.

For example, operating flood risk management structures or equipment at MCP, such as the diversion dam near Rooks Park or the storage dam that creates Bennington Lake have a defined RO for “Project Operations”, an LC, indicating primary use and how the lands would be managed for that use, and one or more designated MUs where those structures are located, operated, and maintained.

2.4.2 Alternative 1 – No Action/No Change

The Mill Creek Master Plan, Volume 1-Main Report and Volume 2-Technical Appendix (Inventory and Analysis), was completed in September 1993. It was the first multiple resource inventory and analysis in the Mill Creek Project's 50-year history. It was also the first Water Resource Master Plan in the Corps of Engineers to fully use computerized Geographic Information Systems (GIS).

The MP was a systematic organization of project goals and objectives, land use zoning, conceptual development plan, management priorities, and final recommendations. It was accomplished with an inventory and analysis of regional and project resources, as well as the application of Corps’ policy, responding to public needs and public desires.

Project ROs were specifically identified for MCP based on resource use, management and development. The following list contains ROs that reflected input from the public and other agencies, based on analysis of the resources at project and regional level. Each RO provided rationale for the selection and how the RO would be implemented. The 1993 MP used 15 ROs shown below.

1993 MP ROs

1. Project Operations – Continue to safely and efficiently operate and maintain MCP to provide flood control for the protection of the city of Walla Walla and environs as authorized in public law.

2. Replacement/Relocation/Upgrade of Existing Faculties – Assure that all facilities meet Federal, State, and local design, health, safety, and environmental standards.

3. Intensive Day-Use Recreation – Maintain and enhance existing project recreation facilities and lands, as well as develop new facilities to help meet current and projected needs for day-use recreation facilities.

4. Low-Density Dispersed Recreation – Provide opportunities and support facilities for low-density dispersed recreation activities.

5. Safety – Provide a safe environment for the public.

6. Water Quality – Achieve State and Federal standards of water quality that protect primary contact recreation and maintain standards for wildlife and fisheries.

7. Boundary Identification and Security Protection – Identify MCP's boundaries through monumentation and fences as needed to designate these, and provide protection from encroachments (e.g., livestock, agriculture, and vehicular).

8. Interpretive Facilities, Signs and Programs – Provide additional identification, interpretive, and display facilities.

9. Environmental Education Area – Designate the MCP as an Environmental Education Area for the purpose of expanding environmental education for the Walla Walla community.

10. Wetland and Riparian Protection – Protect and limit impacts to wetlands and riparian corridors on the project in conjunction with the needs of maintaining the flood control mission of the project, water quality, anadromous and resident fisheries, and wildlife benefits.

11. Wildlife Habitat – Continue to preserve, maintain and enhance existing wildlife habitat on MCP lands for resident and migratory species.

12. Fish Habitat and Passage – Maintain and enhance a stratified fishery in Virgil B. Bennington Lake for resident trout and centrarcids (sunfish). Maintain and enhance the anadromous and fluvial fishery corridor in Mill Creek Channel by maintaining flows and facilities for successful passage of anadromous fish runs in Mill, Yellowhawk and Garrison creeks.

13. Species of Special Concern – Preserve, maintain, and enhance habitat for species that are classified as species of special concern at MCP in the future.

14. Cultural Resources – Preserve, maintain, and enhance cultural resources on project lands.

15. Aesthetic Resources – Protect, preserve, restore, and enhance the aesthetic resources of the MCP.

Project LCs were designed to organize how project lands would be developed, used and managed. These classifications were considered zoning plans, as they allowed for different types of management and development within each land classification category. They were based on attractiveness of the resource, protection required, capability, public desire and agency mission and policies.

1993 MP LCs

1. Project Operations – Lands classified for project operations are those lands used solely to provide for the safe, efficient, and continuing operation of the project.

2. Recreation – Intensive (high-density) recreation use areas are defined as lands where facilities have been, or will be, provided to accommodate the recreational needs and desires fo visitors in concentrated numbers.

3. Mitigation Lands – This land use classification encompasses all lands acquired, or designated, specifically for mitigation purposes.

4. Environmentally Sensitive Areas – This land classification may include those lands where scientific, ecology, cultural, or aesthetic features have been identified.

5. Multiple Resource Management

a. Recreation-Low Density – Low-density recreation lands are designated for dispersed, or low impact, recreation use.

b. Wildlife Management General – Lands classified for wildlife management are intended for the development and management of habitat for different species of wildlife.

6. Easement Lands – Easement lands are those lands where the Corps has easement rights for certain specified purposes. These easements are located on private or public property, but are necessary for project purposes.

A project MU is a specific tract of land designated to achieve, or contribute towards the achievement of project objectives. Each MU has ROs that communicates a site specific application of the project-wide objectives. Each MU is described by land classification; acres; unit description; influencing and constraining factors; resource objectives; and development and management concepts. Considering ROs and LCs, given to different areas of MCP, 19 separate MUs were identified. A full description of each MU was provided in the 1993 MP.

1993 MP MUs

Project Operations
- Mill Creek Diversion
- Mill Creek Dam
- Virgil B. Bennington Lake
- Mill Creek Office and Information Center
- Mill Creek Channel

Recreation
- Rooks Park
- Bennington Lake Recreation Area
- Bennington Lake Road
- Yellowhawk Park
- Mill Creek Recreation Trail

Mitigation
- Fort Walla Walla Timber Reserve Habitat

Environmentally Sensitive Areas (ESA)
- Mill Creek ESA
- Yellowhawk-Garrison ESA

Multiple Resource Management – Recreation
- South Mill Creek Trail

Multiple Resource Management – Wildlife Management General
- Bennington Habitat
- Russell Creek Habitat

Easement Lands

Rooks Park Road
Russell Creek Canal
Russell Creek Flowage

The 1993 MP, Volume I, provided design criteria, discussed special problems and constraints, and provided general and specific recommendations for MCP. Volume II of the 1993 MP provided an extensive “Regional Description and Analysis”, and a ‘Project Inventory and Analysis”.

2.4.3 Alternative 2 - Proposed MP

With adoption of this alternative, the Proposed MP would replace the 1993 MP. The intent of the Proposed MP is to develop a guide to the sustainable use of resources at the Project. To fully authorize changes in facilities, use and resource management, and to accommodate regional changes and requirements such as project operations to meet ESA requirements, a planning document is required that meets Corps’ policy. 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 this Proposed MP is to publish a clear, concise, and strategic land use document that will guide the comprehensive management and development of all project recreational, natural, and cultural resources.

This alternative would help focus on four primary components that were not included in the 1993 document, or that require expanded analysis, including: (1) regional investigation of recreational and ecosystem needs; (2) project resource capabilities and suitability; (3) expressed public interests that are compatible with authorized purposes; and (4) NEPA compliance, including a Cumulative Effects Assessment.

The Proposed MP update would provide a current comprehensive description of the project, a discussion of factors influencing resource management and development, identification and discussion of special issues, a synopsis of public involvement and input to the planning process, and description of past, present, and proposed future development. The Proposed MP would incorporate current Corps of Engineers land use classification standards, include contemporary requirements mandated by federal environmental laws, and better reflect the Corps of Engineers Environmental Operating Principles, natural resource management mission and environmental stewardship and ecosystem management principles.

The Proposed MP would modify the ROs as compared to the 1993 MP. Some descriptions have been adapted to better capture current and future needs and requirements. For example, because "Water Quality" was a significant concern when the 1993 ROs were developed, it was a specific RO (6). In the Proposed MP ROs, the water quality objective is achieved within the general objective of "Facilities Management" (1e). Another example, from the 1993 ROs, include: "Wildlife Habitat" (11); "Fish Habitat and Passage" (12); and "Species of Special Concern" (13). Those objectives in the Propose MP ROs are achieved under (3.b.) "Fish and Wildlife Habitat Management". The Proposed MP would classify project lands on environmental and socioeconomic considerations, public input, and an evaluation of past, present and forecasted trends.

Proposed MP ROs

1. General

a. Project Operations – Continue to safely and efficiently operate and maintain MCP to provide flood damage reduction to the city of WallaWalla and surrounding areas as authorized in public law.

b. Boundary Management – Prevent unintentional trespass and negative impacts associated with encroachments (e.g., livestock, agricultural, and vehicular) on government property.

c. Safety & Accessibility – Provide use areas and facilities that are safe and accessible for all project visitors.

d. Aesthetic Resources – Plan all management actions with consideration given to landscape quality and aesthetics.

e. Facilities Management – Ensure all current and future facilities are maintained and meet Federal and State design standards.

2. Recreation

a. Interpretive Facilities, signs, and Programs – Interpretive services will focus on Agency, District, and Operating Project missions, benefits and opportunities. Interpretive services at MCP will be used to help enhance public safety through promoting public awareness, understanding, and appreciation of MCP and its resources. Improve signage and wayfinding throughout the project, specifically along the trail system.

b. Day Use Recreation Facilities – Maintain and improve existing day use recreation facilities and lands, as well as develop new facilities to meet public demand and reduce operations and maintenance costs while maintaining the integrity of the Operating Project natural resources.

c. Dispersed Low Density Recreation – Appropriately manage and provide opportunities and facilities for multiple user groups in low density dispersed recreation areas.

3. Environmental Stewardship

a. Riparian and Wetland Protection – Protect and limit impacts to wetlands and riparian corridors on the project in conjunction with meeting the needs of maintaining flood risk management mission of the project, 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, and other regionally important species on operating project lands.

c. Cultural Resources Management – Preserve, maintain, and enhance cultural resources on project lands

d. Invasive Species Management – Minimize negative impacts to native flora and fauna by reducing and/or eradicating invasive species on Operating Projects lands.

Project LCs designate the primary use for which project lands are managed. Project lands are zoned for development and resource management consistent with authorized project purposes and the provisions of the NEPA and other federal laws. The Proposed MP would use EP 1130-2-550 land classification categories which include: Project Operations; High Density Recreation; Mitigation; Environmentally Sensitive Areas; Multiple Resource Management Land; and Easement Lands. Minor changes in titles were made to be consistent with the EP. For example, "Recreation" (2.) in the 1993 MP is identified as "High Density Recreation" (2.) in the Proposed MP. LCs would be modified as they appear below.

Proposed MP LCs

1. Project Operations – Lands required for the operation and maintenance of the dam and reservoir, associated structures, administrative offices, maintenance compounds, and other areas under Project Operations classification.

2. High Density Recreation - Lands developed for intensive recreational activities by the visiting public are included in this classification.

3. Mitigation Lands - Only land under the Mitigation allocation can be included under the Mitigation classification. It is specifically designated to offset losses associated with development of a project.

4. Environmentally Sensitive Areas - Areas identified with scientific, ecological, cultural, or aesthetic features, and not just land that is otherwise protected by laws. Typically, limited or no development of public use is allowed.

5. Multiple Resource Management (MRM) Land - This classification allows for designation of a predominate use with the understanding that other compatible uses may also occur in the classification.

a. Recreation-Low Density - This land provides opportunities for dispersed and/or low-impact recreation. Emphasis is on minimal development of infrastructure that might support sightseeing, wildlife viewing, nature study, hiking, biking, horseback riding, and picnicking.

b. Wildlife Management - This land is designated for stewardship of fish and wildlife resources in conjunction with other land uses.

6. Easement Lands - The Corps holds an easement interest, but not fee title on this land, and has the right to enter the property in connection with the operation of the project. In most cases, the Corps has the right to occasionally flood these properties.

a. Operations Easement - These would be easements the Corps of Engineers purchased for the purpose of project operations.

b. Flowage Easement - These are easements purchased by the Corps of Engineers giving the right to temporarily flood private land during flood risk management operations.

The 1993 MP used 19 MUs to identify project lands. The Proposed MCP would be divided into 13 MUs. The resource plan for MCP describes in broad terms how the project would be managed. The Project Delivery Team chose the Management by Area approach as set forth in EP 1130-2-550 to modify and combine some of the units. Maps in the Proposed MP (see Appendix E) delineate each MU. A more descriptive plan for managing these lands can be found in the Mill Creek OMP.

Proposed MP MUs

Project Operations
Mill Creek Diversion
Mill Creek Dam
Virgil B. Bennington Lake
Mill Creek Office and Maintenance Yard
Mill Creek Channel

Recreation
Rooks Park
Bennington Lake Recreation Area and Reservoir Road
Mill Creek Recreation Trail

Mitigation
Fort Walla Wall Timber Reserve Habitat Management Unit

Environmentally Sensitive Areas (ESA)
Mill Creek ESA
Yellowhawk-Garrison Creek ESA

Multiple Resource Management – Low Density Recreation
South Mill Creek Trail

Multiple Resource Management – Wildlife Management
Bennington Lake Wildlife Management Unit

The Proposed MP recommends several MU changes from those identified in the 1993 MP. These include:

1. Combining the Russell Creek Outlet Canal and the Mill Creek Return Canal into the "Project Operations, Mill Creek Dam MU". These changes would be made to clarity and insure priority for these Project Operations facilities. There would be no adverse environmental impacts associated with this change in designation.

2. Combining the area known as "Yellowhawk Creek Park MU", an area near the old office location that was never developed for recreation, with the "Project Operations, Project Office and Maintenance Yard MU". This change would put similar development in the same MU. Change in MU designation would not modify current use or result in adverse environmental impacts.

3. Merging the "Multiple Resource Management, Russell Creek Canal MU" with "Bennington Habitat MU" into "Bennington Lake Wildlife MU". These are adjacent and identically managed wildlife habitat areas. This change would put similar management and operations in the same MU. There are no adverse environmental impacts associated with this designation change.

4. Changing an area of approximately 5 acres in size, west of the debris barrier in the Mill Creek forebay from "Environmentally Sensitive, Mill Creek ESA MU" to "Project Operations, Mill Creek Diversion MU". As with many dams within designated critical habitat for endangered fish, operation and maintenance must be completed as a requirement of the flood risk management program. This new designation allows for consistent management with other operating features of the flood risk management equipment. Coordination with National Marine Fisheries Service and U.S. Fish and Wildlife Service would be required prior to work in this area.

5. Changing the hiking trail located along the south edge of the forebay levee "Environmentally Sensitive, Mill Creek ESA MU" to "Bennington Lake Wildlife MU". This change would put similar management and operations in the same MU. There would be no adverse environmental impacts associated with this designation change.

6. Easement lands are identified in the Proposed MP but they are not specific MUs per say. They are managed and operated per the terms of the easements. Planned use and management of easement lands will be in strict accordance

with the terms and conditions of the easement estate acquired for the project. Easements were acquired for specific purposes and do not convey the same rights or ownership to the Corps as other lands.

Proposed MP Recommendations

Design criteria for recreation areas and facilities would be updated with current engineering manuals, engineering regulations and engineering pamphlets. The conceptual development guidelines presented in the Proposed MP would authorize the Natural Resources staff to propose projects that address current problems and demands. Each proposed project would be evaluated for environmental compliance before it is implemented and based on proper approval, public desire and available funding.

The Proposed MP provides conceptual guidelines for the effective management of MCP. Guidelines were developed in accordance with the Corps' master planning process. Preparation of this Plan 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. Recommendations seek to improve operation and maintenance for increased efficiency. Efficient recreation opportunities help to ensure the continued success of public access.

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

SECTION 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1 Introduction

This analysis is prepared at the plan level. The EA does not analyze site specific actions. Those actions will be identified in the OMP's and be evaluated under NEPA, tiering from this EA.

This section identifies and describes: (1) the affected environment – i.e. the Project recreation, natural and cultural resources which have the potential to affect or to be affected by the alternatives, and (2) what the effects on those resources might be with implementation of the alternatives. Although all existing resources within the Project area were initially considered, only those resources determined relevant to the proposed action were included in the affected environment evaluation. While the intent is to focus on relevant resources, it is important to recognize that the level of relevance of each identified resource to the proposed action is not the same.

The Proposed MP would comply with new policy in Corps' EP 1130-2-550, (Corps, 2013), which recognizes particular qualities, characteristics, and potentials of the Project and provides consistency and compatibility with national objectives and other state and regional goals and programs. According to current Corps' policy, funding for new recreational development, construction, consolidation or land use change would not be permitted without an approved MP that meets current requirements identified in the EP. Based on this requisite, the NA/NC alternative would restrict any changes to operations and maintenance that require budget approval. Although short-term impacts may be minimal, long-term proposed actions for management changes would not be approved, possibly resulting in adverse impacts to natural and cultural resources and visitors.

Flood risk management for the City of Walla Walla is the Project's primary authorized purpose. Although frequency of flooding is low in this drainage, maintenance of equipment and use of structures on MCP during a flood event is highest focus. During a flood event, there may be adverse impacts to structures, vegetation, wildlife, aquatic resources, cultural resources, recreation facilities' and users. According to Corps' policy, a MP does not include water management operations and associated prime facilities (dams, gates, division, floodways, levees, canals, return channels, etc.). Therefore impacts of the flood risk management project are not included in this assessment. However, the present MCFCP levee maintenance activity is discussed in the Cumulative Effects section.

3.2 Summary of Environmental Resources and Impacts

Alternative 1, NA/NC, would continue to use the 1993 MP as the Project planning document. There would be no change from the current management of Project resources and those impacts associated with current routine operation and maintenance activities. As the 1993 MP is being utilized, it does not direct specific actions, but provides guidance (recommendations for improvement and management) for meeting resource objectives. However, the 1993 MP does not currently meet Corps' policy. Inability to meet Corps' policy with an approved MP would limit capability to complete some tasks for improved management of Project resources. Some impacts identified in the following pages are caused because certain long-term management actions would be restricted under the 1993 MP. Best management practices (BMPs) are discussed in combination with impacts to resources throughout this section. BMPs are techniques, methods, and tools used during maintenance, ground disturbing activities and construction to avoid or minimize impacts to natural, recreational, and cultural resources. BMPs would be used to eliminate or significantly reduce intensity and term of potential adverse impacts such as vegetation damage, soil disturbance, dust, noise, disturbance of aquatic resources, turbidity, polluted run-off into waterways, etc.

Alternative 2, the Proposed MP, would influence long-term management of the Project through adoption of the Proposed MP. During initial adoption of the MP, as routine operation and maintenance continues, environmental impacts differing from the NA/NC alternative are not anticipated. With management changes, directed through the OMP's, beneficial impacts to the environment and users are expected, such as improvement or development of recreation facilities to meet visitor needs or added vegetation maintenance for enhanced wildlife habitat. Implementation of Proposed MP recommendations through OMP direction, based on updated information, expanded ROs and use analysis, would improve overall management of recreation use and Project resources. The effects of implementation would be addressed through tiered NEPA analysis of the OMP or related sub-plans as details are developed.

3.3 Environmental Review by Resource

The Proposed MP does not include detailed actions for MCP. It is not feasible to define the exact nature of potential impacts prior to receiving proposal for specific development or management changes, such as construction of new facilities, roads, trails, or vegetation management at the broad, landscape-scale.

This section discusses the existing environmental conditions of the Project area, as well as general effects anticipated to occur for the proposed action, over a wide range of environmental and social elements. In addition, the NA/NC Alternative is evaluated,

which provides a comparison to the proposed action. Resources that have been considered relevant in this analysis include: Aesthetics; Recreation; Socioeconomics; Aquatic Resources; Wildlife; Vegetation; Water Quality; Threatened and Endangered Species; Cultural Resources; Environmental Justice; Climate Change; and Cumulative Effects.

3.3.1 Aesthetics/Visual Quality

Bordered on the east, south and west by agricultural crop lands which vary in appearance by season and crop rotation, MCP offers nearly 620 acres of project lands open for recreation, adjacent to flood risk management structures. Mill Creek flows along the northern portion of the MCP and presents users the opportunity to view the stream and many native wildlife species. Rooks is an 18 acre day-use park nestled in large trees and open lawn areas. Bennington Lake provides a 52 acre lake for water-related activities, surrounded by lands and trails open for access by foot, bike, or horse. Standing on the earthen dam that creates the lake, provides the observer with views of the Blue Mountains and a panorama of the Walla Walla valley.

The aesthetic quality of an area is a measure of the visitor's perception of how pleasing an area appears. Many people visit MCP because of its aesthetic value and visitors enjoy visual resources through a variety of landforms, wildlife, fisheries, recreation and vegetation. Some enjoy the man-made built environment of the concrete channels and dams and earth-embankment levees.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative, visual resources on Project would evolve from the existing condition in a natural process as vegetation matures, or by changes occurring on adjacent lands within the view shed, or as a result of routine operation and maintenance activities performed by MCP staff. Maintenance activities such as mowing, vegetation trimming, facility cleaning, facility repair, etc, would have minor or no adverse impacts to aesthetics, using BMPs.

  The surrounding privately owned property is primarily used for agricultural purposes. Based on past and current use, visual quality would likely remain constant in the near future. Long-term, aesthetic quality of adjacent property may be modified by alternate crops or changes in land use, such as construction of industrial buildings or housing. The influence of increasing human population in the region may modify views from MCP. Future development such as new roads, cell towers, wind turbines, or power line towers would adversely impact aesthetics.

Alternative 2 - Proposed MP. With the Proposed MP, potential impacts to aesthetics, influenced by project operation and maintenance, would be similar to NA/NC. Implementation of the Proposed MP would utilize additional analysis to make improvements for maintenance and operations of natural, cultural and recreational resources. With long-term balanced planning, this alternative would be more effective in creating beneficial impacts for quality aesthetics by using enhanced vegetation management, facility development and visitor management. Visual quality from outside of project lands would not be impacted by adoption of the Proposed MP. Physical or use changes on adjacent property would impact aesthetic quality.

3.3.2 Recreation

The MCP provides a wide range of all season recreational pursuits on approximately 620 acres of public land within a few miles of Walla Walla. While portions of the project provide users with an urban park atmosphere, much of the project is devoted to wild land or dispersed recreation pursuits such as hiking, biking, running, horseback riding, hunting, fishing, and nature study.

Rooks Park, at the northeastern edge of the property, adjacent to the Diversion Dam on Mill Creek, is a popular summertime day-use getaway. The 18 acre park area, with mature shade trees, has a expansive lawn area, a pond, playground, sand volleyball court, picnic tables, barbecue grills, trails, a restroom, drinking fountains, and a parking area.

Access to the area upstream of the park and diversion dam is provided via non-maintained paths that lead over the north dike. The service access road on top of the dike provides some recreational use for hiking, biking, and nature observance.

Warm temperatures and low precipitation during the summer attract many visitors to the area. Bennington Lake is the only lake open to the public within 30 miles of Walla Walla. Some recreational activities enjoyed in the lake area include fishing, hiking, sightseeing, and use of canoes, kayaks, and sailboards.

The MCP Trail system provides many miles of paved, gravel and dirt-surface trails. The trails tie all areas of the project together and allow access from several parking areas around the project. The paved trail atop the north levee, adjacent to the creek, is used for walking, jogging, skating, skate boarding, and biking. Other trails with gravel and dirt surfaces around the lake and adjacent to the creek provide hiking, biking, running and horseback riding.

Although Rooks Park is closed during the winter months, the remainder of MCP is open for public use throughout the year. Wintertime offers identical types of activities with the addition of winter sports, including cross country skiing and snow shoeing. MCP received more than 340,000 visitors in 2014.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative recreation use will continue as in the past with predicted increasing visitation to MCP as local and regional populations grow. Short-term, recreation in the Project area would continue with minor or no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources. BMPs would be used to eliminate or significantly reduce adverse impacts for visitors from operation and maintenance actions. Long-term, increased use at MCP would deteriorate natural and manmade resources as human carry capacity is surpassed. Maintenance requirements would increase to sustain current resources.

  Existing recreation facilities, such as restrooms and playground equipment, are currently in excellent condition and will not require replacement for many years. Long-term, replacement of outdated built facilities and infrastructure will be required. These actions would require closure and construction, adversely impacting users. These impacts would be minor and short term if completed during low visitation seasons.

  The forecasted increase in visitation would impact visitors. Additionally, because of the limited land base at MCP, changes in use on adjacent lands would impact visitors. As regional population increases there would be demand for additional development in the surrounding area.

  Alternative 2 - Proposed MP. With the Proposed MP, potential impacts to recreation would be similar to NA/NC. Implementation of the Proposed MP would utilize additional analysis to make improvements for users and anticipate impacts from the predicted increased visitation. Using long-term balanced planning, this alternative would be more effective in accommodating increased number of visitors and preserving natural resources. Recreation use and experience quality would be beneficially impacted by adoption of the Proposed MP.

3.3.3 Socioeconomics

Walla Walla County was formed in 1854 and is one of the oldest communities in the state. The County covers 1,271 square miles of land, ranking 26th in size among Washington's 39 counties. Located in southeastern Washington, it is bordered by Columbia County to the east, Franklin to the northwest, Benton on the west and Umatilla County, Oregon on the south.

During 2014, there was an estimated 61,150 people living in Walla Walla County. This is an increase of 7% since 2003; 13% since 1993; and an increase of 26% since 1981. The racial composition of the region is predominantly white. Native Americans, Pacific Islanders, and Hispanics also account for a percentage of the areas demographics. The average per capita income in Walla Walla County is $23,027. There are 23,629 homes in the area, with median home price of $166,800. Around 87.6% of the populations graduated from High School, while 25.7% have higher education. (www.census.gov).

The Walla Walla area has been known historically for its agricultural economy, with wheat being the number one crop. A variety of other crops, including barley, corn, potatoes, asparagus, peas, soft fruit, onions, concord and wine grapes, vegetables, alfalfa hay and seed generating a significant part of the annual harvest. In the past few years Walla Walla has become a main attraction for wine and arts tourism as the area gets national and world recognition for its quality wines. The majority of Washington counties also include food processing as a major economic activity, as well as manufacturing (*i.e.*, publishing, apparel and textile manufacturing, machinery and metal products and fabrication). The 2012 U.S. Department of Agricultural Ag Census indicated that the value of farm products sold in Walla Walla County rose from $344 million in 2007 to $437 million in 2012. Other economic sectors include health care, higher education, and government services.

Many recreational opportunities are found within Walla Walla and the adjacent counties. The city of Walla Walla provides public recreation facilities, which include 15 City parks, an 18-hole municipal golf course, an aviary, swimming pool, and recreation trails. Other regional recreation includes Walla Walla County's Fort Walla Walla Park, National Parks Service's Whitman Mission Historic Site, 8 miles west of Walla Walla, and recreation in the Umatilla National Forest, located approximately 25 miles southeast of Walla Walla.

Two miles from town, MCP provides approximately 620 acres of federally funded project lands and waters open for public use, without entrance or user fees. The close proximity to the City of Walla Walla for a wild land recreation experience makes MCP

unique with distinctive opportunities for horseback riding, lake recreation, fishing, hunting, hiking, biking and nature study, not offered at other nearby parks. As area population grows and use increases, carry capacity of MCP will be managed within the limited land base.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative there would be minor or no impacts to socioeconomics in the area surrounding MCP. Population growth and demographic makeup of the population would remain similar to rates and percentages the area experiences currently. Land values would not be affected if the no action alternative was implemented. Any changes in the socioeconomic conditions of the area would likely be the result of outside influences and not those created by the No Action alternative.

  Impacts to socioeconomics from operation of MCP are not well understood due to limited long-term analysis of this subject. Anecdotal information suggests that most socioeconomic groups within the Walla Walla valley population utilize MCP for recreational purposes. Composition of social groups at MCP appears to mimic the demographics of the region. This conclusion is based on three observations, 1) MCP is very near the urban population that accounts for much of the Project visitation; 2) there are no fees for use; and 3) there are no requirements for high-cost recreation equipment such as jet skis or motorized off-road vehicles. All visitors utilize the MCP area and facilities without disparity for economic considerations. With the No Action alternative there would be minor or no adverse impacts to socioeconomics in Walla Walla County or the surrounding counties from routine operation and maintenance of faculties, visitor use or management of natural and cultural resources.

  Alternative 2 - Proposed MP. With the Proposed MP, potential impacts to socioeconomics in Walla Walla County or the surrounding counties from operation and maintenance of faculties, visitor use or management of natural and cultural resources would be similar to NA/NC. The Proposed MP would use contemporary analysis to consider if MCP is impacting socioeconomics or influencing socioeconomic factors in the use of the recreation facilities. Land values would not be affected if the Proposed MP would be implemented. Any changes in the socioeconomic conditions of the area would likely be the result of outside influences and not those created by the Proposed MP.

3.3.4 Aquatic Resources

MCP provides two distinct habitats when describing aquatic resources; Bennington Lake and Mill Creek. Bennington is an artificial lake, initially constructed for storage of diverted flood water. When not used for flood storage, the lake includes a permanent recreation pool that fluctuates in elevation due to natural evaporation processes. The lake is typically refilled each year to approximate elevation 1125 mean sea level (msl), by diverting water from Mill Creek, via the intake channel. The lake is shallow with a mud pebble substrate. Temperatures vary with season, freezing in the winter and displaying temperatures above 80 degree F. in the summer and fall (Tice, 2015). The lake only receives tributary input during the spring runoff, when the creek's sediment and nutrient load is highest. While water quality in the creek improves when flows subside, the water quality in the lake does not undergo a similar improvement. As a result, very turbid, high nutrient concentration conditions often exist in the lake throughout the summer season.

The water quality in the upper reaches of Mill Creek is excellent, due largely to access restrictions in the upper watershed designed to protect the City of Walla Walla's municipal water supply. Due to the natural turbulence of the stream, dissolved oxygen concentrations seldom deviate much below 100-percent, except in some pools during low-flow periods. Although the degradation of water quality increases further downstream, it is still of fairly high quality when the creek reached the project area.

Mill Creek, as it flows approximately 6,000 feet through MCP, is contained within an engineered channel, bordered by levees on both sides. Concrete drop structures, built into the stream bed, are designed to dissipate energy during high flows.

During the summer low-flow period, much of the water in the creek is diverted at the MCP's Division works, to Yellowhawk and Garrison Creeks. Flows in Mill Creek remain very low for several miles below this structure. Significant degradation of aquatic resources occurs below the Corps' Division works during the dry season, when low flows exist.

Water quality degradation in Walla Walla Basin streams is worsened by irrigation withdrawals and lack of base flow caused by groundwater depletion. Irrigation return-flow is a major factor in increasing levels of dissolved solids (i.e., salinity and alkalinity), nutrients, and other pollutants.

Fish species presently in the project area of Mill Creek include rainbow trout/steelhead (*Oncorhynchus mykiss*), bull trout (*Salvelinus confluentus*), Chinook salmon (*Oncorhynchus tshawytscha*), mountain whitefish (*Prosopium williamsoni*), bridgelip sucker (*Catostomus columbianus*), redside shiner (*Richardsonius balteatus*), freshwater sculpin (*Cottus* spp.), dace (*Rhinichtys* spp.), and brook lamprey (*Lampetra richardsonii*). Amphibians typically found in the area are Pacific tree frogs (*Hyla regila*),

leopard frogs (*Rana pipiens*), and bullfrogs (*Rana catesbeina*). Common aquatic insects in the creek are mayflies (*Ephemeroptera* spp.), caddisflies (*Trichoptera* spp.), dragonflies (*Odonata* spp.), and stoneflies (*Plecoptera* spp.).

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative impacts related to aquatic resources from operation of recreation and wildlife lands at MCP would remain unchanged. Aquatic resource degradation from poor water quality would continue in the lake and stream from surface water contamination, irrigation withdrawals, and high water temperatures. BMPs would be used to eliminate or significantly reduce adverse impacts to aquatic resources from routine operation and maintenance of facilities, natural and cultural resources. Land and water uses would remain unchanged and management of the land and activities on MCP would be conducted as it has in the past. Long-term, as population in the region grows, use at MCP would increase, potentially having some impact on aquatic resources. Development outside of MCP for new housing, industrial use, or changes in farming practices could potentially adversely impact water quality and associated aquatic resources.

  Alternative 2 - Proposed MP. With the Proposed MP, potential impacts to aquatic resources from operation and maintenance of faculties, visitor use or management of natural and cultural resources would be similar to NA/NC. Potential impacts to aquatic resources from adjacent lands outside of MCP would be similar. Implementation of the Proposed MP would utilize additional analysis to make changes for anticipated impacts from increased visitation. Using long-term balanced planning, this alternative would be more effective in protecting aquatic resources.

3.3.5 Wildlife

Various forms of wildlife are generally abundant close to riparian corridors associated with MCP. Many species of mammals, birds, amphibians, and reptiles inhabit riparian corridors during different parts of the year. Mammals common to the area include white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), mink (*Mustela vison*), muskrat (*Ondatra zibethicus*), beaver (*Castor canadensis*), otter (*Lontra canadensis*), striped skunk (*Mephitis mephitis*), bats [silver-haired (*Lasioncycteris noctivagams*) and hoary (*Lasiurus cinerus*)], and a variety of small rodents [including deer mouse (*Peromyscus maniculatus*) and Montane vole (*Microtus montanus*)]. Occasionally, bobcat (*Lynx rufus*), black bear (*Ursus americanus*), and

even cougar (*Puma concolor*) and moose (*Alces alces)* have been seen in the area. Common birds include wild turkey (*Meleagris gallopano*), belted kingfisher (*Megaceryle alcyon*), California quail (*Lophrtyx californicus*), ring-necked pheasant (*Phasianus colchicus*), swallows (*Tachycineta* spp. and *Hinundo* spp.), sparrows (*Melospiza melodia*), woodpeckers (*Picoides* spp.), various other songbirds, ducks (*Anas* spp.), hawks (*Buteo* spp.), osprey (*Pandion hailaetus*), and owls [common barn owl (*Tyto alba*), western screech owl (*Otus kennicotti*), great horned owl (*Bubo virginianus*), snowy owl (*Nyctea scandiaca*), northern pygmy owl (*Glaucidium gnoma*), long-eared owl (*Asio otus*), and short-eared owl (*Asio flammeus*)]. On occasion, bald eagles (*Haliaeetus leucocephalus*) can be seen as well. The area immediately adjacent to the creek provides very limited wildlife habitat quality. Although some wildlife can be found around the project area, the large number of people recreating in the area influences wildlife numbers.

Although wildlife is directly managed by Washington Department of Fish and Wildlife (WDFW), the Corps manages wildlife habitat in the project area for the success of multiple species. Severe winters and depredation can have a major impact on many species. The current vegetative composition, form, and structure provides habitat for a variety of wildlife species but may not provide all habitat needs. The location of MCP, situated among a variety of agricultural properties, adjacent to the stream and with limited roads to the east and west, provides additional opportunity for food and escape cover.

Wildlife is affected by a wide array of natural and human-caused impacts. Heavy human use in an area can displace certain species. Most wildlife would avoid high density recreation areas, but could come into contact with humans in low-density recreation areas. The impact of heavy human use such as recreation is mitigated by timing of human use and locations of highest density use. Hunting pressure is very limited at MCP due to restrictions for hunting locations and season. There is no overnight recreation use at MCP. Human use is at its highest during early and mid summer, reducing impacts during much of the wildlife reproduction time.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative, wildlife populations would evolve from the existing condition in a natural process as habitat changes, as influenced by operation of MCP, and as human use changes. There would be no adverse impacts to wildlife species from routine operation and maintenance of facilities, natural and cultural resources using BMPs. Adverse impacts to wildlife would occur with increased human presence. The forecasted increase in visitation would adversely impact wildlife and associated habitat. Wildlife would likely move to alternative habitat areas, off project. Modifications on privately

owned adjacent property may adversely impact some species. For example, development of grape vineyards where wheat fields or alfalfa has traditionally been farmed would impact varieties and numbers of certain wildlife species. This change may impact food, escape cover, and reproduction cover. The associated changes in agribusiness development, such as industrial buildings and housing would impact wildlife that traditionally used those lands.

Removal of levee vegetation is not a maintenance action identified within the requirements of the Mill Creek Master Plan. The action is a Flood Risk Management requirement. Removal of vegetation on and near the MCFCP levees, between the diversion dam and division dam, would adversely impact terrestrial wildlife due to reduction of riparian habitat. A few bird species would be specifically impacted. Belted kingfisher perch within the branches close to the creek where they hunt for minnows and other small fish. Ospreys also use the tree branches for hunting perches. In addition there are two or more great blue heron nests close to the vegetation removal area. These nests may not be removed with the trees, but they would become more open to the elements and may become unsuitable for use in the future. Birds would seek alternate locations. There would be no significant adverse impacts to terrestrial species populations.

Alternative 2 - Proposed MP. With the Proposed MP, potential impacts to wildlife resources at MCP from operation and maintenance of faculties, visitor use or management of natural and cultural resources would be similar to NA/NC. Potential impacts to wildlife resources from influences outside MCP would be similar to the NA/NC alternative. Implementation of the Proposed MP would utilize additional analysis to make changes for anticipated impacts from increased visitation and influences from outside of MCP. Using long-term balanced planning, this alternative would be more effective in protecting wildlife resources.

3.3.6 Vegetation

Three types of vegetation classes are found within the MCP; they are, “terrestrial,” “riparian,” and “wetland.” To a large extent, these differences determine wildlife niches, habitats, and associated values. Breakdown of land cover and vegetation includes: upland 67.4%; riparian (7.6%); wetlands (6.7%); lacustrine (7.0%); riverine (2.1%): and urban (9.2%) (Corps,1993). The MCP has a variety of vegetation types in a relatively small area. Some of the vegetation types are made up of monoculture species.

Much of the diversion dam forebay has been allowed to develop naturally. Part of the forebay area has excellent stands of deciduous riparian trees and shrubs. Willow, alder, and black cottonwood growth is predominant in the area just upstream. Much of the area is also covered with a reed canary grass understory.

A steep natural hillside, running adjacent to and south of the forebay from the diversion dam upstream, is vegetated with various trees, shrubs, vines, and herbaceous vegetation. Between this hillside and the south channel of Mill Creek the vegetation is a mosaic of patches of brush and trees with large areas dominated by riparian grasses and sedges.

A majority of the area surrounding MCP is now largely grain fields, with some grazing lands located on poorer soil sites. Irrigated croplands are located in the valley, west of the project. The dominant physical components influencing vegetation at MCP are elevation, slope, aspect, soil depth, climate, seed availability, and manmade influences. Trees and shrubs have been planted in former croplands in an effort to improve wildlife habitat by providing cover and the interspersion of plant communities.

When the project lands were purchased in the 1940's, all of the lands south of the bluff were used for wheat production. Wildlife management activities at the MCP were initially conducted by utilizing a cooperative agreement with Washington Department of Fish and Wildlife. The 1950s Habitat planting improvements by WDFW provided food and cover for a variety of birds and mammals. WDFW planted approximately 5,000 trees and shrubs, establishing the original meadow, food plot, and tree-shrub plantings.

