

NATIONAL PARK SERVICE



U.S. DEPARTMENT OF THE INTERIOR

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan
and Environmental Assessment

MAY 2020

May 2020

Draft Visitor Use Site Management Plan and Environmental Assessment

Lake Roosevelt National Recreation Area

1008 Crest Drive

Coulee Dam, WA 99116-1259



National Park Service

Region 9, Columbia—Pacific Northwest



United States Department of the Interior

NATIONAL PARK SERVICE
Lake Roosevelt National Recreation Area
1008 Crest Drive
Coulee Dam, Washington 99116

Dear Reviewer:

The National Park Service (NPS) at Lake Roosevelt National Recreation Area has prepared a Visitor Use Site Management Plan and Environmental Analysis (VUSMP/EA) that examines nine major visitor use areas of the park, including Evans, Marcus Island, Kettle Falls, Gifford, Hunters, Porcupine Bay, Fort Spokane, Keller Ferry, and Spring Canyon. The NPS is seeking public comments on the VUSMP/EA, which evaluates potential management strategies and supporting improvements for these nine heavily used sites to address a wider range of visitor interests and needs related to camping, boating, day use, and other activities.

Because recreation uses have changed and visitors are using a variety of camping vehicles, many of them larger than in past decades, there is a need to improve and update campgrounds. The NPS is considering diversifying and enhancing overnight camping experiences and recreation opportunities as well as improving visitor safety through circulation and access improvements at these locations. By directing and concentrating visitor use in appropriate areas, it is expected that there would be less congestion and conflicts in use, resulting in an enhanced visitor experience. The NPS also would update facilities to meet federal accessibility standards, increase the sustainability of facilities and resources, and improve the efficiency of maintenance and care of the nine sites.

The NPS is planning two online public meetings to provide input on these sites. These will be virtual meetings, and participants will be able to ask questions via the chat function online.

May 7, 2020: 6:30 - 7:30 pm

Link to Online Meeting <https://zoom.us/j/92408711991> Meeting ID: 924 0871 1991

May 13, 2020: 6:30 - 7:30 pm

Link to Online Meeting <https://zoom.us/j/94822606534> Meeting ID: 948 2260 6534

Participants may also call in by phone to either meeting at (669) 900-6833, or find your local number: <https://zoom.us/u/abEMIQ1Sdj>.

Your views are important and will help shape potential management strategies and improvements at these sites. You may visit the NPS Planning, Environment, and Public Comment (PEPC) site and provide written comments by May 31, 2020, on the Draft VUSMP/EA online at: <https://parkplanning.nps.gov/projectHome.cfm?projectID=83398>, or you may provide written comments and mail them to:

Superintendent, Lake Roosevelt National Recreation Area
1008 Crest Drive, Coulee Dam, WA 99116

We thank you for your interest in Lake Roosevelt National Recreation Area and look forward to your input.

Sincerely,

Dan A. Foster
Superintendent

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ACRONYMS AND ABBREVIATIONS

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CUA	Commercial Use Authorization
DSC	Denver Service Center (of the National Park Service)
EA	Environmental Assessment
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GMP	General Management Plan
IVUMC	Interagency Visitor Use Management Council
LARO	Lake Roosevelt National Recreation Area
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act (Section 106)
NPS	National Park Service
RV	Recreational Vehicle
SETP	Accessibility Self-Evaluation and Transition Plan
USFWS	United States Fish and Wildlife Service
VUM	Visitor Use Management
VUSMP	Visitor Use Site Management Plan



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Purpose and Need

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan and Environmental Assessment

CHAPTER 1: PURPOSE AND NEED

Introduction

Lake Roosevelt National Recreation Area (LARO) is the largest reservoir in the Pacific Northwest, stretching 154 miles from Grand Coulee Dam to Onion Creek, 16 miles south of the US-Canada border. The National Park Service (NPS) manages more than 312 miles of publicly accessible shoreline that provides a wide range of recreational opportunities at LARO. The national recreation area's waters, shorelines, and upland areas provide visitors opportunities ranging from solitude to group activities and encompassing a variety of recreational possibilities. Boating, fishing, camping, picnicking, and sightseeing are a few of the activities supported by this regionally popular and nationally significant recreation area.

This Visitor Use Site Management Plan and Environmental Assessment (VUSMP/EA) addresses nine of the most heavily used sites in the national recreation area that support activities such as camping, boating, fishing, and picnicking. These priority sites are shown in Figure 1.1—LARO Planning Area Map.

- Evans
- Marcus Island
- Kettle Falls
- Gifford
- Hunters
- Fort Spokane
- Keller Ferry
- Spring Canyon
- Porcupine Bay

LARO was established, according to the national recreation area's foundation document (2015), to protect, conserve and preserve the natural and cultural resources of the Upper Columbia River Basin behind Grand Coulee Dam and provide for appropriate diverse recreation opportunities. LARO's fundamental resources and values include:

Lake Roosevelt – The reservoir formed by Grand Coulee Dam along the Columbia River and includes other tributaries, as well as a variety of geologic features, native vegetation, and wildlife communities. Lake Roosevelt is a popular attraction because of its size, the beauty of its scenery, its location in relation to population centers, and public accessibility.

Public Shoreline – Visitors have access to more than 312 miles of publicly accessible shoreline in the recreation zone managed by the NPS. The shoreline and adjacent land provide a variety of visitor opportunities, including camping, wildlife viewing and stargazing, and serve as launch points for activities on the lake such as boating, fishing, and swimming.

High-Quality Recreational Opportunities – The NPS recreational infrastructure at LARO is managed to provide appropriate and high-quality visitor opportunities that serve diverse interests and abilities. Opportunities range from solitude on remote stretches of the lake to group and family recreational activities.

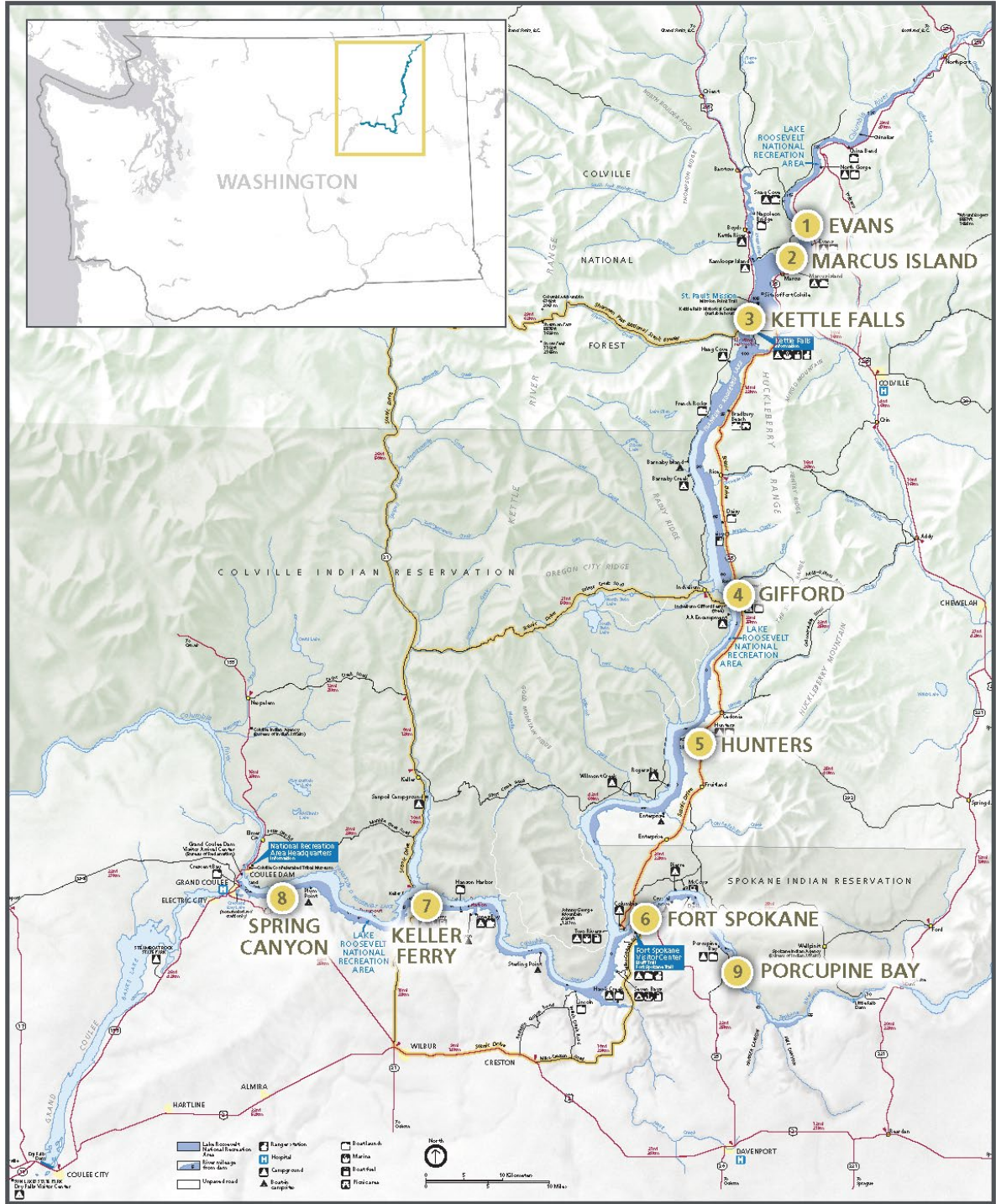


Figure 1.1 LARO Planning Area Map

Purpose and Significance of the National Recreation Area

The purpose and significance of LARO as a unit of the national park system is provided below because it provides foundational guidance for identification of management strategies and supporting improvements. This background provides an important context for assessing how implementation of management strategies and supporting improvements may impact visitor use, experience, and resources of the national recreation area.

The purposes of Lake Roosevelt National Recreation Area are to:

- *Provide opportunities for diverse, safe, quality, outdoor recreational experiences for the public.*
- *Preserve, conserve, and protect the integrity of natural, cultural, and scenic resources.*
- *Provide opportunities to enhance public appreciation and understanding of the area's significant resources.*

Lake Roosevelt National Recreation Area is significant because:

- *It offers a wide variety of recreation opportunities in a diverse natural setting on a 154-mile-long lake that is bordered by 312 miles of publicly owned shoreline that is available for public use.*
- *It contains a large section of the upper Columbia River and a record of continuous human occupation dating back more than 9,000 years.*
- *It is contained within three distinct geologic provinces—the Okanogan Highlands, the Columbia Plateau, and the Kootenay Arc—which have been sculpted by Ice Age floods.*

The Need for Action

LARO is experiencing challenges related to visitor congestion and changing visitor use patterns throughout the national recreation area. In response, the NPS is developing the VUSMP to diversify and upgrade facilities to meet a broader range of visitor interests and to adapt to trends in recreation, consistent with the desired conditions for LARO. Strategies in the VUSMP also would help to disperse visitation, reducing congestion at some sites, while encouraging use of other underutilized sites. Implementation of the VUSMP would help to reduce visitor conflicts, enhance visitor safety, and provide a more positive visitor experience. Anticipated increases in visitation levels over time would be addressed through adaptive management strategies.

The nine sites that are the focus of the VUSMP are increasingly popular for camping, boating, day use and other recreational activities. The VUSMP defines appropriate visitor facilities and services (i.e., campgrounds, boat launches, and day use areas); recommends infrastructure redesigns considering visitor use patterns, connections between sites, use types, site resources, and facilities; establishes a consistent, unified character for development; and guides decisions on capital improvements, preservation, and development.

By directing and concentrating visitor use in appropriate areas, it is expected that there would be less congestion and conflicts in use, resulting in an enhanced visitor experience. Management strategies and supporting improvements would better support visitor access and recreation opportunities and ensure that desired resource conditions and visitor experiences are achieved and maintained.

Maintaining the national recreation area's fundamental resources and values requires continuing evaluation of visitor use management issues and needs. Development of a VUSMP was identified as a high priority in the foundation document (2015) to address how visitation can be increased while at the same time sustaining

natural and cultural resources of the national recreation area. In August 2017, staff from LARO, the region, and the Denver Service Center (DSC) engaged in a workshop and an important outcome of the workshop was the identification of a VUSMP for the national recreation area.

Interagency Visitor Use Management Council and NPS Visitor Use Management

Visitor use management is the proactive and adaptive process of planning for and managing characteristics of visitor use and its physical and social setting, using a variety of strategies and tools, to sustain desired resource conditions and visitor experiences. Visitor use management helps to maximize opportunities and benefits for visitors while achieving and maintaining desired conditions for resources and visitor experiences in a particular area. Managing visitor access and use for visitor enjoyment and resource protection is inherently complex. Managers must acknowledge the dynamic nature of visitor use, the vulnerabilities of natural and cultural resources, and the need to be responsive to changing conditions.

This plan uses the visitor use management framework to develop a long-term strategy for managing visitor use (see Figure 1.2). The general planning process used for this plan is outlined below and is consistent with the guidance outlined by the Interagency Visitor Use Management Council (IVUMC, www.visitorusemanagement.nps.gov). Indicators, thresholds, and visitor capacity are important components of the visitor use management framework being applied in this plan.

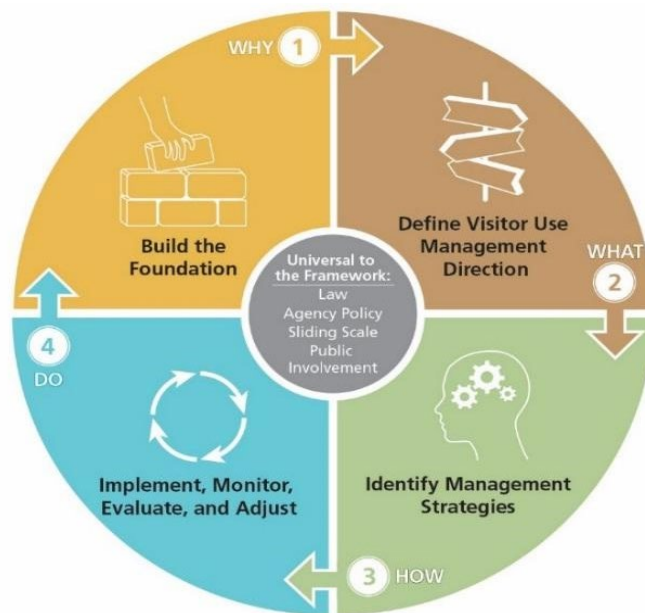


Figure 1.2 Overview of Visitor Use Management Planning Process

Planning Goals

As the NPS considered ideas and concepts for possible improvements at LARO, public input was gathered in a series of public meetings held in Fall 2018. Public input helped to confirm the following planning goals for the VUSMP and shape potential solutions.

- Define appropriate uses, quantities, and dimensions of facilities for use areas (i.e., campgrounds, boat launches, and day use areas) in the nine priority developed sites.

- Recommend infrastructure redesigns with consideration of visitor use management including visitor use patterns, connections between sites, use types, site resources, and facilities.
- Adjust quantities and dimensions of facilities to support a broader range of vehicles and types of use, as well as to meet federal accessibility standards.
- Establish a consistent, unified character for development.
- Serve as a roadmap to guide decisions on capital improvements, preservation, and development.

Key Issues Identified at the Nine Priority Sites

The following key issues were identified at the nine priority sites addressed in this VUSMP/EA.

IMPROVING AND EXPANDING FACILITIES

The combination of under-used and over-used facilities in the planning areas point to a need to update facilities based on current visitor use. During peak use, some original facility designs are not meeting current needs, resulting in issues such as overflow use in undeveloped areas, as well as campsites not sized to accommodate larger recreational vehicles (RVs). There are also issues such as a lack of diversity of the types of campsites and recreational experiences to fit visitors' differing interests and equipment. Other issues include visitor-created parking areas, wait lines for boat launches, inadequate boating preparation and staging areas, and a need to upgrade restrooms and fish cleaning stations as well as other visitor facilities. Heavily used facilities such as the fish cleaning stations require frequent maintenance and are not optimally located, creating challenges for visitors to access these facilities and resulting in some conflicts between different user groups. Some of the amphitheaters at the nine sites and a concession building at Spring Canyon are not efficiently utilized and could be repurposed.

Additionally, unclear delineation between different uses and facilities results in visitor conflicts, such as where day-use visitors access facilities through campgrounds and where boats and trailers park overnight or for long durations, taking up day-use and campground parking spaces. Irrigation systems and some landscape treatments throughout the nine sites are outdated and inefficient, in need of renovation to minimize water use. Landscaped areas could be restored to a more natural condition, reducing the level of maintenance and watering needed.

Visitor safety could be enhanced through circulation, parking, and facility improvements. Marcus Island and Kettle Falls experience high mosquito populations that could be reduced by facility improvements that address drainage and vegetation management. There are also potential hazards related to failing sections of seawall at Evans, Keller Ferry, and Porcupine Bay. Existing swim docks and the location of beach access areas at some sites present potential hazards that could be addressed with relocation, changes in use, and/or improvements. Campgrounds and boat launch areas that remain open during the winter but may not be appropriate to use during winter weather conditions are also of concern.

DIVERSIFYING VISITOR OPPORTUNITIES AND ENHANCING VISITOR EXPERIENCES

Increasingly, visitors to the national recreation area have a diversity of needs and interests, and the nine sites analyzed are not currently designed and equipped to accommodate a variety of those needs and interests. Campsites are not designed to provide a diversity of camping experiences or to accommodate larger RVs, campers with large trailers, or boat trailers. More walk-in and boat tie-up tent campsites could be provided to offer more diverse experiences. There is a lack of separation between types of camping to provide unique

and specific visitor experiences to each visitor group and there is a need for better delineation and buffering between individual campsites to enhance visitor's experiences. There also is a lack of consistent, unified character throughout the national recreation area sites, which could be addressed with design guidelines.

IMPROVING CIRCULATION, SAFETY, AND ACCESSIBILITY

Many of the sites (parking areas, campgrounds, and boat launching areas) become congested during summer peak use. Congestion affects visitor experience and delays visitor access to facilities. Circulation improvements including expanding and formalizing of parking areas are being analyzed to address these issues. Visitor safety could also be enhanced through addressing traffic circulation and congestion issues. Lake access at some boat launch areas could be limited during periods of low lake levels, and improvements to optimize, relocate, and/or redistribute lake access would address this issue. There is a general need to improve visitor access throughout the nine sites and to upgrade facilities to meet federal accessibility standards.

Desired Conditions

Desired conditions are defined as statements of aspiration that describe resource conditions, visitor experiences and opportunities, and facilities and services that an agency strives to achieve and maintain in a particular area. The visitor use management framework process calls for identifying desired conditions to help guide management decisions. For this VUSMP, desired conditions described in previous plans such as the Foundation Document for the national recreation area (2015) have provided high level guidance. These were considered and incorporated into the updated desired conditions provided in this VUSMP. Public input gathered in Fall 2018 helped to further shape these desired conditions and project objectives. The following desired conditions provide guidance for the more specific management actions addressed in this VUSMP.