The diversion canal, areas surrounding the lake, Russell Creek Outlet Canal, and the lake road were also planted by the WFDW and the Corps as wildlife areas. Trees planted at that time included Russian olive (*Elaeagus angustifolia*), Chinese elm (*Ulmus parvifolia*), black locust (*Robinia pseudoacacia*), prune (*Prunus Americana*) , peach (*Prunus persica*), mugho pine (*pinus mugo*), and juniper (*Juniperus scopulorum*). Shrubs planted included carigana (*Caragana arborescens*), honeysuckle (*Lonicera periclymenum*), and serviceberry (*Amelanchier alnifolia*). Tall wheatgrass (*Agropyron elongatum*) and Sherman big bluegrass (*Sherman secunda*) were also planted. Dodder, thistles, morning glory, and a variety of herbaceous plants grow naturally in the lake area. These initial habitat improvements were limited in plant species composition and age class. The forebay, upstream of the diversion dam, and other areas of the project, have been allowed to develop naturally. A steep natural geologic embankment, running adjacent and south of the main Mill Creek channel, is vegetated with various native trees, shrubs, vines, and perennials dependent on that specific slope and orientation.

Rooks Park, located in the northwest corner of MCP, is characterized by native cottonwood trees, irrigated lawn, and miscellaneous tree and shrub plantings. The pool elevation at Bennington Lake has been fluctuated for operation and testing purposes. This change in water regime has strongly affected the vegetative composition. Areas originally planted in dryland grasses, and to a lesser extent, trees and shrubs, have been replaced with flood-tolerant species (Corps, 1993).

Walla Walla District began active wildlife-habitat management by establishing 21 tree and shrub habitat areas at the MCP between December 1982 and February 1985. These plantings were conducted as compensation for plants destroyed by the 1980-1982 Mill Creek Dam Outlet Canal Rehabilitation Project.

Appendix D provides a list of plant species found at MCP. The list is from the 1975 Mill Creek Project Environmental Impact Statement (Corps, 1975).

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative, vegetation management would continue as currently operated. Vegetation would change as growth occurs naturally over time. There would be minor impacts to vegetation from routine operation and maintenance using BMPs. Maintenance of facilities and infrastructure would require trimming or removal of vegetation. Other vegetation will be managed for storm damage, disease, or modifications of wildlife habitat as required for targeted wildlife species. Land and water uses would remain unchanged and management of the land and activities on the project would be conducted as it has in the past.

  Alternative 2 - Proposed MP. With adoption of the Proposed MP, potential effects to vegetation from project operation and maintenance and visitor use would be similar to NA/NC. Implementation of the Proposed MP would utilize additional analysis to make changes for anticipated impacts from increased visitation and influences from outside of MCP. Using long-term balanced planning, this alternative would be more effective in protecting vegetation for wildlife resources and aesthetics.

3.3.7 Water Quality

In Mill Creek and the surrounding basin, in general, the water quality is very good. There are large amounts of unpolluted surface water available, but there are some water pollution problems. The water quality in the upper reaches of Mill Creek is excellent, due largely to access restrictions in the upper watershed designed to protect

the City of Walla Walla's municipal water supply. Although the degradation of water quality increases further downstream, it is still of fairly high quality when the creek reaches MCP. Significant degradation occurs below the Corps' Division works during the dry season, when flows are very low. There are increases in temperature, pH, turbidity, phosphate, and nitrate-nitrogen farther downstream (Hallsted, 1972), the highest of which occur below Walla Walla. Due to the natural turbulence of the stream, dissolved oxygen concentrations seldom deviate much below 100-percent, except in some pools during low-flow periods.

Mill Creek is a low-alkaline, soft water stream. The land above the project that is drained by the creek generally consists of soils composed of loess and weathered basalt, or loess and silty clay loam, and is underlain by gravels. Algal composition in Mill Creek is limited to free-floating diatoms and attached benthic algae. Below the project area, filamentous green algae, especially Cladophora, are abundant. Aquatic invertebrates found there include mayflies, stoneflies, and caddisflies, all of which require well-oxygenated, coarse substrate streams.

During the summer low-flow period, much of the water in the creek is diverted at MCP's Division works, to Yellowhawk and Garrison Creeks. Mill Creek flows remains very low for several miles below this structure. Recharge to Mill Creek occurs through groundwater, storm drainage return, and irrigation return flow. Flows also increase with point-source discharge through the city of Walla Walla.

Water quality degradation in Walla Walla Basin streams is worsened by irrigation withdrawals and lack of base flow caused by groundwater depletion. Irrigation return-flow is a major factor in increasing levels of dissolved solids (i.e., salinity and alkalinity), nutrients, and other pollutants. All streams in the Walla Walla Basin are closed to further appropriation during the irrigation season.

At Virgil B. Bennington Lake, the water quality is primarily determined by the quality of inflowing tributaries, as well as other point source loadings. Although Mill Creek is a stream of fairly high quality, Virgil B. Bennington Lake is typically eutrophic, and of poorer quality. This is largely due to the hydrologic characteristics of the lake. The lake only receives input from Mill Creek some surface flows during the spring runoff, when the creek's sediment and nutrient load is highest. While water quality in the creek improves when flows subside, the water quality in the lake does not undergo a similar improvement. As a result, very turbid, high nutrient concentration conditions often exist in the lake throughout the season.

Virgil B. Bennington Lake water quality is, therefore, indicative of the quality of Mill Creek during filling, which only occurs during high flows. Diversions of water to the lake during peak flow conditions (e.g., flood-control purposes) result in high loading of suspended particulates and nutrients, causing high turbidities in the lake. Filling the

lake after peak flows subside results in less loading of suspended solids and nutrients and better water clarity during the following summer. Because daily variation of water quality in the creek during the spring runoff period is substantial, yearly lake water quality conditions are similarly variable.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Under the No Action alternative impacts related to water quality from operation of recreation and wildlife lands at MCP would remain unchanged. Water quality degradation would continue in the lake and stream from surface water contamination, irrigation withdrawals, and high water temperatures. BMPs would be used to eliminate or significantly reduce adverse impacts to water quality from routine operation and maintenance of facilities, natural and cultural resources. Management of the land and operational activities on MCP would be conducted as it has in the past. Long-term, as population in the region grows, use at MCP would increase, potentially having some adverse impact on water quality caused by vegetation destruction, shoreline and trail erosion and contaminated runoff from roads and parking areas. Development outside of MCP for new housing, industrial use, or changes in farming practices could potentially adversely impact water quality.

  Alternative 2 - Proposed MP. With the Proposed MP, potential impacts to water quality from operation and maintenance of faculties, visitor use or management of natural and cultural resources would be similar to NA/NC. Potential impacts to water quality from adjacent lands outside of MCP would be similar. Implementation of the Proposed MP would utilize additional analysis to make changes for anticipated impacts from increased visitation. Using long-term balanced planning, this alternative would be more effective in protecting water quality.

3.3.8 Threatened and Endangered Species

There are five ESA-listed species and one candidate species in Walla Walla County, Washington. These include for ESA-listed species: Canada lynx; Steelhead; Bull Trout; Ute Ladies'-Tresses, and Yellow-bellied cuckoo. The candidate species is Washington Ground Squirrel. Two of these species, mid-Columbia steelhead and Columbia Basin bull trout, are found in Mill Creek in the proposed project area. Canada Lynx, Utes Ladies' tresses, and Washington ground squirrel are not found near the proposed project. Yellow-billed cockoo is not known to occur in the area and may be extirpated (local extinction) as a breeder from Washington.

Listed Species Under the ESA for Walla Walla County, Washington

- **Canada Lynx** (*Lynx canadensis*)

Canada lynx were listed as threatened under the ESA in March 2000. Critical Habitat was designated in November 2006. The designation was revised in March 2009 and revised again in September 2014. In Washington, areas above 4,000 feet elevation in the north Cascades are included in the designation. The area around the MCP is not included in the designation. The elevation is approximately 1,240 feet. Canada lynx are not known to occur near the project area. The proposed MP would have no effect on Canada lynx.

- **Steelhead** (*Oncorhynchus mykiss*)

Mid-Columbia River steelhead were listed by National Marine Fisheries Service (NMFS) as threatened under the ESA in August 1999. Critical Habitat was originally designated in March 2000, was later vacated, and has since been re-designated. Mill Creek is designated as critical habitat for mid-Columbia River steelhead. Once abundant in the watershed, adult steelhead now make up only a fraction of their previous numbers in Mill Creek. Steelhead are anadromous salmonids; accordingly adults return to their natal streams from December through April to spawn. After spending one or two years rearing in the area, juveniles begin their outmigration to the ocean in April and May, when flows are usually higher than average. Periodic low flows, flood risk management measures, irrigation diversions, and habitat destruction can limit both adult and juvenile steelhead.

- **Bull Trout** (*Salvelinus confluents)*

The U.S. Fish and Wildlife Service (USFWS) listed Columbia Basin bull trout as threatened on July 10, 1998. Critical habitat was designated for bull trout in 2010, and Mill Creek is included in the designation. Bull trout are a wide-ranging species that formerly inhabited most of the cold lakes, rivers, and streams throughout the western United States and British Columbia. They are piscivorous, and require an abundant supply of forage fish for vigorous populations. Resident bull trout spend their entire life-cycle in the same (or nearby) streams where they were hatched. They display a high degree of sensitivity at all life stages to environmental disturbance. Bull trout growth, survival, and long-term population persistence depends on the availability of quality habitat. The U.S. Forest Service (USFS) has conducted radio-tracking studies on bull trout in Mill Creek, which have shown that adults move to the upper reaches of the watershed between mid-May and mid-August. Spawning takes place between mid-August and mid-October. The USFWS has five monitoring sites set up on Mill Creek, and also utilizes Passive Integrated Transponder (PIT) tags to track the fish as they move through the system.

- **Ute Ladies' -Tresses** (*Spiranthes diluvialis*)

Ute ladies'-tresses, an orchid known to inhabit wetland and riparian areas, was listed under the ESA in January 1992. It has been found at about 1,500 feet elevation, at a site in Okanogan County, in the northeastern part of Washington State. In other parts of its range, it is found up to about 7,000 feet. It is usually found in moist areas of open shrub or grassland. The proposed project location is at about 1,240 feet elevation in the southeastern part of the state.

Habitat that supports Ute ladies'-tresses is not present in the area likely to be impacted by the proposed MP, nor has it been identified or documented at the site. The plant generally flowers during August and September, the peak of its blooming season. The proposed MP would have no effect on Ute ladies'-tresses.

- **Western yellow-billed cuckoo** (Coccyzus americanus)

The yellow-billed cuckoo was listed as threatened under the ESA in October 2014. Critical habitat was also proposed for designation at that time, but not in Washington. In the Pacific Northwest, the species was once 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. The WDFW ranks the species as having historical occurrences only, but is still expected to occur in Washington. The closest known yellow-billed cuckoo sighting to the Mill Creek Project was in 2007 near Eureka, Washington (USFWS, unpublished data) approximately 20 miles to the north. According to the Washington breeding bird atlas, the yellow-billed cuckoo is believed to have been extirpated as a breeder in Washington (Smith et al., 1997).

- **Washington ground squirrel** (*Urocitellus washingtoni*)

The Washington ground squirrel is currently a candidate for listing under the ESA. The Washington ground squirrel occurs in dry grassland or patches of grass and other herbaceous plants within low open sagebrush. They prefer the deep, loose soils needed for digging burrows. The greater part of its current range is uncultivated steppe in Walla Walla, Franklin, Adams, Lincoln, and Grant Counties. The current population range and potential habitat in Walla Walla County is outside of the MCP area. There are no known populations of Washington ground squirrel on Corps-managed lands within the Walla Walla District. The proposed MP would have no effect on Washington ground squirrel.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Considering impacts to Endangered Species includes fish and wildlife impacts. Land and water uses would remain unchanged and management of the land and activities on MCP would be

conducted as in the past. Under the No Action alternative, wildlife populations would evolve from the existing condition in a natural process as habitat changes, influenced by operation of MCP and as human use changes. There would be limited adverse impacts to wildlife species from routine operation and maintenance of facilities, natural and cultural resources using BMPs. Impacts to wildlife would occur with increased human presence. The forecasted increase in visitation would adversely impact wildlife and associated habitat. Wildlife would likely move to alternative habitat areas, off project. Land use modifications on privately owned adjacent property may adversely impact some species from changes to food, escape cover or reproduction cover.

Water Quality degradation would continue in Mill Creek (ESA waters) from surface water contamination, irrigation withdrawal, and high temperatures, adversely impacting fish species. Water quality impacts from operation of recreation and wildlife lands at MCP would remain unchanged. BMPs would continue to be used to eliminate or significantly reduce adverse impacts from routine operation and maintenance of recreation facilities, natural and cultural resources.
Protection actions, related to ESA listed species, would be fulfilled pursuant to the Endangered Species Act and other associated regulations and executive orders. Impacts to endangered fish species are specifically identified as related to operation of MCFLP.

Alternative 2 - Proposed MP. With adoption of the Proposed MP, potential effects to threatened and endangered species from project operation and maintenance and visitor use would be similar to NA/NC. Necessary protection actions would be fulfilled pursuant to the Endangered Species Act and other associated regulations and executive orders. Implementation of the Proposed MP would utilize additional analysis to make changes for anticipated impacts for fish and wildlife habitat in all project actions. Using long-term balanced planning, this alternative would be more effective in protecting ESA species.

3.3.9 Cultural Resources

The Mill Creek drainage lies within the ceded lands of the Confederated Tribes of the Umatilla Indian Reservation and the center of the ethno-historic Liksiyu (Cayuse) people's homeland. There were Liksiyu villages, subsistence grounds, and regional trails associated with Mill Creek. The Fort Walla Walla Timber Reserve (U.S. Army, circa 1858 to 1910) formerly encompassed portions of the federally-owned Mill Creek Project area.

There have been a number of previous archaeological surveys in and around MCP. The majority of these surveys were conducted by the District in support of actions covered under Section 106 of the National Historic Preservation Act (NHPA), or by the CTUIR, who have completed a number of surveys for activities occurring on the adjacent Walla Walla Community College Grounds. For the most part, these surveys have failed to identify new archaeological sites. Based on the past surveys the immediate project area has been identified as having a low probability for containing cultural resources (Falkner et al., 2011).

The Mill Creek Flood Control Project has exceeded 50 years of age and was determined eligible for the National Register, and was documented on a Washington State historic property record (McCroskey, 2009). Contributing elements of the historic property include the Diversion Works, Mill Creek Channel, and the Division Works.

As part of original construction of the Mill Creek Flood Control Project, Mill Creek and Yellowhawk Creek were re-aligned in the MCP vicinity to follow the engineered channel. Construction of the Mill Creek channel caused extensive ground disturbances as the channel, side levees, and adjacent roads were built. The in-stream weirs of the channel were originally rock-filled gabions. They have been modified in the last 50 years to fortify their surfaces with concrete caps, downstream side walls, and downstream rock-filled gabion features.

The proposed updated MP was reviewed by a Corps' archaeologist. The archaeologist concluded there is no potential for this undertaking to affect cultural resources in accordance with Section 106 of the National Historic Preservation Act. See Appendix B, "Cultural Resources Record of Internal Review".

- **Environmental Consequences**

  Alternative 1 - NA/NC. Using the No action alternative, would result in no changes to any process affecting cultural resource protection, and would result in no adverse impacts to cultural resources. Land management actions and activities as well as necessary coordination requirements would remain the same.

  Alternative 2 - Proposed MP. With adoption of the Proposed MP, potential effects to cultural resources from project operation and maintenance and visitor use would be similar to NA/NC. With any construction, or potential for ground disturbing actions, cultural resource reviews are required and would be conducted in the planning process prior to activities taking place on Corps land.

3.3.10 Environmental Justice

Federal agencies are required 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.

- **Environmental Consequences**

  Alternative 1 - NA/NC. Using the No Action alternative, MCP is located on Corps of Engineers' owned property and does not require fees for entrance or use of the facilities or natural resources. The existing MP does not direct actions that would impact specific subsistence, low income, or minority communities.

  Alternative 2 - Proposed MP. With adoption of the Proposed MP, potential effects to environmental justice from project operation and maintenance and visitor use would be similar to NA/NC. The Proposed MP does not direct specific actions that would cause a disproportionate share of negative environmental impacts to a person or group of people.

3.3.11 Climate Change

Indications are that average global atmospheric temperatures are trending upward over the previous several decades, and are correlated to increased atmospheric carbon dioxide levels (IPCC, 2001). Internal combustion engines emit carbon dioxide (CO2) as one byproduct of efficient burning of fuel (gasoline or diesel). International efforts are being directed at reducing carbon release into the atmosphere.

In the Pacific Northwest, changes in snowpack, stream flows and forest cover are already occurring. Future climate change will likely continue to influence these changes. Average annual temperature in the region is projected to increase by 3-10 F by the end of the century. Winter precipitation in the form of rain not snow is projected to increase while summer precipitation is projected to decrease (EPA, 2015).

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. Higher temperatures would increase evaporation rates from the lake, lowering lake elevations, and increasing water temperature, impacting aquatic flora and fauna. Along with rising air temperatures, there would be a corresponding rise in stream temperature. This would likely reduce the quality and suitability of steelhead and bull trout habitat in Mill Creek. Some vegetation throughout the project would exhibit stress response to higher temperature and less precipitation that would adversely impact aesthetics.

- **Environmental Consequences**

  Alternative 1 - NA/NC. There would no effects to climate change as a result of using the No Action alternative. Gradual climate change would continue, in correlation with increasing CO_2 emissions worldwide. However, climate change does have the capability to cause minor effects to the Mill Creek Project with the potential existing for a change in weather patterns (more rain and less snow in the winter).

  Alternative 2 - Proposed MP. With adoption of the Proposed MP, potential effects to climate change and from climate change would be similar to NA/NC.

3.3.12 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 impacts of their actions. Cumulative effects are defined as, "the impact on the environment which results from the 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" (40 CFR § 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. 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.

3.3.12.1 Resources Considered

The District 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 District has identified the following resources that are notable for their importance to the area and potential for cumulative effects. Those resources are:

- Aesthetics
- Vegetation
- Wildlife
- Threatened and Endangered Fish
- Recreation

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 Mill Creek 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 project's impacts, and the environmental setting (EPA 1999).

3.3.12.2 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 the mid-1900s. Actions such as construction and operations of dams and associated levee systems, flood risk management projects, 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 3-1 summarizes the geographic and temporal boundaries used in this cumulative effects analysis.

Table 3-1: Geographic and Temporal Boundaries of Cumulative Effects Area

Resource	Geographic Boundary	Temporal Boundary
Aesthetics	In and Around City of Walla Walla Urban Area	75 years
Vegetation		
Wildlife		
Threatened and Endangered Fish		
Recreation		

The geographic boundary for the cumulative effects analysis for Aesthetics, Vegetation, Wildlife, Threatened and Endangered Fish, and Recreation includes actions taking place in and around the Walla Walla urban area. The timeframe of 75 years was identified based on an approximate construction start of the Mill Creek Project of 1940. For reasonably foreseeable actions, a timeframe of five years into the future has been considered. 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.

3.3.12.3 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.

3.3.12.3.1 Past Actions

Since 1918, the City of Walla Walla has managed the upper Mill Creek watershed solely for the protection of water quality as the City of Walla Walla receives 90 percent of its municipal water supply from the watershed. Access to this area is well controlled and therefore, remains pristine. Mill Creek flow is reduced by about 37 cfs due to these water withdrawals. When Mill Creek flows are very low during summer or when water quality is poor, the supply is supplemented by wells. The original MCFCP was completed in 1942. Major structural components currently include:

- The Mill Creek project office, associated structures, and south levee.
- The division works near the project office. The First Division Works (intake gates and fish ladder) is located at Mill Creek RM 10.5. The Second Division Works (intake gates) is at the downstream end of the Yellowhawk/Garrison canal.
- About one mile of stabilized Mill Creek channel, consisting of levees, riprap, and 84 concrete sills from the First Division Works (including four weirs and a portion of a fifth downstream of the First Division Works) upstream to Bennington Lake Diversion Dam.
- The Bennington Lake Diversion Dam at RM 11.5 (intake canal headworks with radial gates, spillway, low-flow outlet, earth dike, fish drum screens, fish ladder, and forebay) diverts floodwaters from Mill Creek into Bennington Lake, the off-stream storage reservoir.
- An intake canal from Bennington Lake Diversion Dam to Bennington Lake.
- Bennington Lake, Mill Creek Dam, and outlet works.
- The Mill Creek return canal (Bennington Lake back to Mill Creek), and the Russell Creek outlet channel.
- Rooks Park and related recreational facilities.
- Bennington Lake and related recreation facilities.

A concrete-lined auxiliary outlet channel from Bennington Lake Diversion Dam to Russell Creek was later added to the MCFCP, along with additional drainage facilities at the toe of Bennington Lake Diversion Dam. In 1951, the District began capping existing wire bound channel stabilizers (sills) with concrete. Fish ladders were built in 1982 at the Division Works Dam and Bennington Lake Diversion Dam, and boulders were added as fish habitat elements in 1986. Rooks Park was opened in 1965. Many other improvement projects have been implemented at the Mill Creek Project within the last 30 plus years. A “non-exhaustive” list of the District’s past actions include: new restroom and updated play structures at Rooks Park, construction of a new Mill Creek Project office building, construction of three “low-flow” prototype weirs in the channel, dredging the forebay, riprap repair, a new restroom at the division works, and restroom replacement at Bennington Lake.

When the project lands were purchased in the 1940’s, all of the lands south of the bluff were used for wheat production. Wildlife management activities at the MCP were initially conducted by utilizing a cooperative agreement with Washington Department of Fish and Wildlife (WDFW). The 1950s Habitat planting improvements by WDFW provided food and cover for a variety of birds and mammals. WDFW planted approximately 5,000 trees and shrubs, establishing the original meadow, food plot, and tree-shrub plantings.

Walla Walla District began active wildlife-habitat management by establishing 21 tree and shrub habitat areas at the MCP between December 1982 and February 1985. These plantings were conducted as compensation for plants destroyed by the 1980-1982 Mill Creek Dam Outlet Canal Rehabilitation Project.

Parks, City of Walla Walla and College Place

- Development of City Parks in Walla Walla was initiated in 1905. College Place parks development was initiated when the city was incorporated in 1945. There are currently 15 city parks and a municipal golf course in Walla Walla and two city parks in College Place. Both cities have parks that include fishing ponds. City of Walla Walla parks originally included a public swimming pool and two wading pools.

Whitman Mission National Historic Site, National Park Service, Walla Walla, Washington

- Whitman Mission National Historic Site is a United States National Historic Site located 8 miles west of Walla Walla, Washington, at the site of the former Whitman Mission at Waiilatpu. The 98 acre site provides public viewing of the historic location, hiking, picnicking, and interpretive services. The historic site was established in 1936 as Whitman National Monument and was redesignated a National Historic Site on January 1, 1963.

3.3.12.3.2 Effects of Past Actions on Resources

Aesthetics

Parks and the golf course within the city of Walla Walla were well maintained and periodically upgraded since development. Extensive lawns and large shade trees provide positive aesthetics values. Most park areas within Walla Walla or College Place urban development area have limited views due to increased housing development in the city. Parks offer expansive green areas with large mature tree growth. The golf course is mostly surrounded by farmland, with Highway 12 to the south. Users of the golf course are beneficially impacted by views of the Blue Mountains.

The Whitman Mission site is surrounded by farmland. Development is limited in the immediate area around the site. However, aesthetics have been adversely impacted by urban development, periodic highway and road construction and wind turbine development. Adverse impacts are minor due to the overall size of the site and large trees that provide some buffers.

During the past 10 years in the Walla Walla valley wind turbines have been built within the view of visitors travelling through the valley. Wind turbines have been criticized as having a visual impact on the landscape and other environmental impacts such as bird and bat injury, and noise. When conflicts arise, the arguments often center on the scenic and heritage values of a landscapes.

MCP provides a lush green area at Rooks Parks and dry land vegetated areas around Bennington Lake. Recreation and wildlife areas at the lake provide beneficial visual impacts for MCP users. Views from the site are adversely impacted by limited rural development but are compensated by views of the mountains and valley. Past actions include extensive planting of trees and shrubs throughout the site.

The aesthetic value of the MCFCP is more difficult to qualify. During or after flood flows pass through the MCFCP concrete channel, many people can envision those same flows flooding downtown Walla Walla or their neighborhood, so the aesthetic value could be high. In contrast, many people may see the man-made channel as having no resemblance of a natural stream and would value the aesthetic quality as low.

Vegetation

Construction of the MCFCP reduced the amount of riparian trees along Mill Creek. Residential development in and around Walla Walla since the project was constructed also cleared some land of vegetation fragmenting habitat area components for upland game, deer, and numerous small mammals.

When the MCP project lands were purchased in the 1940's, all of the lands south of the bluff were used for wheat production. Wildlife management activities at the MCP were initially conducted by utilizing a cooperative agreement with Washington Department of Fish and Wildlife (WDFW). The 1950s habitat planting improvements by WDFW provided food and cover for a variety of birds and mammals. WDFW planted approximately 5,000 trees and shrubs, establishing the original meadow, food plot, and tree-shrub plantings.

Walla Walla District began active wildlife-habitat management at MCP by establishing 21 tree and shrub habitat areas at MCP between December 1982 and February 1985. These plantings were conducted as compensation for plants destroyed by the 1980-1982 Mill Creek Dam Outlet Canal Rehabilitation Project.

The development and expansion of parks and recreation systems within the Walla Walla city limits and has occurred within the temporal boundaries of this analysis, providing open green space within the urban development areas.

Wildlife

Upstream of MCP, Mill Creek flows through privately owned property. The area was historically used by domestic livestock for grazing and watering. Adverse impacts included damage to vegetation, displacement of some wildlife species and impacts to water quality.

Waterways are typically used as travel corridors by wildlife. Construction of the entire MCFCP effectively eliminated this travel corridor on lower Mill Creek. Continued development within the City of Walla Walla reduced the amount of terrestrial wildlife habitat available in the lower part of the Mill Creek watershed.

Vegetation management on the levees along the Creek has not been performed in more than 20 years. The lack of maintenance in the past has led to establishment of a relatively diverse age stand of woody riparian vegetation, which provides habitat to birds and other wildlife. Along with smaller brush and trees, some mature cottonwood and locust trees can be found on the levees or within 15 feet of the levee edge (or toe).

Wildlife habitat at MCP was improved by WDFW for wildlife in the 1950s and again in the 1980s by establishing new trees and shrubs for wildlife food and cover.

Development for recreation at all sites previously discussed likely adversely impacted wildlife. Adverse impacts would be caused by initial development and the increase in visitors at the recreation development locations.

Threatened and Endangered Fish

The construction of the MCFCP affected the creek, the floodplain, and the resources associated with it. Construction inadvertently created partial fish passage barriers, straightened the creek and cut off the creek from its floodplain. The flood control project continued downstream through the City of Walla Walla, creating approximately six miles of altered creek channel. The Mill Creek Flood Control Zone District manages and maintains the downstream five miles of the channel including vegetation removal.

In addition to the city of Walla Walla's diversion, there is also a diversion point that channels stream flow into Titus Creek, upstream from the MCP (and upstream from 5-mile Road). These flow withdrawals reduce the amount of water available for aquatic resources in Mill Creek, including ESA-listed steelhead and bull trout, downstream of the point of diversion.

Spring Chinook were extinct from the Mill Creek watershed since 1925, due to the Nine Mile Dam on the Walla Walla River, built in 1905. Loss of Chinook from the watershed reduced the amount of juvenile salmon available to bull trout as food as well as reducing the amount of ocean-derived nutrients to the watershed which once benefitted all of the fish species in the creek. Chinook salmon were reintroduced to Mill Creek in 2000. Small numbers of salmon (less than 100) have returned to Mill Creek annually.

Recreation

Adverse impacts to recreation from original construction of MCFCP were negligible. The Project location was traditionally private land without formal public access. Some fishing may have occurred on Mill Creek, however the human population was limited in the Walla Walla area and numerous other fishing opportunities were available locally.

Following construction of MCFCP, recreation was authorized for MCP. Rooks Park was opened in 1965. Many other recreation improvement projects were implemented at the Project within the last 30 years. Development included recreations trails for hiking, biking and horses throughout the project, paved special use trails, restrooms, interpretive displays, parking, boat ramp, signing, updated play structures, and a new MCP office building.

Increased population in and around Walla Walla influenced the number of users at MCP. In response to increased use, actions occurred to better accommodate higher visitor numbers while protecting natural resources. Although visitors, in large number would adversely impact other users, improved facilities, management of use and designed buffers ameliorate adverse impacts. Outdoor recreation at MCP provided beneficial impacts.

In Walla Walla, outdoor recreation facilities development was initiated in early 1900s, prior to development of recreation at MCP. In the 1940's recreational development began in College Place. Parks provided beneficial impacts for visitors in an informal recreation setting. With construction of MCP in the 1940's and later, impacts to recreation at MCP were negligible, related to limited population growth and demand for different kinds of recreation provided at city parks as compared to dispersed recreation activities at MCP. Whitman National Historic site also provided different types of recreation for visitors.

In more recent years the availability of lake recreation at MCP has significantly increased visitor use. Facility modifications made to increase capacity, such as new restroom facilities, additional parking, interpretive messaging and signing were used to manage conservation of natural resources.

3.3.12.3.3 Present Actions

Present actions at MCP include operation and routine maintenance of the flood risk management project. In 2015, work will include the additional following actions:

- Vegetation plantings
- Levee vegetation removal for MCFCP
- Construction of new MCP maintenance building
- Proposed adoption of an updated Mill Creek Project Master Plan

Several short sections of the county-owned segment of the flood control channel have recently been modified to improve fish passage conditions. These efforts were led by the Tri-State Steelheaders. Additional work to improve fish passage throughout this lower portion of the channel is also likely to occur as funding becomes available.

3.3.12.3.4 Effects of Present Actions on Resources

Aesthetics

Parks and the golf course within the city of Walla Walla and College Place are well maintained and upgraded since development. Aesthetics continue to improve as vegetation, such as the shade trees, within the park setting, mature.

Present actions within the MCP and in Mill Creek have generally positive effects on aesthetics of the area. Removal of old buildings and construction of new buildings on the Corps-managed land improve the appearance of the federally owned portion of the project. Development of an updated master plan would provide public involvement in a process to develop fresh ideas for how the federally owned land and resources should be managed.

Vegetation

MCP continues to manage vegetation through removal and replacement of vegetation that is damaged to assure healthy physical condition of plants and safety for visitors. The Project continues to add vegetation to provide habitat diversity for the benefit of wildlife. A weed control program is under way to meet noxious weed control requirements and lessen competition with desirable habitat species.

Levee vegetation removal is a flood risk management requirement. Removal of vegetation from and adjacent to the levees between the diversion dam and the first division dam assures engineered level of flood protection is provided. Removal of the established trees would cause wildlife disturbance and would adversely impact some terrestrial wildlife due to reduction of riparian habitat.

Wildlife

The increasing quantity of human development and lack of quality wildlife habitat along Mill Creek through the city of Walla Walla continues to negatively affect terrestrial resources. However, at the watershed scale, the Mill Creek corridor provides high value habitat for many wildlife species. Present actions of the MCFCP maintain the poor quality of terrestrial wildlife habitat in the lower watershed while protection of the upper area of the watershed promotes high quality habitat in that area.

Present actions within the MCP and in Mill Creek have generally positive impacts on wildlife of the area. Habitat is managed for protection of multiple species. Removal of levee vegetation will adversely impact several bird species. Belted kingfisher perch within the braches close to the creek where they hunt for minnows and other small fish. Osprey also uses the tree branches for hunting perches. There are two or more great blue heron nests close to the vegetation removal area. These nests may not be removed with the trees, but they would become more open to the elements and may become unsuitable for use in the future.

Construction of the new maintenance building would disturb some terrestrial wildlife. The building location is a site that already is use for maintenance activities and storage. Limited wildlife would be in the area. Impacts from disturbance would be minor and short term.

Threatened and Endangered Fish

Steelhead and to a lesser extent bull trout benefit from the fish passage modifications to the MCFCP. Resting areas and lower jump heights allow these fish to expend less energy to reach the upper watershed where they spawn and rear.

Flow diversions for the City of Walla Walla and at Titus Creek would continue to reduce the flow through the Mill Creek Flood Control Project area.

Recreation

Adoption of the proposed MCP Master Plan will guide the comprehensive management and development of all project recreation, natural and cultural resources. The MP would promote stewardship and sustainability of project resources. Recreation use has increase over the last twenty years from 150,000 in 1994 to over 330,000 visits in 2014.

3.3.12.3.5 Reasonably Foreseeable Future Actions

Future actions in the immediate area of MCP include continuing operation and maintenance of the Mill Creek Flood Control Project and the following proposed actions:

- Reline Jones Ditch culvert and outfall structure and reservoir road crossing
- Remove Diversion Dam interior silt
- Replace expansion joints in return canal (if the lake is used to bypass flows and this route is used to put water back to Mill Creek).
- Build ADA compliant paved trails in Rooks Park
- Install five additional picnic shelters
- Continue planting vegetation on federally-managed land utilizing volunteer assistance
- Manage vegetation for wildlife habitat specific requirements
- Install signing for user management
- Improve facilities for disabled users

Fish passage improvements led by the Tri-State Steelheaders would continue as funding allows. The goal is to create a channel where steelhead and bull trout (and Chinook salmon) can pass at a wide range of flows while maintaining the designed flood capacity.

Commercial and residential development within and surrounding the city of Walla Walla would likely continue into the future. City of Walla Walla park and recreation program would continue and expand as population increases. The city of Walla Walla passed a bond issue to construct a public swimming facility near Borleski Field, northeast of downtown, beginning in 2016.

3.3.12.3.6 Effects of Reasonably Foreseeable Future Actions on Resources

Aesthetics

The planned city of Walla Walla public pool facility, located adjacent to Boleski Field will add positive aesthetics values for users and nearby visitors.

Future effects to aesthetics within the Mill Creek watershed are very difficult to predict. Many people would accept that development is going to continue to occur in and around Walla Walla and might be neutral on the aesthetic quality of the area. Installation of additional picnic shelters and construction of an Americans with Disabilities Act (ADA) trail in Rooks Park on the federally-managed portion of the MCFCP would likely be seen as improving the aesthetic quality of the immediate area.

The planned project to remove vegetation for flood risk management from the Mill Creek levees in MCP will reduce aesthetic values along the stream and recreation trails.

Vegetation

In the Walla Walla valley, farming practices would continue as in the past. Some vegetation would be removed as land is developed for other purposes such as single and multiple family housing. This is mitigated to some extent by new landscaping, including planting trees as part of the development. On MCP land, trees and shrubs would be planted as funding and availability of volunteer efforts allow.

Maintenance and operation of city parks and the Whitman Mission site would continue as in the past with negligible impacts to vegetation.

Wildlife

Present actions within the MCP and in Mill Creek have generally beneficial impacts on wildlife of the area. Habitat is managed for protection of multiple species. The developed and use of parks in Walla Walla and College Place would have negligible impacts on wildlife. Added visitation at these sites, as the area population grows, may adversely impact certain wildlife species.

Threatened and Endangered Fish

The operation and maintenance activities of MCP mentioned would not adversely impact ESA-listed fish species. Planning continues for future modification for improved fish passage, such as alteration of stream weirs to improve fish passage during low flows.

Fish passage improvements to the MCFCP would benefit steelhead and bull trout directly by creating better passage conditions, but also indirectly by allowing more Chinook salmon and the nutrients they carry to reach the upper watershed.

Recreation

Walla Walla and College Place city parks and golf course would continue to be used and managed at the existing condition for the reasonably foreseeable future. Minor population growth will occur in the next five years and may require additional recreation facilities. The addition of the proposed pool facility in Walla Walla may influence the use of public pools at alternate location. For example, families currently traveling to Milton-Freewater for pool recreation may change to the new Walla Walla pool location.

Increased visitation at MCP would require management to prevent user conflicts where there are physical limitations based on total recreation lands available. Increased use at the city parks would set in motion redistribution of users to Corps' facilities and recreation lands at MCP.

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

Aesthetics

The landscape within the area which provides much of the view quality has not changed extensively during the past 10 years. Within the future period of analysis limited development is feasible. Most land use would continue as currently used for agriculture. Changes in agricultural crops are possible, but it is unlikely they would negatively impact aesthetics unless crops that require physical security (fencing and lighting) are produced or processing facilities would be built in the Walla Walla Valley. Additional development such as new housing would occur, requiring infrastructure development. For example, roads, sidewalks, signing, power lines, etc. would negatively impact aesthetics. Wind turbines will continue to be considered as causing adverse impacts to aesthetics. Impacts to urban parks would be negligible.

At MCP, where vegetation is modified for improved habitat, the aesthetic value would be reduced temporarily, likely not impacting recreation users. With long-term balanced planning, this alternative would be more effective in creating beneficial impacts for aesthetics at the project level, by protecting natural and cultural resources through improved vegetation management, facility development and management of visitor use. The Proposed MP, when combined with past, present, and reasonable foreseeable future actions is not expected to have a significant effect on aesthetics.

Vegetation

Management of vegetation within the geographic boundary would remain reasonably constant for the period of analysis. There would be minor changes in crop rotation in the area and yearly management of crops, such as burning. MCP would be operated to maintain vegetation in parks and for wildlife habitat through thinning, replanting, and weed control. Upgrades to wildlife habitat maintenance would continue as they are approved.

The Proposed MP at MCP would not contribute to cumulative impacts to vegetation. Adoption of the MP guidance and updated analysis of current conditions and wildlife needs would assist in sustaining the natural ecosystem process for many habitats and protecting regional populations of wildlife species that use and/or require the habitat

characteristics associated with MCP lands and waters. The Proposed MP, when combined with past, present, and reasonable foreseeable future actions is not expected to have a significant effect on vegetation.

Wildlife

Generally, wildlife populations have remained at stable populations during the past ten years within the geographic boundary. Impacts caused by new housing construction and increased human occupation along Mill Creek and changes to agricultural crops, such as dry land wheat to grapes, generates adverse and beneficial impacts to a variety of wildlife species. As human population grows in the valley and development increases to support the human population, wildlife will be displaced.