VISITOR EXPERIENCE AND PUBLIC ACCESS

Visitors will have opportunities to:

- Enjoy high quality recreation experiences that align with their diverse interests and abilities.
- Explore publicly accessible shorelines with key sites serving as launch points for exploration and recreation.
- Access facilities and services that meet universal design principles and federal accessibility standards.
- Access more sites safely, efficiently, and effectively through improved entry and egress, circulation, and parking.
- Gain benefits from long term proactive management of facilities and resources.

AT CAMPGROUNDS

Visitors will be able to:

- Camp in a variety of sites depending on their interests, needs, and vehicle types (car/trailer, tent, and recreational vehicle) that offer more direct experiences with resources and a sense of separation from others.
- Experience a variety of camping settings and varying degrees of privacy between campsites depending on their interests—including some more social camping experiences and some more isolated campsites surrounded by nature.
- Access developed areas with more facilities and conveniences as well as less developed areas that provide a more rustic experience with limited facilities and more interactions with nature. All

recreational vehicle sites would be self-contained given limitations on development and utility access.

AT DAY USE AREAS

Visitors will be able to:

- Enjoy enhanced and upgraded day use facilities that meet their diverse needs and interests.
- Experience a variety of enhanced day use activities throughout the nine sites, such as accessible loop trails and nature trails with self-guided interpretive displays and accessible piers and water access facilities.

AT BOAT LAUNCH AREAS

Visitors will be able to experience:

- A greater variety of boat launch facilities, including ongoing motorized boat launches, as well as non-motorized launch areas for kayaks, canoes, and other watercraft.

RELATED TO RESOURCE MANAGEMENT

Resources will be enhanced through:

- An emphasis on native vegetation to increase and enhance wildlife habitat in all landscaped areas.
- Reduction in high water-consuming lawn areas, and non-native vegetation.
- Sustainable maintenance and management over the long term through revegetation with native plantings, surface water management, water and energy conservation, and other best practices that preserve and protect natural processes.
- Site-specific actions, including site surveys that would document sensitive resources which would be avoided by actions proposed in this plan. Areas with national register designations, for example, may require special management considerations in this plan.



2

Alternatives

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan and Environmental Assessment

CHAPTER 2: ALTERNATIVES

The LARO VUSMP evaluates and analyzes the potential impacts of continuing current management (Alternative A—No Action) and of proposed management strategies and supporting improvements that would expand facilities and visitor opportunities within the nine priority sites at LARO (Alternative B—Preferred Alternative). A summary of each is provided below, followed by Table 2.1—Alternatives Comparison Matrix, which delineates differences between the two alternatives. Table 2.1 first defines actions that would occur area-wide, across all nine sites, where applicable. For example, the proposed action to add larger recreational vehicle (RV) campsites, with pad lengths >40 feet, is a “common to all” action. Table 2.1 then defines site-specific actions that would occur in addition to the area-wide/common to all actions described.

Common to both alternatives, the recommendations of the 2018 Accessibility Self-Evaluation and Transition Plan (SETP) would be implemented in compliance with accessibility laws and standards. Under Alternative A, accessibility improvements would be implemented incrementally over time as funding is procured. Under Alternative B, accessibility improvements would be implemented in a coordinated manner with other improvements proposed at the sites and also incrementally, phased with projects, as funding is procured.

Alternative A—No Action, Continuation of Current Management

Under Alternative A and as described in Table 2.1, the continuation of current management serves as a benchmark for analysis and comparison of the potential impacts of continuing current management into the future, versus the potential impacts of the proposed action and preferred alternative. Management of visitor use in the nine priority sites would continue to involve enforcing regulations during peak use to minimize impacts to resources and visitor experience, as well as the continued maintenance of facilities.

Alternative B—Preferred Alternative, Implementation of the Visitor Use Site Management Plan

Alternative B, the preferred alternative, assumes the VUSMP would be implemented, as funding is available and phased over time. The VUSMP proposes a range of management strategies and actions, as well as facility and infrastructure improvements that address the purpose and need for the plan. The proposed action (encompassing multiple actions) under Alternative B represents a more proactive approach to managing visitor use that includes a wide range of strategies. The facility and infrastructure improvements focus on enhancing visitor access, diversity of visitor opportunities, and quality of visitor experiences. Conceptual site plans and illustrations for Alternative B, Proposed Action and Preferred Alternative are provided in Appendix A. Along with the conceptual site plans, renderings and design templates illustrate proposed changes to the nine sites including campground improvements. A diversity of campsites would be created, including:

- Large RV campsite
- Medium-small traditional vehicle/tent campsite
- Large RV double campsite (oriented to right or left)
- Accessible regular campsite
- Accessible double campsite
- Pull-through campsite
- Accessible pull-through campsite
- Walk-in campsite
- Mixed-use area

Implementation of the management strategies and actions proposed in this VUSMP would require additional National Environmental Policy Act (NEPA) or National Historic Preservation Act (Section 106) compliance, as well as compliance with all other applicable federal, state, and local laws policies, and standards. Such determinations would occur during the future design and engineering phase, prior to construction, of that specific project. The additional compliance would occur as funding is available and projects for each of the sites are phased into implementation.

Potential Actions Considered but Dismissed

The NPS considered various elements or actions that could be part of a future proposed action alternative during the planning process and dismissed these elements for various reasons, including the following.

- Extending the Evans boat launch was dismissed given lowering lake levels that would continue to affect launch levels. Extending the length of the launch would not be a sustainable for park resources over time.
- Various locations for the group campsite at Fort Spokane were dismissed due to concerns related to visitor conflicts and potential resource impacts, in favor of the selected location in the concept plan.
- Installation of RV hookups. This option was considered but dismissed as the NPS does not have the infrastructure at any of the nine sites to handle electricity or sewage for full-service hookups. In addition, these facilities are available in multiple areas adjacent to most LARO campgrounds. Not providing these amenities supports local economy and business by not competing with them.
- Various locations for the new RV campground loop at Keller Ferry were considered and dismissed due to considerations related to visitor use and resource conditions, in favor of the selected location in the concept plan.
- At Spring Canyon, the potential removal of grassy area in the day use area was considered as a potential means to reduce water use and maintenance; however, this was dismissed given the importance of the grassy area to visitors' day use activities.
- Also, at Spring Canyon, the potential to add group sites to the west of site number 2 was considered but dismissed due to the steeper slopes in that location.
- The potential reuse of the existing concession building at Spring Canyon was considered but dismissed in favor of removing the building and repurposing the area for use by vendors. The existing concession building is not well configured for use and would require significant updates. Also, there are limited business opportunities for concessioners given the short season.

Table 2.1 Alternatives Comparison Matrix

Alternative A No Action Alternative	Alternative B Preferred Alternative
Area-Wide Actions Common to All Sites:	Area-Wide Actions Common to All Sites:
<ul style="list-style-type: none"> • Incorporate accessibility improvements incrementally over time through cyclical maintenance as recommended in the 2018 	<ul style="list-style-type: none"> • Incorporate accessibility improvements into implementation of the site design for the nine areas to increase accessible facilities as

Alternative A No Action Alternative	Alternative B Preferred Alternative
<p>Accessibility Self-Evaluation and Transition Plan (SETP).</p> <ul style="list-style-type: none"> • Maintain current wayfinding and pedestrian circulation. • Maintain current parking lot configurations and vehicular circulation. • Maintain current number of vehicle counters in current locations. • Continue current multi-year project that identified and ranked high priority area projects by need/ability to install gates for seasonal closure. • Continue with current level of vegetation management, which includes aquatic invasive species monitoring, noxious weed treatment by contractor, and other invasive species removal by park staff. The Hazardous Tree Removal Plan that for LARO includes annual survey and hazard tree removal. • Maintain current irrigation systems. • Keep existing fish cleaning stations and maintain in current locations. • Continue current cultural and natural resources preservation, protection, and best management practices. • Continue current visitor education about uses, regulations, and natural and cultural resources at LARO. • Continue current resource education efforts. • Continue current efforts of no targeted education groups. • Continue current resource management prioritization. 	<p>recommended in the 2018 SETP, and communicate this through signage, website information, and other outreach.</p> <ul style="list-style-type: none"> • Enhance wayfinding and clarify pedestrian circulation. • Improve vehicular circulation and improve parking areas (delineation, efficiency, flow, function, and aesthetics). • Move or add vehicle counters to appropriate sites. • Seasonally close select areas for winter. (Install gates in certain locations during winter seasons such as campgrounds or boat launches that are not used during winter.) • Implement additional, more intensive level of vegetation management to enhance natural processes, improve visitor experience, visitor safety (e.g., tree thinning and replacement of non-native landscaping with native plantings), and for environmental purposes (e.g., water conservation). • Install water efficient irrigation systems. • Relocate/update or remove fish cleaning stations. • Continue cultural and natural resources preservation, protection, and best management practices, including practices needed to support VUSMP actions. • Increase community and visitor education about uses and regulations in the national recreation area, including an increase in direct contact and in-person education, as well as targeted law enforcement efforts to educate visitors about appropriate behaviors. • Educate visitors on the sensitivity of resources and the need to protect historical and cultural sites, including the addition of signage. • Target education to groups that are accessing areas with historical and cultural sites. • Increase efforts to monitor conditions including resource documentation, trail counters, monitoring and patrol, cultural resource site

Alternative A No Action Alternative	Alternative B Preferred Alternative
<ul style="list-style-type: none"> Continue current condition assessment scheduling, but conduct no additional condition assessments. Continue current parking lot signage, configuration, and designation features throughout all sites. Continue informing visitors about lake levels and occupancy levels through the LARO website as well as other media outreach and signage. <p>Campgrounds</p> <ul style="list-style-type: none"> Maintain dimensions of campsites. Maintain current privacy screening and separation between campsites. Maintain walk-in sites as existing, which means no walk-in sites in some locations. Keep group sites open year-round. Maintain current campsite designs without regard to tent camping. Continue to allow ten visitors per campsite. <p>Day Use Areas</p> <ul style="list-style-type: none"> Continue to provide swim docks in beach access areas. <p>Boat Launch Areas</p> <ul style="list-style-type: none"> Keep current skid dock configuration and location. Maintain current facilities at boat launch sites. 	<p>monitoring, and consistent condition assessments. Prioritize documentation of resources in high visitor use areas.</p> <ul style="list-style-type: none"> Conduct a higher frequency of condition assessments in sensitive areas with high visitor use. Conduct additional condition assessments as thresholds for incidents are approached (for more information see monitoring below). Improve overall parking lot signage, configuration, and designation features throughout all sites. Provide enhanced education and outreach about lake levels and occupancy levels through the LARO website as well as other media outreach and signage, integrating real-time applications and information. <p>Campgrounds</p> <ul style="list-style-type: none"> Increase the number of recreational vehicle (RV) length spots (>40 feet). Enhance delineation of campsites and provide more screening and separation between campsites. Create space for walk-in¹ tent camping sites with tent pads². Install gates to close group sites when not in use. Improve campsite designs to accommodate tent pads and other facilities. Change the maximum number of visitors per campsite from ten people per campsite to six people per campsite. <p>Day Use Areas</p> <ul style="list-style-type: none"> Improve visitor on-water safety by removing potential hazards such as the swim docks. <p>Boat Launch Areas</p> <ul style="list-style-type: none"> Replace manual skid docks with automated skid docks (cranking systems) Install stationary (floating) dock systems where applicable.

Alternative A No Action Alternative	Alternative B Preferred Alternative
<ul style="list-style-type: none"> Continue current configurations of informal rigging and staging areas. 	<ul style="list-style-type: none"> Provide designated and delineated rigging and staging locations at/near boat launch sites.
Site Specific Actions:	Site Specific Actions:
<p>Evans</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain existing number of campsites (40 vehicle sites, 3 walk-in sites, and 1 group site). Keep current day use parking lot configuration. <p>Day Use Area</p> <ul style="list-style-type: none"> Maintain existing concrete seawall. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Continue to have all boat mooring at the courtesy dock and boat launch. Maintain current boat launch for motorized boats. 	<p>Evans</p> <p>Campground</p> <ul style="list-style-type: none"> Add self-contained large RV³ campsites and remove some campsites from the campground loop to provide privacy and disperse use; redesign remaining sites to accommodate various users, and maintain existing group site. Add boat parking lot stalls in the day use parking lot. <p>Day Use Area</p> <ul style="list-style-type: none"> Stabilize shoreline by using bio-engineering methods to replace the failing seawall. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Add boat tie-ups along the shoreline near the day use area and campground, facilitating more convenient boat access during visitor stays. Repurpose the boat launch by replacing with an ABA-compliant non-motorized boat launch and restoring the shore to natural conditions to provide additional shoreline access.
<p>Marcus Island</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain existing number of campsites (24 vehicle sites and 1 walk-in site). Maintain current parking layout and add ABA compliant stalls. Maintain current layout of RV campsites at Sturgeon Point. 	<p>Marcus Island</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain a similar quantity of campsites, while removing some campsites to provide privacy and disperse use and adding walk-in campsites to increase diversity of camping experiences. Maintain existing walk-in site as is. Redesign vehicle campsites to accommodate various users. Provide parking with standard stalls and ABA-compliant stalls. Formalize self-contained RV³ campsites at Sturgeon Point.

Alternative A No Action Alternative	Alternative B Preferred Alternative
<p>Day Use Area</p> <ul style="list-style-type: none"> Continue to provide beach access at current location. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Maintain current boat launch for motorized boats. 	<p>Day Use Area</p> <ul style="list-style-type: none"> Provide designated beach access for non-motorized boating only. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Replace the existing boat launch with a non-motorized boat launch.
<p>Kettle Falls</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain existing number of campsites (76 vehicle sites and 2 group sites). Maintain existing configuration of the group campsite. <p>Day Use Area</p> <ul style="list-style-type: none"> Maintain existing canal. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Keep two-way road to boat launch. Maintain existing boat launch. 	<p>Kettle Falls</p> <p>Campground</p> <ul style="list-style-type: none"> Remove some campsites to provide privacy and disperse use, while also redesigning the remaining vehicle campsites to accommodate various users. Divide and relocate group campsites. <p>Day Use Area</p> <ul style="list-style-type: none"> Add stop gates⁴ to the canal and over the long-term fill in the canal with soil and restore to natural conditions to manage waterflow. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Update circulation to establish a one-way road to the boat launch. Develop deep water boat launch to 1220-1218 foot elevation.
<p>Gifford</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain existing number of campsites (42 vehicle sites and 1 group site). Provide no walk-in campsites. Keep campsite and current access configuration at the courtesy dock. 	<p>Gifford</p> <p>Campground</p> <ul style="list-style-type: none"> Remove some vehicle campsites to provide privacy and disperse use, while also redesigning the remaining vehicle campsites to accommodate various users. Add walk-in campsites along the trail to Cloverleaf to increase diversity of camping experiences. Remove one campsite to accommodate pedestrian access to the courtesy dock.

Alternative A No Action Alternative	Alternative B Preferred Alternative
<ul style="list-style-type: none"> • Maintain current pedestrian pathways. <p>Day Use Area</p> <ul style="list-style-type: none"> • Maintain beach access in current location. • Maintain landscape as is, with no path to Cloverleaf. • Maintain existing pedestrian routes and facilities. • Maintain existing parking lot facilities. <p>Boat Launch Area</p> <ul style="list-style-type: none"> • Continue to retain all boat mooring at the courtesy dock and boat launch. • Continue to use existing docks for NPS administrative access. • Maintain existing parking lot facilities. • Continue to provide no trailer parking. 	<ul style="list-style-type: none"> • Create a pedestrian path to the restroom. <p>Day Use Area</p> <ul style="list-style-type: none"> • Move beach access (including wave dissipators⁵) from Cloverleaf to the cove along shoreline trail. • Develop accessible shoreline trail from the existing group campsite to Cloverleaf. • Add accessible lake overlooks along the shoreline trail between the boat launch parking lot and Cloverleaf. • Formalize visitor-created parking lot at Cloverleaf. <p>Boat Launch Area</p> <ul style="list-style-type: none"> • Add boat tie-ups along the shoreline. • Add government dock for NPS administrative purposes. • Extend boat launch parking lot on the north end to serve as trailhead parking and for campground overflow parking. Provide standard stalls and ABA-compliant stalls. • Add a trailer parking area at the south end of the site.
<p>Hunters</p> <p>Campground</p> <ul style="list-style-type: none"> • Maintain existing number of campsites (37 vehicle sites and 3 group sites). • Maintain the existing parking configurations. • Provide no seasonal overnight parking in the overflow parking lot. • Maintain current pedestrian routes. 	<p>Hunters</p> <p>Campground</p> <ul style="list-style-type: none"> • Increase total number of campsites while also removing some campsites to provide privacy and disperse use; redesign remaining campsites to accommodate various users; add walk-in sites between the campground and overflow parking; and maintain 3 existing group sites. • Provide parking in the existing campground and overflow lot. • Add seasonal self-contained large RV³ parking lot campsites in the overflow parking lot. • Create a path to/from courtesy dock by removing one existing campsite.