Visitor use continues to increase at MCP, temporally impacting some species spatially Adoption of the Proposed MP would not significantly contribute to the potential for ongoing adverse impacts to wildlife as human population increases in the valley and recreational use grows at MCP. The land base at MCP makes up less than one percent of the total area within the geographic boundary Based on MP objectives, future management will effectively improve wildlife habitat conditions, including food, cover, and reproduction. The Proposed MP, when combined with past, present, and reasonable foreseeable future actions is not expected to have a significant effect on wildlife.

Threatened and Endangered Fish

Two ESA listed fish species, mid-Columbia steelhead and Columbia Basin bull trout, are found in Mill Creek in the proposed project area. Critical habitat is designated for steelhead and bull trout. The Corps has determined there will be no effect to these species or their critical habitats, there will be no adverse effects to Essential Fish Habitat, the Fish and Wildlife Coordination Act does not apply. The Proposed MP at MCP, when combined with past, present, and reasonable foreseeable future actions is not expected to have a significant effect on threatened and endangered fish species.

Recreation

Increasing human population and available recreational opportunities will continue to drive impacts to recreation in the reasonably foreseeable future. Recreational demand will continue to grow marginally during the next 5 years as the regional population increases. Walla Walla and College Place city parks, golf course, and pool facilities will be fully utilized. Impacts to other recreation lands in the area such as the Whitman Mission National Historic site, will be negligible. Based on anecdotal evidence, public use at MCP will increase in the next 5 years but adverse impacts would be negligible.

The Proposed MP at MCP would not significantly contribute to cumulative effects to recreation. Recreation needs of the public at MP would be better accommodated through the implementation of the Proposed MP. Future recommendations would be based on review of existing facilities, resource suitability and carrying capacity, environmental and social effects. There would be modernization and upgrading of existing facilities and improved management of natural resources. The Proposed MP, when combined with past, present, and reasonable foreseeable future actions is not expected to have a significant effect on aesthetics.

SECTION 4– COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REVIEW REQUIREMENTS

Section 4 identifies the legal, policy, and regulatory requirements that could affect each proposed alternative. The MP will not, when adopted, authorize any new site specific actions. Those will be identified in future 5-year OMPs, which may require tiered NEPA review. The following paragraphs address the principal environmental review and consultation requirements applicable to the Proposed MP. Pertinent Federal treaties, statutes, and executive orders (EO) are included.

4.1 Treaties and Native American Tribes

Treaties between the United States and regional mid-Columbia/lower Snake River tribes document agreements reached between the federal government and the tribes. In exchange for Native American tribes ceding much of their ancestral land, the government established reservation lands and guaranteed that it would respect the treaty rights, including fishing and hunting rights. These treaties, as well as statutes, regulations, and national policy statements originating from the executive branch of the federal government provide direction to federal agencies on how to formulate relations with Native American tribes and people. Treaties with area tribes (e.g., Treaty of June 9, 1855, Walla Walla, Cayuse, Etc., , 12 Stat. 945 (1859)) explicitly reserved unto the tribes certain rights, including the exclusive right to take fish in streams running through or bordering reservations, the right to take fish at all usual and accustomed places in common with citizens of the territory, and the right 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 lands. These reserved rights include the right to fish within identified geographical areas.

Adoption of the Proposed MP would have no adverse impacts on important treaty resources.

4.2 Federal Statutes

- **National Environmental Policy Act (NEPA)**

  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 EIS is required. This EA documents the evaluation and consideration of potential environmental effects associated with the proposed action.

This EA has been prepared and is being circulated to agencies, tribes, and the public for review and comment pursuant to requirements of NEPA. No impacts significantly affecting the quality of the human environment have been identified at this time. If no such impacts are identified during the public review process, compliance with NEPA would be achieved upon the signing of a FONSI. However, if such impacts are identified during the public review, an EIS would be required. Compliance with NEPA would then be achieved upon completion of an EIS and the signing of a Record of Decision.

The adoption of the Proposed MP would be in compliance with this act. Subsequent implementing plans would be subject to further tiered review under NEPA.

- **The Endangered Species Act (ESA)**

  The 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, 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 a Biological Assessment (BA) that analyzes the potential effects of major actions on listed species and critical habitat.

  Adoption of the Proposed MP would have no adverse impacts on endangered or threatened species and would be in compliance with the Act. Implementation of specific actions under the MP or OMP would require assessment of effects to species and critical habitat in compliance with ESA.

A Federal Natural Resources Law Compliance and Biological Evaluation is provided in Appendix A

- **The Magnuson-Stevens Fishery Conservation and Management Act (MSA)**

  As amended, the MSA (Public Law 94-265), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for fisheries regulated under a federal fisheries management plan. Federal agencies must consult with National Marine Fisheries Service (NMFS) on all proposed actions authorized, funded, or carried out by the agency that may adversely affect EFH. Steelhead and bull trout are the only species in the area affected by the MSA.

  The adoption of the Proposed MP would have no effect on steelhead or bull trout or EFH. The proposed action would be in compliance with this act.

- **The National Historic Preservation Act (NHPA)**

  Section 106 of the NHPA (16 USC 470; recently codified at 54 USC 306108) requires that federal agencies evaluate the effects of federal undertakings on historic properties and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertakings. The first step in the process is to identify cultural resources included in (or eligible for inclusion in) The National Register of Historic Places (NRHP) that are located or near the study area. The second step is to identify the possible effects of proposed actions. The lead agency must examine whether feasible alternatives exist that would avoid such effects. If an effect cannot reasonable be avoided, measures must be taken to minimize or mitigate potential adverse effects. Specific actions to be taken following approval of the proposed Master Plan will require project-specific determination of effects in accordance with Section 106 of the NHPA.

  The Corps has determined that adoption of the Proposed MP has no potential to affect historic properties. In accordance with NHPA Section 106, and it's implementing regulations, 36 C.F.R. Part 800, the Corps has no further obligation to consult on adoption of the proposed Master Plan. However, as noted above, any project-specific actions implemented subsequent to adoption of the proposed Master Plan will require a determination of effect, and consultation with State Historic Preservation Officers, Tribal Historic Preservation Officers, and interested parties where applicable in accordance with Section 106 of the NHPA.

  A Cultural Resources Record of Internal Review is provided in Appendix B.

- **Native American Graves Protection and Repatriation Act (NAGPRA)**

  The NAGPRA (25 USCA. 3001) addresses the discovery, identification, treatment, and repatriation of Native American (and Native Hawaiian) human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony. This act also establishes fines and penalties for the sale, use, and transport of Native American cultural items.

  The adoption of the Proposed MP does not require or trigger compliance with the Act. Future site actions will be reviewed for compliance with this Act.

- **Federal Water Pollution Control Act (Clean Water Act (CWA))**

  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.

  Adoption of the Proposed MP does not require or trigger compliance with the CWA. Future site specific actions will be reviewed for compliance with the Act.

- **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 will continue to coordinate with affected Native American tribes on the Proposed MP.

- **Archaeological Resources Protection Act (ARPA)**

  The Archeological Resources Protection Act (16 USC 470aa-470ll) provides for the protection of archeological sites located on public and Native American lands, establishes permit requirements for the excavation or removal of cultural properties from public or Native American lands, and establishes civil and criminal penalties for the unauthorized appropriation, alteration, exchange, or other handling of cultural properties.

  The Corps will continue to protect archeological resources and sites on lands within the Corps' jurisdiction, in accordance with the Act.

- **The 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 Proposed MP would have no adverse impacts on air quality and be in compliance with the Act. Implementing plans or actions would require subsequent review to ensure compliance with CAA

- **The Fish and Wildlife Coordination Act**

  The Fish and Wildlife Coordination Act (FWCA) of 1934 requires federal agencies involved in water resource development projects to consult with the USFWS and the state agency administering wildlife resources concerning proposed Federal water resources development projects that could result in the control or modification of a natural stream or body of water that might have effects on the fish and wildlife resources that depends on the body of water or it's associated habitat.

  Adoption of the proposed MP would not be subject to the act as it does not "result in the control or modification of a natural stream or body of water"

The adoption of the Proposed MP would be in compliance with the Act. Implementing plans or actions would require subsequent review to ensure compliance with FWCA.

- **The Migratory Bird Treaty Act (MBTA)**

  The MBTA (16U.S.C. S 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. The MBTA prohibits the harming, harassment, and take of protected species, except as permitted by the USFWS.

  A wide variety of species listed under the MBTA occur on Corps managed lands within the action area. There will be no take of migratory birds and this action will not conflict with the purpose of the MBTA. The adoption of the Proposed MP would be in compliance with the MBTA. Implementing plans or actions would require subsequent review to ensure compliance with MBTA.

- **The Bald and Golden Eagle Protection Act (BGEPA)**

  The 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 on 50 CFR 22.3. Bald eagles are known to nest throughout Corps managed lands in the Walla Walla District. While nest sites have not been documented in the District, locations of some nests are known. Throughout most of the western United States golden eagles are mostly year-long residents. No golden eagles are known to occur or nest in the project area.

  The adoption of the Proposed MP would be in compliance with the BGEPA and would not result in disturbance or take of bald or golden eagles. Implementing plans or actions would require subsequent review to ensure compliance with BGEPA.

- **Watershed Protection and Floodplain Management Act**

  The purpose of the Watershed Protection and Flood Prevention Act is to protect watersheds from erosion, floodwater, and sediment damages. The Act provides assistance programs to local organizations for the protection of watersheds, including risk management. The proposed project is in compliance with the Act.

  The adoption of the Proposed MP would not affect upstream watersheds or the designed levels of flood protection provided by Mill Creek. Implementing plans or actions would require subsequent review to ensure compliance with WPFMA.

4.3 Executive Orders

- **Executive Order 11990, Protection of Wetlands, May 24, 1977 ok**

  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 wetland. Wetlands are regulated under Section(s) 401 and 404 of the Clean Water Act. Section 401, Water Quality Certification, ensures compliance with water quality standards. Section 404 regulates activities within the Waters of the U.S., which includes Dworshak Reservoir and its surrounding tributaries. The Walla Walla District is responsible for implementing and complying with these regulations. The effects to wetlands for all alternatives are essentially the same. However, the intent of the proposed MP would provide additional protection as the priority is responsible stewardship and sustainability.

  Wetlands would not be impacted by adoption of the Proposed MP. A detailed review of site specific actions will be completed to ensure wetland values and functions will not be affected. Implementing plans or actions would require subsequent review to ensure compliance with the EO.

- **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 proposed 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 proposed MP does not direct specific actions that would cause a disproportionate share of negative environmental impacts to a person or group of people. If, in the future, specific resources are impacted by implementation of the MP, such as new road or facility construction or vegetation modification, a full review of those actions will be required by NEPA.

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

- **Executive Order 13007, Native American Sacred Sites, May 24 1986**

  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 Proposed MP will not adversely affect any Native American sacred site. The Corps will consult with tribes in the future when implementing the MP, as appropriate, concerning sacred sites in compliance with the EO.

- **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 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."

The Corps sent letters offering government-to-government consultation to the Nez Perce Tribe and Confederated Tribes of the Umatilla Indian Reservation (CTUIR) in April 2015. The Corps also sent letters to the CTUIR and Nez Perce Tribes in April 2015, requesting scoping comments regarding the proposed MP update. The CTUIR requested government to government consultation. On June 18, 2015 Corps and CTUIR staff met and discussed the Mill Creek Master Plan. This EA, draft FONSI and the Draft MP and will be provided to the Nez Perce and the CTUIR Tribes in August 2015, with a letter requesting review and comment.

The Proposed MP will not, when adopted, authorize any new site specific actions, which could have tribal implications or affect tribal governments. Site specific actions will be identified in future 5-year OMPs, which will require tiered NEPA review and compliance specific to all applicable laws. The Corps did, however, offer consultation with the Nez Perce and the CTUIR on development and proposed adoption of the MP.

4.4 State and Local Regulations

On a case-by-case basis, state or local laws and ordinances may also be applicable to any potential project implementation, based on aspects of the individual project. A state water quality certification is an example of a potential instance where a state permit or authorization may be a requirement for project implementation. Adoption of the Proposed MP would not trigger compliance with any state of local laws or regulations. On a case by case basis these requirements will be addressed for site specific actions under OMPs.

SECTION 5 – PUBLIC COORDINATION, CONSULTATION, AND COORDINATION

5.1 Public Scoping Process

A 30 day public scoping process for the new MP was initiated in March, 2015. More than 50 letters were sent to interested public, organizations, stakeholders, federal and state congressional offices, and agencies offering the opportunity to comment on the scoping process for the master plan update.

The Corps of Engineers conducted a public scoping meeting in Walla Walla on March 31, 2015, to support the MP update. Scoping meetings are a useful tool to obtain information from the public and governmental agencies. For a planning process such as the MP revision, the scoping process was also used as an opportunity to get input from the public and agencies about the vision for the MP update and the issues that the MP should address where possible. The meeting was attended by approximately 80 individuals. The Corps received suggestions and comments related to management issues and recreation at the Mill Creek Project. A majority of the comments focused on:

- Public safety concerns related to hunting
- Improved signage and trail markers
- Control of invasive plant species

Public scoping meeting comment responses are provided in Appendix C.
The general concept presented was to protect the natural aspects of the lake and surrounding area to enhance the fish and wildlife habitat. Comments compiled from attendees at the public scoping meeting and other sources were used to update the MP.

In 2015, the Corps developed a webpage to disseminate information and collect comments for the MP update. The Draft and Final MP, Draft FONSI and EA will be placed on this webpage, at the location identified below.

5.2 Draft Document Review

The Draft MP, Draft FONSI and EA were released to the public in September 2015 for a 30 day review period. Comments received from review of the Draft MP, Draft FONSI and EA would be summarized, with comment responses becoming an attachment to the final FONSI. The Draft MP, Draft FONSI and EA can be viewed on the Districts website at:

(http://www.nww.usace.army.mil/Missions/Projects/MillCreekMP.aspx)

5.3 Tribal Coordination

The Corps sent information letters to the Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) on April 16, 2015, during the MP scoping process. The letters to CTUIR and the Nez Perce Tribe also offered Government to Government consultation. The CTUIR responded with a letter on April 30, 2015 seeking formal consultation. On May 18, 2015 Corps and CTUIR technical staff met and discussed the proposed Mill Creek Master Plan update. Although this was not formal consultation between the Corps and the CTUIR, Corps staff conveyed background and information regarding the master planning process and proposed content. Coordination on the MP update continues with the Tribes throughout this process

In, September 2015, the Corps sent letters to the CTUIR and the Nez Perce Tribe requesting review and comment on the Draft Proposed MP, Draft FONSI and EA.

SECTION 6 – ACRONYMS AND ABBREVIATIONS

CEQ	**Council on Environmental Quality**
CFS	**Cubic Feet Per Second**
ESA	**Endangered Species Act**
EA	**Environmental Assessment**
EIS	**Environmental Impact Statement**
EO	**Executive Order**
EP	**Engineering Pamphlet**
ER	**Engineering Regulation**
FCP	**Flood Control Project**
MCFCP	**Mill Creek Flood Control Project**
MCFZD	**Mill Creek Flood Control Zone District**
MCP	**Mill Creek Project**
MP	**Master Plan**
MSL	**Mean Sea Level**
NHPA	**National Historic Preservation Act**
NEPA	**National Environmental Policy Act**
OMP	**Operational Management Plan**
PL	**Public Law**
RM	**River Mile**

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APPENDIX A

FEDERAL NATURAL RESOURCES LAW COMPLIANCE AND BIOLOGICAL EVALUATION

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

MILL CREEK MASTER PLAN

MILL CREEK PROJECT

Federal Natural Resources Law Compliance
and
Biological Evaluation

ADMINISTRATIVE RECORD – DO NOT DESTROY

FILE NUMBER: PM-EC-2014-0058

July 2015

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Summary

The U.S. Army Corps of Engineers, Walla Walla District (Corps) proposes to update the Mill Creek Project Master Plan. Updating the Master Plan is a Federal action which requires an environmental review. This biological evaluation, as well as an Environmental Assessment, is part of the review.

Endangered Species Act-listed species for Walla Walla County, WA include: Mid-Columbia River steelhead, bull trout, yellow-billed cuckoo, Canada lynx, and gray wolf. Washington ground squirrel is listed as a candidate species. Critical habitat is designated for steelhead, bull trout and Canada lynx. The Corps has determined there will be no effect to these species or their critical habitats, there will be no adverse effects to Essential Fish Habitat, the Fish and Wildlife Coordination Act does not apply, there will be no take under the Migratory Bird Treaty Act, and there will be no disturbance or take under the Bald and Golden Eagle Protection Act.

This action may require further review in order to re-analyze the potential adverse effects on federal resource species or habitats if any significant changes in the action are proposed or occur after the date of this document.

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Benjamin Tice
Biologist
U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

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Benjamin Morris
Biologist/Reviewer
U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

1. Background

The U.S. Army Corps of Engineers, Walla Walla District (Corps) proposes to update the Mill Creek Project Master Plan. The existing Master Plan is more than 20 years old.

The Mill Creek Project (Project) is located within Walla Walla County, east of the City of Walla Walla (Figure 1). Figure 2 shows the various parts of the Project.

The Master Plan update will provide a current comprehensive description of the Project, a discussion of factors influencing resource management and development, identification and discussion of special problems (issues), a synopsis of public involvement and input to the planning process, and description of past, present, and possible future development.

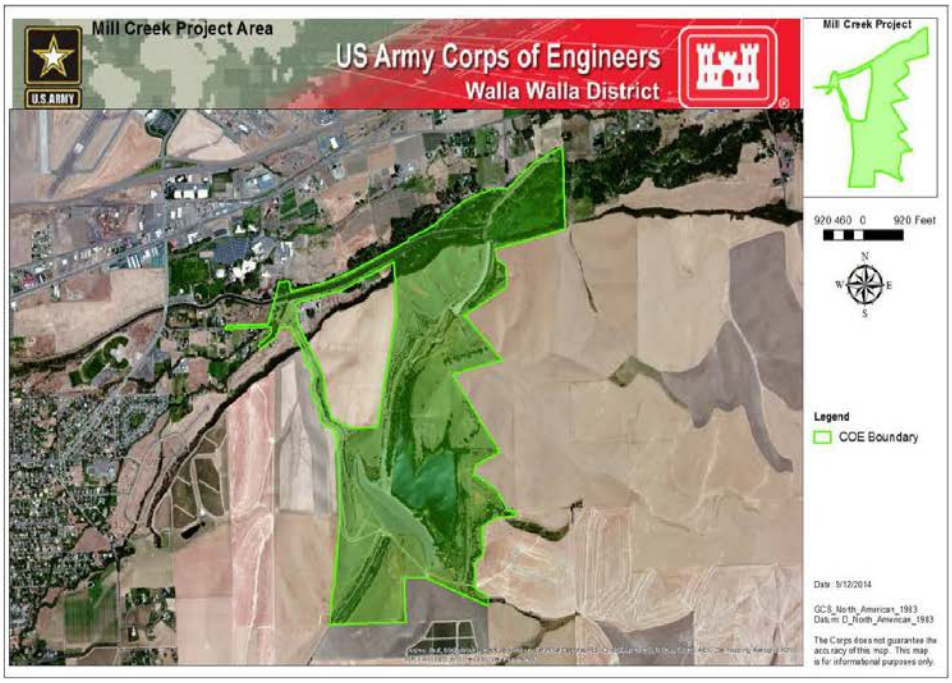

Figure 1. Location of the Mill Creek Project.

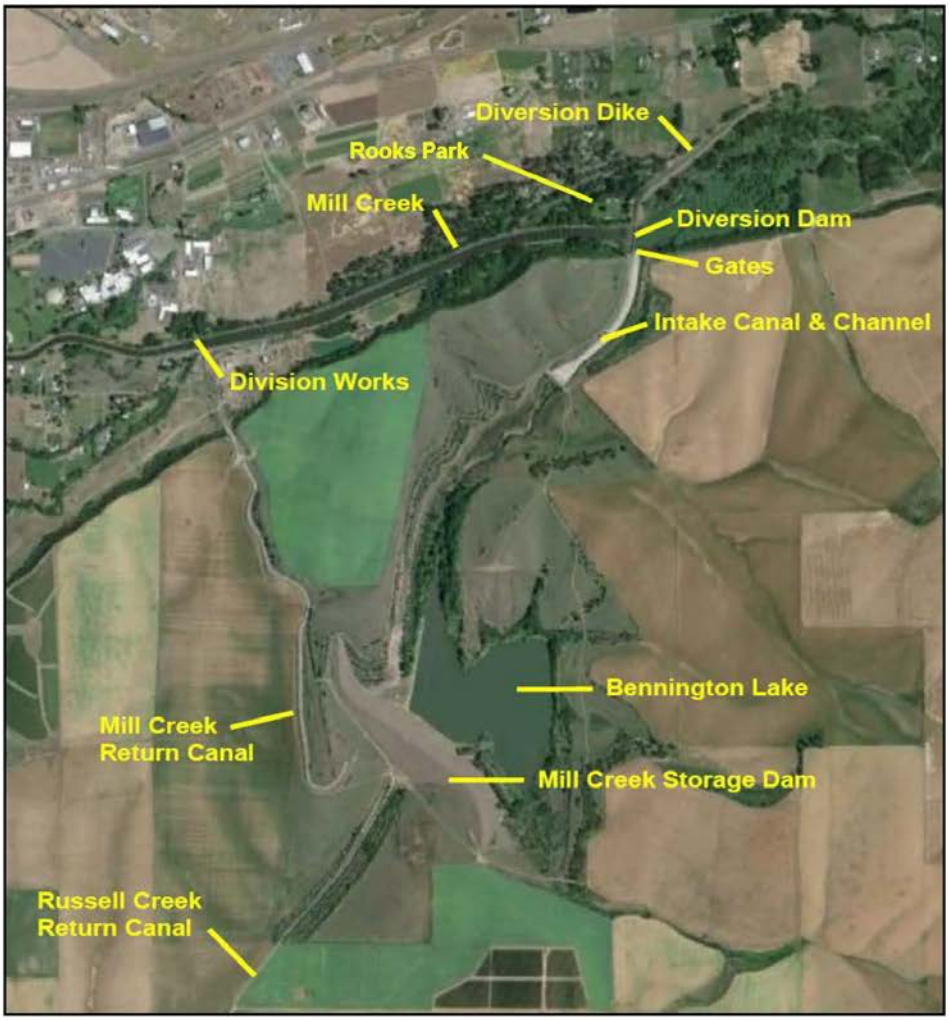

Figure 2. Elements of the Mill Creek Project.

2. Project Purpose

The purpose of the action is to update the Mill Creek Project Master Plan. Updating the Master Plan is needed because the existing Mill Creek Master Plan is more than 20 years old and provides an inadequate base with which to evaluate current and future

land and resources management (e.g. increasing demand for recreational opportunities). The intent of the proposed Master Plan is to develop a guide to the sustainable use of resources at the Project.

3. Project Description

The proposed Master Plan will replace the 1993 Master Plan. Corps policies require updated Master Plans to authorize changes in facilities, use and resource management, and to accommodate regional changes and requirements such as Project operations to meet ESA requirements. Engineer Pamphlet (EP) 1130-2-550, dated 30 June 2013, provides the following Master Plan guidance. "A current, approved [Master Plan] 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 [Master Plan]". The primary objective of this Master Plan is to publish a clear, concise, and strategic land use document that will guide the comprehensive management and development of all Project recreational, natural, and cultural resources throughout the life cycle of the Project.

The Master Plan will focus on four primary components that were not included in the 1993 document, or that need expanded analysis, including: (1) regional investigation of recreational and ecosystem needs; (2) project resource capabilities and suitability; (3) expressed public interests that are compatible with authorized purposes; (4) National Environmental Policy Act compliance, including a Cumulative Effects Assessment.

Master Plan goals must include the following:

a. Provide the best management practices to respond to regional needs, resource capabilities, suitability's, and expressed public interests consistent with authorized project purposes;

b. Protect and manage project natural and cultural resources through sustainable environmental stewardship programs;

c. Provide public outdoor recreation opportunities that support project purposes and public demands created by the project itself while sustaining project natural resources;

d. Recognize the particular qualities, characteristics, and potentials of the project; and

e. Provide consistency and compatibility with national objectives and other state and regional goals and programs.

4. Schedule

The Master Plan update is an administrative action. There are no time limitations as to when the plan can be implemented.

5. Federal Natural Resources Laws

5.1. Endangered Species Act of 1973

On July 17, 2015 the Corps reviewed the current list of threatened and endangered species that pertain to the areas affected by this action under jurisdiction of the National Marine Fisheries Service (NMFS), as well as the list for species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) for Walla Walla County, WA (01EWFW00-2015-SLI-0783). The compiled species list is shown in Table 1.

Table 1. Species that may occur in the area potentially affected by this action.

Species	Scientific Name	Status	Critical Habitat
NMFS Listed Species			
Mid-Columbia River Steelhead	*Oncorhynchus mykiss*	Threatened	Yes
USFWS Listed Species			
Bull Trout	*Salvelinus confluentus*	Threatened	Yes
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened	Not in WA
Canada Lynx	*Lynx canadensis*	Threatened	No
Gray Wolf	*Canis lupus*	Endangered*	No
Washington Ground Squirrel	*Urocitellus washingtoni*	Candidate	No

*Delisted in eastern Washington.

5.1.1. Middle Columbia River Steelhead

Middle Columbia River steelhead were listed as threatened in March 1999. The listing was reaffirmed in January 2006 and again in April 2014. Critical habitat was designated in September 2005. Critical habitat is designated in Mill Creek and Yellowhawk Creek. These two creeks are used as migration corridors for adult steelhead to reach upstream spawning grounds anywhere from December through June. Some kelts also migrate downstream after spawning. The creeks are also used for downstream passage and some rearing of juvenile steelhead year-round.

The proposed update to the Master Plan does not include in-water work and will not affect the creeks in any way. The proposed action will not include any in-water work or effects to the creeks. The Corps has determined that it will have no effect on steelhead in the Project area or their designated critical habitat. Any future construction action will be analyzed at that time.

5.1.2. Bull Trout

Bull trout were originally listed as threatened in July 1998, while critical habitat for these fish was listed in September 2010. Critical habitat is designated in Mill Creek and Yellowhawk Creek.

Bull trout exhibit four distinct life history patterns: anadromous, adfluvial, fluvial, and resident. Anadromous populations spend the early portion of their life in streams, grow to adulthood in the ocean, and eventually return to the tributaries in which they were born to spawn. Adfluvial populations spend between one and four years growing in their natal stream and then migrate to lakes. Likewise, fluvial populations migrate to larger rivers after a few years in their natal stream. Resident bull trout spend their entire lives in or near the stream where they hatched. Bull trout are most likely to occupy this section of Mill Creek and Yellowhawk Creek during fall and winter months (October – March).

Because the proposed Master Plan update will not include any in-water work or effects to the creeks, the Corps has determined that it will have no effect on bull trout in the project area or their designated critical habitat.

5.1.3. Yellow-billed Cuckoo

Yellow-billed cuckoo was listed as threatened in October 2014. Critical habitat was proposed for designation on August 15, 2014, however, no critical habitat was proposed for Washington. They are often found in woodlands near streams, rivers, or lakes, but yellow-billed cuckoos occur most frequently and consistently in cottonwood (*Populus spp.)* forests with thick understory (Taylor 2000). In North America, their preferred habitats include abandoned farmland, old fruit orchards, successional shrubland, and dense thickets. In winter, yellow-billed cuckoos can be found in tropical habitats with similar structure, such as scrub forest and mangroves. Individuals may be on breeding grounds between May and August. None are known to nest in Washington State.

In the Pacific Northwest, the species was 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. The species was rare east of the Cascade Mountains in these states and provinces. It may now be extirpated from Washington (USFWS 2008).

Because there are no known yellow-billed cuckoo in the Project area and no trees will be affected by the Master Plan update, the Corps has determined that the proposed action will have no effect on yellow-billed cuckoo.

5.1.4. Canada Lynx

Canada lynx were listed as threatened in 2000. Critical habitat was designated in 2006. Lynx in the contiguous United States are at the southern margins of a widely distributed range across Canada and Alaska. The center of the North American range is in north-central Canada. Lynx occur in mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare (Ruggiero et al. 2000). These forests are generally described as boreal forests. Lynx survivorship, productivity, and population dynamics are closely related to snowshoe hare density in all parts of its range. A minimum density of snowshoe hares (1.2 hares per acre) distributed across a large landscape is necessary to support survival of lynx kittens and recruitment into and maintenance of a lynx population.

Based on their necessary habitat requirements, Canada lynx do not occur in any areas that are part of this action. There will be no effect on Canada lynx. In addition, there is no designated critical habitat for Canada lynx in the Project area and therefore there will be no effect on Canada lynx critical habitat.

5.1.5 Gray Wolf

On May 5, 2011, the USFWS announced they were proposing to delist the gray wolf, in accordance with the April 15, 2011 legislation, reinstating the Service's 2009 decision to delist biologically recovered gray wolf populations in the Northern Rocky Mountains. Walla Walla County is within the delisted Distinct Population Segment (DPS). Wolves that occur outside of the boundaries of this DPS remain federally listed as endangered.

Gray wolves were once fairly common in Washington. Records exist of wolves near the Walla Walla Valley and in other parts of Washington. Currently, wolf packs and individuals have been confirmed in the Selkirk Mountains of northeastern Washington and in the northern Cascade Mountains (WDFW 2009). Wolves have also recently been reported to be seen in the Blue Mountains of southeast Washington.

Gray wolves are known to traverse between northeast Oregon and southeast Washington. There were unconfirmed reports of three wolves at the Mill Creek Project in 2012. However, since this action is preparation of a Master Plan with no construction, the Corps has determined the action will have no effect on gray wolves.

5.1.6 Washington Ground Squirrel

Washington ground squirrel was designated as a candidate species under the ESA in 2006. This squirrel spends much of its time underground. Adults emerge from hibernation between January and early March, depending on elevation and microhabitat conditions, with males emerging before females. Their active time is spent in reproduction and fattening for their six-month or longer dormancy. Adults return to their burrows by late May to early June, and juveniles return about a month later. Washington ground squirrels produce only one litter of young per year due to their limited period of activity and reproduction.

This small mammal occupies areas with a greater grass and forb cover than adjacent surrounding areas. The greater part of its current range is uncultivated steppe in Walla Walla, Franklin, Adams, Lincoln, and Grant Counties. Washington ground squirrels are not known to be found within the Mill Creek Project area.

There are no known populations of Washington ground squirrel in the Project area. Consequently, the proposed action will have no effect on any individuals of this species.

5.2. Magnuson-Stevens Fishery Conservation and Management Act of 1976, as Amended

The consultation requirement of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (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). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

The Walla Walla River subbasin (HUC 17070102) has been identified as currently accessible, but unutilized, historic EFH for Chinook and coho salmon. The proposed Master Plan update is an administrative action and will not have any impact on the creek. There will be no adverse modification or effects to EFH from the proposed action.

5.3. Fish and Wildlife Coordination Act of 1958, As Amended

The Fish and Wildlife Coordination Act (FWCA) authorizes the USFWS to evaluate the impacts to fish and wildlife species from proposed Federal water resource development projects that could result in the control or modification of a natural stream or body of water that might have effects on the fish and wildlife resources that depend on that body of water or its associated habitats. The proposed action will not affect the creek in any way. This action does not involve activities subject to the FWCA.

5.4. Migratory Bird Treaty Act of 1918, As Amended

The Migratory Bird Treaty Act (MBTA) 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.

A wide variety of species listed under the MBTA occur on Corps managed lands within the Mill Creek Project. Since the proposed action is administrative in nature, the Corps has determined there will be no take of migratory birds and this action will not conflict with the purposes of the MBTA.

5.5. Bald and Golden Eagle Protection Act of 1940, As Amended

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 on 50 CFR 22.3.

Bald eagles are known to nest throughout Corps managed lands in the Walla Walla District. While all nest sites have not been documented in the District, locations of some are known. Though bald eagles are infrequent visitors to the Mill Creek Project, no nests are known to occur in or in the Project area.

Throughout most of the western United States golden eagles are year-long residents (Polite and Pratt 1999), breeding from late January through August with peak activity in March through July (Polite and Pratt 1999). They may also move down-slope for winter or upslope after the breeding season (Polite and Pratt 1999; Technology Associates 2009). No golden eagles are known to occur or nest in or near the Mill Creek Project.

There is no known nesting for bald or golden eagles near the Project location. Eagle use of the area is very limited, possibly due to an inadequate food supply or high human presence. Consequently, the proposed action will not conflict with the purposes of the BGEPA and no disturbance or take will occur.

6. Determination Summary

After a review of the species and critical habitats listed, the Corps has determined that there will be no effect to species or critical habitat listed under the Endangered Species Act, there will be no adverse effects to Essential Fish Habitat, the Fish and Wildlife Coordination Act does not apply, there will be no take under the Migratory Bird Treaty Act, and there will be no disturbance or take under the Bald and Golden Eagle Protection Act. Table 2 summarizes these determinations.

This action may require further review in order to re-analyze the potential adverse effects on federal resource species or habitats if any significant changes in the action are proposed or occur after the date of this document.

Table 2. Determinations for the area potentially affected by this action.

ESA Determinations		
Common Name	**Species**	**Critical Habitat**
NMFS		
Mid-Columbia River Steelhead	No Effect	No Effect
USFWS		
Bull Trout	No Effect	No Effect
Yellow-billed Cuckoo	No Effect	No Effect
Canada Lynx	No Effect	No Effect
Gray Wolf	No Effect	None Designated
Washington Ground Squirrel	No Effect	None Designated
MSA		
No Adverse Effects		
FWCA		
Not Applicable		
MBTA		
No Take		
BGEPA		
No Disturbance or Take		

7. References

Polite, C. and J. Pratt. 1999. Bald eagle (*Haliaeetus leucocephalus*). California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group. Available at: http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=17512

Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires. 2000. The scientific basis for lynx conservation: qualified insights. Pages 443-454 *in* L.F. Ruggiero, K.B Aubry, S.W. Buskirk, et al. Ecology and conservation of lynx in the contiguous United States. University Press of Colorado, Boulder.

Technology Associates. 2009. Draft species account: golden eagle (*Aquila chrysaetos*). Yolo National Heritage Program. Available at: http://www.yoloconservationplan.org/yolo_pdfs/speciesaccounts/birds/golden-eagle.pdf

USFWS (U.S. Fish and Wildlife Service). 2008. Species assessment and listing priority assignment form: *Coccyzus americanus*.

APPENDIX B

CULTURAL RESOURCES RECORD OF INTERNAL REVIEW

CENWW-PM-PD-TC

Cultural Resources Record of Internal Review

The following provides a record of internal review regarding the potential for historic properties and effects for:

Project Name:	Implementation of the Mill Creek Master Plan
Record Date:	21 July 2015
Record Author:	Scott M. Hall
USACE Project Location:	Mill Creek Flood Control Project
Project County, State:	Walla Walla County, Washington
Township, Range, Section:	Secs. 13, 14, 23, 24, 25 and 26, T7N, R36E
USGS Topographic Maps:	USGS 7.5' Quadrangle "Walla Walla, Wash." (1998)
Landowner:	Corps of Engineers
Cultural Report No.:	2015-NWW-038
Compliance Project No.:	PM-EC-2014-0058

Project Description:

The U.S. Army Corps of Engineers, Walla Walla District (Corps) proposes to adopt a new Master Plan (MP) for the Mill Creek Project (MCP) (*Figures 1 and 2*). This document would replace the 1993 MP. The Corps' Engineer Pamphlet 1130-2-550, date 30 June 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 this MP is to publish a clear, concise, and strategic land use document that will guide the comprehensive management and development of all project recreational, natural, and cultural resources throughout the life cycle of the project. The intent of the proposed MP is to develop a guide to the sustainable use of resources at the Project. Updating the MP is needed because the existing Mill Creek MP is more than 20 years old and provides an inadequate base with which to evaluate contemporary (current and future) land and resources management (e.g. increasing demand for recreational opportunities).

The MP would focus on four primary components that were not included in the 1993 document, or that need expanded analysis, including: (1) regional investigation of recreational and ecosystem needs to help guide future plans; (2) project resource capabilities and suitability; (3) expressed public interests that are compatible with authorized purposes; and (4) National Environmental Policy Act (NEPA) compliance, including a Cumulative Effects Assessment. The MP update would provide a current comprehensive description of the project, a discussion of factors influencing resource management and development, identification and discussion of special problems (issues), a synopsis of public involvement and input to the planning process, and description of past, present, and proposed future development.

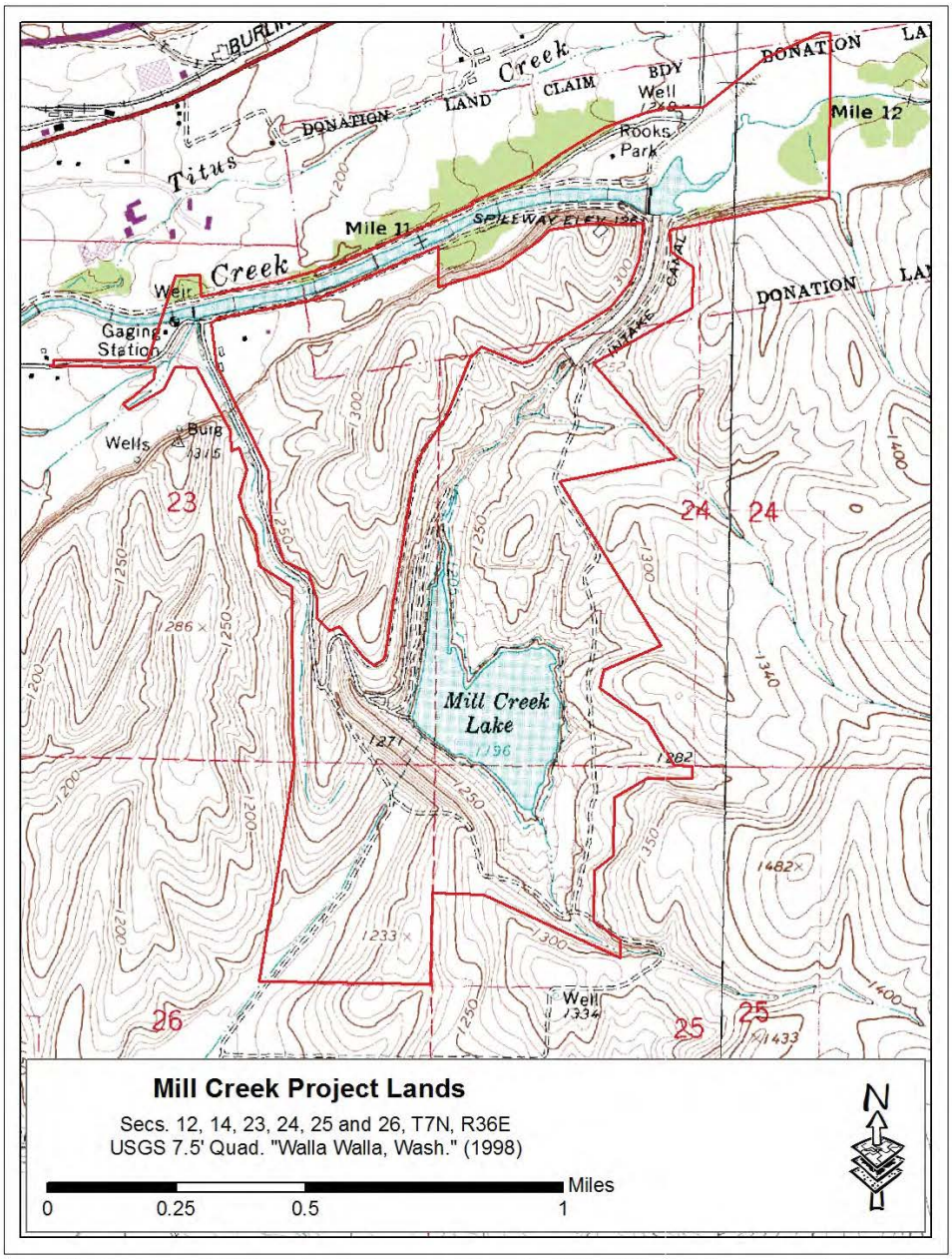

Figure 1. Overview of MCP project lands projected on the 1998 USGS 7.5' Quadrangle "Walla Walla, Wash." (1998).