Alternative A No Action Alternative	Alternative B Preferred Alternative
<p>Day Use Area</p> <ul style="list-style-type: none"> Maintain existing pedestrian routes and facilities. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Maintain existing boat launch docks. 	<p>Day Use Area</p> <ul style="list-style-type: none"> Create trail from day use parking lot to beach access and courtesy dock. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Add a floating dock to the existing boat launch docks to provide a 30-minute docking area.
<p>Fort Spokane</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain existing number of campsites and keep group sites in same location (59 vehicle sites, and 9 walk-in sites). Maintain current parking lot configurations. Maintain 2 existing group campsites and provide no additional group campsites. Maintain amphitheater. <p>Day Use Area</p> <ul style="list-style-type: none"> Maintain existing pedestrian routes and facilities. Maintain existing conditions between Fort Spokane and Porcupine Bay. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Maintain existing configuration of the boat launch. 	<p>Fort Spokane</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain a similar quantity of campsites, while removing some campsites to provide privacy and disperse use and adding more walk-in campsites to increase diversity of camping experiences. Redesign vehicle campsites to accommodate various users. Add self-contained large RV³ parking lot campsites in overflow parking lot. Convert 2 existing group campsites to a day use area and add 3 new group campsites at the northeast end of the campground to disperse use and diversify experience. Remove amphitheater and return area to a more natural condition through revegetation. <p>Day Use Area</p> <ul style="list-style-type: none"> Formalize trail under the bridge to main day use area. Add accessible overlooks along the trail. Create trail from Fort Spokane to Porcupine Bay with trailhead parking. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Add an additional lane to the boat launch.
<p>Keller Ferry</p> <p>Campground</p> <ul style="list-style-type: none"> Maintain existing number of campsites (42 vehicle sites, 13 walk-in sites and 2 group sites). 	<p>Keller Ferry</p> <p>Campground</p> <ul style="list-style-type: none"> Increase total number of campsites while removing some vehicle campsites to provide more privacy and disperse use, redesigning

Alternative A No Action Alternative	Alternative B Preferred Alternative
<ul style="list-style-type: none"> • Maintain existing loops with no additions. • Maintain existing parking lot configuration. • Maintain current road edge along roadway out to the group campsite and day use area. • Maintain amphitheater. <p>Day Use Areas</p> <ul style="list-style-type: none"> • Maintain existing gabion seawall. • Maintain existing parking lot configuration. • Maintain north side parking lot as campsites. • Maintain existing parking facilities for the southern day use area. 	<p>campsites to accommodate various users, and adding more walk-in campsites to increase the diversity of camping experiences and maintain existing walk-in sites and 2 existing group sites.</p> <ul style="list-style-type: none"> • Add a new campground loop with self-contained RV³ double stall and trailer parking. • Remove some of the vehicle sites from the day use parking lot to increase day use parking and alleviate congestion in the parking lot. • Install edge treatments (vegetation, boulders, split-rail fence, etc.) along the road out to the group campsite and day use area to deter overflow parking and preserve the natural landscape. • Remove amphitheater and return area to a more natural condition through revegetation. <p>Day Use Areas</p> <ul style="list-style-type: none"> • Stabilize shoreline by using bio-engineering methods to replace the deteriorating gabion baskets. • Improve parking lot circulation by creating a turn around. • Maintain walk-in campsites on the north side of the lot and convert campsites on the south side to day use parking stalls. • Formalize the parking for the southern day use area.
<p>Spring Canyon</p> <p>Campground</p> <ul style="list-style-type: none"> • Maintain existing number of campsites (78 vehicle sites and 2 group sites). • Maintain size and configuration of existing campsites (no RV campground loop added). • Maintain existing group site in current location. 	<p>Spring Canyon</p> <p>Campground</p> <ul style="list-style-type: none"> • Increase existing number of campsites while also removing some vehicle campsites to provide more privacy and disperse use and redesigning remaining campsites to accommodate various uses. • Add an RV campground loop. • Maintain 1 of the existing group sites and convert 1 group site to a camp host site; add 1

Alternative A No Action Alternative	Alternative B Preferred Alternative
<ul style="list-style-type: none"> • Maintain canopy shades/shelters on campsites. • Continue to provide two comfort stations at the upper loop. • Maintain existing pedestrian routes and facilities. <p>Day Use Area</p> <ul style="list-style-type: none"> • Maintain existing pedestrian routes and facilities. • Maintain concession building. <p>Boat Launch Area</p> <ul style="list-style-type: none"> • Maintain existing vehicular circulation at the boat launch. • Maintain existing motorized boat launch facilities. • Maintain existing parking lot configuration and number of stalls. 	<p>group campsite in a currently vacant area, south of the day use area.</p> <ul style="list-style-type: none"> • To allow for all vehicle types, remove canopy shades/shelters at existing campsites. • To limit facility redundancies, remove one comfort station at the upper loop. • Create a multi-use trail from the upper campground to the day use areas. <p>Day Use Area</p> <ul style="list-style-type: none"> • Create accessible trail to shore with accessible picnic areas. • Repurpose the concession building and create plaza space to accommodate multiple uses such as food trucks. <p>Boat Launch Area</p> <ul style="list-style-type: none"> • Create two-way loop at boat launch to minimize congestion and improve circulation • Add non-motorized boat launch adjacent to the existing boat launch. • Add NPS administrative use only parking for the government dock.
<p>Porcupine Bay</p> <p>Campground</p> <ul style="list-style-type: none"> • Maintain existing number of vehicle campsites (28 sites). • Maintain 3 walk-in campsites. • Maintain current campground capabilities and traffic flow. 	<p>Porcupine Bay</p> <p>Campground</p> <ul style="list-style-type: none"> • Increase total number of campsites while removing some vehicle campsites from the existing loop by removing the curbs that split the pull-through parking stalls and the sites between the loop and day use area. Maintain remaining vehicle sites with some redesign to accommodate various uses. • Maintain existing walk-in sites as is and add more walk-in sites. • Create a new campground loop with self-contained RV³ campsites and some walk-in sites with tent pads. Connect the new loop to the existing campground loop and revise to one-way traffic flow.

Alternative A No Action Alternative	Alternative B Preferred Alternative
<ul style="list-style-type: none"> Maintain dump station in current location. <p>Day Use Area</p> <ul style="list-style-type: none"> Maintain entrance gate in current location. Maintain existing gabion seawall. Maintain current access to lake. Maintain existing pedestrian routes and facilities. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Maintain parking in the boat launch area in the current configuration. 	<ul style="list-style-type: none"> Relocate the dump station to Porcupine Bay Road. <p>Day Use Area</p> <ul style="list-style-type: none"> Move entrance gate to allow for vehicles to turnaround. Stabilize the shoreline using bio-engineering methods to replace the deteriorating gabion baskets. Add new trailhead and trail to fishing cove. Create trail to Fort Spokane to provide backpacking opportunity. <p>Boat Launch Area</p> <ul style="list-style-type: none"> Improve parking in the boat launch area by realigning and restriping the parking stalls.

¹ Walk-in sites – A campsite that requires campers to walk a short distance from the parking space to the table, fire ring, and tent area.

² Tent pads – A designated spot for your tent, typically lined with wood and filled with gravel/permeable pavers for rain drainage. Tent pads may be present at all types of campsites.

³ Self-contained recreational vehicle (RV) – An RV that includes the necessities needed for boondocking or dry camping without electrical, water and sewer hookups for short periods of time.

⁴ Stop gates – Structures installed on canals to reduce or stop waterflow downstream, but that can be opened or closed depending on water management needs.

⁵ Wave dissipator – A device designed to protect a beach access area from breaking waves by reducing the velocity of the flow to acceptable limits.

Mitigation Measures and Best Management Practices

The NPS routinely evaluates resources and implements mitigation measures whenever conditions are present that could adversely affect the sustainability of national park system resources.

Mitigation measures are designed to prevent or minimize adverse impacts or to contain impacts within acceptable limits during and after the implementation of a federal action. The NPS has generated a list of mitigation measures, as well as general best management practices relevant to implementing the visitor use management strategies and supporting improvements. Refer to Appendix D: Mitigation Measures and Best Management Practices for a complete list.

Impact Topics Dismissed from Further Analysis

The following impact topics were considered but dismissed from further analysis based upon the provided rationale.

Special Status Wildlife and Fish Species, Including Migratory Bird Species

The listed wildlife species identified by the U.S. Fish and Wildlife Service (USFWS) that may occur in the vicinity of LARO include: Grey Wolves (*Canis lupus*- *Federal Delisted in Eastern Washington, State Endangered*), Grizzly Bear (*Ursus arctos horribilis*- *Federal Threatened, State Endangered*), Canada Lynx (*Lynx Canadensis* – *Federal Threatened, State Threatened*), Wolverine (*Gulo gulo luscus* –*Federal Proposed Threatened (Candidate) and State Candidate*), Pygmy Rabbit (*Brachylagus idahoensis* – *Federal Endangered (Columbia Basin Distinct Population Segment) and State Endangered*), Bull Trout (*Salvelinus confluentis*- *Federal Threatened*).

The presence of grizzly bears and gray wolves, both transitory species, have not been confirmed in LARO. Rare sightings of both species have occurred outside NPS lands, between the Kettle River and Lake Roosevelt/Columbia River, where they move between the U.S. and Canada. Solitary wolves have been sighted elsewhere near the reservoir and NPS lands, but the small land base of the national recreation area is not considered in any known wolf pack home range areas. Given the small land base within the national recreation area, no suitable long term or rearing habitat for grizzly bears or gray wolves exists.

The bull trout, a threatened species, is not believed to live or reproduce in Lake Roosevelt and no known habitat areas exist at the nine sites according to Spokane Tribal Fisheries and Washington Department of Fish and Wildlife biologists. Experts with extensive fishery experience on Lake Roosevelt, state that lake conditions such as temperature are not suitable for the long-term existence of bull trout. Neither alternative would impact bull trout nor any other fish species found in the lake.

There are no known nesting or rearing of young occurrences of any of the current Endangered Species Act (ESA) listed bird species of concern or of any Washington State listed species within areas affected by the proposed action alternative. An active osprey nest has been documented and mapped at the Hunters site. It is not anticipated that birds protected under the Migratory Bird Treaty Act (MBTA) or other federal laws would be affected by implementation of actions proposed in the VUSMP. Humans and vehicles are already regularly present in the areas proposed for change and improvements, which increases the amount of noise that could be experienced by migratory birds an important concern to their habitat. However, at the time of project initiation, mitigation measures such as pre-construction inventory for any bird nesting or rearing activities would be implemented.

For these reasons, special status wildlife species and migratory birds were dismissed from further analysis as impact topics in this VUSMP/EA.

Special Status Plant Species

Under current conditions, a mix of native and non-native vegetative species exist at all nine sites studied. The proposed alternative would return some areas to a more natural condition with native vegetation species, a potentially positive outcome of implementing the VUSMP. Two federally listed, proposed, or candidate plants have the potential to occur within LARO; the Ute ladies'-tresses (*Spiranthes diluvialis*) and the Spaldings' silene or catchfly (*Silene spaldingii*). There are also several

state listed plant species of concern that are known to occur in or in close proximity to LARO. No plant species of concern have been identified in the areas that would be affected by the alternatives. Prior to future construction activities, surveys would be conducted to confirm if any special status plant species exist in proposed areas for improvements. If such species are confirmed in any area proposed for improvements in the future, the NPS would follow applicable requirements and protocols related to preservation and protection of these plants. Individual plants found would be marked for avoidance or relocated. For these reasons, the special status plant species impact topic has been dismissed from further analysis.

Wetlands

Known wetlands have been mapped for LARO by the National Wetlands Inventory Program (NPS 2009). The two largest wetlands are located at the mouths of the Kettle and Colville Rivers. Due to fluctuating water levels in the reservoir, few perennial wetlands exist along the shoreline. Intermittent wetland areas that flood seasonally are more common. Two areas within LARO have been evaluated and delineated as jurisdictional wetlands (meeting federal criteria). These are Colville Flats in the northern portion of the lake and the Mill Creek inlet on the south side of the Spokane River. Both wetlands are outside the area of potential actions in this plan. Other non-evaluated wetlands exist, but these locations also are outside the area of potential actions and improvements analyzed in this VUSMP/EA. As such the wetlands impact topic has been dismissed.

Water Quality

Water quality is protected through federal and state regulations. Lake Roosevelt waters are classified by the Washington State Department of Ecology as AA (extraordinary), which means that the waters are afforded the maximum level of protection under state water quality regulations (WAC 173. Section 201A) (NPS 2000). The quality of these waters shall “markedly and uniformly exceed” the requirements for nearly all known uses. Various water quality criteria have been established for Class AA waters, including: “Aesthetic values shall not be impaired by the presence of materials or their effects excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.” (Note the impairment referenced in this water quality standard is different from “impairment” as defined by the NPS in the Organic Act.) There would be no impact to water quality under the actions outlined in this VUSMP/EA. All proposals would conform with best management practices in regard to stormwater runoff and all proposed launch ramp construction/reconfigurations would be completed during reservoir drawdown periods following all mitigation measures from regulatory agencies. As such this impact topic has been dismissed from further analysis.

Cultural Resources

Cultural resources are known to exist in the vicinity of the nine priority sites and various past surveys and studies have documented these resources. Site-specific assessment of cultural resources would occur with future project-level planning, design, and implementation. Given that the VUSMP is a planning proposal that analyzes potential strategies and supporting improvements that could be implemented at the nine sites, a general analysis of the potential for cultural resources impacts is provided. Future design, permitting, and construction activities would be required to comply with all applicable requirements and follow procedures in the case of an inadvertent discovery of previously unidentified archaeological resources that may be impacted by ground-disturbing activities. Known archeological resources would be avoided to the greatest extent possible. If National Register eligible or listed archeological resources could not be avoided, an appropriate mitigation strategy

would be developed in consultation with the state historic preservation officer and, as necessary, associated American Indian tribes. As appropriate, archeological surveys and/or monitoring would precede any ground disturbing activity. An archaeological monitor would need to be on-site during ground-disturbing activities. If during construction previously undiscovered archeological resources were uncovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and, if the resources cannot be preserved in situ, an appropriate mitigation strategy developed in consultation with the state historic preservation officer and, as necessary, associated American Indian tribes.

Impact Topics Retained for Further Analysis

The following topics have been carried forward for further analysis in this EA.

Visitor Use and Experience:

- Visitor Access and Circulation
- Quality of the Visitor Experience

Natural Resources:

- Vegetation
- Soils
- Shoreline Conditions

Given that this is a VUSMP, visitor use and experience (including visitor access and circulation and the quality of the visitor experience) at the nine priority sites in the study area are focal aspects of VUSMP/EA, directly linked to many of the actions included in the alternatives. In addition, evaluating how the alternatives consider congestion and crowding, given the increasing visitation to the study area, is critical for understanding the effects to visitor use and experience across the alternatives. Analysis of impacts to natural and cultural resources has also been carried forward to evaluate the potential effects of the alternatives, including the proposed action and preferred alternative, which would implement management strategies and supporting infrastructure improvements.

Monitoring: Indicators, Thresholds, and Management Strategies

Monitoring is the process of routinely and systematically gathering information or making observations to assess the status of specific resource conditions and visitor experiences; it is a critical step in successfully implementing any VUM plan. A monitoring strategy is designed and implemented to generate usable data for periodically comparing existing and desired conditions, assessing the need for management actions, and evaluating the efficacy of management actions. A well-planned monitoring strategy provides for transparency, communication, and potential cost savings through efficiencies and possibly cost sharing. A monitoring strategy includes the selection of indicators, along with establishment of thresholds or objectives. It also includes routine, systematic observations or data collection of the indicators over time as well as associated documentation and analysis.

Indicators, thresholds, monitoring protocols, management strategies, and mitigation measures would be implemented as a result of this planning effort. Indicators would be applied with implementation of the VUSMP. Indicators translate desired conditions of the VUSMP into measurable attributes (e.g., linear

extent of visitor-created trails) that when tracked over time, evaluate change in resource or experiential conditions. These are critical components of monitoring the success of the plan and are considered common to all action alternatives. Thresholds represent the minimum acceptable condition for each indicator and were established by considering qualitative descriptions of the desired conditions, data on existing conditions, relevant research studies, professional judgement of staff from management experience, and scoping on public preferences. The planning team identified the following types of indicators that can be tracked over time: 1) Incidents of damage to natural and cultural resources and visitor experiences and 2) Parking availability (see Appendix B for more information).

VISITOR CAPACITY OVERVIEW: Visitor capacity is a component of visitor use management and defined as the maximum amounts and types of visitor use that an area can accommodate while sustaining desired resource conditions and visitor experience, consistent with the purpose for which the area was established as well as goals and objectives for this plan. To fulfill the requirements of the 1978 National Park and Recreation Act (54 USC 100502), visitor capacity identifications are legally required for all destinations and areas that this planning effort addresses (IVUMC 2016). By establishing and implementing visitor capacities, the NPS can help ensure that resources are protected and that visitors have the opportunity for a range of high-quality experiences. Appendix B details visitor capacity considerations and the process used to identify visitor capacity for the nine priority sites in the study area.

MANAGEMENT AND ADAPTIVE MANAGEMENT STRATEGIES ASSOCIATED WITH INDICATORS THRESHOLDS AND VISITOR CAPACITY: The management strategies described in Appendix B include a combination of education, engineering, and enforcement actions to support implementation of the VUSMP. Engineering actions (which have been designed to a conceptual level for the VUSMP) are further described and detailed in Table 2.1, under Alternative B—Preferred Alternative, earlier in this chapter. In addition to the management strategies and supporting improvements identified in Table 2.1, the NPS team identified the adaptive management strategies that would apply to all nine priority sites unless otherwise noted. As these strategies are adaptive, they would only be implemented if and when future conditions dictate, they are necessary based on monitoring. Refer to Appendix B—Visitor Use Site Management Monitoring and Visitor Capacity for additional information, including these adaptive management strategies.



3

Affected Environment and Environmental Consequences

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan and Environmental Assessment

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Introduction

This chapter analyzes the environmental impacts of implementing Alternative A—No Action, with continuation of current management practices, and Alternative B—Preferred Alternative, which would implement the VUSMP and supporting implementation strategies and site improvements, described in Chapter 2: Alternatives. This analysis provides a basis for comparing the beneficial and adverse impacts of implementing the alternatives.

Throughout this chapter, area-wide general conditions and analysis is addressed first, followed by site specific conditions and analysis for the nine priority sites, listed in the following order:

1. Evans
2. Marcus Island
3. Kettle Falls
4. Gifford
5. Hunters
6. Fort Spokane
7. Keller Ferry
8. Spring Canyon
9. Porcupine Bay

Organization of this Chapter of the Draft VUSMP/EA

Following the description of Concurrent Actions and Projects below, the content of this chapter is organized under the categories of Visitor Use and Experience and Natural Resources and addresses the impact topics analyzed within these categories. The affected environment and environmental consequences related to Alternative A—No Action and Alternative B—Preferred Alternative are presented; first addressing the affected environment and environmental consequences common to all nine priority sites, and then addressing the site-specific affected environment and environmental consequences related to Alternative A and Alternative B for each of the nine priority sites.

There are a range of actions in the preferred alternative analyzed in this chapter of the VUSMP/EA. These actions include management strategies and supporting improvements as well as adaptive management strategies associated with monitoring for indicators and thresholds as well as implementing the identified visitor capacity. No all actions analyzed would necessarily be implemented concurrently or immediately, but would be implemented based on feasibility, staff resources, and park funding as needed in the future when thresholds are approached or as part of managing visitor capacity. Refer to Appendix B more detail related to indicators and thresholds, as well as potential adaptive management strategies.

Concurrent Actions and Projects Considered

Parkwide Gate Installation (Ongoing Action)

Currently most of the park's developed areas and boat launches do not have closure gates installed. This can lead to issues such as illegal access to motor vehicles on the drawdown, public access to seasonally maintained areas (areas not plowed in the winter) and illegal access during closure restrictions. This project has identified and ranked projects by need/ability to install closure gates. This will be a multi-year project focusing on priority areas first and moving down the list. The goal is

to have the ability to regulate access to all developed/semi-developed areas of the park. The level compliance needed for this work has been and is expected to be accomplished through Categorical Exclusion (CE). Funding for this work is also being sought from a variety of sources but has been from base operating funds in the past.

Repair of Failing Seawalls at Evans, Keller Ferry and Porcupine Bay (Ongoing Action)

At Evans, Keller Ferry and Porcupine Bay, seawalls were previously constructed to protect eroding beach and facility areas. These were constructed at a time when the lake levels fluctuated inconsistently, and these areas experienced severe beach erosion. Now, sections of these seawalls are failing and are in need of repair or removal and replacement with more natural shoreline that would protect these popular shoreline access locations. This will be a multi-year project. The level compliance needed for this work is expected to be accomplished through Categorical Exclusion (CE). Funding for this work is also being sought from a variety of sources but may be from base operating funds.

Prescribed Fire Management (Ongoing Action)

Prescribed fire will thin the stand and reduce the potential for future extreme fire behavior. Actions include construction of prescribed fires, ignition operations, structure protection, line patrol, and mopping up of prescribed fires. (2015 LARO Fire Management Plan)

Accessibility Self Evaluation and Transition Plan (Developed in 2018; Implementation is Ongoing)

Lake Roosevelt National Recreation Area's Accessibility Self-Evaluation and Transition Plan (SETP) includes findings from the self-evaluation process, as well as a plan for improving accessibility parkwide. The SETP resulted from the work of an NPS interdisciplinary team, including planning, design, and construction professionals; and interpretive, resource, visitor safety, maintenance, and accessibility specialists. Site plans, photographs, and specific actions for accomplishing work in identified park areas were developed. Associated time frames and implementation strategies were established to assist NPS staff in scheduling and performing required actions and to document work as it is completed. Park policies, practices, communication, and training needs were also addressed.

These concurrent actions and projects are considered in the cumulative impact analysis later in this chapter. The cumulative impact analysis considers the potential incremental impacts of concurrent actions and projects when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person may undertake such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Cumulative impacts are analyzed for both Alternative A—No Action and Alternative B—Preferred Alternative. Unfunded and unapproved conceptual plans, which broadly focus on long-term goals and objectives, have not been included in the cumulative impact scenario. Actions completed within the last five years and reasonably foreseeable future actions planned within the next ten years are addressed.

Visitor Use and Experience

Under visitor use and experience, visitor access and circulation and the quality of the visitor experience are addressed.

AFFECTED ENVIRONMENT—EXISTING CONDITIONS COMMON TO ALL SITES

Visitor Access and Gateway Communities: LARO can be reached via state and U.S. highways. U.S. Highway 2 is the primary east-west route for the southern part of the park, while State Route 20 is the primary east-west route in the northern part of the park. State Route 25 is the primary north/south highway with a northern portion of the park also accessible from U.S. Highway 395. Surrounding communities include the towns of Coulee Dam, Grand Coulee and Electric City near Grand Coulee Dam, Wilbur and Davenport along the southern arm, and Kettle Falls on the northern portion of the recreation area. Smaller towns (Creston, 7-Bays, Hunters, Daisy, Rice, and Marcus) offer some services and unincorporated towns and county areas make up the rest of the developed areas near LARO.

Visitor Characteristics: A visitor use study conducted during the summer of 2016 reported most visitors were from Washington (91 percent) and other U.S. visitors were from Pacific Northwest areas (5 percent). International visitors made up 2.6 percent of the total visitation and 99 percent of those visitors were from Canada. Refer to Figure 3.1.

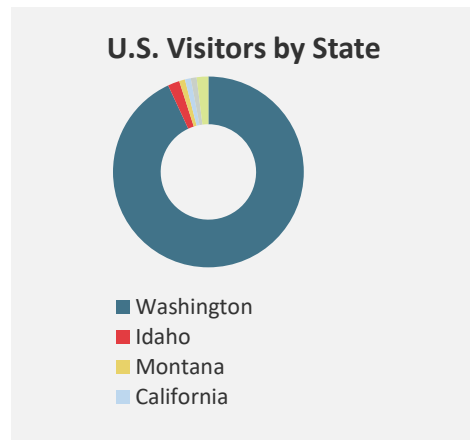


Figure 3.1 U.S. Visitors by State from 2016 Visitor Study

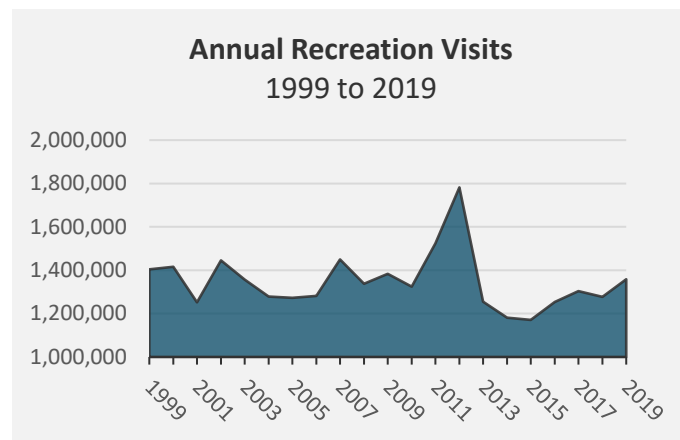


Figure 3.2 Annual Recreation Visits to LARO 1999 to 2019

Visitor Use: Annual recreation visitation to LARO over the last 20 years has remained above 1.1 million visitors per year, with some peaks in certain years reaching up to 1.5 million and above, as shown in Figure 3.2.

LARO is open year-round. However, visitor use is not evenly distributed throughout the calendar year. Visitor use is lower between November and March, and begins to rise in April, until it reaches a summertime peak in July or August, then gradually declines through the fall. This trend can be seen in more detail for each of the nine priority sites in Appendix B—Visitor Use Site Management Monitoring Strategy and Visitor Capacity.

LARO is open year-round. However, visitor use is not evenly distributed throughout the calendar year. Visitor use is lower between November and March, and begins to rise in April, until it reaches a summertime peak in July or August, then gradually declines through the fall. This trend can be seen in more detail for each of the nine priority sites in Appendix B—Visitor Use Site Management Monitoring Strategy and Visitor Capacity.

Visitor use also is unevenly distributed over the geographically dispersed visitor access points in the recreation area. In the 2016 visitor use study, the most popular developed sites visited were Fort Spokane (31 percent), Porcupine Bay (24 percent), Spring Canyon (23 percent), and Keller Ferry (21 percent). The nine priority sites that are the focus of this VUSMP/EA are generally the most heavily visited sites in the national recreation area.

Figures 3.3 shows the proportion of visitation at the study sites. Figures 3.4 through 3.10 provide depictions of the seasonal visitation patterns for LARO overall and the three primary districts of LARO (Fort Spokane, Kettle Falls, and Spring Canyon), as well as average monthly boat launches and campground visits across the entire national recreation area for the last five years (2015 through 2019). The source of data for Figures 3.2 and 3.4 through 3.10 is the NPS Integrated Resource Management Applications (IRMA) website: <https://irma.nps.gov/STATS/>.

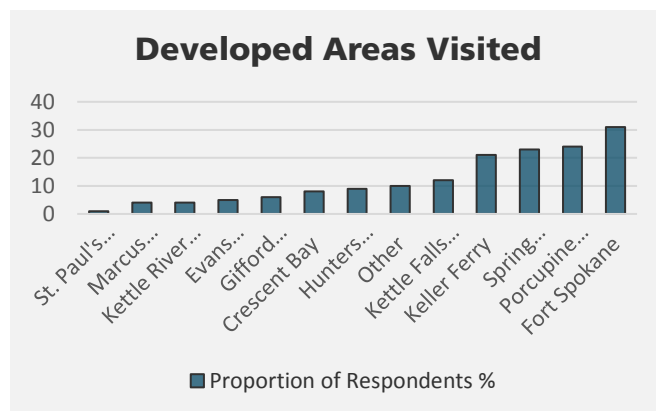


Figure 3.3 Developed Areas Visited from 2016 Visitor Study



Figure 3.4 Average Monthly Visitation to LARO Overall, Last Five Years

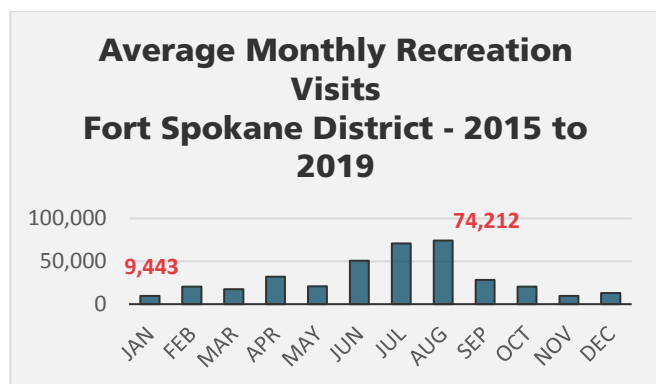


Figure 3.5 Average Monthly Visitation to Fort Spokane District, Last Five Years

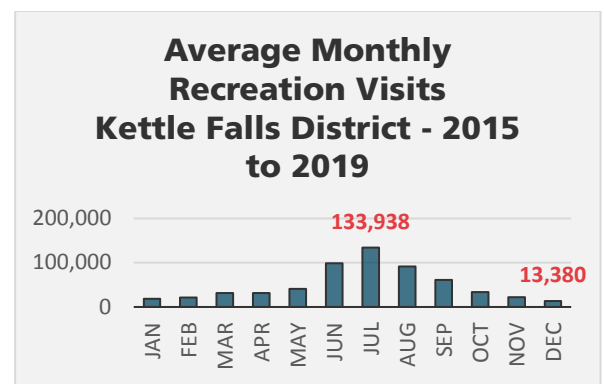


Figure 3.6 Average Monthly Visitation to Kettle Falls District, Last Five Years

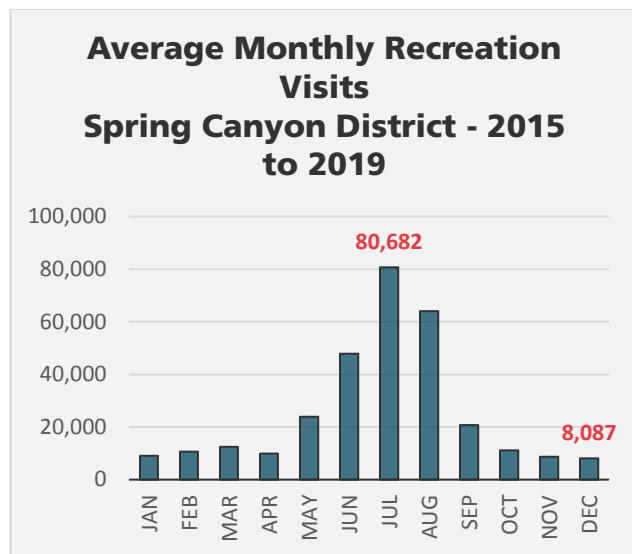


Figure 3.7 Average Monthly Visitation to Spring Canyon District, Last Five Years

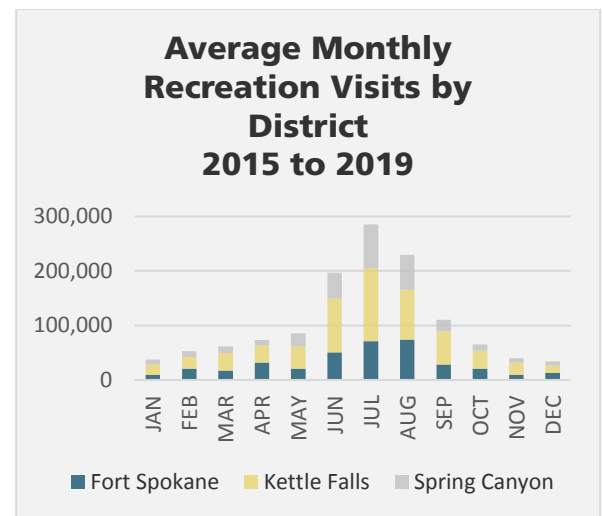


Figure 3.8 Average Monthly Visitation All Districts, Last Five Years

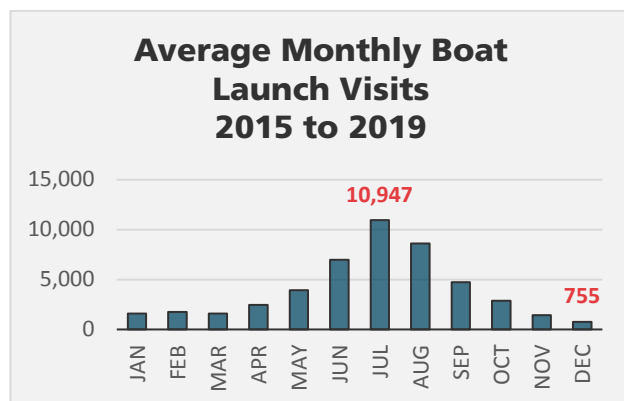


Figure 3.9 Average Monthly Boat Launches—Entire National Recreation Area

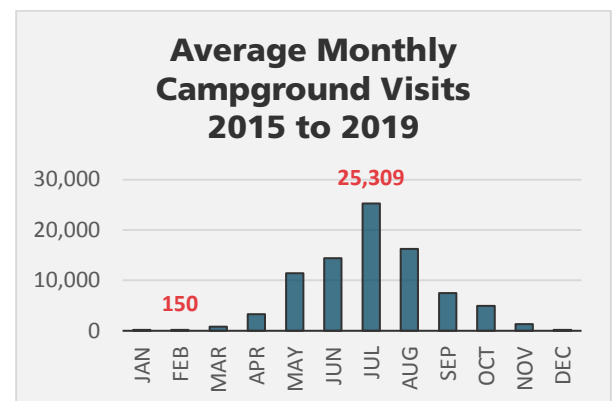


Figure 3.10 Average Monthly Campground Visits—Entire National Recreation Area

Visitor Experience: Visitors to LARO can enjoy a wide range of experiences, from solitude and passive recreation opportunities to group activities and a broad variety of active recreation possibilities—boating, fishing, camping, picnicking, hiking, sightseeing, and wildlife watching are a few of the most popular activities, but many other opportunities are available year-round. The most common activities cited in the 2016 visitor study were fishing (59 percent), boating (59 percent), camping (54 percent), enjoying natural quiet (50 percent), and swimming (49 percent). Figure 3.11 shows the types and proportions of visitor activities across the national recreation area according to the 2016 Visitor Study. Figure 3.12 shows the types of visitor use facilities available at each of the nine priority sites.

For all nine sites studied in this VUSMP/EA, there is a lack of diversity in types of campsites that can accommodate different types of recreational opportunities. Campsites are not designed to accommodate a full range of vehicle types, including larger RVs and vehicle/trailer combinations.

There is also a lack of opportunities for more isolated tent camping experiences and campsites accessible by walk-in and boat-in access only.

Additional information pertaining to visitor use and capacity of these sites is provided in Appendix B—Visitor Use Site Management Monitoring Strategy and Visitor Capacity. Specific conditions related to each site are described on the following pages.

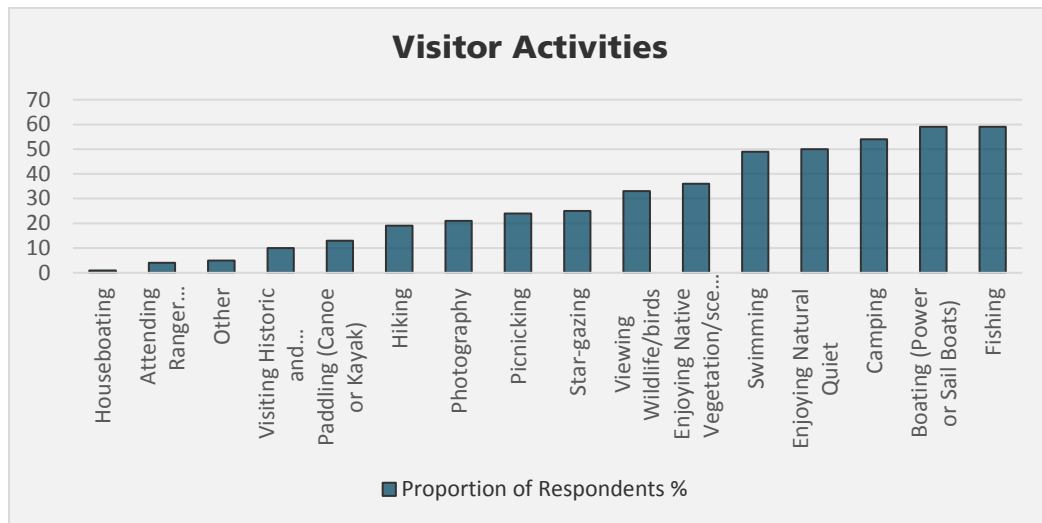


Figure 3.11 Visitor Activities across LARO from the 2016 Visitor Study

The boat ramp elevation figure is the minimum water level at which a boat may be launched.

		RECREATION AREA SERVICES										
		Campground (camp sites)	Campground (group sites)	Waste Disposal (trailer)	Picnic Area	Telephone	Drinking Water	Marina	Boat Launch	Boat Fuel	Waste Disposal (boat)	Winter Boat Launch
LOWER LAKE ROOSEVELT	Spring Canyon 1222'	78	2	●	●	●	●	●	●	●	●	●
	Keller Ferry 1229'	55	2	●	●	●	●	●	●	●	●	●
SPOKANE RIVER ARM	Fort Spokane 1247'	68	2	●	●	●	●	●	●	●	●	●
	Porcupine Bay 1243'	31		●	●	●	●	●	●	●	●	●
UPPER LAKE ROOSEVELT	Hunters 1232'	37	3	●	●	●	●	●	●	●	●	●
	Gifford 1249'	42	1	●	●	●	●	●	●	●	●	●
	Kettle Falls 1234'	76	2	●	●	●	●	●	●	●	●	●
	Marcus Island 1281'	25		●	●	●	●	●	●	●	●	●
	Evans 1280'	43	1	●	●	●	●	●	●	●	●	●

Figure 3.12 Visitor Use Facilities at the Nine Priority Sites

ENVIRONMENTAL CONSEQUENCES COMMON TO ALL SITES

ALTERNATIVE A—NO ACTION—ENVIRONMENTAL CONSEQUENCES COMMON TO ALL SITES

Under Alternative A—No Action and continuation of current management, there would be adverse impacts from ongoing challenges associated with managing visitor congestion and conflicts at the nine priority sites. These adverse impacts that would affect visitor access and circulation, as well as the quality of the visitor experience, would occur specifically during peak visitor use times at most of the nine sites.

Because visitor use at LARO has increased and would be expected to continue to rise in the foreseeable future, these ongoing challenges and conflicts would continue over time. In the campgrounds, the maximum number of visitors per campsite would be ten as currently allowed. This would result in adverse impacts as campground group sizes are managed to the current maximum of ten visitors per site. This high density of use would create visitor congestion and conflicts, making it difficult for visitors to experience a more peaceful, natural environment and hindering the ability for the NPS to achieve desired conditions for the nine priority sites in the national recreation area. This would create adverse impacts to visitor access and circulation as well as the quality of the visitor experience.

Visitor use management would continue to be more reactive than proactive in response, and this reactive management would have adverse impacts on the quality of the visitor experience. LARO staff time would be allocated to managing visitor congestion and responding to increasing visitation conflicts in more of a reactive, case-by-case way, rather than proactively through a formal system of visitor use management. As such, there likely would be less staff time available for visitor communications, interpretation, and other visitor services, which are important to the quality of the visitor experience.

Many facilities at the nine sites are undersized to accommodate peak use and become congested resulting in inefficient access, particularly during the summer. Vehicular circulation generally would remain as is, along with pedestrian paths. Facilities including campsites, day use areas, boat launch areas, and parking areas generally would not be updated to accommodate more modern demands for use. The diversity of camping and other recreational experiences would remain the same as under current conditions, with less options to fit a wider range of visitor needs, interests, and camping vehicles. This lack of upgraded and diversified facilities and infrastructure would contribute to adverse impacts to visitor access and circulation and the quality of the visitor experience, particularly during peak periods of use and visitation to the national recreation area increases over time.