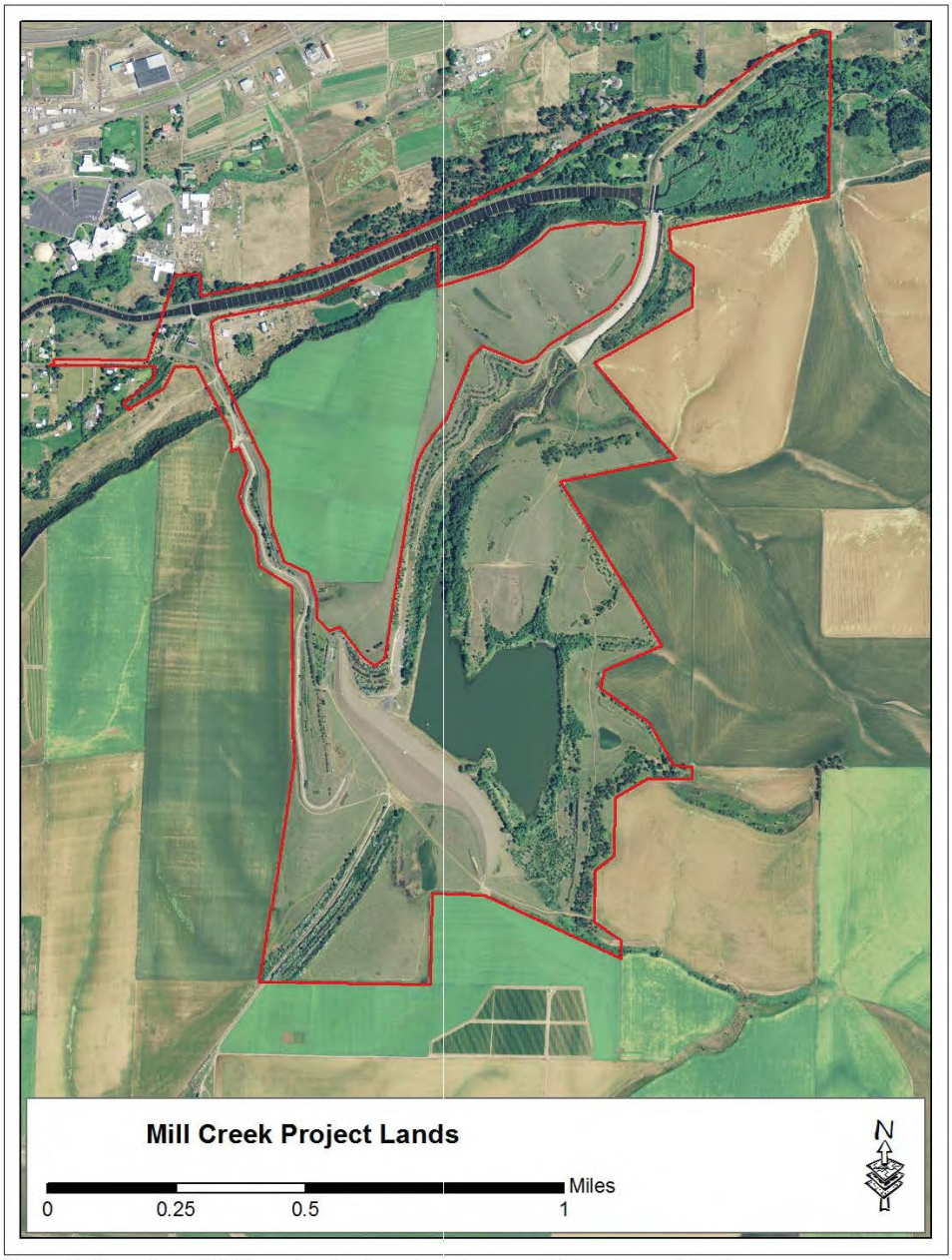

Figure 2. Overview of MCP project lands projected over a 2013 orthographic photo.

Implementation of a MP for the MCP is an undertaking as described in Section 106 of the NHPA and its implementing regulations, 36 Code of Federal Regulations Part 800. However, because the MP is only a platform for future planning, and clearly stipulates that any actions implemented as a result of the plan would require a stand-alone review under Section 106 of the National Historic Preservation Act, the implementation of the MCP MP has no potential to affect historic properties.

Finding:

☒	No Undertaking/No Potential to Cause Effects	☐	No Historic Properties Affected

☒ No Undertaking/ No Potential to Cause Effects: There is no undertaking as defined in Section 800.16(y), or there is an undertaking but it is not the type of activity that has the potential to cause effects on historic properties, and the lead Federal Agency has no further obligation to consult on the activity.

Certification of Results:

I certify that this investigation was conducted and documented according to Secretary of Interior's Standards and guidelines and that the report is complete and accurate to the best of my knowledge.

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Scott M. Hall, Archaeologist
US Army Corps of Engineers

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Leah M. Bonstead, Archaeologist and Peer Reviewer
US Army Corps of Engineers

APPENDIX C

MASTER PLAN PUBLIC SCOPING MEETING COMMENT RESPONSES

Public Scoping Meeting Comment Responses	
Regarding recreation use around Mill Creek, what are your concerns or issues?	
Discourage/ban/ seperate hunting (safety issue)	x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x
Allow hunting	x x x
Provide volunteer opportunities	x x
Improved signage and wayfinding	x x x x x x x x
More seating along Mill Creek	x
Provide educational opportunites/ programming	x x
bathroom backside of lake	x x
dock at lake to assist with launching boats	x
facilities for horses	x x
open Rooks Park year round	x
additional reservable group shelter	x
Acquire more land	x x x
Levee vegetation concerns	x x x x x x x x x
improve wetlands and streams above diversion dam	x
fish passage at diversion dam	x
control invasive plant species	x x x x
allows dogs off leash	x x x
Dogs must be on leash	x x x
limit horses to certain trails	x x x x x
keep the project naturalistic	x x x
keep horses off trails after rainstorms	x
focus on clean-up (especially dog poop)	x x

Public Scoping Meeting Comment Responses

Regarding recreation use around Mill Creek, what are your concerns or issues?

educate the public on negative impacts of littering and harassing wildlife	x												
continue horse riding	x	x	x	x	x	x	x	x	x	x	x	x	x
more trash receptacles	x												
bird platform (osprey/owl)	x	x	x										
Bennington to rooks park paved bike trail	x												
separate trail for skateboarders	x												
ADA trail around lake	x												
swimming beach away from boat ramp	x												
speed limit along paved mill creek trail	x												
No dogs	x												
After hours lake access	x												
horse friendly bridge near rooks park	x												
bridge along north end of lake	x												
address historical pipe and conc sections on S. side of mill creek properly	x												
re-seed upland grasslands	x	x											
keep Russian olive band below Bennington dam	x												
plant cottonwood, red osier dogwood, willow around Bennington lake	x												
limit vehicles during fishing weekends	x												
reservation system for hunting	x												
speed bumps along Mill Creek paved path	x												
whitetail trail closed and restored	x												
dogs on leash April-Aug	x												
bicycles restricted to paved surfaces	x												

APPENDIX D

VEGETATION INVENTORIES

VEGETATION INVENTORIES

The following table lists plant species found in the terrestrial habitats at Mill Creek Project. The source for this table was the Mill Creek Lake Final Environmental Impact Statement (1975).

Vegetation Inventory for five areas at Mill Creek Project, Walla Walla, Washington.

/a/ Units are as follows: 1 - Forebay
2 - Diversion Canal
3 - Lake
4 - Lake Road
5 - Mill Creek Channel

COMMON NAME	SCIENTIFIC NAME	AREAS 1	2	3	4	5
TREES						
Douglas Maple	*Acer glabrum*	X				X
White Alder	*Alnus rhombifolia*	X				
Netleaf Hackberry	*Celtis reticulata*		X	X		
Redosier Dogwood	*Cornus stolonifera*					
Columbia Hawthorn	*Crataegus columbiana*		X	X		
Douglas Hawthorn	*Crataegus douglasii*	X	X	X	X	X
Russian Olive	*Elaeagnus angustifolia*	X	X	X	X	X
Rocky Mountain Juniper	*Juniperus scopulorum*					X
Austrian Pine	*Pinus nigra*	X	X	X	X	X
Ponderosa Pine	*Pinus ponderosa*					X
Black Cottonwood	*Populus trichocarpa*	X	X	X		X
Sweet Cherry	*Prunus avium*					X
Sour Cherry	*Prunus cerasus*					X
Cultivated Pear	*Pyrus communis*			X		
Cultivated Apple	*Pyrus malus*	X			X	X
Black Locust	*Robinia pseudo-acacia*	X	X	X	X	X
Bebb Willow	*Salix bebbiana*					X
Coyote Willow	*Salix exigua*	X		X		X
Pacific Willow	*Salix lasiandra*	X		X		X
Mackenzie Willow	*Salix rigidia*	X				X
Chinese Elm	*Ulmus parvifolia*	X				X

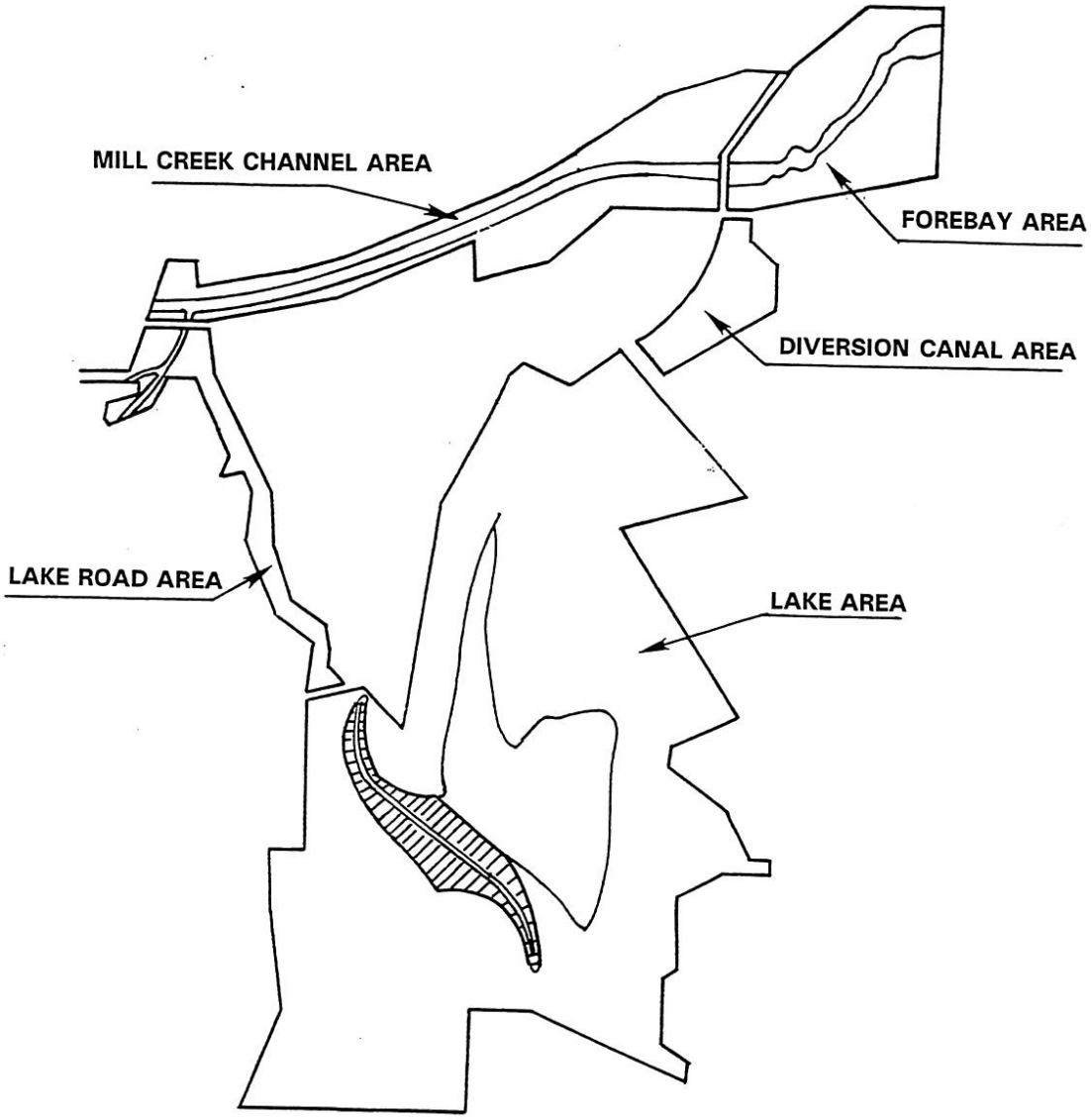
COMMON NAME	SCIENTIFIC NAME	AREAS 1	2	3	4	5
SHRUBS						
Saskatoon Serviceberry	*Amelanchier alnifolia*	X	X	X	X	
Siberian Peashrub	*Caragana arborescens*		X	X	X	
Tam Juniper	*Juniperus sabina*					X
Utah Honeysuckle	*Lonicera utahensis*		X	X	X	
	Mahonia a					X
Matrimonyvine	*Lycium halimifolium*		X	X	X	
Cultivated Plum	*Prunus domestica*		X	X	X	
Common Chokecherry	*Prunus virginiana*	X	X	X	X	X
Smooth Sumac	*Rhus glabra*	X	X	X	X	X
	Rhus typina					
Cultivated Rose	*Rosa multiflora*		X	X	X	
Nootka Rose	*Rosa nutkana*	X	X	X	X	X
Wood's Rose	*Rosa woodsii*	X			X	X
Red Raspberry	*Rubus idaeus*	X				
Evergreen Blackberry	*Rubus laciniatus*					X
Thimbleberry	*Rubus parviflorus*	X				
Pacific Blackberry	*Rubus ursinus*	X				X
Blue Elderberry	*Sambucus cerulea*	X	X	X	X	X
Mountain Snowberry	*Symphoricarpos oreophilus*	X	X	X	X	X
FORBS						
Yarrow	*Achillea millefolium*	X	X	X	X	X
Bastard Indigo	*Amorpha fruticosa*	X				X
Tarweed Fiddleneck	*Amsinckia lycopsoides*	X	X	X	X	X
Rigid Fiddleneck	*Amsinckia retrorsa*	X	X	X	X	X
Mayweed Chamomile	*Anthemis cotula*	X	X	X	X	X
Hemp Dogbane	*Apocynum cannabinum*		X	X		
Common Burdock	*Arctium minus*	X			X	X
Showy Milkweed	*Asclepias speciosa*	X	X	X	X	
Asparagus	*Asparagus officinalis*	X	X	X	X	X
Shepherd's Purse	*Capsella bursa-pastoris*	X			X	X
Bachelor's Button	*Centaurea cyanus*	X				X
Yellow Star-Thistle	*Centaurea solsytitiallis*	X	X	X	X	X
Lambsquarter	*Chenopodium album*	X	X	X	X	X
Hairy Goldaster	*Chrysopsis villosa*	X	X	X	X	
Wild Succory	*Cichorium intybus*	X				X
Canada Thistle	*Cirsium arvense*	X	X	X	X	X
Bull Thistle	*Cirsium vulgare*	X				
Western Virginsbower	*Clematis ligusticifolia*	X	X	X	X	X
Narrow-Leaf Collomia	*Collomia linearis*		X	X		

COMMON NAME	SCIENTIFIC NAME	AREAS 1	2	3	4	5
FORBS (Continued)						
Poison Hemlock	*Conium maculatum*	X	X	X	X	X
Hare's-Ear Mustard	*Conringia orientalis*	X	X	X	X	X
Field Morning Glory	*Convolvulus arvensis*	X	X	X	X	X
Wild Carrot	*Daucus carota*	X	X	X	X	
Teasel	*Dipsacus sylvestris*	X	X	X	X	X
Autumn Willow-Weed	*Spilobium paniculatum*	X	X	X	X	X
Field Horsetail	*Equisetum arvense*	X				X
Smooth Scouring-Rush	*Equisetum laevigatum*	X	X	X	X	X
Stork's Bill	*Erodium cicutarium*	X	X	X	X	X
Gaillardia	*Gaillardia aristata*				X	
Cleavers	*Galium aparine*	X	X	X	X	X
Sticky Purple Geranium	*Geranium viscosissimum*		X	X		
Resinweed	*Grindelia squarrosa*		X	X		
Common Sunflower	*Helianthus annuus*		X	X		
Cow-Parsnip	*Heracleum lanatum*	X				
Klamath Weed	*Hypericum perforatum*	X	X	X	X	X
Streambank Mallow	*Iliamna rivularis*	X				X
Drummond's Rush	*Juncus drummondii*					X
Dagger-Leaf Rush	*Juncus ensofolius*	X				X
Prickly Lettuce	*Lactuca serriola*	X	X	X	X	X
Few-Flowered Peavine	*Lathyrus pauciflorus*				X	
Clasping Pepperweed	*Lepidium perfoliatum*	X			X	X
Fern-Leaved Lomatium	*Lomatium dissectum*		X	X		X
Velvet Lupine	*Lupinus leucophyllus*	X	X	X	X	
Sweep's Brush	*Luzula campestris*					X
Dwarf Mallow	*Malva neglecta*	X				X
Common Horehound	*Marrubium vulgare*	X				X
Pineapple Weed	*Matricaria matricarioides*	X	X	X	X	X
Black Medic	*Medicago lupulina*	X	X	X	X	X
Alfalfa	*Medicago sativa*	X	X	X	X	X
Yellow Sweetclover	*Melilotus officinalis*	X	X	X	X	
Peppermint	*Mentha piperita*	X				X
Spearmint	*Mentha spicata*					X
Yellow Monkey Flower	*Mimulus guttatus*					X
Miner's Lettuce	*Montia perfoliata*					X
Catnip	*Nepeta cataria*	X	X	X	X	X
Scotch Thistle	*Onopordum acanthium*	X	X	X	X	X
Corn Poppy	*Papaver rhoeas*	X				
Virginia Creeper	*Parthenocissus quinquefolia*					X
Whiteleaf Phacelia	*Phacelia hastata*					X
Mockorange	*Philadelphus lewisii*	X			X	X

COMMON NAME	SCIENTIFIC NAME	AREAS 1	2	3	4	5
FORBS (Continued)						
Buckhorn Plantain	*Plantago lanceolata*	X	X	X	X	X
Rippleseed Plantain	*Plantago major*					X
Prostrate Knotweed	*Polygonum aviculare*	X	X	X	X	X
Self-Heal	*Prunella vulgaris*					X
Bracken Fern	*Pteridium aquilinum*	X				X
Creeping Buttercup	*Ranuncuius repens*					X
Sheep Sorrel	*Rumex acetosella*	X	X	X	X	X
Curly Dock	*Rumex crispus*	X	X	X	X	X
Willow Dock	*Rumex salicifolius*	X	X	X	X	X
Russian Thistle	*Salsola kali*	X	X	X	X	X
Bouncing Bett	*Saponaria officinalis*					X
Jim Hill Mustard	*Sisymbrium altissimum*	X	X	X	X	X
Hedge Mustard	*Sisymbrium officinale*	X				X
Climbing Nightshade	*Solanum dulcamara*	X	X	X		X
Smooth Goldenrod	*Solidago gigantea*	X				
Goldenrod	*Solidago sp.*	X	X	X		X
Common Sow-Thistle	*Sonchus oleraceus*	X				X
Chickweed	*Stellaria media*					X
Common Dandelion	*Taraxacum officinale*	X	X	X	X	X
Yellow Salsify	*Tragopogon dubius*	X	X	X	X	X
Meadow Salsify	*Tragopogon pratensis*	X				X
Puncture-Vine	*Tribulus terrestris*	X				X
Twin Clover	*Trifolium latifolium*					X
Common Cattail	*Typha latifolia*	X	X	X		X
Big Stinging Nettle	*Urtoca dioica*	X				X
Moth Mullein	*Verbascum blattaria*	X				X
Flannel Mullein	*Verbascum thapsus*	X			X	X
Bracted Verbena	*Verbena bracteata*	X	X	X	X	X
American Brooklime	*Veronica americana*					X
Purslana Speedwell	*Veronica peregrina*					X
Hairy Vetch	*Vicia villosa*	X	X	X		
GRASSES						
Tall Wheatgrass	*Agropyron elongatum*	X	X	X	X	X
Intermediate Wheatgrass	*Agropyron intermedium*	X	X	X	X	X
Wild Oat	*Avena fatua*	X	X	X	X	X
Rattlesnake Grass	*Bromus brizaeformis*		X	X		
Ripgut	*Bromus rigidus*	X	X	X	X	X
Cheat Grass	*Bromus tectorum*	X	X	X	X	X
Orchard Grass	*Dactylis glomerata*	X	X	X	X	X

COMMON NAME	SCIENTIFIC NAME	AREAS 1	2	3	4	5
GRASSES (continued)						
Giant Wildrye	*Elymus cinereus*	X	X	X	X	X
Blue Wildrye	*Elymus glaucus*	X	X	X	X	X
Purple Eragrostis	*Eragrostis pectinacea*					X
Idaho Fescue	*Festuca idahoensis*					X
Fescue Grass	*Festuca sp.*	X	X	X	X	X
Sweetgrass	*Hierochloe odorata*					X
Charming Barley	*Hordeum leporinum*	X	X	X	X	X
Perennial Ryegrass	*Lolium perenne*					X
Common Witchgrass	*Panicium capillare*	X				
Reed Canarygrass	*Phalaris arundinacea*	X	X	X	X	X
Common Timothy	*Phleum pratense*					X
Canada Bluegrass	*Poa compresa*					X
Alkali Bluegrass	*Poa juncifolia*	X	X	X	X	
Kentucky Bluegrass	*Poa pratensis*	X	X	X	X	X
Bluegrass	*Poa sp.*	X	X	X	X	X
Cultivated Rye	*Secale cereale*		X	X	X	X
Cultivated Wheat	*Triticum aestivum*	X	X	X	X	X

MILL CREEK PROJECT
WALLA WALLA, WASHINGTON
VEGETATION INVENTORY



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APPENDIX E

DRAFT MILL CREEK PROJECT MASTER PLAN

The full text of the proposed Draft Master Plan is also available on the Corps website:

http://www.nww.usace.army.mil/Missions/Projects/MillCreekMP.aspx)

MILL CREEK PROJECT MASTER PLAN

US Army Corps
of Engineers ®
Walla Walla District

DRAFT September 2015

PREFACE

The Master Plan for Mill Creek Project was first approved in May 1, 1961. Subsequent revisions were prepared with the latest revision approved on November 20, 1993. The Master Plan is intended to serve as a guide for the orderly and coordinated development, management, and stewardship of all lands, facilities, and water resources of the project. It presents data on existing conditions, anticipated recreational use and type of facilities needed to service anticipated use, sensitive resources requiring protection, and an estimate of future requirements. Since the 1993 master plan revision the project has seen a consistent growth in visitor use which has created increased demands on public lands and resources. These new demands on project resources as well as new management procedures and directives within U.S. Army Corps of Engineers (USACE), has dictated the preparation of this Master Plan revision.

This revised Master Plan presents an inventory of land resources and how they are classified, existing park facilities, an analysis of resource use, anticipated influences on project operation and management, and an evaluation of future needs (to provide a balanced management plan for cultivating the value of the land and water resources). Included in the revised Master Plan is an evaluation of expressed public opinion, new resource objectives, and a new land classification system. The format for this plan is outlined in Engineer Regulation/Engineer Pamphlet 1130-2-550 (dated Jan 2013), which sets forth policy and procedure to be followed in preparation and revision of project Master Plans. This guidance is different from the original Master Plan format, which was a design memorandum. A listing of previous Master Plan design memorandums and supplements can be found in Section 1.7.

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1. INTRODUCTION

1.1 PROJECT AUTHORIZATION

The construction of the Mill Creek Flood Control Project (Mill Creek Project or project) was authorized by the Flood Control Act of 1938 (Public Law 75-761). Regarding flood control, The Act authorized the construction, operation, and maintenance of the Mill Creek Flood Control Project to protect the city of Walla Walla and adjacent lands from flooding.

The development of recreation was authorized at Mill Creek under Section 4 of the Flood Control Act of 1944 (Public Law 78-534, 78th Congress, 2d Session), as amended by the Flood Control Acts of 1946, 1954, and 1962. The Flood Control Act of 1944 allows project waters to be open for public use (*i.e.*, boating, fishing, and other recreational purposes). It also provides for ready access to and from areas along the shores of the project maintained for general use, when in the public interest. Recreation was further encouraged at the Mill Creek Project when the Federal Water Project Recreation Act of 1965 (PL 89-72, 89th Congress, 1st session, 9 July 1965), as amended, established recreational potential at Corps of Engineers (Corps) water resource projects as a full project purpose.

1.2 AUTHORIZED PURPOSES

1.2.1 Flood Risk Management (FRM) – The purpose of the Corps' flood risk management mission is to reduce the threat to life and reduce property damage from riverine and coastal flooding. The Mill Creek Flood Control Project was designed to reduce the negative impacts of periodic flooding from Mill Creek and, thus, prevent extensive damage to the city of Walla Walla and the agricultural lands in the vicinity. Historically, several damaging floods have had disastrous effects on the city of Walla Walla and lands downstream.

1.2.2 Recreation – The Corps is the leading Federal provider for outdoor recreation. As host to 370 million visitors per year, the Corps plays a major role in meeting the outdoor recreation needs of Americans. The Federal Water Project Recreation Act of 1965 established recreational potential at Mill Creek Flood Control Project as a full project purpose. At Mill Creek a variety of facilities including day use and picnic areas, boat ramp, visitor center, and trails are provided for public use at no cost.

1.3 PURPOSE AND SCOPE OF MASTER PLAN

The Mill Creek Master Plan, hereafter referred to as Plan, Master Plan, or MP, is a strategic land used document that guides the comprehensive management and development of all project recreational, natural, and cultural resources throughout the life of the project. This Plan guides and articulates Corps responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. It is dynamic and flexible based on changing conditions. This Plan focuses on overarching management goals and objectives. Details of design, management and administration, and implementation are addressed in the *Mill Creek Operational Management Plan* (OMP). The OMP is a five-year

management plan that details information required to implement the concepts described in the master plan. This Plan does not address regional water quality, water management, or the operation and maintenance of project operations facilities. The Master Plan is based on responses to regional and local needs, resource capabilities and suitability and expressed public interests consistent with authorized project purposes and regulations. Mill Creek Project (project) MP was last updated in 1993. A revision the MP is warranted due to the age of the existing MP, changes in Corps policy and guidance regarding Master Plans, and increased visitor use.

1.4 PROJECT DESCRIPTION

The Mill Creek Project is located along Mill Creek approximately 3.5 miles east of the city of Walla Walla within the Mill Creek watershed. (Plate 1-1) The project lies completely within Walla Walla County. Construction of the dam and its associated works was completed in 1942. The project consists of the Mill Creek Channel, Bennington Lake and associated federal lands. The dam and reservoir portions of the channel and lands are operated and maintained by the Corps. The project provides for flood risk management, recreation, fish and wildlife habitat, and irrigation. Since 1942, more than $71.2 million in potential flood damages have been prevented by the project's combined storage and channel operations.

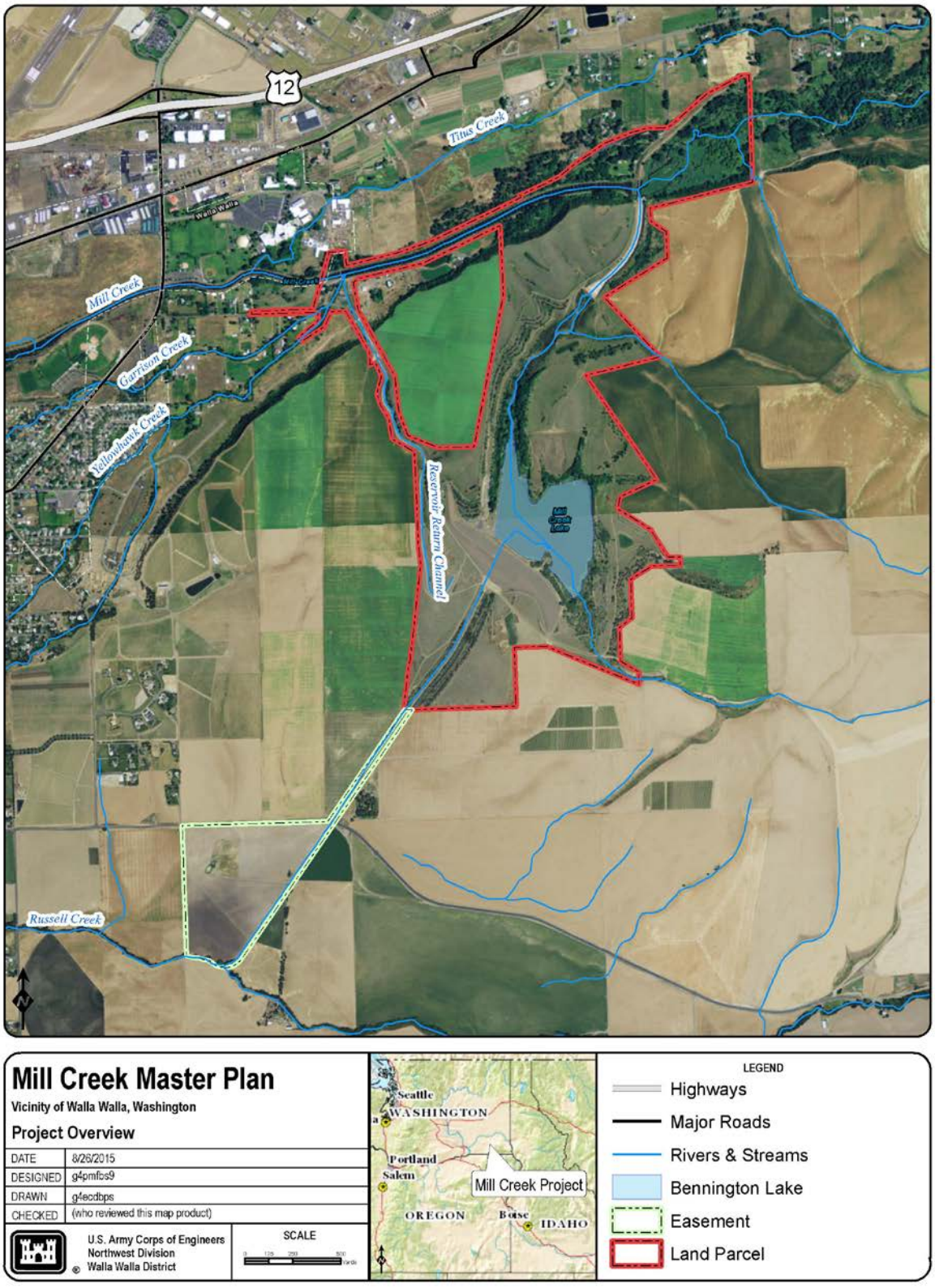


Plate 1-1 Mill Creek Project Overview

1.5 MILL CREEK RESOURCE USE GOALS

Resource goals provide the overall framework that guide the use of resources administered by the Corps of Engineers at a project site. The goals listed below and objectives listed within this master plan are specific to Mill Creek and its individual areas, and specify attainable options for resource development and management. They have been developed through study and analysis of regional needs, expressed public desires, resource capabilities, resource potential, and are formulated to guide and direct the overall resource management program.

Project Operations.

Continue to safely, effectively, and efficiently provide benefits to the public consistent with the authorized project purpose of providing flood risk management.

Natural and Cultural Resources Management.

Allow public access and use of Corps owned land, as appropriate.
Protect and preserve archeological and historical sites.
Protect and enhance fish and wildlife habitat.
Control noxious weeds and other undesirable weed species.

Recreation and Interpretation

Provide high quality, safe recreational facilities year-round to a wide segment of the public, including individuals with disabilities.
Minimize conflicts between user groups and Corps of Engineers operational requirements

Coordination.

Maintain communication and coordination with appropriate Indian tribes; federal, state, and local agencies; citizen groups and organizations for management of the manmade and natural resources at Mill Creek**.**

1.6 CONCEPTUAL FRAMEWORK

Master plan processes encompass a series of interrelated and overlapping tasks involving the examination and analysis of past, present, and future environmental, recreational, and socioeconomic conditions and trends. With a generalized conceptual framework, the process focuses on four primary components: (1) regional and ecosystem needs, (2) project resource capabilities and suitability, (3) expressed public interests that are compatible with Mill Creek Project's authorized purposes, and (4) environmentally sustainable elements.

A scoping meeting held on March 31, 2015 in support of the master plan update presented the public with opportunities to provide input an ideas. Recommendations received during the scoping meeting helped Corps planners identify opportunities for improved management of project lands. Those recommendations ultimately facilitated the formulation and evaluation of proposed plans.

Information gathered during the scoping period was combined with the detailed project inventory to form a list of opportunities, constraints, and other influencing factors for future recreation development and management at Mill Creek. Refer to Appendix B for responses from the scoping meetings.

From this inventory and input, updated land classifications were developed a final land classification map was created. The new map is used for locating appropriate development and management actions that will be detailed in the *Mill Creek Operational Management Plan*.

Conceptual implementation plans were created by using public input, resource inventory, and the updated land classifications. These plans are designed to guide future management and development of the Mill Creek Project. The intent is to provide public access and recreational opportunities that meet public desire and are compatible with the natural resources stewardship values at the project. Natural Resources staff at Mill Creek will prioritize these plans and implement them in their *Operational Management Plan* as funding allows. Prior to implementation each recommended action must be reviewed for environmental impact and compliance with the National Environmental Policy Act (NEPA). A list of previous NEPA actions can be found in Appendix C.

1.7 DESIGN MEMORANDUMS

The following is a list of Design Memorandums (DM) previously submitted

Title	Cover Date
Mill Creek Master Plan	November 1993
Supplement 1 to Design Memorandum 2	May 1965
Master Plan for Mill Creek Reservoir, DM 2	February 1962
Master Plan for Mill Creek Reservoir, DM 1	May 1961

1.8 REFERENCES

This master plan was prepared in accordance with the following Corps of Engineers guidance.

Engineer Manual (EM) 1110-1-400, *Engineering and Design – Recreation Planning and Design Criteria, 31 July 1987.*

Engineer Pamphlet (EP) 1105-2-35, *Public Involvement and Coordination*, 5 February 1982 (Change 1).

EP 1130-2-540, *Environmental Stewardship Operations and Maintenance Policies*, 15 November 1996, revised 11 August 2008.

EP 1130-2-550, *Project Operations – Recreation Operations and Maintenance Guidance and Procedures*, 15 November 1996.

EP 1130-2-550, *Project Operations – Recreation Operations and Maintenance Guidance and Procedures*, (Change 5, 30 January 2013).

EP 1130-2-500, *Project Operations – Partners and Support (Work Management and Support),* 27 December 1996.

ER 200-1-5, *Environmental Quality – Policy for Implementation and Integrated Application of the U.S. Army Corps of Engineers Environmental Operating Principles (EOP) and Doctrine*, 30 October 2003.

ER 200-2-2, *Environmental Quality – Procedures for Implementing the National Environmental Policy Act (NEPA)*, 4 March 1988.

ER 1105-2-100, *Planning Guidance*, 22 April 2000 (with Appendices D and G revised June 2004 and Appendix F revised January 2006).

ER 1120-2-400, *Recreation Resource Planning*, 1 November 1971 (Changes 1 through 3).

ER 1130-2-550, *Project Operations – Recreation Operations and Maintenance Guidance and Procedures*, 15 November 1996 (Changes 1 through 5).

ER 1130-2-550, *Project Operations – Recreation Operations and Maintenance Guidance and Procedures*, 15 November 1996 (Change 7, 30 January 2013).

2 PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT

Section 2 provides an overview of the key factors that influence and constrain present and future use, management, and development of land and water resources at the Mill Creek Project. These factors fall into three general and interrelated categories: natural resources, historical and social resources, and administration and policy. An analysis of these factors, as well as regional needs and desires, results in a framework to minimize adverse impacts to the environment and resolve competing and conflicting uses. Information presented in this section is used to designate land classifications, develop project-wide resource objectives, and identify facility needs.

2.1 DESCRIPTION OF MILL CREEK PROJECT

The Mill Creek Project is located in Southeastern Washington on Prospect Point Ridge. It lies at the transition between the foothills of the Blue Mountains and the Walla Walla Valley. The project boundary is adjacent to the city of Walla Walla, Washington. Constructed by the U.S. Army Corps of Engineers (Corps), the Mill Creek Project was designed to protect the City of Walla Walla from the flooding of Mill Creek. The project is composed of several components: 1) Mill Creek Dam, 2) off-channel reservoir (Virgil B. Bennington Lake), 3) Mill Creek Channel and levees, 4) Diversion Facilities, 5) Division Works & Return Facilities, 6) fish passage structures, 7) and associated federal lands.