Many of the sites lack clear routes or signage for multiple modes of transportation or different vehicle types, which causes confusion and conflicts between RVs and other motorists, as well as conflicts between different users such as motorists, bicyclists and pedestrians. Other adverse impacts would result from the inefficient circulation patterns, which create traffic congestion and delay visitor access, particularly during periods of high use. Several existing access roads are narrow and, in some cases, have undersized turning radii, resulting in vehicles going off pavement, overflow parking in resource areas, and disturbing vegetation and soils (also see Natural Resources analysis).

Boat rigging and staging areas are not available, sized, or located to accommodate a high volume of larger, modern vehicles at the nine sites. This also causes traffic congestion around boat launch areas prohibiting easy visitor access to the lake and resulting in adverse impacts to the visitor experience. These impacts would likely worsen as visitor use increases and traffic becomes heavier.

The no action alternative would continue to leave parking and visitor access unimproved, which would also adversely impact visitor use and experience. Unimproved and inadequate and/or nondelineated parking areas encourage inefficient parking patterns, which then create congestion, overflow into resource areas, and other challenges that affect visitor access and circulation, as well as the quality of the visitor experience. For example, the unreliability of finding a space at the visitor's desired sites degrades visitor access and circulation and the quality of the visitor experience.

Some existing facilities do not meet the current visitation and equipment size demands, described in more detail for specific sites below. For example, the condition and location of several fish cleaning stations in areas of heavy traffic and/or in proximity to other use areas creates conflicts between visitors. Some fish cleaning stations are undersized and can only serve a small number of visitors at one time, which increases the amount of time these facilities are full and reduces the extent to which visitors can depend on being able to access and use the stations. These conditions would create adverse impacts affecting visitor access and circulation as well as the quality of the visitor experience, particularly as visitation increases. This would continue until a point at which facility designs could be updated to current standards.

Reactive visitor use management strategies would continue the proliferation of ongoing issues related to visitor congestion, conflicts of use, and problems. A variety of existing problems such as graffiti, antiquated irrigation systems with inefficient water use and overspray that damages tree roots causing tree fall, overflow parking in resource areas, and other activities would continue to intensify over time. These problems would create adverse impacts, not only to resources, but also to the quality of the visitor experiences. In observing these problems, visitors may develop negative impressions of the national recreation area, affecting the quality of their experience as well as their ability to access fundamental resources and values.

Visitor messaging and signing at the nine priority sites likely would be improved or expanded, but on a limited basis, and not in conjunction with a visitor use management plan. Despite the current use of select media outlets and signage to notify visitors of occupancy levels, some developed areas are much busier than others, further intensifying congestion and adverse impacts to visitor use and experience. This would likely worsen as visitor use increases.

CUMULATIVE IMPACTS UNDER ALTERNATIVE A—NO ACTION

The NPS is planning to upgrade facilities to improve accessibility throughout LARO, which would result in beneficial impacts to visitor use and experience. Implementation of the previously prepared LARO's Accessibility SETP would result in beneficial impacts related to visitor use and experience. Accessibility improvements implemented at the nine priority sites would be expected to occur incrementally over time, resulting in some beneficial impacts related to implementation of the SETP.

With implementation of the SETP plan, there is a need to include an expansion of the number of accessible campsites and accessible parking. Implementing these improvements would result in

beneficial impacts to visitor use and experience overall; however, this implementation likely would occur incrementally in multiple phases and on a limited basis under Alternative A—No Action, based on funding availability and resources such as through cyclical maintenance. Minor repairs, alterations, and piece-meal, project-based site improvements would occur over time, helping to address visitor needs and congestion on an incremental basis. Cyclical upgrades and construction activities in separate phases could adversely impact visitor use and experience, creating multiple disruptions over multiple years, rather than part of a master construction project accomplished under a coordinated plan. This could result in adverse impacts to visitor access and circulation and the quality of the visitor experience.

The NPS also is planning to repair failing sections of the existing seawalls at Evans, Keller Ferry, and Porcupine Bay, which would result in beneficial impacts to visitor use and experience, as improvements are completed. However, this work would be phased incrementally, which could result in multiple phases of construction at these sites, rather than one coordinated project effort, and as noted above this could adversely impact visitor access and circulation, as well as the quality of the visitor experience.

ALTERNATIVE B—PREFERRED ALTERNATIVE—ENVIRONMENTAL CONSEQUENCES COMMON TO ALL SITES

Implementing the VUSMP, including the management strategies, adaptive management strategies, and supporting site improvements as described in Chapter 2: Alternatives, in Table 2.1 under Alternative B—Preferred Alternative, would result overall in beneficial impacts to visitor access and circulation, as well as the quality of the visitor experience.

Changing the maximum number of visitors per campsite from ten to six would beneficially improve the quality of the visitor experience by reducing crowding and congestion. Dispersing campsites and visitation and dispersing and providing more separation between campsites also would beneficially impact the quality of the visitor experience. Implementation of management strategies and supporting improvements would provide a greater diversity of camping experiences. There could be some adverse impacts related to reducing the maximum number people per campsite for larger groups. However, group campsites would continue to be available for reservation or camping groups could reserve adjacent campsites. Even at peak times, current campground use levels at multiple sites are not full, so overall proposed actions in Alternative B would be expected to result in a beneficial impact to visitor access and circulation and the quality of the visitor experience related to camping.

Facility improvements to vehicular circulation and parking would enhance and beneficially impact visitor access and circulation by reducing congestion, decreasing wait times for visitors to access facilities, improving traffic flow and parking efficiency, and better accommodating large vehicles. A reduction in conflicts between RVs and other motorists would be expected, and pedestrians and bicyclists would be better accommodated throughout the nine sites. Reducing traffic congestion and overflow parking would also improve aesthetics of the landscape and provide a more enjoyable “retreat into nature” experience that many visitors are looking for at LARO, beneficially impacting the quality of the visitor experience.

Proposed improvements to address parking delineation and availability would result in beneficial impacts by reducing conflicts between visitors who are circulating while looking for parking and

visitors who are parked in the spaces intended for other vehicles (e.g. cars in RV spaces). These strategies also would reduce congestion caused by larger vehicles taking up and spilling out of smaller spaces for long periods of time. These beneficial impacts would occur throughout the peak season of use in the national recreation area.

Proposed new and expanded facilities would diversify recreational opportunities at LARO, creating beneficial impacts to the quality of the visitor experience. Diversifying campsites and recreation opportunities would support a greater range of visitor use and visitor abilities, as well as a broader spectrum of visitor interests. A mix of RV, tent, and walk-in campsites, as well as boat-tie ups and mooring buoys along the shoreline for campers would accommodate a greater variety of visitor camping preferences beneficially impacting the quality of the visitor experience.

The proposed remodeling of some existing campsites would better accommodate a variety of users, and some campsites would be removed to expand spacing between campsites and disperse the concentration of use to reduce conflicts between visitors resulting in beneficial impacts to the quality of the visitor experience. Providing more delineation and screening between campsites would increase privacy and reduce conflicts, enhancing the overall quality of the visitor experience related to camping at the sites.

Winter closures of portions of campground areas would result in a beneficial impact to visitor use and experience by encouraging visitors to use areas that can best accommodate their needs and avoid facilities not designed for winter conditions (such as where roads are not plowed). This could also be viewed as an adverse impact to specific visitors seeking winter use at the sites subject to closure. However, multiple other sites in the national recreation area would remain available for winter camping and recreation.

Creating retrofitted self-contained RV sites in various parking areas will diversity camping experiences for visitors and facilitate manageable winter camping areas, resulting in beneficial impacts to visitor access and the quality of the visitor experience.

In boat launch areas, facility improvements that accommodate current demands would have beneficial impacts to visitor access and circulation, as well as the quality of the visitor experience, as described in more detail under specific sites later in this chapter. Upgrading the capacity of fish cleaning stations would reduce the frequency of needed maintenance or repairs thus reducing times of facility closure to visitors. Decreasing periods that the fish cleaning station is full would result in benefits such as more visitors being able to use the facility and less frequency of undesirable odors from the station. Relocating fish cleaning stations at Hunters, Spring Canyon, and Porcupine Bay to places where anglers can more easily access them would help to reduce potential conflicts between user types and alleviate congestion caused by boat trailer traffic in campground and day use areas.

In some locations there is also the potential that fish cleaning stations would be removed. Removing fish cleaning stations would reduce need for infrastructure, reduce congestion in each location, and eliminate the odors caused when fish cleaning stations, resulting in a beneficial impact to visitor access and circulation as well as the quality of the visitor experience. Conversely, removing the cleaning stations could potentially adversely impact visitor use for those who routinely use these facilities to clean fish. This may also increase cleaning of fish and dumping of remains near launches.

However, visitors are encouraged to clean fish and dispose of remains in deep water or take them home to clean.

Adding larger, clearly delineated rigging and staging areas where vehicles can pull off the road would reduce congestion and traffic delays near the boat launch resulting in beneficial impacts to visitor access and circulation.

Under Alternative B—Preferred Alternative, the existing skid docks would be upgraded to install cranking systems, allowing for more convenient adjustments in placement. This would result in beneficial impacts by enhancing visitor access to water when lake levels change and by reducing the time it takes to move the dock, and thus reducing the amount of time the facility is closed to visitors.

Implementing the VUSMP and supporting improvements would support proactive management of a number of area-wide problems, such as replacement of outdated and poorly operating irrigation systems, eliminating overspray of irrigation that damages tree roots and causes tree fall, removal of graffiti to improve aesthetics and the sense of security, creating a more naturalized landscape in certain areas, and reducing overflow parking and vehicles straying into resource areas. These actions would benefit resources and also would result in beneficial impacts to the quality of the visitor experience by improving the aesthetics of the national recreation area setting, enhancing visitor safety, and reducing the need for more serious mitigation measures such as area closures that would disrupt visitor access and enjoyment of resources.

Visitor messaging and signing at the nine priority sites would be improved and expanded in a more consistent manner in conjunction with the VUSMP, beneficially impacting visitor access and circulation as well as the quality of the visitor experience. Implementation of management strategies under this VUSMP would facilitate better accommodation of a diversity of visitor needs and interests and support more proactive management, freeing up LARO staff time to support more activities related to visitor communications, safety messaging, and interpretation. Staff would be supported in providing increased education about uses and regulations. LARO staff could offer more direct contact and in-person education as well as targeted law enforcement efforts to educate visitors about appropriate behaviors. This would result in beneficial impacts to visitor access and circulation, as well as the quality of the visitor experience by decreasing unendorsed and inappropriate behaviors that disrupt others' enjoyment of LARO.

Throughout the national recreation area, as improvements are implemented at the nine priority sites, as called for under the VUSMP, there would be temporary adverse impacts to visitor access and circulation and the quality of the visitor experience due to construction activities. Generally, visitors would be able to plan their visits around construction areas and timeframes, potentially visiting other areas in LARO for like uses and experiences. The NPS would work to time and stage construction activities to minimize disruption as much as possible. Refer to Appendix D for mitigation measures and best practices including those typically implemented during construction activities.

Environmental Consequences Associated with Indicator, Threshold, and Visitor Capacity Management Strategies: In addition to the strategies outlined in Chapter 2: Alternatives, there are additional management strategies described in the “Monitoring” section of Appendix B that would beneficially impact visitor access and circulation and the quality of the visitor experience at the

national recreation area. These strategies would be pursued with implementation of Alternative B—Preferred Alternative.

Appendix B also includes a number of adaptive management strategies that would beneficially impact visitor access, circulation and quality of the visitor experience at the national recreation area. As these strategies are adaptive, they would only be implemented if and when conditions dictate, they are necessary with implementation of the VUSMP under Alternative B—Preferred Alternative, as summarized below.

Implementing adaptive management strategies such as enhanced visitor education to inform visitors of less busy launch areas, fluctuations in lake levels, and parking occupancy levels would have beneficial impacts by reducing conflicts and stress related to congestion and visitors competing for spaces during peak use. These strategies also would improve visitor access and circulation and the quality of the visitor experience by reducing traffic congestion and related degradation of natural resources and site aesthetics.

Differential fees for parking and boat launching would help to enforce separation of parking types (such as for day use versus boat launch areas), reducing conflicts and resulting in beneficial impacts to visitor use and experience. Implementing parking fees could adversely impact visitor use and experience by altering a visitor's choice of destination to a location that may not be their first preference or desired experience. This could also lead to conflicts and congestion in other areas that may receive more use from visitors avoiding fees.

Use of a reservation permit system would improve visitor access and the quality of the visitor experience by allowing visitors opportunities for more reliable parking, resulting in beneficial impacts. Visitors would be able to better plan their trips and have certainty of the ability to access their sites of interest. Although, there could also be adverse impacts related to implementing a reservation permit system for some visitors who are unable to obtain a reservation for the time or place that they desire or related to time needed to learn the new reservation system.

CUMULATIVE IMPACTS UNDER ALTERNATIVE B—PREFERRED ALTERNATIVE

Past, present, and reasonably foreseeable actions and potential projects within LARO and surrounding areas have the potential to affect visitor use and experience. Planned improvements through the SETP would result in beneficial impacts related to visitor use and experience as discussed under Alternative A—No Action. Expanding the level of accessible facilities throughout the national recreation area could be accomplished more rapidly under a coordinated plan for implementing the VUSMP. Proposed improvements would be more full-scale and considered alongside other improvements under the VUSMP.

Repair of failing sections of the existing seawalls at Evans, Keller Ferry, and Porcupine Bay also would result in beneficial impacts to visitor use and experience, as improvements are completed. Through the VUSMP, more expansive improvements may be implemented including bioengineered shoreline stabilization and creation of more naturalized shoreline areas, as part of a larger coordinated project effort. This would enhance visitor use and experience by removing the vertical fall associated with the wall, which would improve visitor access to the water. Replacing the wall would also have beneficial impacts to visitor use and experience by improving the aesthetic of the

shoreline landscape and enabling the experience of a more natural condition and gradual shoreline access.

SITE SPECIFIC AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES—VISITOR USE AND EXPERIENCE

The following describes site specific affected environment and potential environmental consequences related to the impact topics of visitor access and circulation, as well as the quality of the visitor experience at the nine sites, in addition to the existing conditions and potential impacts common to all sites described above.

EVANS

Affected Environment—Evans is the northern-most site where visitors can enjoy a more secluded experience. The campground at Evans offers forested campsites with access to a courtesy dock and an amphitheater with views to the lake. The day use area includes beach access, open areas, and a shelter where visitors can swim, picnic in sun or shade, and walk along the cobble shoreline. Evans receives most visitor use during the summer months. The beach access area is sand and a popular destination during peak season. Evans is also popular during sturgeon fishing season when RVs are often occupying boat and trailer parking. During these times, the launch and courtesy dock can sometimes exceed capacity. However, due to low lake levels, visitors are unable to access the water from this boat launch for most of the year. Typically, visitation is at its peak during July, with an average of 65 people per day.

Environmental Consequences of Alternative A (No Action) at Evans—Because the boat launch and courtesy dock at Evans are particularly congested during peak use causing delays for visitors to access the lake and results, no action would result in adverse impacts to visitor access and circulation and the quality of the visitor experience, particularly during the peak period of use. Congestion challenges at Evans would continue, creating adverse impacts to visitor access and circulation and the quality of the visitor experience. These adverse impacts would be expected to intensify as visitation increases in the future with increases in congestion and wait times increase.

Environmental Consequences of Alternative B (Preferred Alternative) at Evans—The boat launch at Evans would potentially be removed or converted to a non-motorized boat launch. These actions would have beneficial impacts to visitor access and circulation by diversifying recreational boating experiences at LARO. Non-motorized access may expand and diversify water access opportunities year-round, providing the beneficial impact to visitor use and experience of more year-round access to water. The removal of the existing motorized boat launch would alleviate parking lot congestion that occurs during the time the launch is usable as there would be less need for trailer parking, resulting in a beneficial impact to the quality of the visitor experience. Conversely, removing the launch could potentially adversely impact visitors who routinely use Evans as a launch point for motorized boats. However, visitors would be able to use other boat launch locations throughout LARO. The adverse impact of visitors not being able to use a motorized boat launch at Evans likely would be temporary until visitors learned of other nearby launch sites.

In addition to the beneficial impacts discussed in the area-wide section above, adding boat tie-ups along the shore would increase visitor access to the shoreline, make access to boats more convenient

to campers and other users during their stay, and reduce congestion at the courtesy dock, resulting in a beneficial impact to visitor access and the quality of the visitor experience.

MARCUS ISLAND

Affected Environment—Like Evans, Marcus Island is in the north part of the recreation area and offers a more secluded experience. Visitors can access Marcus Island by a narrow road that winds down to the island from Highway 25. The campsites are spread out among three different camping areas with a variety of site density and tree cover. Visitors can camp in a more secluded, forested camping area with fewer campsites or in a larger camping area with multiple opportunities for visitors to have a more social experience. There is also a walk-in campsite that allows campers closer access to the shoreline. The campground is open year-round, but the road is not plowed during winter months. There is a need for additional parking in the campground area. The day use area is separated from the campgrounds by a back channel and includes beach access to the back channel and a small boat launch. Marcus Island receives most visitor use typically between May and October. This area is also popular during sturgeon fishing season but, due to low lake levels, the boat launch is typically only open for a couple of weeks during the year. The highest peak visitation month for Marcus Island is July with an average of 25 people on a busy day.

Environmental Consequences of Alternative A (No Action) at Marcus Island—The boat launch at Marcus Island is functional for two weeks out of the year due to low lake levels. During those two weeks, there is congestion at the launch, as well as on the narrow access road and in the parking areas of the campground where trucks and trailers occupy campsite parking spaces. Maintaining current conditions of the boat launch would have adverse impacts to visitor access and circulation, as well as the quality of the visitor experience because congestion would increase as visitor use increases and current visitor conflicts would not be adequately addressed resulting in adverse impacts to the quality of the visitor experience.

Environmental Consequences of Alternative B (Preferred Alternative) at Marcus Island — Improved vegetation management would result in a beneficial impact to the visitor use and experience by reducing mosquito breeding sites and the risk of virus transmission. Removal of the boat launch, which is only currently functional for two weeks of the year, would result in a longer-term positive impact to visitor access and circulation and the quality of the visitor experience because visitor conflicts would be reduced. However, in the near term, there could be temporary adverse impacts to visitor access as visitors would need to find alternative locations in the national recreation area to launch their boats. In addition, the beach access area would be converted for non-motorized boating access only to enhance visitor safety by minimizing conflicts in visitor use. Formalizing the existing parking into RV sites would diversify facilities available to visitors and facilitate a manageable winter camping area, which would be beneficial to visitor use and experience.

KETTLE FALLS

Affected Environment —At Kettle Falls visitors can camp, launch watercraft, swim, picnic, and participate in other day use recreation activities. There are three adjacent campground loops with a total of 76 campsites relatively close together and access to an amphitheater. Many campers experience conflicts due to the campsite density and congestion related to nearby water uses. Group

campsites are available further away from the main developed area of the Kettle Falls. Visitors using the group campsites get a more secluded experience from the other sites. However, the two group sites are directly adjacent to each other and have high occupancy which can result in a lack of diversity in the available camping experiences. At the boat launch there are concession-run services where visitors have access to boat moorage, boat fueling, and a small store.