Mill Creek Dam - The dam is an earth fill structure with a heavy gravel face.. The dam is 800 feet wide at the base, 125 feet high, 20 feet wide at the top and 3,200 feet long at the crest.

Virgil B. Bennington Lake - This off-stream reservoir has a maximum storage capacity of 8,300 acre-feet at a water elevation 1,265’ above mean sea level (msl), with 5 feet of freeboard. The reservoir is the only public lake within 45 miles of the city of Walla Walla.

Mill Creek Channel - About 5,000 feet of the Mill Creek levee channel is federally operated and maintained. The remainder of the channel is owned and operated by Mill Creek Flood Zone Control District.

Diversion Facilities - The diversion facilities consist of a diversion dike, diversion dam, debris facilities and intake canal facilities. The dike is a rolled earth fill dam, 1,700 feet long and 20 feet high. The diversion dam contains an Ambursen Ogee-Crest type spillway and outlet. It is 250 feet long and 14 feet high.

Division Works & Return Facilities - The division works allow water to be divided between Mill Creek, Yellowhawk and Garrison Creeks. The return facilities consist of the outlet works and two outlet canals that are used to return flood waters from Bennington Lake to Mill Creek.

Fish Passage Structures - There are two fish ladders that provide fish passage in the Mill Creek Channel. In 2001, fish screens were installed at the intake on the diversion structure

to prevent trapping fish in Bennington Lake during recreational filling. In 2008, fish screens were installed at the mouth of Garrison Creek to dissuade fish from migrating up Garrison, and encouraging them to use Yellowhawk Creek. Three energy dissipation weirs were modified as prototypes to test efficiency as low-flow passage in 2013.

Lands - 612 acres are federally owned and 87 acres are easement lands. This is the largest public open space in the Walla Walla Valley. These lands provide flood risk management, project operation, recreation, and wildlife benefits. More than 20 miles of recreation trails exist throughout Mill Creek Project lands as well as recreational facilities at Rooks Park, Mill Creek Trail and Bennington Lake Recreation Area. 60 acres were purchased under the Lower Snake River Fish and Wildlife Compensation Plan (LSRFWCP) and transferred to the project as mitigation for lost habitat and hunter opportunity from construction of Lower Snake River dams. Additional wildlife habitat has been developed throughout the project by the Corps, the State of Washington and local volunteers. Visitation during fiscal year 2012 (latest data available) was 302,004.

2.2 HYDROLOGY

The Mill Creek Project is located within the Mill Creek watershed, a subbasin of the Walla Walla River watershed. Mill Creek is 37 miles long and drains 165 square miles within the Walla Walla Watershed. Mill Creek originates on the western slopes of the Blue Mountains (5500 ft.). The creek flows through 15 miles of mountainous terrain before it enters the Walla Walla Valley about 2 miles east of the city of Walla Walla. The Mill Creek watershed elevations range from 5,500 feet (at headwaters) to 590 feet (at the mouth of Mill Creek, where it joins the Walla Walla River.

The streamflow pattern for Mill Creek consists of moderate to high flows from November through June, and low flows from July through October. When precipitation during the autumn months is low and winter temperatures are below normal, the low flow period may stretch as late as February. Major floods may be caused by any one of the following conditions: 1) intensive rainstorms; 2) a combination of rainfall and snowmelt; or 3) summer “cloudburst” thunderstorms. Winter floods are relatively short in duration, and peak discharges occur in December through February. Mill Creek has had several floods of damaging magnitude. Historically, these floods have usually occurred in the winter, and have primarily been caused by intensive warm rain falling on frozen and snow-covered ground. The largest flood ever recorded in the area occurred on 1 April 1931, and had and estimated peak discharge of 6,000 cfs. The spring snowmelt flood period generally extends from March through May. Peak Discharges from spring snowmelt runoff rarely result in severe flooding.

The lake is filled for recreational use after the risk of floods has passed. This recreational filling can occur until the 15th of June each year if flows are high enough in Mill Creek. Because runoff is low in the summer and demand for water is high, Mill Creek’s low runoff years critically affect lake levels in the summer. A lower lake level reduces the area available for boating and increases the water temperature, adversely affecting water quality, recreation opportunities, and fisheries.

2.3 TOPOGRAPHY, GEOLOGY, and SOILS

A. Topography. The project is located on part of the Palouse Section of the Columbia-Snake intermountain Province (C-S Intermountain), in an area that nearly intersects the Blue Mountain Section.

The project location was chosen because of its close proximity to Walla Walla, Mill Creek, and the elevation changes that allowed for the construction of the dam. The 250 foot elevation change on the project lands serves as an interesting visual resource to visitors, and an excellent habitat for various species of wildlife.

B. Geology. The oldest rocks at the project are basalts similar to those of the Columbia River Basalt Group. The basalts that form the bedrock of the project are a result of basalt lava flows from the Columbia River Basalt Group. These rocks underlie the entire project, but are exposed only in the southern and eastern portions of the project lands. Overlying the basalt bedrock is a 30 to 160 foot thick sequence of semiconsolidated gravel and clay. Loess overlies this conglomerate, and forms the present ground surface.

C. Soils. The majority of the Walla Walla Valley is mantled with deep, loam-textured soil, known as loess. Loess soils make up 70 percent of the project. All of the loess soils at the project have similar engineering properties. Using the Soil Conservations Service (SCS, now Natural Resource Conservation Service or NRCS) method of soil classification, soils within the project boundaries are divided into three series: 1) Athena; 2) Walla Walla; and 3) Yakima series. Also included are existing and possible borrow pits (Bp). Updated data obtained from the United States Department of Agriculture Soil Data Mart (SSURGO, 2011) are shown on Plate 2-1. Table 2-1 and the following paragraphs describe each classification

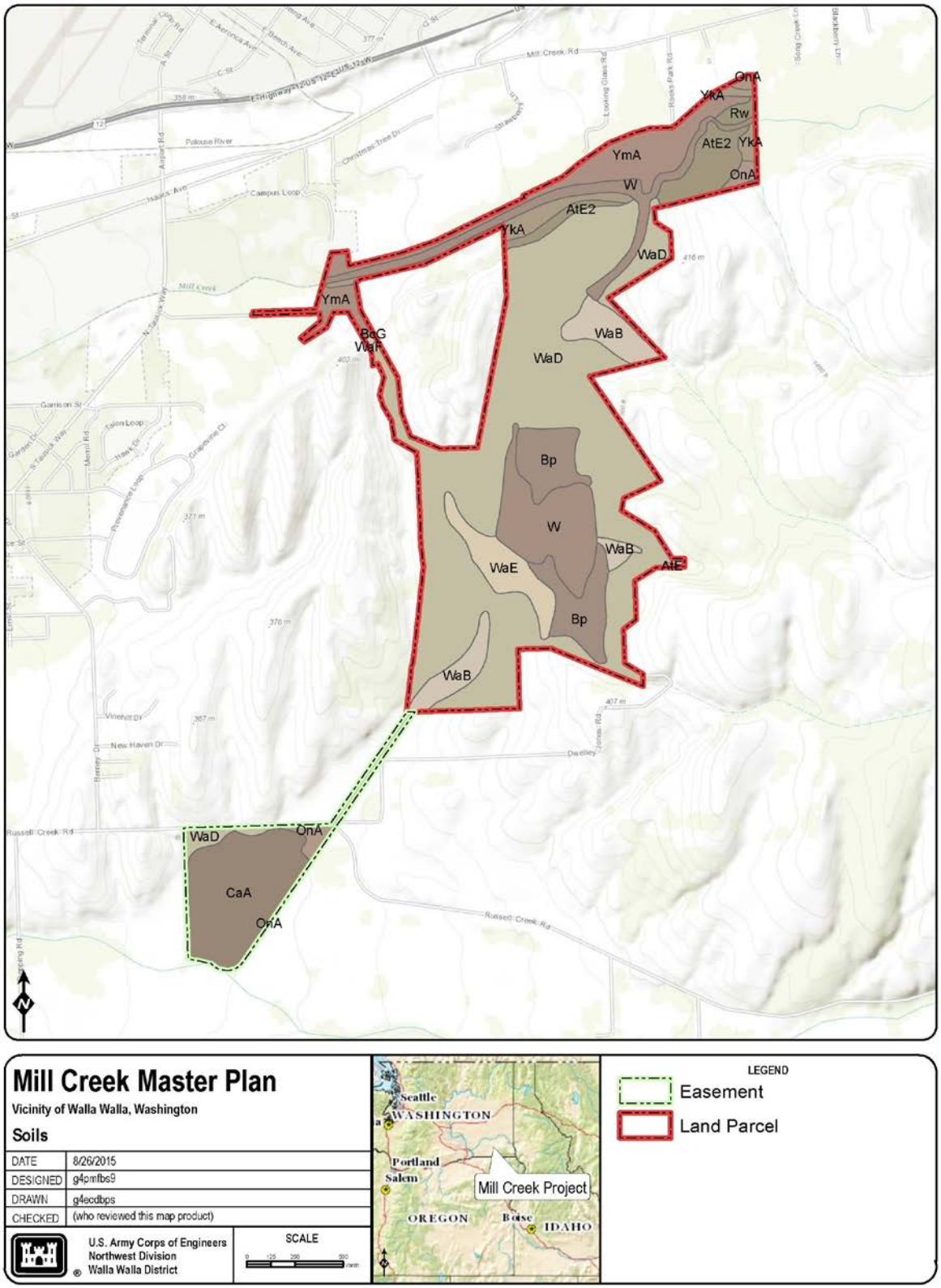


Plate 2-1 Mill Creek Soils

Table 2-1 Mill Creek Soils

Map Unit Symbol	Series, Texture	Slope	Total Acres
AtE	Athena Silt Loam	30 to 45%	0.36
AtE2	Athena Silt Loam, Eroded	30 to 45%	25.42
BcG	Basalt Rockland, Very Steep		0
Bp	Borrow Pit		44.37
CaA	Catherine Silt Loam	0 to 3%	67.85
OnA	Onyx Silt Loam	0 to 3%	14.46
Rw	Riverwash		3.59
W	Water		75.11
WaB	Walla Walla Silt Loam	0 to 8%	35.27
WaD	Walla Walla Silt Loam	8 to 30%	334
WaE	Walla Walla Silt Loam	30 to 45%	23.3
WaF	Walla Walla Silt Loam	45 to 60%	0.5
YkA	Yakima Gravely Silt Loam	0 to 3%	17.92
YmA	Yakima Silt Loam	0 to 3%	54.26

Athena: This soil series is least extensive at the project (1.9 percent). Athena series consists of deep, well drained soils that are nonclcareous to depths of approximately 4 ft. They have formed under thick stands of bunchgrass.

Walla Walla Series: The Walla Walla series covers over 67 percent (414 acres) of the project. It consists of well-drained, and somewhat excessively-drained, medium textured soils that have formed in loess. These soils are neutral to moderate alkaline, to a depth of 50 to 60 inches. At that depth, lime is encountered. The Walla Walla soils contain less clay than the Athena soils. Vegetation native to these soils include blubunch wheatgrass, Idaho fescue, sandberg bluegrass, balsamroot, yarrow and lupine.

Yakima Series: These soils are located along Mill Creek, and cover 20 percent (120 acres) of the project. The series consists of excessively-drained to somewhat excessively-drained, medium- textured soils formed in alluvium. The alluvium consists of basaltic material washed down from the Blue Mountains, and loess from the soils of the uplands. The soils are shallow and unlined by loose pebbles and cobbles on the surface. They are not recommended for cultivation. The native vegetation consists of willow and black cottonwood along the streams, and beardless wheatgrass and wildrye on the bottom areas. Sagebrush and sumac grow in the more cobble areas.

Borrow pits: A total of three sites, comprising 33 acres of the project, are located outside the normal lake area. These sites were used as silt-borrow sources during the construction of Mill Creek Dam in 1941. These areas were originally Walla Walla silt loam.

2.4 RESOURCE ANALYSIS (Level One Inventory Data)

Operational civil works projects administered by USACE are required, with few exceptions, to prepare an inventory of natural resources. The basic inventory required is referred to within USACE regulations (ER and EP 1130-2-540) as a Level One Inventory. This inventory includes the following: vegetation in accordance with the National Vegetation Classification System through the sub-class level; assessment of the potential presence of special status species including but not limited to federal and state listed endangered and threatened species, migratory species, and birds of conservation concern listed by the U.S. Fish and Wildlife Service (USFWS); land (soils) capability classes in accordance with the Natural Resource Conservation Service (NRCS) criteria; and wetlands in accordance with the USFWS' Classification of Wetlands and Deepwater Habitats of the United States. This basic inventory information is used in preparing project master plans and OMP. An overview of the natural resources and related management actions at the project is provided in the following sections.

2.4.1 Fish and Wildlife Resources

The project provides fish and wildlife habitat for approximately 170 species close to the city of Walla Walla. This close proximity allows the community to view wildlife for educational, recreational (both passive and consumptive), and aesthetic experiences.

The project supports diverse vegetation. This, in turn, provides a habitat for a wide variety of wildlife. Limited development along the banks of Mill Creek allows it to serve as an important corridor for wildlife from the Blue Mountains to the project. The trees, shrubs, and grasses along the stream above the project provide cover and food for foraging animals. The Rooks Park area, together with small spots of undeveloped private land adjacent to the park, offers a variety of cover for wildlife. Open spaces between these heavily vegetated clusters provide grassy areas, and create an edge effect. Heavy willow growth is predominant in the forebay above Diversion Dam, although it is partially removed periodically to prevent the restriction of flood flows. In these settings, occasional mule and white-tailed deer may be found, along with striped skunk, rabbits, coyote, and bobcat. Numerous birds can also be found here, including the red-shafted flicker, mourning dove, pheasant, quail, and various swallows, sparrows, and thrushes. Hunting is limited to shotgun or archery, because of the project's small size, limited remote areas, and other recreational usage.

The rolling land around the lake supports modified Palouse prairie vegetation. Throughout the project's existence, this area has been co-managed through various agreements with Washington Department of Fish and Wildlife (WDFW) who assisted with developing favorable conditions for the hunting of game birds. The WDFW planted over 5,000 trees and shrubs, as well as native grasses. In the 1980's, the Corps added wildlife plantings, trees and shrubs, pasture, and food plots. In 2010 the Corps added additional tree and shrub plantings, started a mow/spray program in order to control invasive broadleaf plants, and started using biological control for mowing of levees and invasive plant control. Coyote,

badger, cottontail rabbit, ring-necked pheasant, California quail, and several species of hawks are some of the wildlife species found in these rolling hills.

The upper reach of Mill Creek (above the project) provides excellent habitat for rainbow and bull trout as well as good spawning and rearing habitat for steelhead. Headwaters of the upper watershed (23,000 acres) contain some of the highest quality fish habitat in southeastern Washington. Water quality in the upper watershed is excellent primarily because the area is roadless, unlogged, and ungrazed by domestic animals.

Bennington Lake serves the valley as a put and take fishery and one of the only public fishing lakes in the Walla Walla Valley. Between 5,000 and 40,000 rainbow trout are planted in the Lake each year by WDFW. As a fishery resource the lake is limited by poor water quality, circulation, and supply, as well as substrate value. The fluctuating water level, caused by dam seepage and evaporation, reduces the lake level during the growing season and hampers establishment of littoral rooted vegetation. Large seasonal fluctuations in water level to accommodate flood storage limit the establishment of resident fish populations and littoral rooted vegetation.

The fish habitat in Mill Creek Channel is presently limited by a number of factors, including barriers to upstream migration; habitat degradation and a lack of instream cover and riparian vegetation below Diversion Dam; high temperatures; and low, or zero, flows in the concrete channel (USFWS, 1984). The channel is designed to carry high flows during flood events, and lacks a low-flow channel. Boulders were added in 1986 to mitigate the impacts of flood channel maintenance and enhance fish habitat, but the uniform depth of the channel limits its aquatic value (USACE, 1986). During low-flow periods, the water becomes very shallow and temperatures lethal to salmonids. Channel weirs also limit fish movement during low-flow periods. There are two fish ladders at the project, both of which are in need of modification or replacement to comply with current fish passage criteria. One ladder is located on the right abutment at the First Division Works (RM 10.5), and the other is located upstream at the Mill Creek Diversion Dam (RM 11.5).

The channel was originally designed with the authorized purpose of providing flood control. The Corps understands that conditions in the channel are not favorable for resident and migrating fish species. Improvements have and will continue to take place when possible.

2.4.2 Vegetative Resources

The region has five major vegetation zones. These include Shrub-Steppe in the lower elevations, grasslands in mid-elevations, forest in higher elevations of the mountains, and Alpine meadows in the highest elevations. The typical vegetation sequence diagram, found in Table 2-1, lists the various types of vegetation in a conceptual order. There are six potential vegetation types in the region. The vegetation type does not always appear in the order shown however; vegetation may change from sagebrush-steppe to Grand fir-Douglas fir types without wheatgrass or bluegrass appearing in between. There is usually not a clear break between types but, rather, there is an area of transition or ecotone where the different types overlap.

As listed in Table 2-1, there are six different vegetation types within a 100-mile radius of the project. The project is located on the upper edge of the wheatgrass-bluegrass vegetation types next to fescue-wheatgrass and within 10 miles of the western ponderosa type. The ecotone where the project is located offers the potential for a mosaic of vegetation patterns that support wildlife, fisheries, recreation, and excellent scenic quality.

Table 2-2 Typical Vegetation Sequence

Physiographic Province Section	Vegetation Zones	Vegetation Type
Blue Mountain	Needleleaf Forest	- Western Spruce/Fir Forest - Grand Fir/Douglas Fir Forest - Western Ponderosa Pine
Palouse	Grasslands	- Fescue/Wheatgrass - Wheatgrass/Bluegrass
Yakima Fold Belt	Shrub and Grass Combination	- Sagebrush/Steppe

A portion of the Blue Mountains contained within the the project region is a forest influenced ecosystem. The climate in the western part of this section is warm and dry, but becomes colder and wetter as the elevation increases. Changes in the forest are notable throughout this section. The lower elevations are characterized by drier conditions. Vegetation in these lower elevations is primarily composed of ponderosa pine and Douglas fir.

The characteristic vegetation communities found in the Palouse and Yakima Fold Belt Sections are shrub-steppe and steppe. Shrub-steppe occupies the center of both sections and there is a transitional zone composed of steppe between the shrub-steppe and forested ecosystems. These two habitats are typically arid-to-semiarid, have low precipitation, warm to hot summers, and relatively cold winters. Agriculture and grazing patterns, as well as the increased use of irrigation, have drastically changed the natural distribution of the steppe-type vegetation.

Steppe habitats are characterized by a variety of perennial grasses and the absence of woody shrubs. The co-dominance of shrubs and grasses is characteristic of the shrub-steppe. Two steppe vegetation zones, dominated by wheatgrass/bluegrass and by wheatgrass/fescue have been identified in the region (Daubenmire, 1970).. Soil characteristics and precipitation are responsible for the conspicuous, but discontinuous, layer of shrubs. This, in turn, is responsible for the dominance of grasses, as opposed to shrubs. Seven zonal associations have also been identified in the shrub-steppe region of Washington (Daubenmire, 1970). In this report, these zonal associations have been carried over into Oregon. Many of the steppe and shrub-steppe vegetation zones in the Palouse Section have been replaced by dryland agriculture. This is typical of the area surrounding the project.

Three types of vegetation classes are found within the project; they are, “terrestrial,” “riparian,” and “wetland.” To a large extent, these differences determine wildlife niches, habitats, and associated values. Nearly 70 percent of the project is classified as upland vegetation, with upland field making up 67 percent of the project. The remaining portions of the project consist of riparian (7.6%), wetlands (6.7%), lacustrine (7%), riverine (2.1%), and urban (9.2%). The project has a variety of vegetation types in a relatively small area. Some

of the vegetation types are made up of monoculture species. Future planting efforts would focus on creating greater species diversity and composition.

Irrigated croplands are located in the Valley west of the project. Trees and shrubs have been planted in former croplands in an effort to improve wildlife habitat by providing cover and the interspersion of plant communities.

Previous Planting Work

When the project lands were purchased in the 1940's, all of the lands south of Mill Creek were used for wheat production. Wildlife management activities at the project were initially conducted by utilizing a cooperative agreement with WDFW. Habitat planting improvements in the 1950s by WDFW provided food and cover for a variety of birds and mammals. WDFW planted approximately 5,000 trees and shrubs, establishing the original meadow, food plot, and tree-shrub plantings. The diversion canal, areas surrounding the lake, Russell Creek Outlet Canal, and the lake road were also planted by the WFDW and the Corps as wildlife areas. Trees planted at this time included Russian olive, Chinese elm, black locust, prune, peach, mugho pine, and juniper. Shrubs planted included carigana, honeysuckle, and serviceberry. Tall wheatgrass and Sherman big bluegrass were also planted. Dodder, thistles, morning glory, and a variety of herbaceous plants grow naturally in the lake area.

2.4.3 Threatened and Endangered Species

Federally-listed rare, threatened, and endangered species must be considered in all planning, operations, and management activities in order to reduce the level of ecological degradation within project boundaries.

Federally listed species occurring or potentially occurring near the Mill Creek Project are Middle Columbia River Steelhead (O. mykiss), Bull Trout (salvelinus confluentus), Canada Lynx (Lynx Canadensis), Utes ladies'-tresses (Spiranthes diluvialis), Yellow-billed cuckoo (Coccyzus americanus), and the Washington ground squirrel (Urocitellus washingtoni). Each is described in the following paragraphs.

Middle Columbia River (MCR) Steelhead (O. mykiss) MCR steelhead were listed as threatened under the ESA on March 25, 1999 (64 FR 14517), and confirmed as threatened on January 5, 2006 (71 FR 834). Protective regulations for MCR steelhead were issued under section 4(d) of the ESA on June 28, 2005 (70FR 37160). The spawning range for the MCR steelhead extend over an area of approximately 35,000 square miles in the Columbia plateau of eastern Washington and eastern Oregon. MCR steelhead include all naturally-spawning populations of steelhead in streams within the Columbia River basin from above the Wind River in Washington and the Hood River in Oregon (exclusive) upstream to, and including these areas. MCR steelhead, as defined, do not include the resident form of *O. mykiss* (rainbow trout) co-occurring with these steelhead (USACE 2015).

MCR steelhead generally return to the Mill Creek area from December through April. During low flows, some returning fish may avoid the main channel of Mill Creek by migrating up Yellowhawk Creek. The major steelhead spawning area starts just below the area of Kooskooskie, WA (RM 21.5) and continues upstream to the city's water intake structure (RM

25.2). A few spawning areas lie above the intake. Rearing occurs over a distance of 15 miles; between Diversion Dam and the city's intake structure. After spending two years in the rearing areas, juvenile steelhead outmigrate in April and May. Juvenile steelhead probably do not have difficulty outmigrating from Mill Creek and the Walla Walla River, because these streams normally have high flows during April and May (USFWS, 1984). In 1992, the Corps began maintaining 50 cfs of water in the main channel of Mill Creek (downstream of the project Office) for as long as possible in an effort to further aid the out migrating juvenile steelhead (USACE, 1993).

Bull Trout (salvelinus confluentus) The USFWS issued a final rule listing the Columbia River population of bull trout as a threatened species on June 10, 1998 (63 FR 31647). Bull trout are currently listed throughout their range in the coterminous United States as a threatened species. In the Columbia River Basin, bull trout historically were found in about 60% of the basin. They now occur in less than half of their historic range. Populations remain in portions of Oregon, Washington, Idaho, Montana, and Nevada (USACE 2015).

The Walla Walla basin is comprised of five local bull trout populations. Each population in the Walla Walla basin has a resident and migratory (fluvial) component. Fluvial populations migrate to larger streams after a few years in their natal stream while resident bull trout spend their entire lives in or near the stream where they hatched. These resident bull trout complete their entire life cycle in the headwater streams where they spawn and rear. Migratory bull trout spawn in headwater streams along with resident bull trout. Their juveniles rear from one to four years before migrating downstream to mainstem river habitats as subadults. Migratory adult bull trout return to headwater spawning areas in September and October, and most individuals migrate downstream to overwintering areas from October through December after spawning. Resident and migratory forms may be found together, and either form may give rise to offspring exhibiting either resident or migratory behavior. Both subadult and adult bull trout use the lower Walla Walla River during the fall, winter, and spring for rearing and overwintering (Anglin et al., 2012).

Canada Lynx (Lynx Canadensis) The Canada lynx was listed as a threatened species in 2000. In 2003, in response to a court-order to reconsider the listing, USFWS clarified their final listing decision. The current information on resident lynx in Washington identifies populations in the North Cascade Mountains, the Kettle Range, Little Pend Oreille Mountains and the Selkirk Mountains, all in northern Washington (Stinson 2001).

Utes ladies'-tresses (Spiranthes diluvialis) Ute ladies'-tresses was listed as threatened in 1992 in its entire range. Within the area covered by this listing, this species is known to occur in Colorado, Idaho, Montana, Nebraska, Utah, Washington, and Wyoming. In 2004, USFWS contracted for a comprehensive status review of this species. A draft of this report became available in February 2005. A final draft of the status review was completed in October 2005.

Western Yellow-billed cuckoo (Coccyzus americanus) The yellow-billed cuckoo (*Coccyzus americanus*) was listed as threatened under the ESA in October 2014. Critical habitat was also proposed for designation at that time, but not in Washington.

Washington ground squirrel (Urocitellus washingtoni) The Washington ground squirrel is currently a candidate for listing under the ESA

2.4.4 Invasive Species

In accordance with Executive Order (EO) 13112, an invasive species is defined as an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species may be accidentally transported or deliberately introduced because they are thought to be helpful in some way. The following invasive species (see Table 2-2) are listed as Class B and C weeds in Walla Walla County. Class B weeds are non-native species presently limited to portions of the State. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal. Class C weeds are noxious weeds which are already widespread in WA. If any of these species are found on project lands appropriate measures will be taken to limit their spread.

Table 2-3 State of Washington Class B and C Weeds (2014)

Class B		Class B	
Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
blueweed	*Echium vulgare*	kochia	*Kochia scoparia*
Brazilian elodea	*Egeria densa*	lesser celandine	*Ficaria verna*
bugloss, annual*	*Anchusa arvensis*	loosestrife, garden	*Lysimachia vulgaris*
bugloss, common	*Anchusa officinalis*	loosestrife, purple	*Lythrum salicaria*
butterfly bush	*Buddleja davidii*	loosestrife, wand	*Lythrum virgatum*
camelthorn*	*Alhagi maurorum*	parrotfeather*	*Myriophyllum aquaticum*
common fennel*	*Foeniculum vulgare*	perennial pepperweed*	*Lepidium latifolium*
common reed	*Phragmites australis*	poison hemlock	*Conium maculatum*
Dalmatian toadflax*	*Linaria dalmatica*	policeman's helmet*	*Impatiens glandulifera*
Eurasian watermilfoil	*Myriophyllum spicatum*	puncturevine	*Tribulus terrestris*
fanwort*	*Cabomba caroliniana*	rush skeletonweed	*Chondrilla juncea*
gorse*	*Ulex europaeus*	saltcedar	*Tamarix ramosissima*
grass-leaved arrowhead	*Sagittaria graminea*	Scotch broom*	*Cytisus scoparius*
hairy willowherb	*Epilobium hirsutum*	spurge laurel*	*Daphne laureola*
hawkweed oxtongue*	*Picris hieracioides*	spurge, leafy*	*Euphorbia esula*
hawkweed, orange*	*Hieracium aurantiacum*	spurge, myrtle	*Euphorbia myrsinites*
herb-Robert*	*Geranium robertianum*	sulfur cinquefoil*	*Potentilla recta*
hoary alyssum	*Berteroa incana*	Tansy ragwort*	*Senecio jacobaea*
houndstongue	*Cynoglossum officinale*	thistle, musk*	*Carduus nutans*
indigobush*	*Amorpha fruticosa*	thistle, plumeless*	*Carduus acanthoides*

Class B	
Common Name	**Scientific Name**
knapweed, black*	*Centaurea nigra*
knapweed, brown*	*Centaurea jacea*
knapweed, diffuse	*Centaurea diffusa*
knapweed, meadow*	*Centaurea jacea x nigra*
knapweed, Russian*	*Acroptilon repens*
knapweed, spotted*	*Centaurea stoebe*
knotweed, Bohemian	*Polygonum x bohemicum*
knotweed, giant	*Polygonum sachalinense*
knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
Class C	
Common Name	**Scientific Name**
common teasel	*Dipsacus fullonum*
field bindweed	*Convolvulus arvensis*
Himalayan blackberry	*Rubus armeniacus*
hoary cress	*Cardaria draba*
nonnative cattail species	*Typha spp.*
oxeye daisy	*Leucanthemum vulgare*

Class B	
Common Name	**Scientific Name**
thistle, Scotch	*Onopordum acanthium*
velvetleaf	*Abutilon theophrasti*
water primrose*	*Ludwigia hexapetala*
white bryony	*Bryonia alba*
wild chervil*	*Anthriscus sylvestris*
yellow archangel	*Lamiastrum galeobdolon*
yellow floating heart*	*Nymphoides peltata*
yellow nutsedge	*Cyperus esculentus*
yellow starthistle	*Centaurea solstitialis*
Class C	
Common Name	**Scientific Name**
reed canarygrass	*Phalaris arundinacea*
Russian olive	*Elaeagnus angustifolia*
thistle, bull	*Cirsium vulgare*
thistle, Canada	Cirsium arvense
tree-of-heaven	Ailanthus altissima

* Walla Walla County weeds of concern

2.4.5 Ecological Setting

The Natural Resource Management Mission of the U.S. Army Corps of Engineers (ER 1130-2-550, Chapter 2, Paragraph 2-2.a.(1), dated 15 November 1996) states the following:

The Army Corps of Engineers is the steward of the lands and waters at Corps water resources projects. Its Natural Resource Management Mission is to manage and conserve those natural resources, consistent with ecosystem management principles, while providing quality public outdoor recreation experiences to serve the needs of present and future generations.

In all aspects of natural and cultural resources management, the Corps promotes awareness of environmental values and adheres to sound environmental stewardship, protection, compliance and restoration practices.

The Corps manages for long-term public access to, and use of, the natural resources in cooperation with other Federal, State, and local agencies as well as the private sector.

The Corps integrates the management of diverse natural resource components such as fish, wildlife, forests, wetlands, grasslands, soil, air, and water with the provision of public recreation opportunities. The Corps conserves natural resources and provides public recreation opportunities that contribute to the quality of American life. (ER 1130-2-550 1996)

In support of this mission statement, the following paragraphs describe the ecoregion where Mill Creek is located and the natural resources components found within the project area. Mill Creek and surrounding areas are part of the "Blue Mountains" ecoregion as identified by the Environmental Protection Agency (EPA, 2011) and described below.

Location: Primarily in northeastern Oregon, with small areas extending into southeastern Washington and western Idaho.

Climate: The ecoregion has a severe mid latitude climate, with both continental and Mediterranean influences. It is marked by warm dry summers and cold winters. The mean annual temperature ranges from approximately -1°C to 10°C. The frost-free period ranges from 30 to 160 days. As with temperature, the mean annual precipitation ranges widely depending upon elevation, ranging from about 220 mm in low valleys to over 2050 mm at high elevations; 558 mm is the regional mean value.

Vegetation: At low elevations, grasslands of bluebunch wheatgrass, Idaho fescue, basin big sagebrush, mountain big sagebrush, and juniper woodlands. In forested areas, ponderosa pine, some Douglas-fir, grand fir. At higher elevations, subalpine fir, Engelmann spruce, whitebark pine, and lodgepole pine, with krummholz and alpine meadows in the alpine zone.

Hydrology: Perennial stream density varies by elevation and substrate; some areas with few perennial streams. Some springs are scattered throughout the region. Alpine lakes in high elevation areas. A few large reservoirs. Large rivers that cross the region include the Deschutes and Snake.

Terrain: This ecoregion is distinguished from the neighboring Cascades (6.2.7) and Northern Rockies (6.2.3) ecoregions because the Blue Mountains are generally not as high and are considerably more open. Like the Cascades, but unlike the Northern Rockies, the region is mostly volcanic in origin. Only the few higher ranges, particularly the Wallowa and Elkhorn Mountains, consist of intrusive rocks that rise above the dissected lava surface of the region. Elevations range from 305 m to over 3000 m. Soil temperature regimes are mostly frigid, but include some mesic in warmer areas, and cryic at high elevations. Andisols and Mollisols are common, with mostly xeric and udic soil moisture regimes. Most soils are influenced by volcanic ash deposits.

Wildlife: Rocky Mountain elk, mule deer, black-tailed deer, black bear, bighorn sheep, cougar, bobcat, coyote, beaver, racoon, golden eagle, chukar, sage thrasher, pileated woodpecker, nuthatches, chickadees, bluebirds, chinook and coho salmon, rainbow trout, bull trout, brook trout.

Land Use and Human Activities: Forestry and recreation. Unlike the bulk of the Cascades and Northern Rockies, much of this ecoregion is grazed by cattle. Some public lands. Areas of irrigated agriculture include alfalfa and pasture, winter wheat, potatoes, mint, onions, garlic, and grass seed.

2.4.6 Wetlands

Approximately 6.7 percent of the vegetated lands at the project are classified as wetlands. Wetland are classified as Palustrine Open Water (W-OW), Palustrine Emergent (W-PE), Palustrine Scrub Shrub (W-PS), and Palustrine Forest (W-PF).

Palustrine Open Water (W-OW) – This class applies to small, shallow, permanent, or intermittent water bodies (often called ponds). The diversion dam forms a 3 acre area of W-OW on the project. There is also a small area ($2/10^{th}$ of an acre) in Rooks Park (just south of the paved parking lot) that is W-OW. This area was the original Mill Creek Channel, before Mill Creek was channelized in 1941.

Palustrine Emergent (W-PE) – This type of land cover is dominated by meadow emergent vegetation, with marsh-type emergents appearing in wetter areas. Sixteen and one-half acres of W-PE are located in the forebay area, behind the diversion structure

Palustrine Scrub Shrub (W-PS) – Water-dependent shrubs (primarily willow and red osier dogwood) are dominant in this type of land cover. Ground cover is typically a mixture of emergents similar to those dominating W-PE. Hydric soil is present, but is seasonally flooded. Eleven acres of W- PS are located in the forebay, on the north side of Mill Creek.

Palustrine Forest (W-PF) – This subclass applies to wetlands dominated by trees (primarily black cottonwood) over 20 feet tall. Ground cover, as described in the W-PE and W-PS subclasses, often appears with a sub-canopy of water-dependent shrubs. The east end of the forebay contains 10 acres of W-PF.

2.5 CULTURAL RESOURCES

Cultural resources (or "historic properties" as defined in the National Historic Preservation Act (NHPA) of 1966, as amended) includes any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register, including artifacts, records, and material remains relating to the district, site, building, structure, or object. Factors affecting cultural resources include land status, water resources facilities and operations, recreation facilities, wildlife developments, and project visitation. Typically, determining the significance of resources is the responsibility of properly qualified staff within the Corps. However, regional Tribal groups may also identify a religious or cultural significance to a cultural resource, and effects to this type of significance must also be identified and assessed as part of the planning process. Both regional studies and studies within the boundaries of the project have been used to identify potentially affected cultural resources. Future research will

further refine and expand the understanding of important cultural resources. Information regarding cultural resources within the project should be directed to the Corps' Cultural Resources section, as any actions implemented under the MP are subject to cultural resources review under existing Federal law.

Cultural Context

Ames et al. (1998) proposes a broad archaeologically based cultural chronology for the Southern Plateau. The region encompasses areas that exhibit continuity in material culture, and extending from the Canadian border to the north, southward to areas within the drainages of the Deschutes and John Day rivers; and from the Cascade Range to the west to the Clearwater River, all of Hells Canyon, and parts of the Salmon River to the east. The cultural chronology is divided into Periods. Period 1, 11500 BP to approximately 4400 BP, is subdivided into two periods. Period 1a (the Paleo-Indian Period) 11,500-11,000 BP is characterized by the presence of large, fluted projectile points used to hunt now extinct mega-fauna. Period 1b is characterized by the remains of a very diverse tool kit, including projectile points, cobble tools, utilized flakes, scrapers, gravers, grooved stones, and cores. Bone tools are also occasionally observed, including needles and awls. Overall, evidence points to broad-spectrum hunter-gatherer subsistence patterns characterized by high seasonal and annual mobility, and low population densities. Period 2, 5000/4400-1900 B.C., is not characterized by significant shifts in technology or subsistence strategies, but rather the decreasing frequency and dependency on projectile points for hunting. Semisubteranean pit houses appear for the first time, and artifact assemblages point to increased utilization of seasonal resources such as roots and salmon. The "pit-houses" are typically circular or rectangular, and 7 to 8 m across, and 1 to 2 m deep. The presence of these houses is generally accepted as evidence of a shift to a pattern of semisedentism. This pattern of pithouse structures all but disappears during the period from 2000-1800 B.C. Period 3, 1900 B.C.-A.D. 1720, is marked by the reappearance of the pit-house. This period also continues the trend of seasonally specific resource utilization including roots and salmon, as well as the preservation and storage of these resources. The dimension of houses during this period diversifies, and as this settlement pattern coalesces into the presence of towns and villages, other structural forms such as the community long-house appear.

This division proposed by Ames et al. (1998) is further subdivided by Leonhardy and Rice (1970), who propose a cultural chronology for the Snake River Region. The region is further subdivided into geographical districts, with the Lower Monumental District being most relevant to the project APE. Within the Lower Monumental region six archaeological phases are proposed by Leonhardy and Rice (1970). They include the Windust Phase, 8000 B.C. to 7000 B.C; the Cascade Phase, 6000 B.C. to 3000 B.C.; the Tucannon Phase, 3000 B.C. to 500 B.C.; the Harder Phase, 500 B.C. to A.D. 1300; the Piqunin Phase, A.D. 1300 to A.D. 1700; and the ethnographic Numipu Phase, A.D. 1700 to A.D. 1900. These phase generally correspond to regionally unique variations to the broader patterns discussed in Ames et al. (1998)

At the time the first European peoples came into contact with Indigenous populations in the vicinity of the Mill Creek Project the predominant groups in the area were the Cayuse, Umatilla, and Walla Walla. The Walla Walla and Umatilla both spoke versions of the Sahaptin dialect, while the Cayuse spoke an extinct traditional dialect closely related to that of the Mollala Indians of the Oregon Cascade Mountains. Although the areas utilized by the different groups would have been varied, the Cayuse are most associated with the immediate project area. Particularly the *imćé'me'pu* (mortar stone creek people) who resided in the upper Walla Walla River area near present day Milton-Freewater, and the *pásxapu* (sunflower people) who resided within the middle Walla Walla and along Mill Creek (Stern 1998:395).

The horse had made its way north prior to the contact period. The presence of horses was the result of northward trading among Tribes who had acquired the horse from Spanish settlements in the Southwest United States. Horses likely first appeared in the region in the early 1700s. Territorial Governor Isaac I. Stevens estimated that the Umatilla, Cayuse, and Walla Walla tribes had 20,000 horses at the time of the treaty council of 1855.

The epidemic diseases brought by the earliest European settlers also often preceded their first contact within the region. Spanish, Russian, British and American trade vessels had all made visits to the Northwest Coast, and introduced epidemic disease that traveled inland (Walker and Sprague 1998:138-141). The earliest well documented European exploration of the area was the Lewis and Clark Expedition, which traversed immediately to the north of the current project area heading west in 1805, and again heading east in 1806.

Trade in furs is also significant in Northwest history. David Thompson, of the North West Company, led an expedition out of the Rocky Mountains through the Northwest beginning in 1807 and arriving at the mouth of the Columbia River in 1811. He established a series of trading posts during the journey. Fort Nez Perce, a trading outpost established by the North West Company and inherited by the Hudson Bay Company when the two were merged in 1821, is located approximately 32 miles to the west of the current project area at the confluence of the Walla Walla and Columbia rivers. The fur trade dwindled, and by 1846 prices for fur had dropped precipitously and the Hudson Bay Company had began to expand into other ventures such as grain production, livestock, timber and harvesting of fish. Around this time the Hudson Bay Company also began to withdraw from the Southern Plateau (Walker and Sprague 1998:142-143).

The period following the decline of the fur trade is marked by the migration of European-American settlers into the region. Many of these early settlers were intent on establishing missions for the purpose of converting Indian people to Christianity. Dr. Marcus Whitman was a medical doctor and missionary, who along with his wife Narcissus established the Waiilatpu Mission just to the west of present day Walla Walla in 1836. Dr. Whitman along with a small number of families established the mission, which included numerous buildings, a school, a grist mill, and a saw mill (Lyman 1901:41). In the preceding years, by way of

correspondence and a return trip to the east, Whitman lobbied for increased migration of settlers to the Oregon Territory. In 1847, after an outbreak of measles, the Indians who had interacted with residents of the Whitman Mission became suspicious of a link between the disease and the doctor's unsuccessful treatments. This suspicion erupted into violence, leading to the killing of the doctor and his wife, and a number of the other residents of the mission. A handful of escapees, along with others who had been detained at the mission, were eventually able to take refuge at Fort Nez Perce (by then referred to as Fort Walla Walla).

The relationship between European-American settlers and the Indigenous populations were exacerbated by the incident at Waiilatpu. The Oregon provisional government raised a volunteer army that carried out retaliations against the Cayuse, Walla Walla, and Umatilla. Returning with, and hanging five Cayuse believed to be responsible for the incident. In reality, the Oregon provisional government was not endorsed by either the Hudson Bay Company, that still operated in the region, or the American Government. The incident, and the resulting campaign against the Indian peoples, eventually forced the hand of the American Government. This led to the official establishment of the Oregon Territory in 1948. One provision of this law was the affirmation of "rights of person or property" of the Indians "so long as such rights shall remain unextinguished by treaty" (Beckham 1998:149). The Washington Territory was established in 1853. Territorial Governor Isaac Stevens of Washington made it a personal mission in 1854 and 1855 to secure the treaties. The foundation of his approach was to acquire the cession of large land areas, and the creation of reservations (Beckham 1998:152). The first major treaty councils east of the Cascades occurred in the vicinity of present day Walla Walla.

The effort to secure treaties east of the Cascade Mountains commenced in 1855 when Territorial Govern Stevens and Oregon Indian Affairs Superintendent Joel Palmer began their journey through the region. Walla Walla was the site of a large council between a number of Tribes and the territorial government representatives (Beckham 1998:149). The first treaty council occurred in late May and early June of 1855. Large numbers of Nez Perce, Cayuse, Yakama, Umatilla and Walla Walla descended on a spot described by Lyman (1901:61) as the present day location of Whitman College. On June 11th Stevens had secured treaties establishing reservations for the Yakama Nation, the Nez Perce; and collectively, the Umatilla, Cayuse and Walla Walla. These treaties established reservations, and included compensation and the retention of a handful of rights within the former lands. Although the treaties would take on greater meaning through time, they initially were all but ignored. Despite the treaties, trespasses onto reservation land by prospectors and settlers was not controlled, and served to ratchet up tensions between settlers and the resident Tribes.

A number of battles soon followed. The one most significant to the immediate area occurred in the vicinity of Frenchtown, and involved fighting between Oregon volunteers and warriors aligned with the Walla Walla Chief Peupeumoxmox. Frenchtown was the largest settlement in the area at the time of the treaty council. According to Lyman (1901:59) there were 85

residents in Frenchtown, with all of the men being Frenchmen and former Hudson Bay Company employees, and all of the women Indian. The Walla Walla leader Peupeumoxmox, who participated in the treaty signing in 1855, was killed during the battle. The battle line moved from west to east before ending after five days of fighting. Much to the protest of Territorial Governor Stevens, Major General Wool of the U.S. Army ordered that no settlers were to be allowed to remain in the Walla Walla Valley except for the former Hudson Bay employees (Lyman 1901:73-74). Stevens made numerous protests to this order, and in 1857 the present day Fort Walla Walla was established. One of its earliest commanders was Lieutenant Colonel Steptoe, who would launch a legendarily unsuccessful campaign north into the territory of the Spokane Indians from Fort Walla Walla. Fort Walla Walla would continue to be a recurring player in battles between the U.S. Army and regional Tribes. The fort was temporarily closed in 1910, but reopened as a WWI artillery training facility. After the first World War it was converted into a Veteran's Administration Hospital facility (Lindsley 2011:3)

Archaeological surveys, largely conducted in accordance with Section 106 of the NHPA, provide insight into resources located in and near the project. These surveys are conducted by professional archaeologists, and done in advance of activities determined to have the potential to affect cultural resources. Numerous investigations have occurred at both the project, and at the adjacent Walla Walla Community College. An Indian burial was recorded on grounds belonging to the WWCC, and sites related to historic settlement of the Walla Walla Valley have been found on and off Corps' property. Only portions of Corps property at the project have been investigated, and it is likely additional sites will be discovered. Additionally, the Mill Creek Flood Control Project was also evaluated for its historical significance. Facilities associated with the project were determined to be historically significant by the Corps' Center for Expertise for the Preservation of Historic Buildings and Structures (McCroskey 2009). This means that future changes or alterations to the character defining elements of the Mill Creek Flood Control Project will require consultation in accordance with Section 106 of the NHPA, and its implementing regulations 36 CFR Part 800. If consultation concludes that the effects are adverse, then the Corps will have to consult on ways to avoid, minimize, or mitigate those adverse effects.

2.6 RECREATION FACILITIES AND ACTIVITIES

The project provides a variety of water-related, and land-based, recreation opportunities. It is expected that the demand for recreation activities in the future will increase. Future recreation activities and increased usage without facility expansion will change the current user experience, and could negatively impact the resources. The advent of new forms of recreation or extensive facility development is severely restricted by the limited amount of project land and water.

2.6.1 General Background

Section 4 of the Flood Control Act of 1944 authorized recreational development at the project. From 1942 (when the project was completed) to 1953 there were no recreational

facilities at the project. In 1954, when the lake was elevated, held, and stocked with trout by the State of Washington, the project's first major recreation visitation occurred. However, no formal recreational facilities were made available to the public until 1965. The approval of the report Master Plan for Mill Creek Reservoir (DM No. 1), dated 24 May 1961, gave authorization to build and operate the recreational facilities at Rooks Park, which opened to the public in 1965. The next closest non-urban recreation facility from Walla Walla is Lewis and Clark Trail State Park, located on Hwy 12 28 miles away.

As recreation facilities were added visitation increased. Visitation continues to increase as facilities and the area's population also increases. Mill Creek Project is one of the most popular recreation locations in the area due to its close proximity to the city of Walla Walla. Visitors use the area heavily for sport fishing on Virgil B. Bennington Lake; hiking, horseback riding, mountain and road biking, walking on the project's various trails, and birding, picnicking, and sightseeing throughout the project. The project saw over 300,000 visitors in 2012.

2.6.2 Access

Vehicular access to Bennington Lake is via Reservoir Road and Rooks Park via Rooks Park Road off of Mill Creek Road. The project has one boat launching ramp, and it extends to elevation 1,188'. The far side of the lake is accessible by 1.6 miles of trail. This trail uses the upper portion of Dam Service Road, as well as East Service Road

Currently, pedestrian access to the project is provided by the Mill Creek Recreation Trail. The trail begins at Cambridge Drive and is connected to existing bike routes that run through the city of Walla Walla. From Cambridge Drive, the Mill Creek Recreation Trail runs along the north side of Mill Creek for almost 1 mile. It crosses Tausick Way, and continues along the Walla Walla Community College campus until it reaches the federal project boundary across from the project office. From there, it continues through the project for another 1.1 mile, until it reaches Rooks Park Road.

2.6.3 Recreation Use

A. Water based

Boating on Virgil B. Bennington Lake is limited to paddling, rowing, or electric-motor-powered vessels (i.e. boats with electric trolling motors, canoes, rafts). This policy protects the lake from unwanted pollutants associated with gasoline motors and provides maximum space for vessels compatible with the lake's size. The majority of boat use at the lake is associated with fishing.

Boating at Virgil B. Bennington Lake is at capacity during peak periods. Restrictions are determined by the limited number of water surface acres. Addition of ADA accessible shoreline trails will improve the facility for visitor enjoyment.

Fishing for stocked rainbow trout is a major recreational activity of visitors to Virgil B. Bennington Lake. Trout are planted each year by the WDFW for angler harvest. There is approximately 2 miles of shoreline around Virgil B. Bennington Lake when it is at elevation 1,205. Approximately 50 percent of the shoreline is unusable, or is not used, due to poor access, slope, or vegetation. The boat ramp allows for users to launch their boats (non internal combustion engines only) all year long.

A formal swimming area does not exist at Virgil B. Bennington Lake. Swimming occurs informally primarily because of a lack of viable alternatives. Swimming is not currently promoted due to the lack of support facilities (*i.e.*, a swimming beach that conforms to safety design criteria, changing rooms, sun shelters, and shoreline access trails). Additionally, water quality in the lake can be unsuitable for swimming at certain times (*e.g.*, high fecal coliform counts that do not conform to beach water quality standards).

Use of the shoreline needs to be directed away from the boat ramp, where swimming and wading traditionally occurs because of easier access. Access along other areas of the lake is limited by steep slopes or distance from the parking areas

B. Hunting

Hunting is permitted on the project in designated areas. There are very few public hunting areas within the Walla Walla Valley and Mill Creek provides easy access to hunters of all ages during a limited hunting season (September 1st thru January 31st). Several comments were received during the public scoping process regarding public safety issues related to hunting. Multiple user groups utilize the project that is constrained by its small footprint. User conflicts are inevitable and challenging for project staff. Recommendations for managing hunting and user conflicts are discussed in further detail in Section 6 Special Topics.

C. Picnicking

Picnic tables and shelters are located throughout the project. There are also designated day use areas that people can use for picnicking. Overall, the picnic facilities meet the current demand under normal use, though some areas may require updating in the future. Additional picnic shelters may be added to meet future demand.

D. Trails

The project provides more than 20 miles of recreation trials that offer scenic views and wildlife watching opportunities throughout the Mill Creek Dam and Bennington Lake area. Trails surfaces vary from pavement, gravel or dirt. In 2012, The Department of the Interior designated the trail system on the south side of Mill Creek and around Bennington Lake as a National Recreation Trail. The trails around the lake meander through open grasslands and wooded areas set against a backdrop of the Blue Mountains.

Two trails exist along the mill creek channel that are designed as levee maintenance roads but are allowed for use as trails. The south-shore trail consists of well compacted gravel. The north-shore trail offers a paved surface which extends along Mill Creek into the City of Walla

Walla. Visitors use the trails in many different ways such as, walking, horseback riding, and biking.

Table 2-4 Designated Trails

Trail	Length	Difficulty
Kingfisher Trail (Mill Creek Recreation Trail)	1.7	Easy- Flat (Paved of Gravel)
Meadowlark Trail	2.6	Moderate Flat to Gentle (Dirt)
Whitetail Trail	4.8	Moderately Difficult Gentle to Steep (Gravel and Dirt)

Trail users requested more signage and wayfinding during the public scoping meeting. Currently, few permanent trail markers exist along project trails. Implementing such elements would improve the user experience. Signage improvements along the trail should not detract from the natural setting of the project.

E. Sightseeing

A large percentage of visitors to the project each year come to sightsee and view the rolling topography and long vistas of the Blue Mountains and the Walla Walla Valley. Sightseeing is often combined with picnicking, hiking, bird watching, or other activities. Plate 2-2 depicts recreation facilities found at Mill Creek.

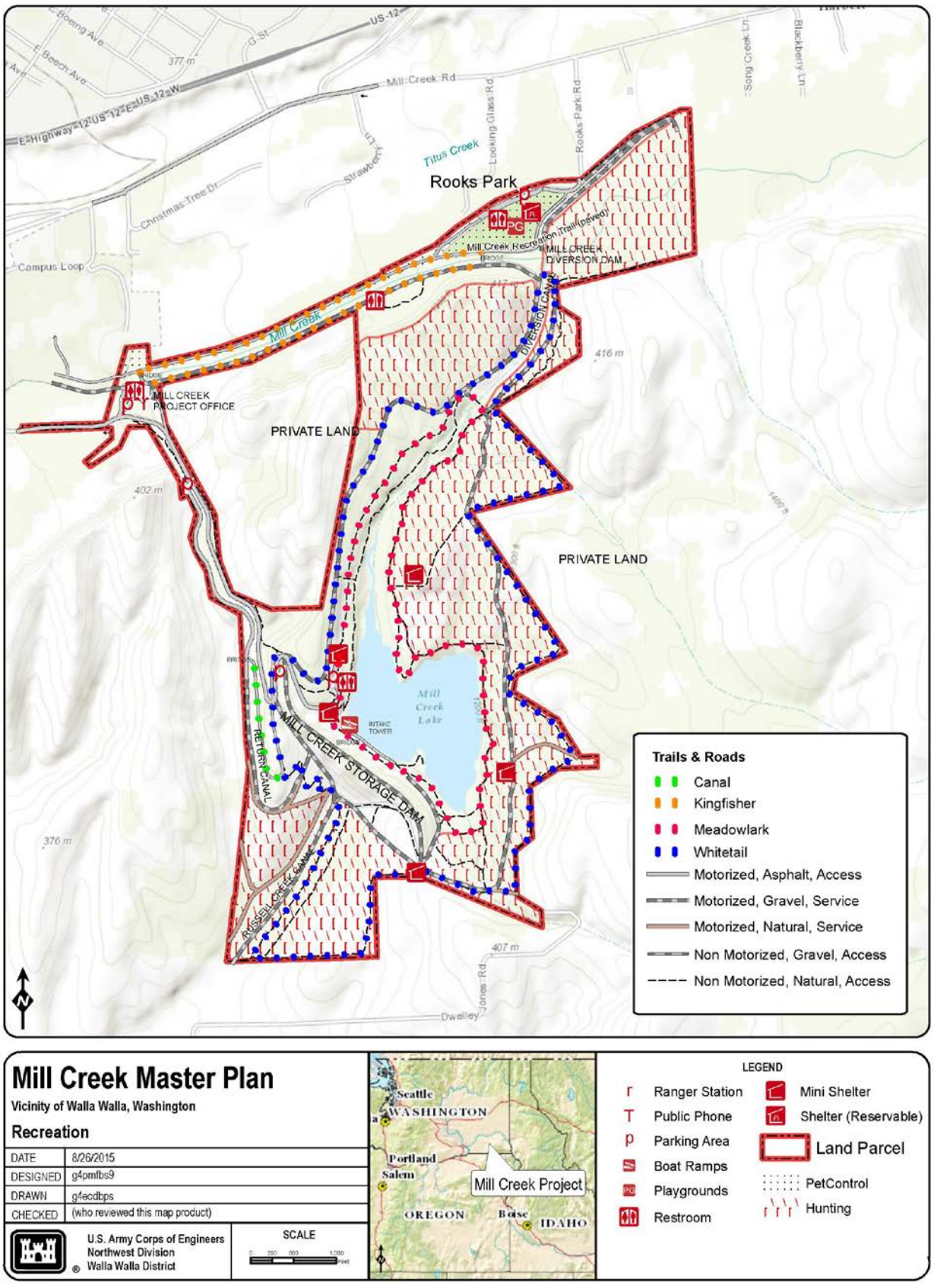


Plate 2-2 Recreation Facilities

2.6.4 Zones of Influence

1. **Primary.** The Primary area of influence encompasses the area within a ½ hour traveling time from the project. This area includes the cities of Walla Walla and College Place, as well as the unincorporated urban areas surrounding these two cities. 90 percent of project visitors come from within this primary zone of influence.

2. **Secondary.** The secondary zone of influence for the project is the area within a 25-mile radius of the project that is not included as part of the primary zone of influence. This area accounts for approximately 4 percent of the visitors, and is within 45-minutes traveling time from the project. This area includes the communities of Dixie, Prescott, Touchet, Waitsburg, Washington; and Milton-Freewater, Oregon.

3. **Tertiary**. The tertiary zone of influence is outside of the 25-mile radius, up to 50 miles. Less than 1 percent of the visitors to the project are from the tertiary zone. This area includes the tri-cities of Richland, Kennewick, and Pasco, Washington, which have a combined population in excess of 100,000. Plate 2-3 identifies the Mill Creek Project zone of influence.

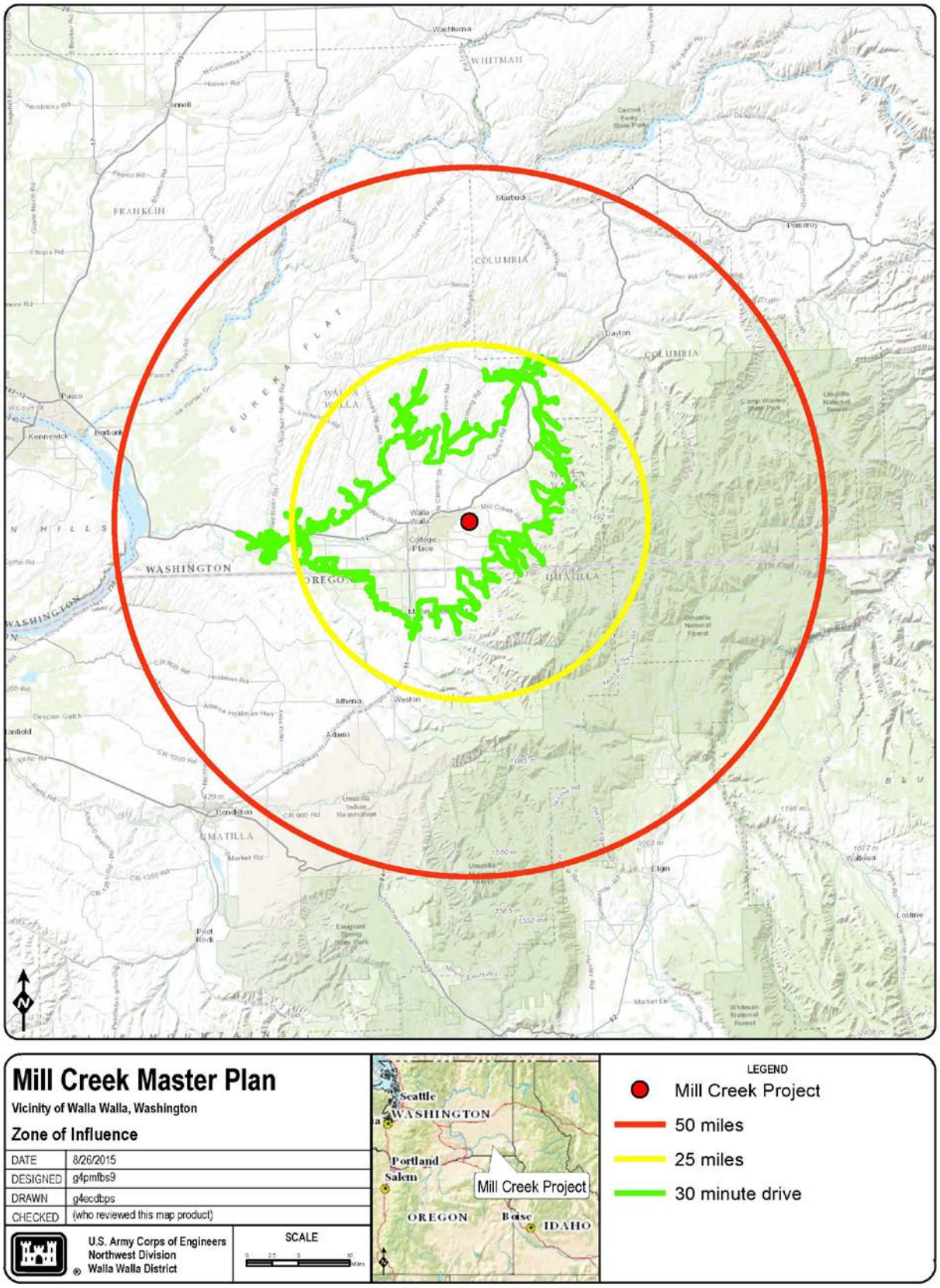


Plate 2-3 Zones of Influence

2.6.5 Project Visitation Profile

Mill Creek Project provides recreational opportunities for over 300,000 visitors annually. Bennington Lake is the only public body of water within 28 miles of the city of Walla Walla. The project's lake, creek, foothill setting, recreation facilities, and close proximity to Walla Walla attracts a high number of visitors. Because of the projected population growth in the Walla Walla/the project area, recreational opportunities and demand on day-use facilities will continue to increase in the future.

Over the years as visitor use has increased, facilities have been added and improved project wide to meet user demands. Population projections for Walla Walla County and the surrounding areas show steady growth over the next 50 years.

Table 2-4 shows visitation trends collected by the Corps personnel and recorded on the Corps' nationwide Operation and Maintenance Business Information Link (OMBIL) database. The methodology used to capture the information in the following table has varied over the period of record shown. At the drafting of this Master Plan revision, the Corps is in the process of modernizing the Visitation Estimation & Reporting System (VERS) to build on the groundwork laid in the early 1990's visitor use surveys. The new VERS will increase consistency of visitation estimates across projects by improving the level of standardization and transparency in the application of procedures used for visitation use estimation and reporting. This will result in additional variability in visitation numbers in the future and thus the table below should not be relied upon for precise enumeration. 2012 is the most current visitation numbers available until modernization is complete (expected completion 2016).

Table 2-5 Annual Visitation 2003-2012

Visitation 2003-2012	
2003	164,053
2004	201,250
2005	278,053
2006	260,250
2007	264,461
2008	256,102
2009	279,873
2010	275,762
2011	296,728
2012	302,004

2.6.6 Recreation Analysis

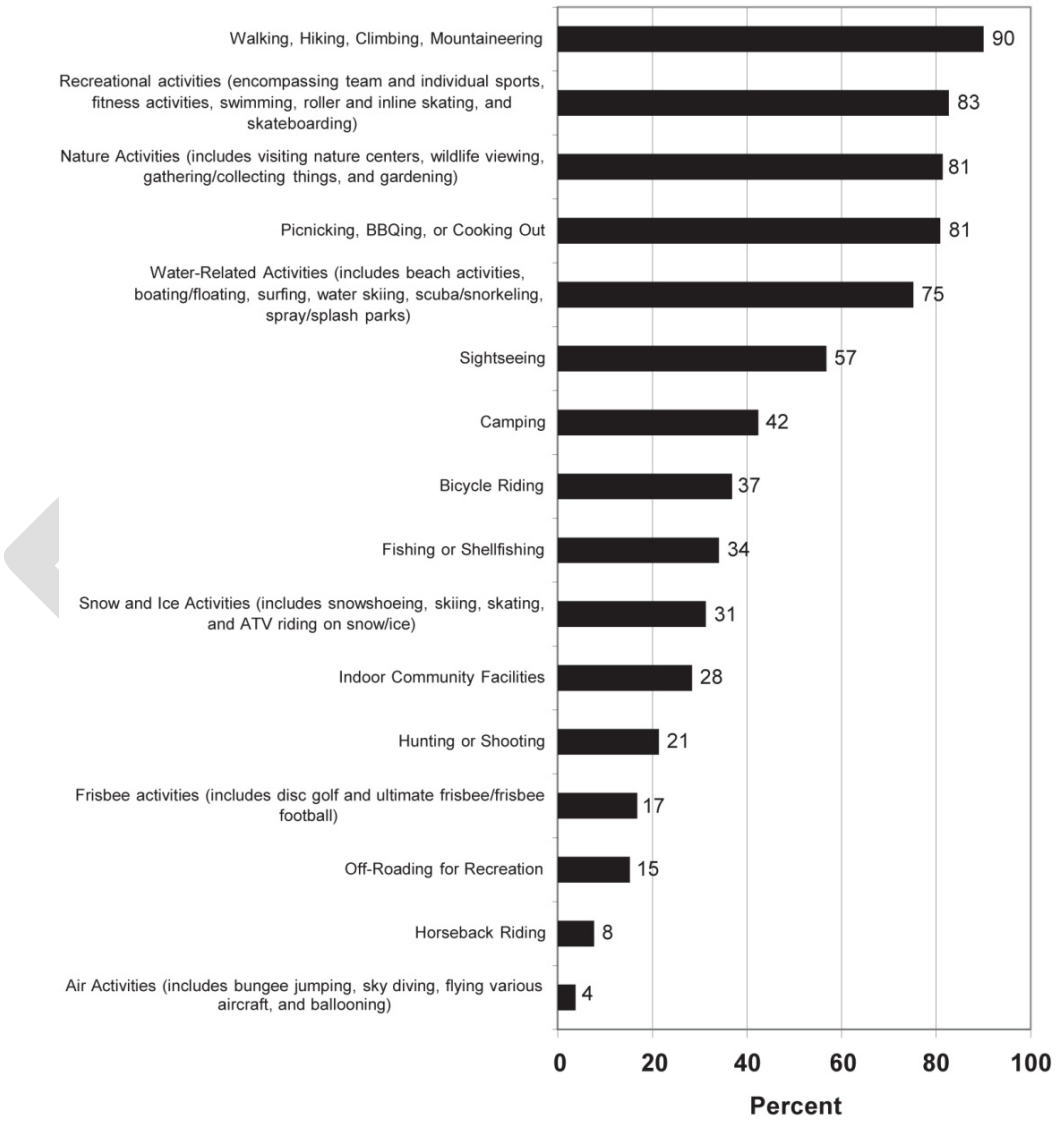
The Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2013 is statewide report that is an integral part of capturing the history and popular activities to enhance recreation opportunities in Washington. It serves as a management tool to help decision-makers and providers better understand and prioritize the use of recreational resources statewide. The

SCORP is used by the Corps to better understand and adapt to the current and future recreation trends and needs specific to the State of Washington.

Washington SCORP Data (2013-2018)

The Washington SCORP identified the current rate of participation among state residents within each of the 16 activity categories listed below in Figure 2-1. Not surprisingly, low-cost activities, easy or less strenuous activities, or activities that can be done close to home have relatively high participation rates; this includes walking at the top, with a 90% participation rate among Washington residents, but also near the top are recreational activities (which include jogging), nature activities, and picnicking/BBQing. Conversely, more specialized activities, those with high equipment demands, or those that require extensive travel have lower rates, with the very specialized categories like horseback riding and off highway vehicle use for recreation having the lowest participation rates.

Figure 2-1 Outdoor Recreation Participation Rates by Category



Source: Washington SCORP (2013-2018)

Along with walking and hiking, other core interests involve access to water (swimming, boating), or common leisure time gatherings (picnics and camping). People often use developed trails for activities, especially for bicycling, walking, hiking or nature viewing and photography. Activities with the highest average number of days of participation specifically among those who participate in the activity are walking without a pet and aerobics/fitness activities. Participants like to do these activities several times a week. The highest participation rates overall are for picnicking, BBQing or cooking out, walking without a pet, observing or photographing wildlife, sightseeing, gardening, hiking, and walking with a pet. The most intensive users of public facilities and lands are participants in hiking, picnicking/BBQing/cooking out, wildlife viewing, and swimming in pools or natural waters. Some activities have had a marked increase in ranking since the previous SCORP, including visiting a nature interpretive center, climbing or mountaineering, firearms use (hunting or shooting), inner tubing or floating, and camping in a primitive location. It is also worth noting that picnicking/BBQing/cooking out went from the ninth-ranked activity in 2002 to the top-ranked activity in 2012. There has been a dramatic increase in participation in many nature-based activities and notable declines in participation in team-based activities.

The public participated in the SCORP planning process through an Advisory Group, Advisory Group meetings open to the public, an online SCORP Town Hall, and a large scale telephone survey. The SCORP evaluates recreation supply and demand on a statewide basis but also includes a regional analysis. The survey focused on Washington residents participation in recreation, their future needs for recreation, their satisfaction or dissatisfaction with outdoor recreation facilities and opportunities, their issues of concern, and any constraints they had in participating in outdoor recreation in Washington.

Washington SCORP Findings

Participation and Satisfaction – Survey results and associated trends point to an increase in nature-based activities. A major focus on recreation planning over the next 5 years should be in providing these nature-based activities for Washington residents and maintaining the integrity of the ecosystems upon which these recreational activities depend. The majority of Washington outdoor recreationists are quite satisfied, with a few small exceptions. In general, dissatisfaction is low for most activities. Nonetheless, the following activities have dissatisfaction rates of at least 20%: shooting opportunities, disc golf opportunities, off-roading facilities and opportunities, and hunting facilities and opportunities. Providers should be aware of those opportunities with which residents are dissatisfied and continue efforts to develop new facilities or to improve existing facilities and opportunities.

Recreation Types – An overwhelming majority of residents are participating in activities that fall under the broad active recreation categories of “walking, hiking, climbing, and mountain biking” (90% of residents participated in activities under this category) and “recreational activities” (83%), which include activities such as swimming, aerobics, jogging, and running. Findings show that the mean of providers‘answers regarding the percent of their facilities that support active recreation statewide is 54.04% (a B score on the Level of Service). Washington residents participate in a wide variety of outdoor recreation activities. Offering diverse opportunities is important in meeting the demands of underrepresented populations, such as urban residents and minorities.

Recreation Sites and Facilities - Facility capacity measures the percent of demand met by existing facilities, and it appears to be the biggest gap that recreation providers feel. In other

words, there is the perception among recreation providers that there is an unmet demand pressure that they are unable to address. Findings from the SCORP indicate that 16% of residents said that there were problems with facilities for outdoor recreation in their community. The top problems include a need for more facilities/more availability (35%), poor state of facilities (21%), restricted access (13%), difficulty with access (4%), and broken equipment/poor maintenance (4%)—all items that pertain directly or tangentially to facility capacity. Level of Service scores show that the highest priorities for planning for and improving outdoor recreation in Washington are facilities capacity and quantity.

Sustainability - When discussing sustainable recreation, it is important to realize that there are two primary and inter-related factors of sustainable recreation: (1) longevity of environmental resources and assets and (2) the longevity of recreational planning and funding. Environmental sustainability focuses on providing recreation designed to minimize environmental impacts and encourage stewardship and ethical use. Recreational sustainability focuses on providing recreation facilities and opportunities that are designed to maximize the useful life of the facilities and opportunities into the future, thereby encouraging self-supporting design, maintenance, operation, and funding. The second factor is dependent on the first: The longevity of recreation planning cannot be ensured without the preservation of the resource itself. Recreationists are interested in sustainability of the natural environment as part of recreation management, to the degree that they are willing to forego additional recreation opportunities to ensure the sustainability of the resources. Recreation providers should work toward getting recreationists involved through volunteer opportunities supporting environmental sustainability and stewardship initiatives.

User Conflicts - User conflicts are the result of the interplay between several factors, including activity style, resource specificity, mode of experience, and lifestyle tolerance. An example of user conflict would be the tension between a quiet, fast mountain biker coming into contact on a blind curve with horses that can have an instinctive fear response. Conflict management should continue to be an explicit effort for recreation providers using the tools they already apply such as advisory groups, and resident participation. User groups should meet to work out how cooperative sharing can evolve across the array of recreation activities where there are perceived conflicts, perhaps beginning with collaboration among stakeholder groups and the recreation industry to prepare and promote a program of best recreation-use practices (i.e., norms of behavior) their users can follow to improve inter-group relationships in the field.

There was interest among SCORP contributors in zoning to address incompatible recreation activities and sequestering days to separate conflicting dual use (e.g., motorcycles on odd days, mountain bikers on even days) on the same trail. This is an important consideration, especially where speed-of-use and noise conflicts exist between motorized recreation and non-motorized recreation (e.g., ATVs versus mountain bikes) or even between wheeled recreation and non-wheeled recreation (e.g., mountain bikes versus hikers). Research has shown that this can work. In Washington, a study of user conflict between mountain bikers and other users explored the outcomes of a trial period in which mountain bikers were allowed access to the recreation site on odd-numbered calendar days. The study showed that recreationists “felt safe, had a high level of enjoyment, experienced positive interactions with other trail users, and favored the every-other-day policy over closing or opening the trail full time to mountain bikes.”

For a copy of the entire Washington SCORP it can be found at:
http://www.rco.wa.gov/recreation/scorp.shtml

2.6.7 Recreational Carrying Capacity

Recreation carrying capacity is a measure of the capability of a recreation resource to provide the opportunity for satisfactory recreation experiences, over a period of time, without significant degradation of the resources. Carrying capacity has two components: social and resource capacity.

Social capacity is the level of density beyond which the user does not achieve a reasonable level of satisfaction. Bennington Lake often exceeds its social carrying capacity during the spring and early summer when fishing conditions are best thus leading to undesirable visitor satisfaction. Available shoreline and size of the lake limit the social carrying capacity of the lake.

Resource capacity is the level of a recreation resource beyond which irreversible biological deterioration takes place, or degradation of the resource makes it unsuitable or unattractive for recreational use. Resource capacity is usually a seasonal or long term issue, as most areas will tolerate some short-term overuse without significant adverse effects. Resource capacity must be accommodated in the design and location of facilities, as well as the regulation of use.

Using data and methodology from "U.S. Outdoor Recreation Participation Projections 2010 to 2060" by J.M. Bowker, Ashley Askew and Ken Cordell, along with the Washington Statewide Comprehensive Outdoor Recreation *Plan* (SCORP) 2013-2018, future outdoor recreation demand was calculated for Mill Creek. Table 2-5 shows the future projected visitor participation based on national data and trends.

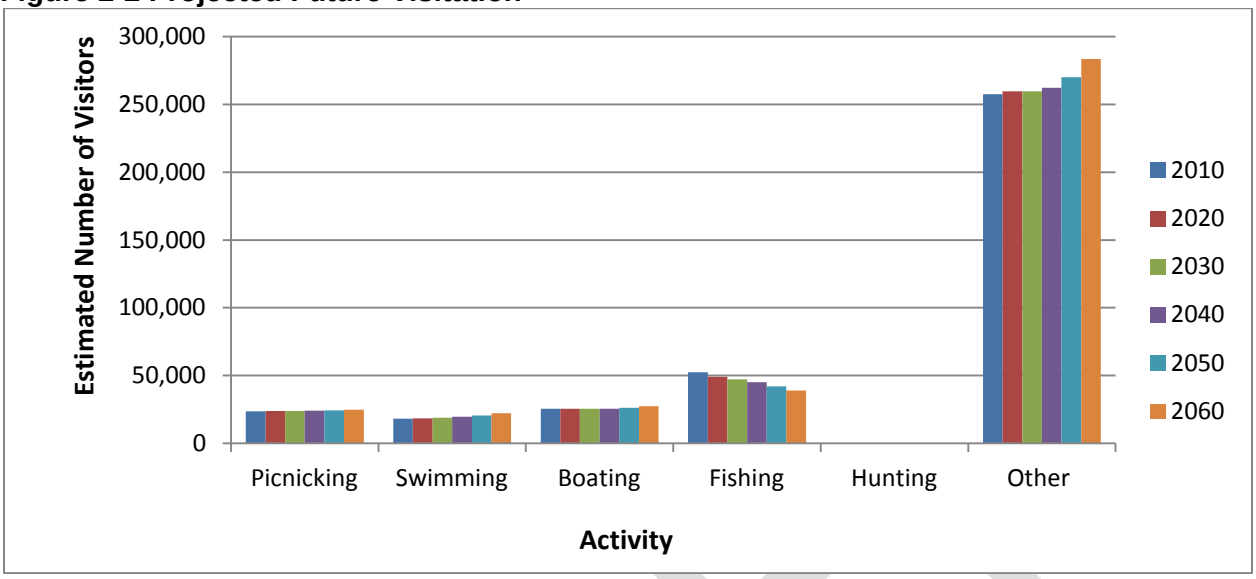
Table 2-6 Mill Creek Projected Future Visitor Participation

Activity	2012	2020	2030	2040	2050	2060
Picnicking	23,754	23,825	23,992	24,160	24,377	24,792
Swimming	18,244	18,554	18,943	19,607	20,666	22,174
Boating	25,530	25,530	25,607	25,607	26,270	27,348
Fishing	52,497	49,137	47,172	45,049	42,121	39,004
Hunting	136	127	111	92	72	54
Other	257,467	259,527	259,527	262,122	269,986	283,485
TOTAL*	379,638	378,720	377,382	378,677	385,542	398,917

* Total projected visitor use is greater that annual visitation because visitors may be engaged in multiple activities during a single visit.

Projections for recreation demand at The Mill Creek Project over the next 50 years are shown in Figure 2-2. Projections are based on several scenarios and subject to change. Visitor use is projected to remain fairly steady or slightly increase over the next 50 years. Fishing and hunting are projected to decline based on extrapolation of trends.