During peak use visitors can experience congestion in the boat launch area due to unmarked parking stalls, poor circulation, and concession services. The day use area is further away from the boat launch and campground and offers visitors beach access, restrooms, a ballfield, a picnic shelter, and a trail for day hikes. Currently, visitors have constrained use of the beach access area due to fluctuating lake levels and periods of standing water, which can facilitate mosquito infestations. Periods of low, stagnant water are also an issue in the old canal that extends from the beach access to the boat launch. Kettle Falls receives most visitor use between May and October with peak use during the month of July. The campground is rarely full, and the boat launch parking lot only reaches capacity during holidays. Typical visitation to Kettle Falls on a busy day is approximately 260 people throughout the day.

Environmental Consequences of Alternative A (No Action) at Kettle Falls—During peak use, facilities at Kettle Falls become congested. Vehicles back up on the driveway and ramp at the boat launch, causing delays. Access and circulation are further complicated due to unclear directional signage and circulation routes. The fish cleaning station is frequently full resulting in unpleasant odors/conditions for visitors. Taking no action to improve these facilities by relocation or other management action would result in adverse impacts to visitor use and experience. As visitor use increases, traffic congestion likely would worsen, as would conditions at the fish cleaning station, as use increases and the station ages.

Environmental Consequences of Alternative B (Preferred Alternative) at Kettle Falls—Dividing and relocating the group campsites at Kettle Falls would result in beneficial impacts to visitor access and circulation, as well as the quality of visitor experience. Relocating the sites in areas of differing levels of development and more natural areas would add to the diversity of group camping experiences. Dispersing the group sites would help disperse visitor use and activity, offer group campers a more secluded experience, and reduce potential conflicts between visitor groups. Relocating one group site close to the water also would provide for a diverse range of camping experiences.

Adding stop gates to the canal and beach access area would have beneficial impacts to the quality of the visitor experience at the day use area by holding water to allow for greater depths and make the area usable for a longer period of the season. Stop gates would also have beneficial impacts to visitor use and experience by managing water flow in the canal to reduce periods of stagnant water thus reducing mosquito breeding sites and the potential risk of virus transmission.

In the boat launch area, the circulation would be changed to a one-way road to relieve traffic congestion and reduce delays that occur during the peak season. Additionally, the boat launch would be extended to provide deep-water access to expand visitor use and access opportunities during periods of low lake levels at this site, which is well-equipped for boat launching and access. These

improvements would result in beneficial impacts to visitor access and circulation as well as the quality of the visitor experience.

GIFFORD

Affected Environment—Gifford includes three camping and water access opportunities for visitors. There are three adjacent campground loops that offer many campsites along the shoreline with access and views to the lake. Campers also have access to a courtesy dock where they can fish or enjoy views of wildlife and the lake. There is also a group campsite that is separated from the other campground loops and provides group campers with a different camping experience. The campground is open to visitor year-round, but the road is not plowed during winter months. There is also a boat launch where visitors can launch watercraft. Both the campground and the boat launch are in need of additional parking. Visitors do not have access to a beach area at Gifford, and visitors often choose to swim near the boat launch creating conflicts between swimmers and boat launch users. The Cloverleaf site is nearby where visitors can access a small parking lot and beach area on a small inlet. Visitors do not have a pedestrian connection between Gifford and Cloverleaf. Gifford receives most visitor use between May and October with peak use during the month of July. Typical visitation on a busy day is approximately 80 people at Gifford.

Environmental Consequences of Alternative A (No Action) at Gifford—The current parking accommodations at Gifford do not meet visitor demand. Specifically, more parking is needed in the campground and boat launch areas. Campers park at the boat launch, causing congestion at the boat launch parking lot, which in turn delays visitor access to the water and the shoreline and creates conflicts between campers and boaters (overnight and day use). Maintaining the current level of parking at Gifford would result in adverse impacts to visitor use and experience due to increasing congestion and visitor conflicts.

Environmental Consequences of Alternative B (Preferred Alternative) at Gifford—Converting the campsite to a pull-off area for loading and unloading at the courtesy dock would improve visitor access to the dock and prevent visitors from having to walk through campsites to get to the dock, resulting in a beneficial impacts to visitor access and circulation and the quality of the visitor experience. In addition, a path would be created between the courtesy dock and the restroom to provide visitors with direct access and further reduce conflicts of visitors walking through campsites, also benefiting visitor use and experience.

The beach access area currently at Cloverleaf would be moved to a more visible location between Gifford and Cloverleaf. This location would reduce conflict between boaters and visitors utilizing the beach and accessing the lake without watercraft. Furthermore, it would expand beach access for a greater part of the season as reservoir levels change.

The visitor-created parking at Cloverleaf would be formalized, which would improve visitor access to Cloverleaf and the beach access area. The accessible trail further enhances and diversifies visitor use and experience by introducing additional recreation opportunities and visual access (views) toward the lake. The proposed trail would also improve pedestrian circulation between Gifford and Cloverleaf and further alleviate the use conflicts by providing visitors clear and direct access from the

parking lot to the relocated beach access area resulting in beneficial impacts to the visitor use and experience.

At the boat launch, a government dock would be added for administrative use only improving NPS access to the site, but also beneficially impacting emergency response times and services to visitors. Adding the boat tie-ups would help alleviate congestion that Gifford experiences at the boat launch docks during heavy use, and a trailer parking area would be added further away from the boat launch to improve congestion in the main parking lot by providing space for trailers that may be parked for longer periods, two other actions that would result in beneficial impacts.

HUNTERS

Affected Environment—Visitors have access to camping, water recreation, and various day use activities at Hunters. There is one campground loop between the boat launch and day use area with access to a courtesy dock. There are also group campsites in a separate area that provide group campers a camping experience and shoreline access that is secluded from other day use and boating activities. The campground is open year-round, but the road is not plowed during winter months. The day use area includes a formal parking lot, restrooms, picnic shelter, beach area, and courtesy dock. The boat launch provides visitors with the opportunity to launch watercraft and provides ample parking with a main lot and overflow lot. Occasionally, visitors experience conflicts with shoreline access due to a lack of dock space for overnight mooring. Hunters receives most visitor use between May and October with peak use during July. Typical visitation at Hunters on a busy day is approximately 120 people.

Environmental Consequences of Alternative A (No Action) at Hunters—During peak use, visitors at Hunters experience congestion in the parking lots and vehicular circulation routes. The current location of the fish cleaning station between the day use area and campground causes congestion in the day use parking lot due to the trailers of visitors accessing the station taking up the drive aisle or multiple parking stalls. There is also a lack of sufficient docking space at the boat launch. This encourages boats to idle in the area surrounding the launch causing congestion and delaying access for other visitors. These activities result in adverse impacts to visitor use and experience.

Environmental Consequences of Alternative B (Preferred Alternative) at Hunters—Campsites at Hunters would be improved, and walk-in sites would be added to create a diversity of camping types resulting in beneficial impacts to visitor use and experience as noted in the “common to all” discussion previously. In addition, pedestrian circulation would be improved, allowing visitors to access the docks, beach access area, and parking with minimal conflicts with vehicles, which would benefit visitor use and experience.

At the boat launch, the floating dock would be extended to provide a 30-minute docking area and give boats that would typically idle in the general area a place to dock. This would help reduce congestion around the dock and the resulting delays to access the launch or lake, which also would result in beneficial impacts to visitor use and experience.

FORT SPOKANE

Affected Environment—Visitors can access the Fort Spokane site directly from Highway 25 which divides the site into north and south sections. On the north side of the highway, there are two campground loops, and campers have access to an amphitheater and courtesy docks along the shoreline. The spacing between campsites is good, but there is a lack of privacy due to no vegetation or topography changes. There is also a boat launch with a large parking lot and two adjacent group campsites on the north side of the highway. The group campsite area is heavily used by anglers causing some conflicts between visitors. On the south side of the highway, there is a day use area with parking, restrooms, picnic shelter, and beach area. Throughout the site, there are trails for visitors to hike between amenities, and there is an informal trail under the highway that connects the two sides. However, the informal trail is not well signed or delineated, and visitors often cross the highway, causing potential conflicts between visitors and vehicles on the highway. Fort Spokane receives most visitor use between May and October. The highest peak visitation month is July, receiving an average of 195 people on a busy day. In the 2016 visitor use survey, Fort Spokane had high levels of parking conflicts and congestion cited.

Environmental Consequences of Alternative A (No Action) at Fort Spokane—With continuation of current conditions, there would be adverse impacts associated with overlapping uses, undefined pedestrian circulation, and congestion. Because the two existing group campsites are in an area heavily used by anglers, there are conflicts between anglers and campers jointly using the space and the one restroom for the area. Fort Spokane site is divided by Highway 25 and there are no clear pedestrian routes connecting the campground to the day use area and visitor center. Visitors tend to cross the highway from the boat launch to the day use area, and although there is a pedestrian crosswalk, this is not a location that motorists are expecting stop, which creates concerns related to visitor safety. Potential adverse impacts to visitor use and experience could occur as pedestrian and vehicle traffic increases. During peak use, the boat launch becomes congested, and visitors experience delays getting access to the water creating adverse impacts.

Environmental Consequences of Alternative B (Preferred Alternative) at Fort Spokane—All of the proposed improvements would result in beneficial impacts to visitor access and circulation and the quality of the visitor experience at Fort Spokane. Relocating the group campsites would reduce congestion and conflicts that currently occur in the heavily used area. The existing amphitheater would be removed to improve visitor use and experience by enhancing the site landscape, potentially providing space for other visitor uses, and enabling resources spent on the amphitheater to be allocated to other services that benefit visitors.

Vegetation management would be implemented within the campgrounds to benefit the visitor use and experience by reducing the potential for falling limbs and trees.

Formalizing a pedestrian route from the day use to the boat launch parking would enhance pedestrian safety by reducing potential conflicts between pedestrians and vehicles on the highway.

The boat launch would be expanded with an additional lane to improve access to the water in a high use area. This would improve circulation in and out of the launch area and alleviate the traffic

congestion that backs up into the parking lot when the boat launch is busy, resulting in beneficial impacts to visitor use and experience.

KELLER FERRY

Affected Environment—Keller Ferry offers a concession-run campground loop in a lawned area separate from other uses with access to an amphitheater on the shoreline. Visitors occasionally experience conflicts in the campground due to a lack of defined separation between sites as well as poor parking circulation. Because the level of current summer use exceeds the designed capacity for the day use and campground, this area has received, the concession-run campground has also generated some complaints from visitors about cleanliness. There is a marina and boat launch with a large parking lot where visitors are able to launch watercraft. The day use area offers a parking lot, with day use parking on one side and campsites on the other. Visitors also have access restrooms, a picnic shelter, and a beach access area. Access to the shoreline is currently difficult for visitors in some areas due to a gabion basket seawall and no courtesy docks. Separate from the main developed area, there is a smaller day use area and group campsite where visitor can have a more secluded experience. Keller Ferry receives most visitor use between May and October. The highest peak visitation month is August with 325 people on a busy day.

Environmental Consequences of Alternative A (No Action) at Keller Ferry—In the southern day use and campground area, the group campsites are not delineated and available parking within the campsite is unclear. Visitors tend to park along the road trampling vegetation and compacting and eroding soils. Continued off-road parking in this area would have adverse impacts to visitor use and experience by degrading the views of the landscape. In the northern day use and campground area, heavy use causes traffic congestion in the parking lot and a lack of space for larger vehicles to turn around.

Environmental Consequences of Alternative B (Preferred Alternative) at Keller Ferry—All of the proposed improvements would result in beneficial impacts to visitor access and circulation and the quality of the visitor experience at Keller Ferry. The existing amphitheater in the campground would be removed, which would have the same beneficial impacts as discussed in the Fort Spokane section above.

Installing edge treatments would improve visitor use and experience by preventing parking along and reducing traffic congestion and delays. In addition, providing designated parking spaces within the campsite areas and improving the delineation of the campsites would also reduce overflow parking along the road, reducing congestion and resulting in beneficial impacts to visitor use and experience.

SPRING CANYON

Affected Environment—Spring Canyon is one of the more developed sites that offers visitors a variety of experiences through camping, water access, and various day use activities. There are two campground loops with different densities of campsites though all are relatively close together. The campsites are not clearly delineated and can cause user conflicts. The upper campground loop has low overhangs and visitors with larger RVs are unable to use these sites. The shade

structures/canopies located above a portion of the campsites are not tall enough to accommodate larger RVs. There is also a group campsite in a more secluded area separate from other uses. The day use area includes a playground, picnic shelter, amphitheater, concession building, and restrooms. There is a boat launch with a main parking lot and overflow lot. This is a popular location for visitors to launch watercraft. The boat launch parking lot has a confusing circulation pattern, and during peak use, visitors can experience congestion and longer wait times in the lot. Spring Canyon receives most visitor use between March and October. The campsites and parking lots are typically full on weekends and holidays during the summer months. The highest peak visitation month for Spring Canyon is July, with an average of 140 people on a busy day.

Environmental Consequences of Alternative A (No Action) at Spring Canyon—Under existing conditions, vehicular circulation at the boat launch results in adverse impacts to visitor use and experience due to traffic congestion and resulting delays to visitors seeking to access facilities. The existing canopies over a portion of the campground are not high enough to accommodate taller vehicles, trailers, or a full range of RVs, resulting in damage to the structures on a fairly regular basis and adverse impacts to visitor access and circulation and the quality of the visitor experience.

Environmental Consequences of Alternative B (Preferred Alternative) at Spring Canyon—Removal of the canopies in the campground would allow for large recreational vehicles to use these sites, positively benefiting visitor access and circulation and the quality of the visitor experience. Relocating the group campsite would separate different uses more optimally and efficiently at the site and enhancing pedestrian circulation in the campground would further increase visitor use and access opportunities as well as reduce potential conflicts related to visitors walking through other campsites or along the road.

In the day use area, visitor access and circulation would be improved by creating an accessible path to the shore with accessible picnic areas. Repurposing the concessions building and adding more plaza space would beneficially impact the quality of the visitor experience by providing adaptable spaces that can meet current visitor use trends, while also eliminating unused vacant space.

Vehicular circulation at the boat launch would be improved by changing the road to a two-way loop, better organizing vehicles entering and exiting the launch and reducing points of conflict between vehicles launching, parking, and accessing the fish cleaning station or rigging and staging area, resulting in beneficial impacts to visitor access and circulation. Providing NPS administrative parking spaces to serve the government dock would improve visitor use and experience by improving emergency access and response times.

PORCUPINE BAY

Affected Environment—At Porcupine Bay, visitors can camp, launch watercraft, and access a small day use area. The campground is a small loop in a forested area. The campsites are extremely close together and mix user group types which can cause conflicts. The day use area includes restrooms and beach access where visitors can swim, picnic, walk along the shoreline or surrounding wooded area, or fish from the nearby courtesy dock. There is also a fishing cove on the north side that is not formally connected to other use areas. The boat launch provides an access point for launching motorized watercraft and includes a main parking lot and overflow parking. Porcupine Bay receives

most visitor use between May and October. The campground and boat launch parking are typically full on weekend and holidays during the summer months. The highest peak visitation month is July, with an average of 140 people on a busy day.

Environmental Consequences of Alternative A (No Action) at Porcupine Bay—Adverse impacts on visitor use and experience would occur if the dump station is retained in the current location. The station is located close to the day use area and the boat launch parking, which causes congestion. Congestion would likely get worse as visitation increases.

Environmental Consequences of Alternative B (Preferred Alternative) at Porcupine Bay—In addition to the “common to all” beneficial impacts discussed previously, visitor access and circulation and the quality of the visitor experience would be beneficially impacted by relocating the dump station to Porcupine Bay Road to reduce congestion and potential conflicts with other user types by moving it farther away from other facilities.

The specific camping experience at Porcupine Bay would be improved through the de-coupling of the current campsites (splitting the double loaded bays back into single campsites as the original design intended). This action would beneficially impact the quality of the visitor experience by separating and dispersing camping activities, reducing congestion and conflicts in the camping area.

Adding a new camp loop would maintain the same level of campsites available to visitors while also diversifying camping opportunities at Porcupine Bay. Overall visitors would experience a greater variety of camping experiences, more separation between campsites, and less use conflicts with these improvements, resulting in beneficial impacts to the quality of the visitor experience.

The creation of a new trailhead and re-routing the steep visitor-created trail to the fish cove would enhance visitor access to the shoreline and visitor safety, beneficially impacting visitor access and circulation as well as the quality of the visitor experience.

The relocation of the entrance gate would beneficially impact vehicular access and circulation by providing room for vehicles to turn around when the gate is closed.

CONCLUSIONS—VISITOR USE AND EXPERIENCE (VISITOR ACCESS AND CIRCULATION AND THE QUALITY OF THE VISITOR EXPERIENCE)

ALTERNATIVE A—NO ACTION

Overall, under the Alternative A—No Action, visitor use management at the national recreation area would continue to be reactive rather than proactive. This reactive visitor management would result in adverse impacts to visitor access and circulation as well as the overall quality of the visitor experience, as ongoing actions may address immediate challenges but not provide longer-term solutions.

Overall, under Alternative A—No Action, camping, boating, day use, and other recreational experiences would be maintained, but would not be diversified to accommodate changing needs and interests of visitors to LARO, resulting in predominantly adverse impacts to visitor use and experience. For example, camping facilities would not be adapted to accommodate more modern

RV vehicles or to provide a greater variety of camping experiences with more privacy between campsites. Visitor management would occur on a more reactive basis, rather than proactively, and staff time would be monopolized by a variety of ongoing problems and issues, taking time away from visitor communications, interpretation, and other activities that benefit visitor use and experience. Visitor facilities and infrastructure would remain undersized and lacking in function and capacity to accommodate a diversity of camping experiences and recreational opportunities. Circulation and parking systems would remain in the current condition for the most part, creating confusion and lack of clarity and efficiency in serving visitor heavy use during peak periods. Although there would be some beneficial impacts from improvements made incrementally, such as through cyclical maintenance, overall impacts to visitor use and experience would be mainly adverse as visitation levels increase in the future and congestion and use conflicts intensify and worsen.

Completion of concurrent projects, such as the SETP improvements and repairs to seawalls at Evans, Keller Ferry, and Porcupine Bay would result in beneficial impacts to visitor use and experience. However, these are likely to occur incrementally over multiple years under Alternative A—No Action, which may stretch out disruption to visitor use and experience over multiple years and seasons more than if these improvements were completed under a visitor use management plan.

ALTERNATIVE B—PREFERRED ALTERNATIVE

Overall, under the Alternative B—Preferred Alternative, the VUSMP would be implemented, facilitating proactive visitor use management at the national recreation area, resulting in primarily beneficial impacts to visitor access and circulation as well as the overall quality of the visitor experience. Implementing the actions of the VUSMP would result in more sustainable, longer term solutions that would benefit LARO visitors. With implementation of VUSMP management strategies and supporting improvements, the NPS would be able to more proactively plan for and manage visitor use as visitation levels continue to increase. More staff time could be devoted to enhancing visitor experience rather than managing congestion and resource impacts.