Figure 2-2 Projected Future Visitation



The concept of carrying capacity, as applied to recreation, implies that an optimum limit exists for the amount of recreation activity that may occur before detrimental effects inhibit a quality experience for participants and deplete environmental resources. In this sense, capacity is used as the ultimate determination for the extent of recreational development. At the project, resource limitations justify the establishment of reasonable capacities.

Boating and boat fishing are activities that have reached social capacity.. Boat launching is adequate. Shoreline fishing is in the upper density level, especially when considering the poor access and the lack of developed facilities for shoreline fishing. Swimming is similar to shoreline fishing, in that there is a great demand but there are no formal facilities. Trail activities are growing, and are most dense along the Levee Trails. Rooks Park provides a low density picnic experience and still provides a low density experience.

2.7 REAL ESTATE

2.7.1 Land Acquisition History

Under PL 761, the 75th Congress authorized the government to originally purchased 743 acres in 1942 for flood control purposes only. Over 194 acres that were not pertinent to the flood control purposes of the project were disposed of in 1955. The lands outside the lake (elevation 1265) were disposed of because they were no longer needed for flood control. Since that time, subsequent legislation has authorized other project purposes, including recreation and fish and wildlife management.

The U.S. Government currently owns 611.46 acres within the project boundary, and has easements and reservation rights on 87.27 acres. The majority of the project lands are centered

around Virgil B. Bennington Lake, with lands paralleling Mill Creek, and Reservoir Road/Bennington Lake Road. The corps has management rights and responsibilities on these U.S. Government owned lands. Under the LSRFWCP 63.07 acres were purchased and transferred to the project as mitigation for lost habitat and hunter opportunity from construction of Lower Snake River dams.

2.7.2 Leases, Easements, and Outgrants

The purpose of an outgrant is to allow other agencies or individuals use of project lands. These outgrants are issued by easement, permit, license, or lease. They are issued if the land is available, and if the proposed use is consistent with operational needs and resource management objectives. Other outgrants may be issued and existing ones terminated or amended, as circumstances warrant. There are currently 8 easements and 1 permit on project lands.

The Real Estate Division of the Corps, Walla Walla District maintains all current information on outgrants and reservations.

2.8 PERTINENT PUBLIC LAWS, REGULATIONS, AND POLICIES

Rules and regulations governing the public use of water resources development projects administered by the Corps are contained in Title 36, Part 327 of the Code of Federal Regulations. Other authorities specifically related to the management of recreation and public access are found in Public Laws; Executive Orders (EO); and the Corps' Engineer Regulations (ER), Engineer Manuals (EM), and Engineer Pamphlets (EP). A list of applicable laws applicable to recreation and public access is included in Appendix D. A list of applicable federal statutes is included in Appendix E.

2.9 ENVIRONMENTAL CONSIDERATIONS

This Plan will evaluate the impacts of land use classification changes and set conditions and parameters for future development. Implementation of each recommended recreation facility and development, as detailed in Mill Creek's *Operational Management Plan* (OMP), requires separate environmental compliance evaluations.

2.9.1 Environmental Laws and Regulations

Appendix I contain a list of the major federal laws and Executive Orders that may be applicable to implementation of recommendations in this plan.

3. RESOURCE OBJECTIVES

Resource Objectives are clearly written statements that respond to identified issues and that specify measurable and attainable activities for resource development and/or management of the lands and waters under jurisdiction of the Walla Walla District, Mill Creek Project. The objectives stated in this Master Plan support the goals of the Master Plan, Environmental Operating Principles (EOPs) (Appendix F), and applicable national performance measures. They are consistent with authorized project purposes, Federal laws and directives, regional needs, resource capabilities, and take public input into consideration. Recreational and natural resources carrying capacities are also accounted for during development of the objectives found in this Master Plan. They are developed with full consideration of the project's authorized purposes; applicable federal laws and directives; resource capabilities; regional needs; recreational and natural resources carrying capacity; State Comprehensive Outdoor Recreation Plans; cultural and natural resources significant to regional Tribes; and public input.

Resource objectives are divided into three categories—General, Environmental Stewardship, and Recreation—to better address specific management needs.

3.1. General

3.1.1. Project Operations

Objective: Continue to safely and efficiently operate and maintain the project to provide flood risk management to the city of Walla Walla and surrounding areas as authorized in public law.

Discussion: The project will continue to operate for flood risk management, as authorized by Federal Law and as described in Flood Control Manual-*Mill Creek Flood Control Project*, in cooperation with the Mill Creek Flood Control Zone District (Walla Walla County). The operation for flood risk management will take into consideration other project resources (wildlife, recreation, etc.), while still meeting the needs for flood risk management.

3.1.2 Boundary Management

Objective: Prevent unintentional trespass and negative impacts associated with encroachments (e.g., livestock, agricultural, and vehicular) on government property.

Discussion: Continued efforts in surveying, marking, and posting of Operating Project boundary, sharing data with adjacent land owners, public education, and enforcement will help prevent unintentional trespass on Federal lands.

3.1.3 Safety & Accessibility

Objective: Provide use areas and facilities that are safe and accessible for all project visitors.

Discussion: Developed areas designated for recreation use will be evaluated regularly for safety and accessibility. Any conditions that have been determined unsafe will be evaluated and feasible corrective actions will be implemented in accordance with EM 385-1-1. When

developing new, or rehabilitating existing recreation facilities/opportunities, effort should be made to comply with reasonable ADA accommodations. In addition, special emphasis should be placed on programs that increase participation in outdoor activities for people with physical, developmental, and sensory disabilities.

3.1.4 Aesthetic Resources

Objective: Plan all management actions with consideration given to landscape quality and aesthetics.

Discussion: Corps regulations and guidance requires that the Corps consider and provide an aesthetically-pleasing environment for the public. Visitors are attracted to the vistas, rolling topography, and water bodies that create high visual quality at the project. In order to create a quality recreation experience it is important that planned improvements be designed and maintained so that visual resources associated with the project will be protected, preserved and maintained to the maximum extent possible.

3.1.5 Facilities Management

Objective: Ensure all current and future facilities are maintained and meet Federal and State design standards.

Discussion: All new or remodeled facilities will meet current standards. Upgrade and replacement of existing facilities will comply with Corps policy.

3.2 Recreation

3.2.1 Interpretive Services and Outreach Program (ISOP)

Objective: Interpretive services will focus on Agency, District, and Operating Project Missions, benefits and opportunities. Interpretive services at the project will be used to help enhance public safety through promoting public awareness, understanding, and appreciation of the project and its resources. Improve signage and wayfinding throughout the project, specifically along the trail system.

Discussion: The Mill Creek ISOP includes the management of public affairs, community relations, marketing, publications, tourism, special events, and a visitor center. The project will provide community outreach through interpretive displays and programs at the visitor center, day use areas, community organizations, Chamber of Commerce, press releases, etc. Interpretive displays and programs should highlight on several of the following subjects.

- The Corps
- Land use classifications
- Operating Project authorized purposes and public benefits
- Impacts of the Operating Project (historical, cultural, ecological)
- Historical and traditional uses of the area by regional tribes
- Operating Project benefits to the nation, region, and local community
- Recreation opportunities
- Wildlife and fish associated with the Operating Project lands, waters, and opportunities to passively and actively utilize

- Water Safety
- Ongoing management activities
- Challenges and possible solutions

Opportunities exist to partner with local Tribes and other groups in the development of these displays and programs.

3.2.2 Day Use Recreation Facilities

Objective: Maintain and improve existing day use recreation facilities and lands, as well as develop new facilities to meet public demand and reduce operations and maintenance costs while maintaining the integrity of the Operating Project natural resources.

Discussion: Day use activities are the primary recreational use at the project. The project serves approximately 300,000 visitors each year, with 90 percent of these visitors coming from the Walla Walla Valley. Day use activities include but are not limited to: walking, horseback riding, off-leash dog walking, fishing, sightseeing, boating, picnicking, and cycling. Facilities should focus on safe easy access to the lake, adequate parking, picnic sites, and staffed information Visitor Center.

In order to meet current and future needs the following facilities may be added to the project

- Restroom upgrades
- Picnic Shelters
- Swimming beach
- ADA access to Bennington Lake
- Fishing Pier at Bennington Lake
- Splash Pad

3.2.3 Dispersed Low Density Recreation

Objective: Appropriately manage and provide opportunities and facilities for multiple user groups in low density dispersed recreation areas.

Discussion: Close proximity of the project to the City of Walla Walla fills a regional need for natural and semi-natural dispersed recreation. Continuing efforts to provide dispersed recreation at the project will allow visitors to participate in activities such as fishing, upland game bird hunting (in approved areas), nature study, bird watching, cycling, horseback riding, and other activities. Managing user expectations and developing creative solutions in low density recreation areas will remain important as visitor use continues to increase.

3.3 Environmental Stewardship

3.3.1 Riparian and Wetland Protection

Objective: Protect and limit impacts to wetlands and riparian corridors on the project in conjunction with meeting the needs of maintaining flood damage reduction mission of the project, water quality, and fish and wildlife benefits.

Discussion: Wetlands and riparian habitat are of high ecological importance to the Walla Walla Valley. No unnecessary removal or alteration of the systems will be promoted.

3.3.2 Fish and Wildlife Habitat Management

Objective: Conserve, protect, restore, and/or enhance habitat and habitat components important to the survival of threatened, endangered, special status, and other regionally important species on Operating Project lands.

Discussion: Over the last 60 years improvements have been made to enhance fish and wildlife habitat. Maintenance of future and existing habitats is critical in order to sustain a healthy ecosystem for now and in the future. The *Mill Creek Vegetation Planting Strategy* has identified future opportunities for planting on projects lands to support fish and wildlife.

Any future development should be designed and constructed to minimize negative impacts to these habitats. Under the provisions of Section 7 of the ESA of 1973 and Fish and Wildlife Coordination Act of 1958, actions that may affect endangered or threatened species of their habitat must be coordinated with the USFWS and the National Marine Fisheries Service(NMFS).

3.3.3 Cultural Resources Management

Objective: Protect, preserve, and maintain cultural resources on project lands.

Discussion: If any significant historical site is found, the District Archaeologist will be notified and will initiate appropriate action.

3.3.4 Invasive Species Management

Objective: Minimize negative impacts to native flora and fauna by reducing and/or eradicating invasive species on Operating Projects lands.

Discussion: Reducing and restricting the spread of invasive species will be achieved by monitoring, assessment, and treatment efforts that include an Integrated Pest Management (IPM) approach, chemical, mechanical, and planting with native and culturally significant plant species.

4. LAND ALLOCATION, LAND CLASSIFICATION, AND PROJECT EASEMENT LANDS

4.1. GENERAL

Mill Creek Project was originally constructed for flood control. Recreation was added as a project purpose resulting primarily from the impoundment of water and presence of public land. Management of recreational resources must not conflict with the operations of the project for which it was authorized. The land classification of an area governs land uses, resource management activities, and permissible facility development. Combined with project-wide and site-specific resource objectives, the land use plan provides a conceptual guide for the use, management, and development of all project lands. Together, these elements are the foundation of the Master Plan.

4.2. LAND ALLOCATION

Lands are allocated by the congressionally authorized purposes for which the project lands were acquired. Chapter 3 of EP 1130-2-550 defines these categories as Operations, Recreation, Fish and Wildlife, and Mitigation.

A. Project Operations

These are lands acquired for the congressionally authorized purpose of constructing and operating the federal project for the purpose of flood control.

B. Mitigation

These are lands acquired or designated specifically for the congressionally authorized purpose of offsetting losses associated with development of the project.

C. Recreation, Fish, and Wildlife

These are lands acquired specifically for the purpose of recreation and managing or protecting fish and wildlife. No lands were purchased for these purposes.

4.3. LAND CLASSIFICATIONS

Land classification designates the primary use for which project lands are managed. Project lands are zoned for development and resource management consistent with authorized project purposes and the provisions of the National Environmental Policy Act (NEPA) and other federal laws. Land classifications established in Engineer Pamphlet 1130-2-550 include Project Operations, High Density Recreation, Mitigation, Environmentally Sensitive Areas, Multiple Resource Management Land, and Water Surface.

Management and use of the lands assigned to each land classification are discussed, in connection with the appropriate resource objectives, in the following paragraphs. Proposed Project land classifications are shown on Plate 4-1 at the end of this section.

4.3.1 Project Operations

Lands required for the operation and maintenance of the dam and reservoir, associated structures, administrative offices, maintenance compounds, and other areas are classified "Project Operations". Where compatible with the operational requirements, this land may be used for wildlife habitat management and low density recreational uses. Licenses, permits, easements, or other outgrants are issued only for uses that do not conflict with operational requirements. Some Project Operations lands are closed to public access for safety or security reasons, while other areas may be subject to closure for operational requirements or other purposes. Table 4-1 below contains primary and secondary uses for land classified as Project Operations.

Table 4 -1: Operations allocation, Project Operations classification.

PROJECT OPERATIONS, 124 ACRES	
Primary Use Manage lands required for the operation and maintenance of the dam and reservoir. **Secondary Uses** Wildlife Management - General forest health - Ecological restoration projects - Other similar activities	**Secondary Uses, con't.** Low Density Recreation - Hunting/Fishing - Hiking - Bicycling - Horseback riding - Picnicking - Sightseeing and nature observation - Other recreation activities of a primitive nature

4.3.2 High Density Recreation

Lands developed for intensive recreational activities by the visiting public are included in this classification. Table 4-2 below contains primary and secondary uses for land classified as Recreation.

Table 4-2: Operation allocation, High Density Recreation classification.

HIGH DENSITY RECREATION, 63 ACRES	
Primary Uses	**Secondary Uses**
Manage land for developed recreation sites. - Picnicking - Swimming - Fishing - Sightseeing and nature observation - Nature/Interpretive trails - Hiking - Bicycling - Horseback riding - Playgrounds/Games/Sports/Other - Boat Ramps	Wildlife Management - General forest health - Ecological restoration projects Low Density Recreation - Non-motorized trails - Other recreation activities of a primitive nature

Low density recreation and wildlife management activities that are compatible with intensive recreation use are acceptable. No agricultural uses are permitted on these lands except on an interim basis for the maintenance of scenic or open space values. Licenses, permits, easements, or other outgrants are issued only for use that does not conflict with recreation use. Hunting is not allowed on land classified as High Density Recreation, although fishing is an appropriate non-conflict recreational activity.

4.3.3 Mitigation

Only land under the Mitigation allocation can be included under the Mitigation classification. It is specifically designated to offset losses associated with development of a project. For Mill Creek, Table 4-3 below contains primary and secondary uses for land classified as Mitigation.

Table 4-3: Mitigation allocation, Mitigation classification.

MITIGATION, 62 ACRES	
Primary Use	**Secondary Uses**
Manage land for upland game bird habitat as defined by regulation.	Wildlife Management - General forest health - Ecological restoration projects - Other similar activities Low Density Recreation - Non-motorized trails - Hunting/Fishing - Hiking - Bicycling - Horseback riding - Picnicking - Sightseeing and nature observation - Other recreation activities of a primitive nature

4.3.4 Environmentally Sensitive Areas

Environmentally Sensitive Areas are areas identified with scientific, ecological, cultural, or aesthetic features, and not just land that is otherwise protected by laws. Typically, limited or no development of public use is allowed. Activities designed to promote and improve special features identified in the area are allowed, along with education and interpretation.

Development of recreation facilities in Environmentally Sensitive Areas may be limited or prohibited to ensure that the lands are not adversely impacted. Table 4-4 below contains primary and secondary uses for land classified as Environmentally Sensitive.

Table 4-4: Operations allocations, Environmentally Sensitive Area classification.

ENVIRONMENTALLY SENSITIVE AREAS, 33 ACRES	
Primary Uses Manage land to protect unique and sensitive resources. - Scientific - Cultural - Ecological - Aesthetic	**Secondary Uses** Wildlife Management - General forest health - Ecological restoration projects - Other similar activities Low Density Recreation - Nature observation - Education/Interpretation

4.3.5 Multiple Resource Management (MRM) Land

This classification allows for designation of a predominate use with the understanding that other compatible uses may also occur in the classification. Total MRM for the Mill Creek Project is approximately 334 acres.

A. Low Density Recreation. This land provides opportunities for dispersed and/or low-impact recreation. Emphasis is on minimal development of infrastructure that might support sightseeing, wildlife viewing, nature study, hiking, biking, horseback riding, and picnicking. Consumptive uses of wildlife (i.e. hunting, fishing) are allowed when compatible with the wildlife objectives for a given area and with federal, tribal, and/or state fish and wildlife laws and regulations.

Facilities may include trails, parking areas, vault toilets, picnic tables, and fire rings. Manmade intrusions (power lines, non-project roads, water and sewer pipelines) may be permitted under conditions that minimize adverse effects on the natural environment. Vegetation management that does not greatly alter the natural character of the environment is permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. Table 4-5 below contains a listing of primary and secondary uses on lands classified under MRM – Recreation Low Density.

Table 4-5: Operations allocation, Multiple Resource Management Land classification, subclassification Low Density Recreation.

MRM - LOW DENSITY RECREATION, 25 ACRES	
Primary Uses	**Secondary Uses**
Manage land for low density, low impact recreation opportunities. - Hunting/Fishing - Hiking - Bicycling - Horseback riding - Campgrounds <15 sites - Primitive camping (designated sites) - Picnicking - Swimming - Sightseeing and nature observation - Motorized access trails and roads - Boat ramps - Non-motorized trails - Other recreation activities of a primitive nature	Wildlife Management - General forest health - Ecological restoration projects - Other similar activities

These lands emphasize opportunities for dispersed and/or low-impact recreation use. Facilities for site-specific, low impact activities such as sightseeing, wildlife viewing, nature study, hiking, biking, horseback riding, and picnicking may be allowed. Facilities on this land classification may include boat ramps, boat docks, trails, parking areas, vault toilets, and picnic tables.

B. Wildlife Management. This land is designated for stewardship of fish and wildlife resources in conjunction with other land uses. Habitat maintenance and/or improvements are for a designated species, group of species, and/or a diversity of species. These areas may be administered by other public agencies under a lease, license, permit, or formal agreement. Licenses, permits, and easements are normally not allowed for manmade intrusions such as pumping plants, pipelines, cables, transmission lines, or for non-Corps maintenance or access roads. Exceptions to this policy are allowable where necessary for the public interest or other reasons deemed important by the Corps.

Wildlife management land is available for sightseeing, wildlife viewing, nature study, hiking, biking, horseback riding, and primitive camping. Consumptive uses of wildlife (hunting, fishing, and trapping) are allowed when compatible with the wildlife objectives for a given area, as well as with federal, tribal, and/or state fish and wildlife laws and regulations. Table

4-6 below contains a listing of primary and secondary uses on lands classified under MRM – Wildlife Management.

Table 4-6: Operation allocation, Multiple Resource Management Land classification, subclassification Wildlife Management.

MRM - WILDLIFE MANAGEMENT, 309 ACRES	
Primary Uses	**Secondary Uses**
Manage land for stewardship of fish and wildlife resources. - General forest health - Habitat enhancement projects - Ecological restoration projects - Protection of specific habitat areas/ components (i.e., denning sites, calving sites, nests and wallows, etc.) - Other similar activities	Low Density Recreation - Hunting/Fishing - Hiking - Bicycling - Horseback riding - Picnicking - Sightseeing and nature observation - Non-motorized trails - Other recreation activities of a primitive nature

4.3.6 Easement Lands

The Corps holds an easement interest, but not the title to this land, and has the right to enter the property in connection with the operation of the project. In most cases, the Corps has the right to occasionally flood these properties. Planned use and management is in strict accordance with the terms and conditions of the easement estate acquired for the project. The Corps of Engineers has acquired easements on approximately 87 acres of land adjacent to the Mill Creek Project.

A. Operations Easement. Operations easements were purchased by the Corps for the purpose of project operations. 11.53 acres was acquired in order to construct and maintain the Russell Creek Outlet Canal (below the dam). This channel runs southwest, from the corner of feelands to Russell Creek. Rooks Park road easement (3 acres), lies along Rooks Park Road, and is on land that is owned by Walla Walla County .

B. Flowage Easement. These are easements purchased by the Corps of Engineers giving the right to temporarily flood private land during flood risk management operations. There are 73.26 acres of flowage easement land located near the project. This easement is adjacent to the outlet canal easement and is located west of the lower end of Russell Creek Outlet Canal.

4.4. IMPLEMENTATION AND RECOMMENDATIONS

Land classifications are zoning plans in the sense they allow for different types of management and development within each land classification. The classifications are based on suitability of the resource, as well as their protection, capability, public desires, and agency missions and policies. An interdisciplinary team evaluated the current operation of the project, resource capabilities as well as public input to determine if any changes in land classifications should be made. Since the completion of the 1993 Master Plan, Corps Engineer Pamphlet 1130-2-550 has made minor updates to land classifications. This update in land use classifications required only minor changes to the existing classifications at Mill Creek. Updated land use classifications are reflected in Plate 4-1.

During the evaluation of land use classifications the interdisciplinary team identified several proposed changes to various management units. These proposed changes reflect current operations that have changed since the completion of the 1993 Master Plan. Table 4-7 describes proposed management unit changes. A detailed description of Project management units is found in Section 5.

Table 4-7: Proposed Management Unit Changes

Management Unit (MU)	Proposed Change	Reason For Change
Bennington Lake Habitat MU	Include existing trail running along Southern Edge of Mill Creek ESA MU into Bennington Lake Habitat Management Unit.	This trail is developed and located on a ridgeline that is outside of what is considered the Mill Creek ESA.
Russell Creek Habitat MU	Combine with Bennington Lake Habitat MU.	This MU is adjacent to and managed in the same manner as Bennington Lake Habitat MU. A Separate Habitat MU is not necessary.
Project Office and Maintenance Yard MU	Combine area known as Yellowhawk Creek Park with the Project Office and Maintenance Yard MU.	Yellowhawk Creek Park was never developed and is unlikely to be developed based on current demand and funding. The Project Maintenance Yard is currently located in this area.
Mill Creek Diversion MU	Include a portion of the Mill Creek ESA MU west of the debris barrier into the Mill Creek Diversion MU.	Current operations require clearing of a portion of this area for operational purposes. *
Mill Creek Environmentally Sensitive Area (ESA) MU	Transfer a portion of this MU to Mill Creek Diversion MU.	Current operations require clearing of a portion of this area for operational purposes.

* Outside of periodic clearing of debris this area will remain undeveloped and operated as an ESA

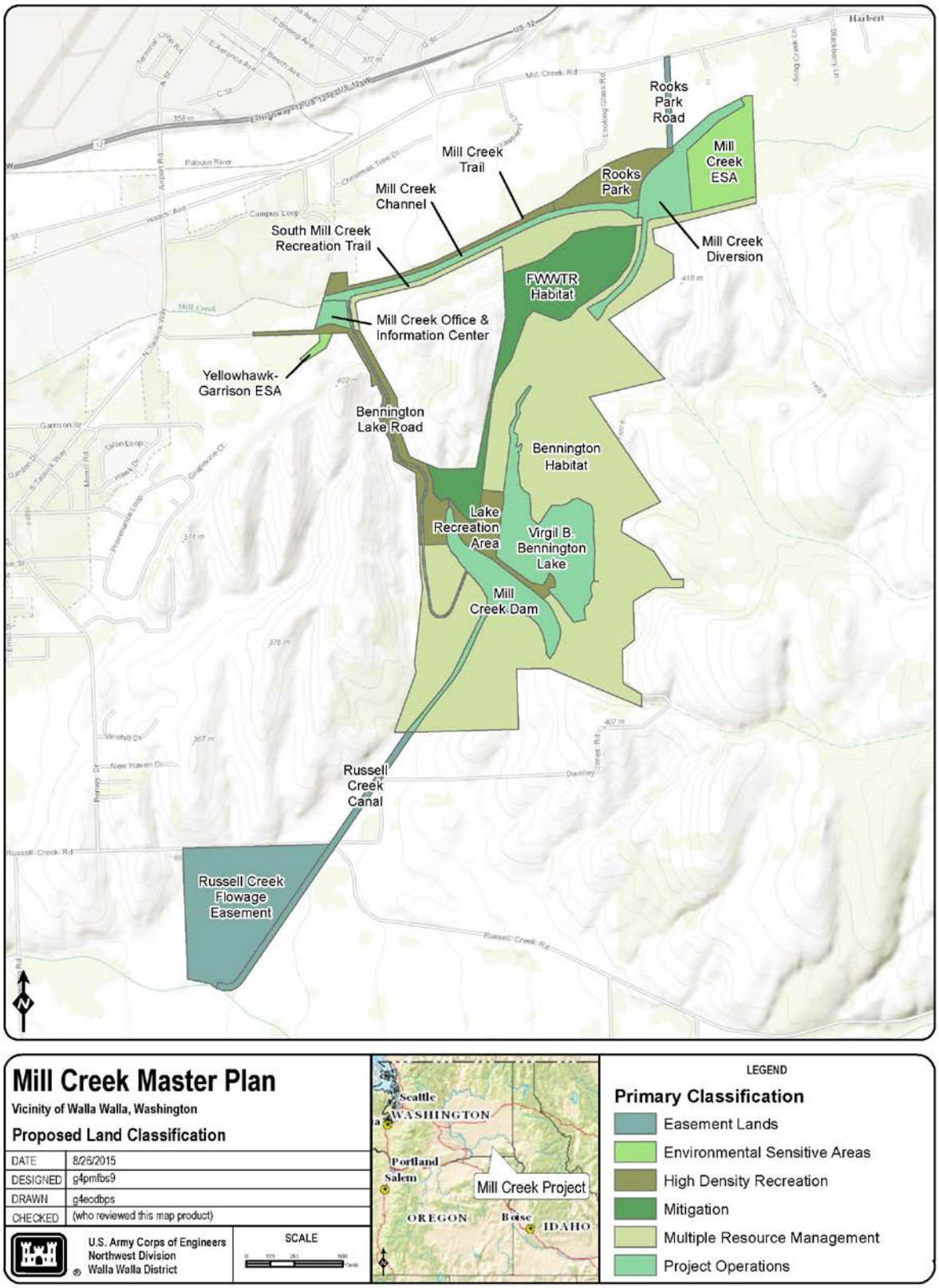


Plate 4-1 Land Classification

5. RESOURCE PLAN

This section describes, in broad terms, recommendations for management of project lands. The Project Delivery Team was established and includes subject matter experts in the following fields: biology, landscape architecture, recreation and natural rsource management, and the National Environmental Policy Act. This team chose the "Management by Area" approach as set forth in EP 1130-2-550. The project has been divided into 13 management units (See Table 5-1). A more specific plan for managing these lands can be described in the Mill Creek OMP.

Table 5-1 Management Units

	Land Use Classification	MU Location	Ownership
5.1	Project Operations	5.1.1 Mill Creek Diversion 5.1.2 Mill Creek Dam 5.1.3 Virgil B. Bennington Lake 5.1.4 Project Office and Maintenance Yard 5.1.5 Mill Creek Channel	USACE
5.2	High Density Recreation	5.2.1 Rooks Park 5.2.1 Bennington Lake Recreation Area and Reservoir Road 5.2.3 Mill Creek Recreation Trail	USACE
5.3	Mitigation	5.3.1 Fort Walla Walla Timber Reserve Habitat Management Unit	USACE
5.4	Environmentally Sensitive Areas	5.4.1 Mill Creek ESA 5.4.2 Yellowhawk-Garrison Creek ESA	USACE
5.5	Multiple Resource Management - Low Density Recreation	5.5.1 South Mill Creek Trail	USACE
5.6	Multiple Resource Management - Wildlife Management	5.6.1 Bennington Lake Wildlife Management Unit	USACE

5.1. PROJECT OPERATIONS

Five management units, totaling 124 acres, are classified as Project Operations. These management units contain the facilities and infrastructure necessary for flood control and operations, as well as the administration of the entire project.

5.1.1. Mill Creek Diversion Management Unit

Land Classification: Project Operations
Management Agency: U.S. Army Corps of Engineers
Acreage: 24.6
Description and Use: The diversion was designed to help protect the city of Walla Walla from flood, as originally authorized by public law. The Diversion Dam consists of the dam, debris facilities, diversion levee, first debris barrier, second debris barrier, and fish ladder. The area behind the Diversion Dam fills with gravels and sediments and is cleared periodically to ensure proper operations of flood control facilities. Anadromous fishery resources are important to the local communities, tribes, and the region. Safe and efficient passage of anadromous fish species is an important component of the Mill Creek Diversion and highly valued by the region.
Development Potential:

- Improve interpretive materials to help educate the public about the projects purpose.
- Potential for improved fish passage for anadromous species if warranted in the future.

Special Considerations:

The area behind the dam is considered a wetland and, as such, requires special environmental considerations.

5.1.2. Mill Creek Dam Management Unit

Land Classification: Project Operations
Management Agency: U.S. Army Corps of Engineers
Acreage: 31
Description and Use: Mill Creek Dam is a key structure in providing flood risk management to the Walla Walla Valley. This management unit contains the dam, operations house, piezometers, a discharge pipe, and Russell Creek Return canal. Russell Creek Canal is only used during flood control operations when the Mill Creek Return Canal is insufficient. Visitors frequently travel across the top of the dam to access other trails within the project's boundaries.

5.1.3. Virgil B. Bennington Lake Management Unit

Land Classification: Project Operations
Management Agency: U.S. Army Corps of Engineers
Acreage: 50.7
Description and Use: The project was authorized for flood control in the 1940's. In the early 1950's, however, both Federal and State agencies quickly realized the opportunity to provide the public with enhanced opportunities by filling the lake for recreation. The Walla Walla area is limited in water-oriented recreational opportunities close to the urban population. Virgil B. Bennington Lake provides one of the only popular fishing

lakes for many people in the surrounding area. To maintain gamefish populations and meet public demand, the WDFW manages the lake by stocking it with rainbow trout.

Resident and migratory wildlife species are dependent on the lake for water. Vegetative corridors connecting outlying areas to the lake shoreline provide protected travel corridors.

Additional Information:

The water quality in Virgil B. Bennington Lake varies throughout the season. Variances in water quality are highly influenced by stagnation, increased summer temperatures, and low pool elevations.

Development Potential:

- Continue to manage a put and take fishery.
- Plant native riparian vegetation along lake shoreline to improve fish and wildlife habitat

5.1.4. Project Office and Maintenance Yard Management Unit

Land Classification: Project Operations
Management Agency: U.S. Army Corps of Engineers
Acreage: 4.3
Description and Use: Completed in 2013, the new Mill Creek Project Office and Visitor Center was constructed on the east side of Yellowhawk Creek. The project office and visitor center meet current regulations and guidelines. The new facilities replace the original project office located on the west side of Yellowhawk Creek.
Development Potential:

Continue to provide visitor information, interpretive opportunities, and materials to help inform public about the project's purpose and various components.

5.1.5. Mill Creek Channel Management Unit

Land Classification: Project Operations
Management Agency: U.S. Army Corps of Engineers
Acreage: 13.2
Description and Use: The Mill Creek Channel was constructed to reduce flood risk for the city of Walla Walla and surrounding areas. The federally-owned and operated section includes about 1 ½ miles of stream channel and associated levees. The channel and levees are operated and maintained in accordance with Corps regulations. Four water diversions exist within this section: 1) to divert water to Bennington Lake; 2) to supply water to Rooks Park Pond; 3) divert water to garrison and yellowhawk creeks, and 3) to supply water to a private landowner. The Mill Creek channel has been highly altered and includes two dams, armored levees, division works, and two fish ladders. The channel and attached levees include 84 full span concrete weirs. Near the downstream end of the project Mill Creek Division Works diverts a portion of its flows into Yellowhawk and Garrison Creeks.

The riparian adjacent to this management unit is valuable to wildlife on the project. Wading birds, songbirds, migratory waterfowl, amphibians, and mink are commonly found in the area. Steelhead, rainbow trout, bull trout, sculpins, some forage fish species, and benthic invertebrates are also present. During the summer months visitors can be found wading/swimming in the channel, thought this activity is neither promoted or encouraged. Fishing is not allowed in this section of Mill Creek.

Development Potential:

Potential for improved fish passage for anadromous species if warranted in the future.

Special Considerations:

Due to constraints of irrigation and municipal water withdrawals leading to elevated temperatures and poor water quality below the city of Walla Walla, anadromous fish may utilize the more stable perennial flows of Yellowhawk Creek. This response intensifies the importance of maintaining adequate flows in this creek for anadromous fish population viability.

5.2. HIGH DENSITY RECREATION

Four management units, totaling 68.4 acres, are classified Recreation. The recreation facilities at the project help meet the regional and local demands for recreation. Maintenance and expansion of recreation facilities at the project will help meet projected increases in recreation demand.

5.2.1. Rooks Park Management Unit

Land Classification: Recreation
Management Agency: U.S. Army Corps of Engineers
Acreage: 18.4
Description and Use:
Rooks Park is one of the most popular picnicking facilities in the Walla Walla Valley and is located in close proximity to the city of Walla Walla. It is the only park outside the city limits of Walla Walla or College Place within 28 miles. Rural location, large lawn areas, mature trees, natural vegetation, and Mill Creek create a desirable resource for visitors. Picnic tables, covered shelters, playground, restrooms, auto parking, fire rings and grills are all available to the public free of charge.

Development Potential:

- Provide interpretive information about the project's operations, ecology, and cultural features.
- Monitor, maintain, and replace trees to maintain parks appearance and feel. Many of the Cottonwood trees in Rooks park are nearing the end of their lifecycle and should be removed if they are identified and hazardous to people or property.
- Provide additional picnic shelters when warranted.
- Improve ADA access.
- Splash Pad.

5.2.2. Bennington Lake Recreation Area and Reservoir Road Management Unit

Land Classification: Recreation
Management Agency: U.S. Army Corps of Engineers
Acreage: 36.5
Description and Use: Bennington Lake is the only public lake within 28 miles of the city of Walla Walla. Recreation facilities include: restroom, boat launching ramp (to elevation 1,188), parking lot, irrigated lawn, picnic shelters, and bbq grills. Fishing, picnicking, boating, cycling, and sightseeing are common activities. This management unit provides the only lake-oriented recreation for the city of Walla Walla and its environs.

Reservoir Road is necessary for access to the lake and surrounding lands. It was originally constructed for project operations. The road is used heavily for recreation by both automobiles and bicyclists. The use of bicycles at the project and along the access road has increased dramatically in recent years since the project's connection to the Mill Creek Recreation Trail.

Development Potential:

- Provide ADA universal access trail to the lake.
- Provide interpretive information about the operation of the project and its ecological features as well as signage and wayfinding to improve the user experience.
- Continue to provide and enhance day-use recreation at Bennington Lake.
- Road Improvements (Paving).

5.2.3. Mill Creek Recreation Trail

Land Classification: Recreation
Management Agency: U.S. Army Corps of Engineers
Acreage: 8
Description and Use: Mill Creek Trail is connected to the city and county of Walla Walla's trail system. The trail is an important recreation resource in the Walla Walla Valley and is heavily used by visitors year round for cycling, walking, picnicking, and sightseeing.
Development Potential:

- Interpretive information facilities, signage, and wayfinding.
- Outdoor classroom/learning environment in conjunction with WWCC.
- Improve picnicking facilities including shade shelters and benches.

5.3. MITIGATION

The Fort Walla Walla Timber Reserve (FWWTR) (61.8 acres).This management unit was purchased in the late 1970's to help compensate for wildlife habitat losses due to construction of the four lower Snake River dams.

5.3.1 Fort Walla Walla Timber Reserve Habitat Management Unit

Fort Walla Walla Timber Reserve Habitat Management Unit
Land Classification: Mitigation
Management Agency: U.S. Army Corps of Engineers
Acreage: 62
Description and Use: This management unit was purchased under the LSRFWCP to mitigate for habitat losses due to the construction of the four lower Snake River dams. Various habitat improvements have been completed in this unit including wildlife watering sites, tree and shrub planting, dryland food plots, and establishment of perennial grasses. Whitetail deer, mule deer, songbirds, pheasants, waterfowl, and California quail are found within this unit. Hiking and limited hunting are common activities in this area.
Development Potential:

- Continue to establish perennial grass cover.
- Develop tree and shrub area plantings as recommended in the MCP Vegetation Planting Strategy

- Maintain food plots.
- Improve signage to increase public awareness of activities that take place within this unit (hunting in specified areas).

5.4. ENVIRONMENTALLY SENSITIVE AREAS (ESA)

Two management areas are classified as Environmentally Sensitive Areas (ESA). These areas are important to the operation of the project and have been identified as having significant scientific, ecological, cultural, or aesthetic features. Development is discouraged in these areas and should be minimal.

5.4.1. Mill Creek ESA Management Unit

Mill Creek ESA Management Unit
Land Classification: Environmentally Sensitive Area
Management Agency: U.S. Army Corps of Engineers
Acreage: 30.9
Description and Use: The components of the wetland, open water, and steep cliff habitat, in association with the increased complexity of vegetation, provide the greatest diversity in fish and wildlife species of any habitat available in over a 40-mile radius. Due to the ESA classification development is limited. Low density recreational activities include wildlife viewing, sightseeing and hunting. Vegetation within this area consists of ponderosa pine, black cottonwood, rocky mountain maple, water birch, red-osier dogwood, douglas hawthorn, saskatoon service berry, bittercherry, common chokecherry, golden currant, and Woods' rose. Wildlife species include; Golden and bald eagles, mule deer, coyote, songbirds, and chukar. Fish species include: anadromous steelhead, resident rainbow trout, sculpin, forage fish, and possibly bull trout. These wetlands provide biodiversity for fish and wildlife, as well as aesthetic values.
Development Potential:

- Provide interpretive information about the management unit's role in the operation of the project and the area's ecology and significant species.
- Perform additional restoration work to improve fish and wildlife habitat.

Special Considerations:

Wetlands are protected under section 404 of the clean water act. Any disturbance must be approved through permit or consultation with partnering agencies.

5.4.2. Yellowhawk-Garrison ESA Management Unit

Land Classification: Environmentally Sensitive Area
Management Agency: U.S. Army Corps of Engineers
Acreage: 1.7
Description and Use: Yellowhawk Creek can be operated seasonally to support migrating steelhead when there is not sufficient water in Mill Creek below the Division Point (where flows are diverted for irrigation) and when water quality conditions on Mill Creek below the city of Walla Walla have become unacceptable for fish health and migrational cues.

Vegetation includes: Rocky Mountain maple, water birch, red- osier dogwood, Douglas hawthorn, Saskatoon service berry, bittercherry, common chokecherry, golden currant, and

Woods' rose. Pheasant, quail, and songbirds, anadromous steelhead, resident rainbow trout, sculpin, and forage fish are all found within the ESA.

Development Potential:

- Provide interpretive information about the management unit's role in the operation of the project and the area's ecology and significant species.
- Perform additional restoration work to improve fish and wildlife habitat.

5.5. Multiple Resource Management, Low Density Recreation

One management unit is classified as Multiple Resource Management--Recreation, Low Density. In this area, the focus is on low impact recreation activities and wildlife.

5.5.1. South Mill Creek Trail Management Unit

Land Classification: Multiple Resource Management -- Recreation, Low Density
Management Agency: U.S. Army Corps of Engineers
Acreage: 24.8
Description and Use: This management unit provides gravel trail access to the Bennington Lake Habitat Management Unit. It is adjacent to levees, which will be maintained according to Corps Policy. The South Mill Creek Trail is excellent for equestrian activities, which are popular throughout the Walla Walla Valley. Sightseeing, birdwatching, and hiking are other popular activities.

This management unit provides wildlife habitat and access to project operations. Riparian areas provide important wildlife habitat for local species, including deer, songbirds, and upland gamebirds. This unit provides access to wildlife observation and hunting on the adjacent habitat management units.

Development Potential:

- Connect Mill Creek Recreation trail to Bennington Lake Trail.
- General recreation improvements.

5.6. MULTIPLE RESOURCE MANAGEMENT, WILDLIFE MANAGEMENT

This management unit totals 306.0 acres and comprises approximately half of the project lands. This area is managed for multiple resources, especially wildlife habitat. It also provides for low density recreation and operations.

5.6.1. Bennington Lake Wildlife Management Unit

Land Classification: Multiple Resource Management – Wildlife Management General
Management Agency: U.S. Army Corps of Engineers
Acreage: 308.8
Description and Use: The management unit is necessary for temporarily holding floodwaters to protect the city of Walla Walla and its environs during flood events. The management unit also provides important habitat for local wildlife populations (Whitetail deer, mule deer, songbirds, pheasants, water fowl, and California quail), and is an important area for recreational activities including hunting, bird watching, equestrian, hiking, mountain biking, fishing, and sightseeing. The project contains the only public lands large enough in acreage to support this type of low density recreation. The adjacent riparian shoreline vegetation and tree and shrub plantings provide excellent habitat diversity to the

management unit. The area around Virgil B. Bennington Lake also provides resting and wintering habitat for migratory birds.

Development Potential:

- Improve and manage wildlife habitat and low density recreation.
- Implement planting strategy to improve 1950s WDFW plantings.
- Improve signage, and wayfinding to improve public safety and enhance the user experience.

5.7. RESOURCE PLAN RECOMMENDATIONS

The *Mill Creek Master Plan* provides conceptual guidelines for the effective management of the Mill Creek Project. Guidelines were developed in accordance with the Corps' master planning process. Recommendations seek to improve operations and maintenance for increased efficiency. Efficient recreation opportunities help to ensure the continued success of public access.

5.7.1 Recreation Recommendations

- Regular surveys, counts and other methods to collect data and monitor trends in order to determine user capacity and environmental sustainability.
- Continue to work with the Washington Department of Fish and Game to manage a put and take fishery within Bennington Lake.
- Explore where feasible, more shore-based fishing opportunities (e.g., fishing platforms), and options to improve pedestrian access at Bennington Lake.
- The public have expressed interest in having a designated swim area at Bennington Lake. Swimming area options should be pursued when enough public demand and funding is available. Any future designated swim areas or other swimming opportunities must meet current Corps regulations and comply with NEPA.
- Current hiking trails will be maintained as presently configured. Hiking trails are an acceptable recreation feature on all land except those specifically restricted to public access. Informal trails should be discouraged and restored to pre-trail condition.
- Bicycling is allowed on all trails at Mill Creek. The Corps encourages partnerships with user groups for development and maintenance of trails. Future trails will be evaluated for environmental impacts and compliance.
- Trails remain open to equestrian use. To accommodate more regular equestrian use, some facilities (i.e., hitching posts) have been proposed by equestrian groups. As with other uses, the Corps will look for opportunities to partner with these groups to assist with the development and maintenance of these facilities. Equestrian trails may be located on all Corps land except where restricted to public access. Future trails will be evaluated for environmental impacts and compliance.
- Existing trails at Mill Creek are currently shared by those on horseback, foot, or bicycle. Trails remain open for shared use as long as users do not have serious conflict. In the event of ongoing user conflicts, Mill Creek staff may need to assign users to specific areas. Commonly accepted trail etiquette maintains that bicyclists yield to hikers and those on horses. Hikers yield to horses. The rationale behind this is that bicyclists and

hikers may respond more quickly and rationally to movement or surprises than a horse or person on horseback.

5.7.2 Natural Resource Recommendations

- Invasive plant species can significantly degrade wildlife habitat, increase soil erosion, and outcompete native species that fish and wildlife depend upon and are culturally significant to Tribes. Species should be inventoried and surveyed to determine prioritization of control.
- Inventory and monitor informal trails. Trails should be discouraged and removed when impacts to natural resources and sensitive areas are occurring.
- Continue to enhance riparian and upland biodiversity through restoration projects that focus on planting native trees, shrubs, and groundcovers. Focus on areas identified in the Mill Creek Planting Strategy.

5.7.3 Education, Information, and Public Safety Recommendations

- Signage and wayfinding improvements should be made along trails to improve user experience. During the scoping process, members of the public expressed interest in the development of signage along trails. As funding and manpower is available, efforts could be made to improve signage and wayfinding on existing trails to improve the users experience, notify users of approved uses of project lands, and provide interpretative opportunities regarding the uniqueness of the area, vegetation, wildlife, and other natural features.
- Public safety concerns around hunting activities on project lands were expressed during the scoping process. In order to address public concerns regarding hunting activities at Mill Creek, staff may participate with local hunting groups to discuss issues and concerns, increase patrols and outreach with hunters and non hunters, and add temporary signs at trailheads and along trails during hunting season notifying of hunting zones, and rules. More info about this is available in Section 6.1.
- Encourage zero tolerance of litter through education and volunteer groups as well as providing pack-it-in, pack-it-out bags at various trailheads.
- Utilize current digital technologies so users can access digital information that is pertinent to the project (e.g. trail closures, hunting season, current conditions, stocking reports, etc.).
- Seek opportunities to partner with regional Tribes and other groups to provide and educational and interpretive signs, activities, and programming

5.7.4 Future Demands

Recommendations in this Plan reflect current inventory data, recreation trends, and forecasts. As technology and public demand change and new recreational opportunities arise, Corps staff will investigate the feasibility of new activities and evaluate proposed changes and additions to this Plan for potential conflicts, opportunities, and environmental impacts.

6. SPECIAL TOPICS / ISSUES / CONSIDERATIONS

6.1. General

This section discusses the special topics, issues, and considerations the Project Delivery Team identified as important to the future management of the Mill Creek Project. Special topics, issues, and considerations are defined in this context as any problems, concerns, and/or needs that could affect or are affecting the stewardship and management potential of the lands and waters under the jurisdiction of the Walla Walla District, Mill Creek Project.

6.2.1 Hunting

Currently hunting is allowed in designated areas between September 1 and January 31. All hunters must follow current state regulations established by WDFW. Archery and shotgun are the only approved methods for hunting on project lands. No hunting is allowed adjacent to Bennington Lake to provide a safety buffer to prohibit conflicts with other users. The hunting season at Mill Creek was reduced in 2007 from year round hunting to a five month season during lower visitation months, which allows the hunting opportunities to meet mitigation needs and user requests.

During the public scoping process in 2015, members of the public expressed concerns about hunting and their safety on project lands. In response to the public's comments the Corps queried several state and federal agencies about addressing hunting related concerns. Through these discussions several actions have been proposed to improve public safety and awareness of hunting activities at Mill Creek

- Corps actively participate in meetings with local hunting groups to discuss issues, concerns, coordinate site visits, and discuss hunting opportunities.
- Utilize media to increase awareness of hunting opportunities and seasons.
- Add temporary signs to the trails and trail heads during hunting season (Sep 1-Jan 31).
- Increase patrols and outreach with hunters and non hunters educating visitors about the hunting zones, seasons, and rules.
- Continue to seek feedback on user concerns at the Mill Creek Project by use of mail, email (millcreek@usace.army.mil), social media, and comment cards.

Due to the increasing use of the project with its constrained footprint, hunting practices will be re-examined periodically to see if changes to policy are needed.

6.2.2 Visitor Increase

Since the completion of the 1993 Master Plan yearly visits have increased from 269,600 visits in 1993 to 302,004 visits in 2012, a 12% increase. The project has been able to absorb this increase in visitor use without major impacts to natural resources. The existing recreation facilities at the project help to meet the recreation needs of the Walla Walla Valley but as populations in the area steadily grow and popularity of the project increases there is potential for overcrowding and resource degradation.

Social carrying capacity has already exceeded acceptable levels on and around the shoreline of Bennington Lake during spring and summer months. Any feasible options to improve water based recreation experience at Bennington Lake should be explored when funding and resources are available.

Constrained by project size (acreage) there are limited opportunities for future development at the Mill Creek Project. Access to outdoor recreation within close proximity to Walla Walla is in high demand and the project will continue to explore methods to meet both current and future recreational needs. All future developments should be carefully considered and analyzed to assess the full range of impacts to natural resources and fish and wildlife associated with any new development. If user conflicts, disturbance to fish and wildlife, and degradation of project natural resources are persistent and ongoing, USACE staff will re-assess current uses of project lands and water and make necessary changes to ensure that resources are protected. Focus should be placed on maintaining and improving existing facilities, trails, fish and wildlife habitat, and other features specific to Mill Creek in order to make this resource available to future generations.

7. AGENCY AND PUBLIC COORDINATION

7.1. PUBLIC INVOLVEMENT

Public involvement and extensive coordination within the Corps of Engineers and with other affected agencies and organizations is a critical requirement in development or revision of a Project Master Plan.

7.1.1. Scoping

The Corps of Engineers conducted a public scoping meeting in Walla Walla, WA on March 31 2015 to support an update to the master plan. Scoping meetings are a useful tool to obtain information from the public and other governmental agencies. For a planning process such as the MP revision, the scoping process was also used as an opportunity to get input from the public and agencies about the vision for the MP update and the issues that the MP should address where possible. There were approximately 80 people in attendance at the meeting. During the scoping period the Corps received suggestions and comments related to management issues and recreation at the Mill Creek Project. Majority of the comments focused on:

- Public safety concerns related to hunting.
- Improved signage and trail markers.
- Control of invasive plant species.

The general concept presented was to protect the natural aspects of the lake and surrounding area to enhance the fish and wildlife habitat. Comments compiled from attendees at the public scoping meeting and other sources were used to update the Plan. Refer to Appendix B for scoping responses.

7.1.2. Tribes

The Corps places priority on building good relationships with tribal partners. As part of the master planning process, the Corps contacted the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and offered government-to-government consultation. The CTUIR requested consultation with technical staff to discuss their interests and positions related to the Mill Creek Basin. On June 18, 2015 USACE and Tribal technical staff met together discuss the MP and tribal concerns revolving around Mill Creek. Consultation will continue with the CTUIR throughout the MP process.

7.1.3. Agency Involvement and Coordination

All development will be coordinated with appropriate federal, state, and local agencies throughout the planning process.

7.1.4. The Corps' Internet Site.

The Corps developed a webpage to provide information, updates, and collect comments for the MP update. Draft and final Plan with associated documents will be placed on this webpage for the public to view.

Web Address : http://www.nww.usace.army.mil/Missions/Projects/MillCreekMP.aspx

7.1.5. Draft Master Plan/ Environmental Assessment

(This Section will be completed after draft is finalized)

7.1.6. Final Master Plan/Finding of no Significant Response (FONSI)

(This Section will be completed after draft is finalized)

8. SUMMARY OF RECOMMENDATIONS

8.1. GENERAL

This revised Master Plan presents an inventory of land resources and how they are classified, existing park facilities, analysis of resource use, anticipated influences of project operation and management, and an evaluation of existing and future needs.

The master plan is a living document establishing the basic direction for management and development of the Mill Creek Project in agreement with the capabilities of the resource and public needs. The plan is flexible in that supplementation can be achieved through a formal process that addresses unforeseen needs. The master plan will be periodically reviewed to facilitate the evaluation and utilization of new information as it becomes available.

This Plan will guide the use, development, and management of the Mill Creek Project in a manner that optimizes public benefits within resource potentials and the authorized function of the project while remaining consistent with Corps of Engineers' policies, regulations, and environmental operating principals.

8.2. RECOMMENDATIONS

Below are recommendations to manage Mill Creek Projects current and future issues.

8.2.1 Recreation Recommendations

- As recreation use increases, periodic surveys, counts or other methods to collect data and monitor trends should be conducted in order to determine user capacity and environmental sustainability of current uses.
- Explore where feasible, more shore-based fishing opportunities and options to improve pedestrian access to the lake.
- Swimming areas options should be pursued when enough public demand and funding is available. Any future designated swim areas or other swimming opportunities must meet current Corps regulations and comply with NEPA

8.2.2 Natural Resource Recommendations

- Invasive plant species can significantly degrade wildlife habitat, increase soil erosion, and outcompete native species that fish and wildlife depend upon and are culturally significant to Tribes. Species should be inventoried and surveyed to determine prioritization of control.
- Inventory and monitor informal trails. Trails should be discouraged and removed when impacts to natural resources and sensitive areas are occurring.
- Continue to enhance riparian and upland biodiversity through restoration projects that focus on planting native trees, shrubs, and groundcovers. Focus on areas identified in the Mill Creek Planting Strategy.

8.2.3 Education, Information, and Public Safety Recommendations

- As funding and manpower is available, signage and wayfinding improvements should be made along trails to improve user experience, notify users of approved uses of project lands, and provide interpretative opportunities regarding the uniqueness of the area, vegetation, wildlife, and other natural features.
- In order to address public concerns regarding hunting activities at Mill Creek, staff may participate with local hunting groups to discuss issues and concerns, increase patrols and outreach with hunters and non hunters, and add temporary signs at trailheads and along trails during hunting season notifying of hunting zones, and rules. More info about this is available in Section 6.1.
- Encourage zero tolerance of litter through education and volunteer groups as well as providing pack-it-in, pack-it-out bags at various trailheads.
- Utilize current digital technologies so users can access digital information that is pertinent to the project (e.g. trail closures, hunting season, current conditions, stocking reports, etc.).
- Seek opportunities to partner with regional Tribes and other groups to provide and educational and interpretive activities, and programming

8.2.4 Proposed Management Unit Changes

As described in Section 4.4, the interdisciplinary team identified several changes to existing management units to better reflect current project operations. See Table 4-7 for recommended management unit changes.

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APPENDIX A
PERTINENT DATA SHEET

Official Name: Mill Creek, Washington
U.S. Army Corps of Engineers Reference: Mill Creek Project

Location:
State - Washington
County - Walla Walla
Stream - Mill Creek

Construction Completion Dates:
Dam and appurtenant works - 1942
Mill Creek Channel - 1949

Owner: U.S. Government
Managers: U.S. Army Corps of Engineers and Mill Creek Flood Control Zone District
Authorized purposes: Flood control and recreation
Type of Project: Channelization and off-stream storage
**Real Estate: 611.46 acres of owned lands and 87.27 acres of easement lands

Federally-Owned Units
Diversion Works
Diversion Dam:

Spillway
Type - Ambursen, ogee crest
Length at crest - 250 ft
Crest elevation – 1,261
Height - 14 ft
Design discharge, cs (with water surface elevation 1268) - 17,000
Concrete structure top elevation - 1270
Stilling basin length - 24 ft
Stilling basin invert elevation - 1245
Type - Radial sluice gate
Size - 6x8 ft
Number - 1
Sill elevation - 1247
Control – Electric motor with manual backup
Spillway/Channel capacity – 3,500 cfs.

Low flow gate maximum discharge - 400 cfs

Fish Ladder:
Width - 6.5 ft
Capacity - 42 cfs
Operating range elevation – 1,253 to 1,256
Intake invert elevation – 1,250.25
Exit invert elevation – 1,245
Stilling Basin:
Length - 4 ft
Width - 19.5 ft
Floor elevation - 1242

End sill elevation - 1244

Diversion Levee:
Type - Earthfill with heavy gravel face
Crest elevation – 1,270 to 1,280 ft
Length at crest - 2,200 ft
Top width - 12 ft
Maximum height - 23 ft
Design freeboard (standard project flood) - 5 ft

Debris Facilities

Debris Barriers:
Location - Diversion Dam forebay
Length - 550 ft
Type - Steel crib and cable

Shear Wall:
Location - Headworks Intake Canal
Length - 90 ft
Type - Panel

Intake Canal Facilities

Headworks:
Type - Concrete non-overflow with radial gates
Gate size – 8x18 ft
Number - 4
Sill elevation – 12,525
Control - Manual (optional use of portable electric operator)

Canal:
Intake canal end, elevation - 1,250
Invert elevation - 1,252
Capacity - 7,000 cfs
Intake canal base width - 80 ft
Intake canal length - 1,800 ft

Off-Stream Storage Reservoir (Virgil B. Bennington Lake)

Name: Virgil B. Bennington Lake***
Maximum pool elevation for flood control - 1,265
Capacity at elevation 1,265 – 8,300 acre-feet
Maximum allowable time for storage above elevation 1,235 (due to stoppage) - 15 days
Capacity at elevation 1,235 – 3,300 acre-ft

Storage Dam (Mill Creek Dam)

Type: Earthfill with heavy gravel face
Crest elevation - 1,270

Length at crest - 3,200 ft
Top width - 20 ft

Height above valley floor - 1,150 ft
Toe of embankment, elevation - 1,215
Maximum width at base - 800
Embankment Toe drains:

Date nine wells rehabilitated, year - 1979
Drainage discharge header, elevation - 1,135
CP manhole diameter - 48 in

Outlet Works

Intake Tower:
Slide gate, centerline elevation – 1,179
Intake tower, weir overflow elevation – 1,212
Lower sluice gate, centerline elevation – 1,189

Beneath Dam:
Type - Steel pipe
Diameter - 42 in
Length - 900 ft
Discharge pipe, elevation (varies) – 1,147.5 to 1,181

To Mill Creek Return Canal:
Valve type - butterfly valve
Diameter - 42 in
Length - 460 ft
Invert elevation at discharge end – 1,210

To Russell Creek Canal:
Pipe Diameter - 36 in
Length - 125 ft
Howell-Bunger valve, elevation - 1147.5

Outlet Canals

Mill Creek Return Canal:
Type - Trapezoidal
Slope - .0008
Lining - Shotcrete
Hydraulic capacity - 190 cfs
Invert elevation at discharge end-1210 ft

Russell Creek Canal:
Type - Trapezoidal
Slope - 0.01
Lining - Concrete
Hydraulic capacity - 250 cfs
Howell-Bunger valve elevation - 1147.5

Division Works

First Division Works

Mill Creek:
Gate type - Vertical lift gate
Size of opening:
Total width of openings - 97 ft
Height - 6 ft
Channel capacity - 3,500 cfs

To Yellowhawk-Garrison Canal:
Gate type - Radial lift gate
Total width of openings - 14 ft
Height - 6 ft

Fish Ladder

Operating Elevations:
Width - 8
Ladder design capacity - 15 cfs
Slope - 0

Second Division Works

Yellowhawk Creek:
Ungated - 60
Channel capacity - 60 cfs

Garrison Creek:
Gate type - Slide gate
Channel capacity - 10 cfs

Mill Creek Flood Control Zone District Units

Gose Street to Mullan Avenue:
Type - Riprapped levee
Length - 1.9 miles
Capacity - 3,500 cfs

Mullan Avenue to Roosevelt Street:
Type - Concrete-lined
Length - 2.2 miles
Capacity - 5,400 cfs

Roosevelt Street to Diversion Dam:
Type - Riprapped levee
Length - 2.8 miles
Capacity - 3,500 cfs

Hydrologic Data

5-year flood event, natural - 2,000 cfs
5-year flood event, regulated - 1,470 cfs****
100-year flood event, natural - 7,050 cfs
100-year flood event, regulated - 3,500 cfs
Standard project flood - 11,300 cfs
Largest flood, 1931 - 6,000 cfs
Mill Creek drainage basin above Mill Creek at Walla Walla stream gage - 96 sq miles

APPENDIX B

Public Scoping Period Comment Responses **Regarding recreation use around Mill Creek, what are your concerns or issues? (each "X" represents one comment related to that topic.)**																												
Discourage/ban/separate hunting (safety issue)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Continue horse riding	x	x	x	x	x	x	x	x	x	x	x	x	x															
Levee vegetation concerns	x	x	x	x	x	x	x	x	x																			
Improved signage and wayfinding	x	x	x	x	x	x	x	x																				
Limit horses to certain trails	x	x	x	x	x																							
Control invasive plant species	x	x	x	x																								
Bird platform (osprey/owl)	x	x	x																									
Keep the project naturalistic	x	x	x																									
Dogs must be on leash	x	x	x																									
Allows dogs off leash	x	x	x																									
Acquire more land	x	x	x																									
Allow hunting	x	x	x																									
Focus on clean-up (especially dog poop)	x	x																										
Provide volunteer opportunities	x	x																										
Re-seed upland grasslands	x	x																										
Provide educational opportunities/programming	x	x																										
Facilities for horses	x	x																										
Bathroom backside of lake	x	x																										
More seating along Mill Creek	x																											
Dock at lake to assist with launching boats	x																											
Open Rooks Park year round	x																											
additional reservable group shelter	x																											
improve wetlands and streams above diversion dam	x																											
Fish passage at Diversion Dam	x																											

Keep horses off trails after rainstorms	x																										
Educate the public on negative impacts of littering and harassing wildlife	x																										
More trash receptacles	x																										
Bennington to rooks park paved bike trail	x																										
Separate trail for skateboarders	x																										
ADA trail around lake	x																										
Swimming beach away from boat ramp	x																										
Speed limit along paved mill creek trail	x																										
No dogs	x																										
After hours lake access	x																										
Horse friendly bridge near rooks park	x																										
Bridge along north end of lake	x																										
Address historical pipe and conc sections on S. side of mill creek properly	x																										
Keep Russian Olive below Bennington dam	x																										
Plant cottonwood, red osier dogwood, willow around Bennington lake	x																										
Limit vehicles during fishing weekends	x																										
Reservation system for hunting	x																										
Speed bumps along Mill Creek paved path	x																										
Whitetail Trail closed and restored	x																										
Dogs on leash April-Aug	x																										
Bicycles restricted to paved surfaces	x																										

APPENDIX C
PREVIOUS NEPA ACTIONS

CAT-EX = Categorical Exclusion; EA = Environmental Assessment; EIS = Environmental Impact Statement

Document Title	Document Type	Month	Year
Bennington Lake Boat Ramp	Cat-EX	Nov	1974
Bennington Lake Fish Passage Facilities	EA	Aug	1975
Bennington Lake Safety Enhancement	Cat-EX	Aug	1978
Mill Creek Diversion Dam Fish Ladder Modification	Cat-EX	Feb	1980
Mill Creek Bike Trail Extension	Cat-EX	Sep	1980
Mill Creek Diversion Forebay Silt Removal	Cat-EX	Aug	1981
Mill Creek Farm type Access Road	EA	Jul	1984
Mill Creek Flood Control Channel, Flood Damage Rehabilitation	Cat-EX	Sep	1987
Mill Creek Intake Canal Headgate Maintenance Work	Cat-EX	Jul	1988
Mill Creek Permanent Fish Screens (Bennington Lake Diversion)	Cat-EX	Nov	1988
Mill Creek Project	EIS	Jun	1989
Mill Creek Project	Cat-EX	Feb	1993
Mill Creek Rehabilitation Project	EA	Jun	1995
Mill Creek Right Bank Levee Extension	EA	Jun	1996
Rehabilitation Project	EA	Jun	1996
Rooks Park Levee Repair	Cat-EX	Jul	1996
Mill Creek Surplus Land Sale	EA	Oct	1996
Yellowhawk Creek Culvert Repair	Cat-EX	Jul	1997
Seepage Relief System Repair Mill Creek	EA	Sep	1997
Mill Creek Right bank Levee Extension	EA	Sep	2002
Mill Creek Project Temporary Modifications for Fish Passage	Cat-EX	Feb	2003
Mill Creek Diversion Dam Fish Ladder Modification	Cat-EX	Feb	2003
Rooks Park Improvements	Cat-EX	Jul	2003
Mill Creek Conduit Outlet Repair	Cat-EX	Aug	2003
Mill Creek Fencing Project Compliance Review for On-Project Activity	Cat-EX	Sep	2003
Mill Creek Bike Trail Extension	Cat-EX	Sep	2003
Mill Creek Intake Canal Headgate Maintenance Work	Cat-EX	July	2004
Mill Creek East Service Road	Cat-EX	Aug	2004
Mill Creek Fish Gate Motor and Safety Platform	Cat-EX	Dec	2004
Mill Creek Park Host Site Expansion at Rooks Park	Cat-EX	Apr	2005
Garrison Creek Fish Screening	Cat-EX	Apr	2005

Mill Creek Diversion and Intake Structure Modifications	Cat-EX	Sep	2005
Mill Creek Flood Control Project Dam Safety Action Class Interim Risk Reduction Measures	Cat-EX	Aug	2008
Mill Creek Intake Gate 4 Trash Racks	Cat-EX	Aug	2009
Mill Creek Flood Control Project, Diversion Dam Operator and Electrical Upgrades Dam Safety Action Class(DSAC) Interim Risk Reduction Measure	Cat-EX	Mar	2009
Mill Creek Flood Control Project, Diversion Dam Pit Excavations for Soil Data Collection	Cat-EX	Mar	2009
Mill Creek Forebay Haul Road and East Service Road Rehab/Repair	Cat-EX	Nov	2009
Mill Creek Diversion Dike Toe Drain	Cat-EX	Jun	2010
Piezometer Installation	Cat-EX	Apr	2011
Mill Creek Restroom Replacement	Cat-EX	Aug	2011
Rip Rap Repair	Cat-EX	Aug	2011
Yellowhawk Radial Gate/Anchors/Concrt Decking	Cat-EX	Sept	2011
Office and Maintenance Building Replacement	EA	Sept	2011
Prototype Low-Flow Channel	EA	Oct	2011
Mill Creek Levee Diversion Dam Rip Rap Repair	Cat-EX	Mar	2012
Mill Creek Reservoir Road Shoulder Easement	Cat-EX	Nov	2012
Russell Creek Road Consent to Easement	Cat-EX	Feb	2013
Mill Creek Storage Dam Toe Drain	Cat-EX	Aug	2013
Pit Tag Equipment and Juvenile Fish Trap	Cat-EX	Mar	2014
CTUIR Pit Tag Installation	Cat-EX	Mar	2015

APPENDIX D
PERTINENT PUBLIC LAWS, REGULATIONS, AND POLICIES

Laws applicable to recreation and public access.

PL 78-534	Flood Control Act of 1944, 22 December 1944
PL 79-526	Flood Control Act of 1946, 24 July 1946
PL 88-578	Land and Water conservation Fund Act of 1965, 3 September 1964
PL 89-72	Federal Water Project Recreation Act of 1965, 9 July 1965
EO 11644	Use of Off-Road Vehicles on the Public Lands, 8 February 1972 (amended by EO 11989)
EO 11989	Off-Road Vehicles in Public Lands, 24 May 1977 (amends EO 11644)
EM 1110-1-103	Design for the Physically Handicapped, 15 October 1976
EM 1110-2-410	Design of Recreation Areas and Facilities Access and Circulation, 31 December 1982
EP 310-1-6	Graphic Standards Manual, December 1980 (Change 1)
ER 1105-2-100	Planning Guidance Notebook, 22 April 2000
ER 1110-1-102	Design for the Physically Handicapped, 15 October 1976
ER 1110-2-400	Design of Recreation Sites, Areas, and Management Policies, 7 July 1972 (Change 1)
ER 1120-2-400	Recreation Resources Planning, 1 November 1971 (Changes 1 through 3)
ER 1130-2-400	Recreation - Resource Management of Civil Works Water Resource Projects, 1 October 1983
ER 1130-2-540	Project Operations - Environmental Stewardship Operations and Maintenance Guidance and Procedures, 15 November 1996
ER 1130-2-550	Recreation Operations and Maintenance Policies, 15 November 1996 revised 15 August 2002
ER 1165-2-400	Recreation Planning, Development, and Management Policies, 3 August 1970

APPENDIX E
ENVIRONMENTAL LAWS AND REGULATIONS

This list of federal laws and Executive Orders may be applicable prior to implementing a project.

National Environmental Policy Act
NEPA 1969 requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

To meet NEPA requirements when undertaking a major federal action, federal agencies, including the Corps, must prepare one of three evaluations depending if the proposed action could significantly affect the environment. The three analyses are Categorical Exclusion (CAT-EX), Environmental Assessment (EA), and Environmental Impact Statement (EIS). The list of previous NEPA actions is in Appendix C.

A CAT-EX is an action that, either individually or cumulatively, does not have significant environmental impacts. Although exempt from NEPA documentation (EA or EIS), the Corps does document CAT-EX analyses and compliance with other applicable laws. A number of federal agencies, including the Corps, have developed a list of actions normally excluded from environmental evaluation. [Refer to C.F.R. §230.9: E.R. 200-2-2].

If an action is not categorically excluded from NEPA compliance, an EA is prepared to determine if the proposed action would significantly affect the environment. If the answer is negative, the Corps issues a Finding of No Significant Impact (FONSI). The FONSI may address measures the Corps will take to reduce or mitigate potentially significant impacts. In certain circumstances, federal agencies may choose to prepare an EIS without first preparing an EA.

If the EA determines that environmental consequences may be significant, a draft EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, federal agencies, and outside parties may provide input into the preparation of an EIS. The Corps is required to make diligent efforts to involve the public in the NEPA process, including holding public meetings and allowing for a designated comment period.

A final EIS is prepared that incorporates public comments and the Corps' response to those comments. After a 30-day waiting period, the Corps issues a public Record of Decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the decision-making process.

Endangered Species Act
The ESA establishes a national program for the conservation of endangered and threatened species and their habitat. In accordance with Section 7(a) (2) of the
ESA of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed or proposed threatened or endangered species.

Clean Water Act
The Clean Water Act (CWA) sets national goals and policies to eliminate the discharge of water pollutants into navigable waters, regulate the discharge of toxic pollutants, and prohibit the discharge of pollutants from point sources without permits.

Clean Air Act
The Clean Air Act (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. Title IV of the CAA includes provisions for complying with noise pollution standards.

National Historic Preservation Act
Section 106 of the National Historic Preservation Act requires that federally assisted or federally permitted projects account for potential effects to sites, districts, buildings, structures, or objects included in or eligible for inclusion in the National Register of Historic Places.

Native American Graves Protection and Repatriation Act
The protection of Native American and Native Hawaiian human remains and funerary objects is covered by this Act. In addition, the Act governs rights of ownership and control of Native American cultural items, human remains, and associated funerary objects to Native Americans. It also provides for the protection and repatriation of Native American human remains and funerary objects that have been culturally affiliated with a federally recognized Indian tribe.

Magnuson-Stevens Fishery Conservation and Management Act
As amended, this management Act (PL 94-265), established procedures designed to identify, conserve, and enhance essential fish habitat for fisheries regulated under a federal fisheries management plan. Federal agencies must consult with the National Marine Fisheries Service (NMFS) on all proposed actions authorized, funded, or carried out by the agency that may adversely affect this Act.

Fish and Wildlife Coordination Act
The Fish and Wildlife Coordination Act of 1934 states that federal agencies involved in water resource development will consult with the USFWS and the state agency administering wildlife resources concerning proposed actions or plans.

Migratory Bird Treaty Act
The Migratory Bird Treaty Act provides the USFWS with regulatory authority to protect species of birds migrating within and outside the United States. This Act prohibits the harming, harassment, and taking of protected species except as permitted by the USFWS.

Bald and Golden Eagle Protection Act
This law provides for the protection of bald eagles and golden eagles by prohibiting, except under certain specified conditions, the taking, possession, and commerce of these birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto, and strengthened other enforcement measures. Rewards are provided for information leading to the arrest and conviction for any violation of the Act.

Executive Order 11990–Protection of Wetlands
This EO requires federal agencies to protect wetland habitats.

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.

Executive Order 13175–Consultation and Coordination with Indian Tribal Governments

This EO sets forth guidelines for all federal agencies to (1) establish regular and meaningful consultation and collaboration with Indian tribal officials in the development of federal policies that have tribal implications, (2) strengthen the United States government-to-government relationships with Indian tribes, and (3) reduce the imposition of unfunded mandates on Indian tribes.

State/Local Regulations

On a case-by-case basis, state or local laws and ordinances may be applicable to any potential project implementation based on aspects of the individual task. A state water quality certification is an example of a potential instance where a state permit or authorization may be a requirement for project implementation.

APPENDIX F
ENVIRONMENTAL OPERATING PRINCIPLES

In 2003, the Corps adopted seven environmental operating principles (EOPs). The purpose of the operating principles is to guide "the ways in which the U.S. Army Corps of Engineers missions must be integrated with natural resource laws, values, and sound environmental practices" (Corps, 2003). The Corps is integrating the EOPs into all business activities.

The following paragraphs explain how the Mill Creek MP fulfills each EOP.

EOP 1. Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.

Collaborative efforts with federal and state agencies, and state and local governments, are implemented wherever possible for development, management, and monitoring of resources at Corps reservoir projects. Sustainable development is ensured into the future through environmental stewardship, epitomized by resource objectives identified for Mill Creek, and development needs that are consistent with those resource objectives.

Monitoring, including inspections, allows feedback to determine whether adaptive management efforts are needed to ensure the balanced human environment envisioned in the MP. The Corps' multidisciplinary staff conducts periodic inspections of each area, structure, and facility used to operate and maintain the project to ensure management and development activities are in accordance with Corps-approved plans and current regulations.

The MP identifies sustainable conceptual guidelines for future development. These are based on contribution to the objectives of society (regional plans/needs and expressed public desires) now and in the future (forecasted for the next 15 to 20 years) that maintains their ecological, environmental, and hydrological integrity (consistent with project purposes, NEPA, and other laws and regulations).

The MP includes historic, current, and forecasted future environmental and economic considerations. The plan discusses various resource objectives and development needs that must improve the quality of life by meeting regional recreational needs, while protecting biological, geological, cultural, and historical resources. Planning, design and construction, and operation and maintenance function in an integrated manner to ensure maximum quality of life for present and future generations.

EOP 2. Recognize the interdependence of life and the physical environment, and consider environmental consequences of Corps programs and activities in all appropriate circumstances.

In the MP, the Corps considers the interrelationships among all factors, including activities of humans, habits and habitats of fish and wildlife, in determining the most suitable land classification and types and levels of development for Mill Creek.

The MP strives to secure adequate information on the environmental consequences of all reasonable alternatives, in order to objectively assess them in the decision process by identifying the most appropriate land classifications and most suitable types and levels of

development. The subsequent environmental compliance requirements will further assess the impacts of individual development projects on the resource.

EOP 3. Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.

The conceptual guidelines developed during preparation of the MP seek a balance and synergy among human development activities and natural systems. Considering Mill Creek from a holistic perspective created solutions that provide public access opportunities that minimize harmful impacts and support the natural systems of the area.

EOP 4. Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.

The MP recommendations considered existing environmental conditions and the impacts future development will have on the resource. Because the Plan recommends conceptual guidelines for development and not specific areas for specific activities, each future development will have to fulfill the requirements of NEPA. The MP will aid in the NEPA process by describing existing environmental conditions, including air quality, water quality, vegetation, fish and wildlife, and threatened and endangered species. Future developments will have to be evaluated regarding the effects of the project or activity on the environment.

The conceptual recommendations set forth in the MP must also be in compliance with other applicable environmental and cultural resource laws and executive orders, including the CAA, CWA, ESA, Archaeological Resources Protection Act, Fish and Wildlife Coordination Act, along with others as they apply.

EOP 5. Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.

The cumulative impacts to the environment resulting from visitation to Corps recreation areas will continue to be monitored and negative impacts mitigated where necessary. Recreation areas will be designed and located to provide wildlife habitat in appropriate areas. In addition, project staff will evaluate the construction of any new recreation facilities under NEPA to see if they are categorically excluded from further analysis or require an environmental assessment to determine their impact to the environment. The Corps will offer consultation to Tribal governments for site specific development proposals. The Corps and non-federal lessees will manage recreation areas in accordance with all pertinent environmental laws.

EOP 6. Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.

The Mill Creek project staff coordinates extensively with other agencies and organizations to develop integrated scientific, economic, and social knowledge bases that support a greater understanding of environmental impacts. The Corps is also active in educating the public about environment impacts. One of the project wide resource objectives at Mill Creek is to provide public education about the history of the area, Mill Creek project resources, and the Corps' role in developing and managing these resources.

EOP 7. Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

The Corps has been proactive in respecting the views of individuals and groups interested in the MP. During 2015, the MP team held a public scoping meeting designed to gather local insights and concerns regarding natural resources and recreational activities at the Project. Additionally, public comment cards and a website were developed to provide an opportunity to ask questions or make comments concerning the use of the project.

APPENDIX G
ABBREVIATIONS AND ACRONYMS

°C	Degrees Celsius
°F	Degrees Fahrenheit
CAA	Clean Air Act
CAT-EX	Categorical Exclusion
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DM	Design Memorandum
EA	Environmental Assessment
EIS	Environmental Impact Statement
EM	Engineer Manual
EP	Engineer Pamphlet
EO	Executive Order
EOP	Environmental Operating Principle
EP	Engineer Pamphlet
ER	Engineer Regulation
ESA	Endangered Species Act
ESA	Environmentally Sensitive Area
FONSI	Finding of No Significant Impact
FWWTR	Fort Walla Walla Timber Reserve
GIS	Geographic Information System
ISOP	Interpretive Services and Outreach Program
LCU	Land Classification Unit
MP	Master Plan
MRM	Multiple Resource Management
MU	Management Unit
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRCS	National Resources Conservation Service
OMBIL	Operation Business Information Link
OMP	Operational Management Plan
PL	Public Law

RM	River Mile
RO	Resource Objective
SCORP	Statewide Comprehensive Outdoor Recreation Plan
USACE	United State Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VERS	Visitation Estimation& Reporting Syst
WWC	Walla Walla County
WDFW	Washington Department of Fish and Game