The proposed improvements and management strategies would address current and future issues related to congestion and access, diversify recreation opportunities, enhance visitor safety, and improve visitor experience. Overall, facilities and opportunities related to camping, boating, and day use would be expanded.

Natural Resources

Under natural resources the specific impact topics addressed in the EA include vegetation, soils, and shoreline conditions. Existing conditions and environmental consequences common to all sites are addressed first in the content below, followed by site-specific conditions and potential impacts.

AFFECTED ENVIRONMENT—EXISTING CONDITIONS COMMON TO ALL SITES

VEGETATION:

Lake Roosevelt National Recreation Area is in a semi-arid transition zone and bisects two ecoregions—the Columbia Basin and the Okanogan Highlands. These areas are characterized by differences in water availability, surface geology and climate. As a result, plant communities along the

150-mile-long reservoir gradually change from shrub-steppe plant communities (dominated by sagebrush and bunchgrass) to ponderosa pine and mixed conifer woodlands. Drier areas in the south near the Grand Coulee Dam are characterized by shrub-steppe and have rainfall averaging 11 inches per year, while wetter areas near Colville average about 17 inches per year and are characterized by ponderosa pines and Douglas fir.

Although the dramatic rise and fall of water levels in the lake in a given year prevents riparian vegetation from establishing along the shoreline, a few native and introduced plants have colonized some stretches of the lake's riparian edges. Shoreline and lowland areas (below approximately 1,300 feet in elevation) are dominated by invasive reed canary grass. These communities occupy most of the area within a few feet of the annual high-water line. There are extensive stands of these grasses in the lake's large, shallow bays (i.e. the Kettle Arm, the Kettle Falls developed area, and the Spokane Arm).

Native pondweeds growing in the reservoir fluctuation zone (approximately 1275 feet to 1290 feet) are particularly healthy in the upper stretches of the Spokane Arm and backwater areas of the reservoir. Dense aquatic vegetation tends to be a concern for boaters and swimmers, including all types of dense aquatic vegetation (native, nonnative, invasive, and exotic).

There are also several expanses of non-native vegetation throughout the nine priority sites, including areas of lawn and ornamental trees and shrubs that originated when the sites were originally. In addition, non-native and invasive species such as sulfur cinquefoil, knapweed, hoary alyssum, mullein, thistle, toadflax, St. Johnswort, skeletonweed, houndstongue, Russian thistle, puncturevine, baby's breath, and bindweed are found to varying degrees at the nine sites and throughout the national recreation area.

These areas of non-native vegetation consume more water and require more maintenance than areas of native vegetation. Additionally, because many of the irrigation systems are older, over-spray is a common problem that negatively affects existing stands of trees and results in higher water use than needed to maintain these landscapes.

Current vegetation management at LARO includes aquatic invasive species monitoring, noxious weed treatment by contractor, and other invasive species removal by NPS staff, partners, and volunteers. LARO implements a Hazardous Tree Management Plan that includes annual surveys and hazardous tree removal.

SOILS AND SHORELINE CONDITIONS:

Lake Roosevelt's shorelines are comprised of bedrock interspersed with thick, overlying ice age deposits. Bedrock shorelines found mainly on the south shore of the Lower Reach and in the Spokane Arm, are generally more stable than those composed of silt and sand. These deposits are particularly extensive on terraces along the north shore of the lower reach of the reservoir near the Sanpoil River, and in the middle reaches of the reservoir near Ninemile Creek, Cedonia, and the mouths of the Kettle and Colville Rivers. Terrace failures have been documented at hundreds of sites over the last 54 years. Similarly, slower, gradual rates of erosion also threaten campgrounds, trails, and other facilities located on lower terraces near the full pool elevation. Wave erosion, freeze-thaw cycles, and vegetation loss are common drivers of these erosive processes.

Full pool elevation for the reservoir is 1,290 feet above sea level and minimum pool level is 1,208 feet. For short periods during wetter years, excess runoff can be discharged over the spillway at Grand Coulee Dam. The lake provides more than 9.4 million acre-feet of storage at any given time to support power generation, flood control, irrigation, domestic water supply, industry, recreation, and additional flows for anadromous fish passage in the lower Columbia River. Periodic fluctuations in water levels occur to accommodate these demands, sometimes leaving a draft of up to 82 feet. At full pool, the reservoir surface covers about 81,000 acres with more than 510 miles of shoreline. Water depths range from 375 feet immediately upstream of the dam to 14 feet near the international border. Historically, the reservoir level is highest from June into the winter. In the late winter and early spring, the water level is typically lowered to retain spring runoff.

Soils and shorelines throughout the nine sites can be affected by visitor access and circulation, particularly during times of congestion in peak periods of use. Erosion, dust, and degradation of natural habitat areas can require intermittent levels of mitigation over time.

ENVIRONMENTAL CONSEQUENCES COMMON TO ALL SITES

ALTERNATIVE A—NO ACTION—ENVIRONMENTAL CONSEQUENCES COMMON TO ALL SITES

There would be no changes to management of natural resources. Managing potential visitor impacts to natural resources would be done through ongoing enforcement of LARO rules and regulations and current efforts toward visitor education and awareness and with current levels of monitoring and documentation. There would not be a formalized visitor use site management program in place to respond to increasing visitation levels, use patterns, and related adverse impacts to vegetation, soils, and shoreline conditions. As visitation increases, administrative efforts could fall behind in responding to changes, which could lead to the potential for adverse impacts to natural resources in the future (and the need for additional ongoing mitigation measures to avoid and minimize such impacts).

During peak use, some developed areas would be much busier than others, and any related adverse potential impacts to vegetation, soils, and shoreline conditions (such as trampling and denuding of vegetation, erosion, and reduced habitat value) could become concentrated in those certain areas. These concentrations of use could also result in long-term adverse impacts due to degradation to the condition of natural resources, again requiring additional mitigation measures to address potential adverse impacts, such as potential temporary closure of areas for revegetation.

Because existing irrigation systems are outdated and inefficient, more water is used than necessary for irrigation in the semi-arid ecosystem. Chlorine in the irrigation systems impacts the tree root systems, causing stress and shortening the tree lifespans (causing premature tree fall). Retaining current irrigation systems could continue to adversely impact vegetation.

Throughout the heavily used sites studied, visitors have parked or driven off-road over time, which has negatively resulting impacted natural resources (predominantly vegetation) that park managers work to mitigate on a case-by-case basis resulting in adverse impacts. At Evans and Kettle Falls, for

example, parking availability is reduced during times of heavy use as a result, Visitors create overflow parking or park along the road, causing damage adversely impacting vegetation and soils.

A lack of formalized parking at sites such as Gifford, Cloverleaf, and Keller Ferry has resulted in visitors creating off-road parking areas as well. The off-road parking and driving damaged vegetation and compacted or eroded soils, which does not allow for new vegetation to grow in its place. At Marcus Island, the lack of clear delineation at the Sturgeon Point campsites results in frequent and expanded areas of denuded vegetation, further encroaching on adjacent natural areas at this site. The off-road parking and driving damaged vegetation and compacted or eroded soils, which does not allow for new vegetation to grow in its place. This could likely have long-term adverse impacts if not robustly mitigated as visitation levels and related congestion are likely to increase. Without more permanent improvements (which are not proposed under Alternative A—No Action. Under the no action alternative), reestablishing vegetation may not be viable in most management areas and further disturbance of soils and habitat would likely make existing impacts worse.

Other adverse impacts to vegetation and soils would be expected at boat launch areas, particularly during peak season use. Because current boat launches were not designed to accommodate the rigging and staging space needed by large, modern, recreation vehicles and trailers, vegetation and soils could be trampled as these footprints gradually expand from increases in vehicle size and the increasing number of visitors and/or intensity of use at any given site. Undersized facilities also cause congestion and traffic delays potentially discouraging some visitors from taking the time to properly clean their boats, which could have potential adverse impacts to wildlife and habitat from nonnative, invasive, and exotic species that could infest park waters from contaminated vessels and gear.

Adding to natural resource management challenges as another influence creating adverse impacts, many of the forested areas throughout LARO are monocultures of ponderosa pine that have experienced severe mortality levels due to the western pine beetle epidemic that ravaged this region in widespread outbreaks that began most recently in 2003-2004, and peaked in 2015. Sweeping areas of dead and dying forested landscape transformed by the beetle kill, coupled with tree death from irrigation system impacts, have had wide-ranging impacts on LARO's ecosystems that would likely require intensive revegetation and management efforts for years to come.

Ongoing spot repairs to the seawalls at Evans, Keller Ferry, and Porcupine Bay would likely result in beneficial impacts related to shoreline conditions and related vegetation, soils, and natural habitat areas as a result of decreased bank erosion and sedimentation in areas of the seawall repairs. However, as discussed in the visitor use and experience section, these walls would likely continue to fail without full scale removal and replacement via bioengineered and other natural shoreline stabilization treatments (as proposed under Alternative B—Preferred Alternative).

Ongoing management would be more reactive rather than proactive in responding to changing trends and management needs related to potential impacts to natural resources, such as increased vegetation trampling, overflow parking in resource areas, human created noise, light pollution, and other adverse impacts. As such, continuation of the current visitor use density could have adverse impacts to natural resources, mainly trampling of vegetation and soils in the immediate area surrounding campsites and in visitor use areas of all sites, which would require additional mitigation

measures over time. As visitation continues to increase, these potential impacts could worsen, requiring more intensive interventions (such as temporary closure of areas for revegetation).

CUMULATIVE IMPACTS UNDER ALTERNATIVE A—NO ACTION

The area-wide gate installation efforts would allow the NPS to regulate access to certain areas of LARO, potentially in response to the needs of resource conditions; however, this would occur more intermittently over time and not concurrently under a visitor use management plan. Gate installations would beneficially impact natural resources by focusing visitation seasonally in areas that are specifically managed and maintained for seasonal use.

ALTERNATIVE B—PREFERRED ALTERNATIVE—ENVIRONMENTAL CONSEQUENCES COMMON TO ALL SITES

Implementation of potential management strategies and supporting improvements under the proposed VUSMP would result in beneficial impacts to natural resources. Implementation would facilitate better protection and management of natural resources. New efforts to enhance visitor education and interpretation would result in beneficial impacts to natural resource conditions by informing visitors of the importance of protecting natural resources. Efforts to monitor resource conditions would include prioritizing resource documentation in high use areas, installing trail counters, continuing monitoring and patrolling, and consistent condition assessments with higher frequency of assessment in high use areas. These efforts would result in beneficial impacts to sensitive areas with high visitor use by allowing LARO to proactively respond to resource protection needs on an ongoing basis, based on data collection results.

Proposed management strategies under the VUSMP to address parking availability such as efforts to inform visitors of occupancy levels and on-site parking management strategies would improve resource conditions by reducing congestion and concentrated impacts related to visitor seeking overflow parking options. This would help to alleviate visitor-created overflow parking that encroaches into undeveloped areas and damages vegetation and soils. (There would be less trampling of vegetation and soils due to decreased intensity of visitor activities.)

Overall, implementing visitor capacities for key locations would have beneficial impacts on natural resources (vegetation, soils, shoreline conditions, and related habitat areas) by reducing the level of potential for adverse effects. Reducing the maximum number of visitors per campsite from ten to six would improve resource conditions by dispersing visitor use and reducing concentrated patterns of use and related potential impacts to natural resources resulting in beneficial impacts.

Improving vehicular circulation and parking across the nine priority sites would help reduce off-road and overflow parking and potential associated adverse impacts. For example, at Marcus Island, this would also be accomplished by delineating the RV campsites at Sturgeon Point to prevent further encroachment into the surrounding area. At Gifford, formalizing the visitor-created parking would help reduce potential impacts related to off-road parking. At Keller Ferry, off-road parking would be prevented by improving the campsites as well as installing edge treatments along the road.

Expanding existing facilities such as parking lots and adding new facilities such as campsites and trails in previously undeveloped areas could potentially have minor adverse impacts to natural resources through the removal of vegetation, disturbance and compaction of soils and expanding the

amount of impervious surface and related stormwater runoff. Measures to avoid, minimize, and/or mitigate impacts would be taken for all facility improvements and new facility development. Measures might include using erosion control best management practices during construction, salvaging native plant material prior to construction, designing vegetated islands in parking lots to infiltrate runoff, and providing runoff barriers to reduce contamination from petroleum products.

Another improvement for all areas would include replacing the existing irrigation systems with modern water-efficient irrigation systems. This improvement would reduce the overall demand for water use in the semi-arid region, reduce potential adverse impacts to tree roots, and improve the overall health of native and non-native vegetation in the area.

At Evans, Keller Ferry, and Porcupine Bay, the seawalls would be replaced with bioengineered shoreline stabilization methods. Removing the walls would improve habitat and vegetation by naturalizing the shoreline. Replacing the walls at Evans and Porcupine Bay where there are failing sections of concrete wall would also stop the addition of wall rubble to the shore.

At Gifford and Porcupine Bay, proposed improvements would include an intensive level of vegetation management to remove and replace damaged trees and diversify the tree canopy with more conifer species, where appropriate. This would improve the condition of the forested area impacted by pine beetles.

In boat launch areas, adding designated rigging and staging pull-off areas would improve visitors' ability to properly clean their boats and help prevent the spread of zebra mussels, reducing the potential for adverse impacts to wildlife and habitat. This improvement would also help to reduce off-road parking impacts discussed in the area-wide impacts of continuing current conditions. At Evans and Marcus Island, removing the motorized boat launches and adding non-motorized boat launches would help decrease the localized impacts to water quality associated with boat fuel and emissions in this vicinity (although two sites make up only a small amount of total boating activity on the reservoir).

As improvements are made at the nine sites, there could be the potential for temporary adverse impacts to natural resources due to construction activities. Impacts related to construction activities would be mitigated through a variety of mitigation measures and best management practices, as listed in Appendix D, such as construction staging in already developed areas, erosion and sedimentation control plans, rock lined construction entrances, and other elements.

CUMULATIVE IMPACTS UNDER ALTERNATIVE B—PREFERRED ALTERNATIVE

The area-wide gate installation efforts would allow the NPS to regulate access to certain areas of LARO and protect the condition of natural resources. Gate installations that are a part of the VUSMP would further these efforts and allow the NPS more flexibility in regulating access. Implementing the VUSMP would support concurrent, coordinated installation of gates. This would beneficially impact natural resources by focusing visitation seasonally in areas that are specifically managed and maintained for seasonal use.

SITE SPECIFIC AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES—NATURAL RESOURCES

The following describes site specific affected environment and potential environmental consequences related to natural resources and the impact topics of vegetation, soils, and shoreline conditions at the nine sites, in addition to the existing conditions and potential impacts common to all sites described above.

EVANS

Affected Environment—The vegetation at Evans mainly consists of a mixed conifer tree canopy with an open, low-grass understory and very few shrubs. There is a large, open, grass area next to the boat launch and small, open, grass areas next to the day use picnic shelter. The upper shoreline is mostly cobble and the lower shoreline consists of exposed soil when lake levels are low.

Environmental Consequences of Alternative A (No Action) at Evans—Continued use of the boat launch could potentially result in long-term adverse impacts because visitors attempt to use the launch when lake levels are too low and get their boats or vehicles stuck, causing disturbance and erosion of the lower shoreline areas and related habitat. Also, see “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Evans—The boat launch at Evans would potentially be removed or converted to a non-motorized ramp. These actions would result in beneficial impacts by preventing visitors from driving boats down to the water when lake levels are too low. The removal of the boat launch would also decrease the number of trailers in the parking lot during busy fishing seasons. This would help reduce potential adverse impacts to natural resources related to overflow parking that result when trucks and trailers park in undesignated areas off-pavement, adversely affecting vegetation and soils. As such Alternative B—Preferred Alternative implementation would result in beneficial impacts to natural resources at Evans related to this problem.

MARCUS ISLAND

Affected Environment—At the boat launch and day use area, the vegetation consists of dense deciduous trees and shrubs in the upland area and reed canary grass covering the upper shoreline. During periods of low lake levels, the exposed lakebed at the bottom of the boat launch is covered with various annuals. In the campground, the vegetation is a mixed conifer tree canopy with an understory of low to tall shrubs, grasses, and various herbaceous species. When lake levels recede, there are extended periods of low, stagnant water in the back-channel area of Marcus Island.

Environmental Consequences of Alternative A (No Action) at Marcus Island— See “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Marcus Island— Formalizing the RV campsites at Sturgeon Point would prevent further encroachment into the surrounding vegetated area resulting in beneficial impacts to natural resources. Proposed vegetation

management would include planting native plants to help uptake water and potentially mitigate areas where standing water may pool during wet times of the year. The proposed action would decrease durations of standing water and improve the conditions of native habitat.

KETTLE FALLS

Affected Environment—Vegetation at Kettle Falls consists of mixed conifer forest with an understory of shrubs, grasses, and other herbaceous species. Around the boat launch drive and parking lot, there are some small open grass areas. An old canal extends from the day use area to the boat launch area. As lake levels recede, there are areas of low, stagnant water left in the canal.

Environmental Consequences of Alternative A (No Action) at Kettle Falls— See “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Kettle Falls—In the short term, adding stop gates to the canal would improve water quality by drying out the canal and preventing periods of stagnant water. In the long term, filling in and restoring the area of the canal would increase native habitat and improve water quality. These actions would beneficially impact natural resources.

GIFFORD

Affected Environment—The forested area of Gifford is predominately a monoculture of ponderosa pine, which has been severely affected by pine beetles in this region. The understory consists of low to tall shrubs, grasses, and other herbaceous species. In the campground area, there is a lower percentage of shrubs in the understory.

Environmental Consequences of Alternative A (No Action) at Gifford— See “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Gifford— See “common to all” discussion for additional impacts analysis.

HUNTERS

Affected Environment—Vegetation at Hunters consists of mixed conifer forest with an understory of shrubs, grasses, and other herbaceous species. There are some small, open, grass areas next to the boat launch and the day use parking lot. The shoreline is a mix of grass, cobble, and exposed soil. When lake levels are low, a large area of the lakebed is exposed and, in the spring, can be partially covered by various annuals.

Environmental Consequences of Alternative A (No Action) at Hunters—With docking areas, many visitors tend to idle their boats around the launch. This kicks up silt, eroding the shoreline and increasing turbidity in the immediate vicinity, resulting in adverse impacts that require ongoing mitigation measures. Also see “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Hunters—The proposed new dock providing a 30-minute docking area would give boaters an alternative to idling their boats out in the water. This would help to reduce siltation from idling boats and the associated potential adverse impacts (see discussion of under the impacts of continuing current conditions). As such implementation of the VUSMP under Alternative B—Preferred Alternative would result in beneficial impacts to natural resources at Hunters.

FORT SPOKANE

Affected Environment—The forested area of Fort Spokane is made up of a mixed conifer canopy with an understory of shrubs, grasses, and other herbaceous species. In the day use area, the understory consists of mainly grasses with very few shrubs or other herbaceous species. The shrub community around the campground and boat launch is predominately antelope bitterbrush. There are large, open, grass areas in the day use area and smaller open areas at the group campsites.

Environmental Consequences of Alternative A (No Action) at Fort Spokane— See “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Fort Spokane—The existing amphitheater in the campground would be removed and the area would be revegetated and returned to a more natural condition, resulting in beneficial impacts to natural resources.

KELLER FERRY

Affected Environment—The day use and campground areas of the site are large areas of irrigated grass with a mostly deciduous tree canopy. There is a high level of invasive vegetation at this site. The upper shoreline is relatively flat and sandy.

Environmental Consequences of Alternative A (No Action) at Keller Ferry—Invasive vegetation is a more intensive issue in the Keller Ferry area. Invasive vegetation could potentially spread, adversely impacting native habitat and wildlife by outcompeting native plants and forming a monoculture, if not properly mitigated. Visitor-created overflow parking damages vegetation and disturbs soils and creates dust, also creating adverse impacts that require mitigation on an ongoing basis. Also, see “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Keller Ferry—All of the proposed improvements would result in beneficial impacts to natural resources at Keller Ferry. Proposed vegetation management to remove invasive species would improve the diversity of the native vegetation community and beneficially impact the habitat of the site. Parking and camping improvements would reduce camping congestion in the area. Parking would be better delineated to ensure that day use parking capacity is sufficient to serve visitor needs. These improvements would reduce visitor-created overflow parking reducing negative effects on vegetation and soils and therefore, beneficially impacting natural resources.

The existing amphitheater in the campground would be removed and the area would be revegetated and returned to a more natural condition, resulting in beneficial impacts to natural resources.

Installing edge treatments would enhance natural resources by preventing parking along the road, preserving the natural landscape.

SPRING CANYON

Affected Environment—The day use area, boat launch, and campground loops are large areas of irrigated grass with mostly deciduous trees. The rest of the site is a shrub-steppe plant community. The Spring Canyon site has a sandy shoreline with gradual slopes in the developed area.

Environmental Consequences of Alternative A (No Action) at Spring Canyon— See “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Spring Canyon—Spring Canyon—Removal of one comfort station would help limit redundancies and the impact of development and infrastructure on the visitor use and experience of the natural landscape, resulting in beneficial impacts to natural resources.

PORCUPINE BAY

Affected Environment—The forested area of Porcupine Bay is predominately a monoculture of ponderosa pine, which has been severely affected by pine beetles in this region. The understory in the developed area is mostly grass with few shrubs. The shrub community surrounding the developed areas is predominately antelope bitterbrush.

Environmental Consequences of Alternative A (No Action) at Porcupine Bay—See “common to all” discussion for additional impacts analysis.

Environmental Consequences of Alternative B (Preferred Alternative) at Porcupine Bay—See “common to all” discussion for additional impacts analysis.

CONCLUSIONS—NATURAL RESOURCES (VEGETATION, SOILS, AND SHORELINE CONDITIONS)

ALTERNATIVE A—NO ACTION

Overall, Alternative A would result in often reactive management activities and mitigation measures would be needed on an ongoing basis to address potential adverse impacts that may arise to natural resources as a result of increasing visitation and changing patterns of visitor use. If current levels of monitoring and documentation do not allow the NPS to respond accordingly to increasing levels of change in resource condition, natural resource impacts could become more severe over the long term, requiring additional levels of reactive mitigation measures, although intermittent minor beneficial impacts would be expected as a result of routine enforcement and facility maintenance.

Adverse impacts to vegetation, soils, and shoreline conditions would require increasing intensities of mitigation measures over time as a result of ongoing congestion and overflow of existing facilities during peak use. These impacts would likely get worse in the future as visitation increases, requiring additional mitigation over time.

ALTERNATIVE B—PREFERRED ALTERNATIVE

Under Alternative B—Preferred Alternative, implementation of the VUSMP management strategies and supporting facility improvements would allow the NPS to be more proactive in addressing potential impacts to natural resources. New efforts toward educating the public and monitoring and documenting resource conditions would help to prevent impacts as well as to identify potential impacts early to proactively avoid or mitigate adverse effects. Impacts from proposed facility improvements would be mainly beneficial as they would address issues associated with congestion and concentrated use. There would be localized adverse impacts from new facilities built in previously undeveloped areas; however, these impacts would be managed and mitigated to avoid and minimize significant adverse impacts to natural resources. All facility improvement and construction activities would include implementation of mitigation measures to avoid, minimize, and mitigate impacts to vegetation, soils, and shoreline conditions.

Refer to Appendix D for mitigation measures, monitoring actions, and best practices.



4

Consultation and Coordination

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan and Environmental Assessment

CHAPTER 4: CONSULTATION AND COORDINATION

Consultation and Coordination with Other Agencies, Offices, and Tribes

U.S. Fish and Wildlife Service (USFWS)

The NPS consults with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act (1973). The project team confirmed the most recent project area species list for the nine priority sites. It is not anticipated that implementation of either alternative would result in effects on any species listed or proposed as rare, threatened, or endangered, so no additional consultation with the USFWS is necessary at this time. If proposed improvements studied in this VUSMP and EA move forward into design and construction, at that time, project-level consultation with the USFWS and other regulatory agencies would be completed.

American Indian Tribes

Lake Roosevelt National Recreation Area is consulting with American Indian tribes having cultural affiliation with areas encompassed within or in proximity to the nine priority sites analyzed in this VUSMP/EA, including the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians. The NPS is consulting with these tribes during the planning process and ongoing consultation with the tribes is continuing through review of this draft VUSMP/EA. If proposed improvements under the VUSMP move forward into design and construction, at that time, project-level consultation with the tribes would be completed.

State Historic Preservation Officer (SHPO)

Lake Roosevelt National Recreation Area consults with the State Historic Preservation Officer during projects that have the potential to affect historic properties. Based on current analysis, there would be no historic properties affected by the implementation of either alternative. If analysis later reveals that historic properties could or would be affected, additional consultation with the SHPO would occur, including seeking concurrence with the SHPO on a no historic properties affected determination, if applicable.

Public Review of this Environmental Assessment and Project Updates

This Draft VUSMP/EA is available for a thirty (30) day public review and comment period, which begins the date of publishing of the Draft VUSMP/EA, May 1, 2020. The comment period will close at midnight (Pacific Time Zone) on May 31, 2020.

The availability of the EA is being announced via press releases and notifications and the EA is being mailed or emailed to the list of persons and agencies that have expressed interest in Lake Roosevelt proposed actions and events. An electronic copy of the VUSMP/EA is available on-line at <http://www.nps.gov/laro> and on the NPS Planning, Environment, and Public Comment (PEPC) website at: <https://parkplanning.nps.gov/projectHome.cfm?projectID=83398>.

Comments on the EA should either be submitted to the PEPC website above or to:

Superintendent, Lake Roosevelt National Recreation Area
1008 Crest Drive, Coulee Dam, Washington 99116-1259
(509) 633-9441
www.nps.gov/laro or www.parkplanning.nps.gov/laro

Comments will be documented and analyzed at the close of the public review period. If no significant impacts from the proposed action are identified, the EA will then be used to prepare a Finding of No Significant Impact (FONSI), which will be sent to the NPS Regional Director for consideration. During the public review period, additional consultation will occur with agencies and tribes as noted above.

For more information concerning this Draft VUSMP/EA or to make a request for a copy (please specify CD or printed copy), please contact the Jon Edwards at jon_edwards@nps.gov. Refer to the cover letter included at the front of this Draft VUSMP/EA for information about online public meetings that will be held during the comment period.

Consultation List

The following people and agencies were consulted during the preparation of this VUSMP/EA.

Lake Roosevelt National Recreation Area—Staff throughout the NRA
1008 Crest Drive, Coulee Dam, Washington 99116-1259

- Dan A. Foster, Superintendent
- Jon Edwards, Chief of Integrated Resource Management
- Ron Sacchi, Supervisory Facility Manager
- Craig Brouwer, Chief Ranger
- Janet Valen, Administrative Officer
- Denise Bausch, Chief of Interpretation and Education
- Bryan McCanna, North District Facility Supervisor
- Cory Wagner, Central District Facility Supervisor
- Matt Hendrickson, South District Facility Supervisor

National Park Service, Denver Service Center

12795 West Alameda Parkway, Lakewood, Colorado 80228-2838

- Devon Beekler, Landscape Architect and Project Specialist
- Sarah Bodo, Former Project Manager/Community Planner
- Kerri Cahill, Branch Chief
- Greg Cody, Cultural Resources/Section 106/NEPA
- Morgan Elmer, NEPA Technical Specialist
- Brian J. Frailey, Project Manager and Contracting Officer's Representative
- Steven B. DeGrush, Natural Resource Specialist
- Chris Osgood, Construction Manager/Estimator
- Emily Tristant, Visitor Use Management Specialist
- Rose I. Verbos, Ph.D., Visitor Use Management Specialist and Project Manager
- Monica Vigil, Socioeconomist and Visitor Use Specialist
- Steve Whissen, Cultural Resource Specialist

National Park Service, Region 9, Columbia—Pacific Northwest
1111 Jackson Street, Suite 700, Oakland, California 94607-4816

- Karen Cantwell, Environmental Protection Specialist
- Amanda Kaplan, Former Park Planning & Environmental Compliance Specialist

Otak, Inc.
11241 Willows Rd #200
REDMOND, WA 98052

- Mandi Roberts, Principal
- Keith Bates, Landscape Architect; Conceptual Design
- Lindsay Martin, Planning and GIS; Conceptual Design
- Danah Palik, Planning and GIS; Conceptual Design
- Kevin Kraxberger, PE, Conceptual Design

Confederated Tribes of the Colville Reservation
PO Box 150, Nespelem, Washington 99155-0150

- Rodney Cawston, Chairman

Spokane Tribe of the Spokane Reservation
PO Box 100, Wellpinit, Washington 99040-0100

- Carole Evans, Chairperson

U.S. Bureau of Reclamation
Grand Coulee Power Office
PO Box 620, Grand Coulee, Washington 99133-0620

- Coleman Smith, Power Manager

Grant County Commission
PO Box 37, Ephrata, Washington 98823

Ferry County Commission
290 East Tessie Avenue, Republic, Washington 99166

Lincoln County Commission
450 Logan St, Davenport, Washington 99122

Stevens County Commission
215 South Oak Street, Colville, Washington 99114

Distribution List

The following agencies, tribes, and organizations will be sent a notice of the availability of the VUSMP/EA in addition to the general public to announce the formal public review process. Public distribution and notification will occur through websites, press releases, electronic and hard copies, and letters. Open house meetings will be held during the public review period, as noted in the cover letter. The complete Draft VUSMP/EA is available on the NPS Planning, Environment, and Public Comment (PEPC) website at

<https://parkplanning.nps.gov/projectHome.cfm?projectID=83398>. The distribution list for the VUSMP/EA includes the following.

United States Congressional Members

Senator Maria Cantwell
Senator Patty Murry
Representative Cathy McMorris Rodgers
Representative Dan Newhouse

Federal Agencies

National Park Service
Bureau of Reclamation
Bureau of Land Management
U.S.D.A. Forest Service
Natural Resource Conservation Service
Bureau of Indian Affairs
Fish and Wildlife Service
Environmental Protection Agency
Bonneville Power Administration
Army Corps of Engineers

Indian Nations

Confederated Tribes of the Colville Reservation
The Spokane Tribe of Indians, the Spokane Reservation

State of Washington

Legislative Representatives
 Senator Shelly Short
 Senator Judy Warnick
 Representative Jacquelin Maycumber
 Representative Joel Kretz
 Representative Tom Dent
 Representative Alex Ybarra
Department of Agriculture
Department of Commerce
Department of Ecology
Department of Fish and Wildlife
Department of Natural Resources
Department of Archaeology and Historic Preservation

Counties

Ferry County
Grant County
Lincoln County
Okanogan County
Stevens County

Cities/Chambers of Commerce

Colville
Davenport
Electric City
Grand Coulee
Kettle Falls
Spokane
Town of Coulee Dam

Organizations and Educational Institutions

National Parks and Conservation Association
North Cascades Conservation Council
Northwest Ecosystem Alliance
Sierra Club
Tri-County Health
Washington Environmental Council
Washington State Cattlemen's Association
Washington State University Extension (Lincoln and Ferry County Offices)

Civic Engagement Prior to Publishing the Draft VUSMP/EA

The NPS facilitated a civic engagement process in Fall 2018 to share possible ideas and concepts with the public and stakeholders and to gather comments on these. Information was shared via a newsletter and in four public meetings held throughout the region. Information also was posted on the NPS Planning, Environment, and Public Comment (PEPC) System. This early engagement process served as informal scoping to inform the development of the Visitor Use Site Management Plan and Environmental Assessment. A summary of these meetings and the public comments received is provided below.

Newsletter

The project team developed a newsletter and information displays that were posted on PEPC and displayed at the public meetings. The newsletter provided a summary of potential management strategies being considered and the need for these strategies. It also provided an overview of desired conditions and planning goals and presented example concepts being considered for some of the priority sites. The displays provided similar information, but also included example concepts for all nine of the sites, as well as potential templates for enhancing campsite areas. The newsletter and displays are available for viewing as appendices to this summary.

Public Meetings

Public meetings were held October 17 and 18, 2018 in the following locations:

- Spokane: October 17, 2018, St. Luke's Rehabilitation Institute LL 1&2, 711 S. Cowley Street, 6:30 pm to 7:30
- Davenport: October 17, 2018, Memorial Hall, 511 Park Street, 6:30 pm to 7:30 pm
- Colville: October 18, 2018, Spokane Community College, Colville Room 132, 985 S Elm Street, 6:30 pm to 7:30 pm
- Grand Coulee: October 18, 2018, Coulee Dam City Hall Ballroom, 300 Lincoln Avenue, 6:30 pm to 7:30 pm

NPS Planning, Environment, and Public Comment (PEPC) System

The engagement materials were posted on the PEPC system site in September 2018, and the public was invited to comment. Four correspondences were received related to the general information posted about the project and two correspondences were received related to preliminary concepts posted. No correspondences were received related to the newsletter. Comments received through PEPC are presented below.

Public Comments Received During 2018 Engagement Efforts

Several public comments were received that were considered in the development of the Visitor Use Site Management Plan and Environmental Assessment, including comments related to improving circulation, expanding the variety of camping facilities, providing larger spaces for RVs, and improving parking areas. Two comments were received regarding the preliminary ideas presented in the newsletter and provided on PEPC for review:

- Concerning the Marcus Island improvement concept: I see that the boat launch would be removed and replaced with a non-motorized launch. As a Marcus residents and boaters who use that launch several times a year, we would really like the launch to remain. Throughout the boating season I know that there are many other boaters who use this launch as well and would be disappointed to see it go. As for the for the swim dock, maybe that could be removed and a separate non-motorized launch put in its place?
- Concerning the Gifford & Hunters area improvement concepts: We launch our boat frequently at these two launches and on weekends we often have difficulty finding a parking spot that can accommodate our truck and trailer. This is usually due to vehicles with no boat trailer, parking in spots designed for tow vehicle & trailer parking. Maybe the possibility of expanding parking to accommodate vehicles without trailers could be explored. Also, parking spaces designed for tow vehicles with trailers could be posted with signs designating them as such.
- Concerning Spring Canyon: Why don't they have a concession stand at Spring Canyon?" Years ago, I remember there being one and it was extensively used. Tourists and locals would definitely make good use of a place to buy some drinks and snacks. It would also create some summertime enjoyment for some of our young people and if managed right someone could profit from the proceeds. It would be a real treat for young people and adults to be able to have access to ice cream and cool drinks on a hot day at the beach. It appears that the facility is there but not being used to its full potential.
- General Comment: There are not enough dump stations for RVs or boats and more sites with full hook-ups for RVs and boats are needed.
- General Comment: More boat docks for day use and overnight use are needed and more camping areas with day use docks should be provided.
- General Comment: More needs to be done to manage mosquitos.

Proposed VUSMP Management Strategies and Supporting Improvements Related to Public Comments

The VUSMP/EA analyzes a range of management strategies and supporting improvements that address key issues and comments submitted by the public as part of the civic engagement activities and pertinent to the nine priority sites. Management strategies and supporting improvements proposed as part of Alternative B—Preferred Alternative are described in Chapter 2: Alternatives and analyzed in Chapter 3: Affected Environment and Environmental Consequences. Conceptual illustrations of the management strategies and supporting improvements are presented in Appendix A.



5

References and Resources

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan and Environmental Assessment

CHAPTER 5: REFERENCES

Interagency Visitor Use Management Council

- 2016 Visitor Use Management Framework: A Guide to Providing Sustainable Outdoor Recreation. Edition One. <https://visitorusemanagement.nps.gov/VUM/Framework>.

National Park Service

- 1979 Coulee Dam National Recreation Area/Washington, Environmental Assessment for the General Management Plan.
- 1990 Lake Roosevelt Special Use Management Plan.
- 1998 Spring Canyon Campground Vicinity Construction Drawing.
- 2000 General Management Plan, Lake Roosevelt National Recreation Area.
- 2002 Procedural Manual 77-2 National Park Service, Floodplain Management.
- 2006 National Park Service Management Policies.
- 2009 Lake Roosevelt National Recreation Area Shoreline Management Plan Environmental Assessment.
- 2010 Lake Roosevelt Hazard Tree Management Plan.
- 2011 Lake Roosevelt National Recreation Area Vacation Cabin Environmental Assessment.
- 2011 National Park Service Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-Making.
- 2012 Lake Roosevelt National Recreation Area Visitor Use Improvements Newsletter.
- 2013 Kettle Falls and Fort Spokane Boat Launch Development Concept Plan/Environmental Assessment.
- 2015 Lake Roosevelt National Recreation Area Foundation Document.
- 2015 Lake Roosevelt National Recreation Area Fire Management Plan.
- 2015 National Park Service NEPA Handbook.

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| 2017 | Lake Roosevelt National Recreation Area Visitor Use Study: Summer 2016. Le, Y. and Strawn, M., Washington State University, Social and Economic Sciences Research Center, Pullman, WA. |
| 2017 | Lake Roosevelt National Recreation Area, Foundation Document Overview. |
| 2017 | Lake Roosevelt National Recreation Area, Outcomes of Pre-Planning Discussions. |
| 2017 | Statistical Abstract of Public Use Statistics, Ziesler, accessed via:
https://irma.nps.gov/DataStore/Reference/Profile/2239338 . |
| 2018 | Accessibility Self-Evaluation and Transition Plan, Lake Roosevelt National Recreation Area. |
| 2018-2019 | Planning, Environment, and Public Comment (PEPC) website, where public comments were collected on civic engagement held in Fall 2018:
https://parkplanning.nps.gov/projectHome.cfm?projectID=83398 . |
| 2020 | Lake Roosevelt National Recreation Area, campgrounds information and campsites quantities supplied by LARO staff. |
| 2020 | Interior Regions 8, 9, 10, and 12 Directive SF-083, Regional National Environmental Policy Act (NEPA) Compliance Procedures. |
| 2020 | NPS Stats: National Park Service Visitor Use Statistics.
https://irma.nps.gov/Stats/Reports/Park/LARO . Accessed March 5, 2020. |
| Not Dated | Design Concept Plan for Proposed Boat Moorage at Kettle Falls. |

U.S. Environmental Protection Agency

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| 1990 | United States Clean Air Act, U.S. Code Title 42, Chapter 85, as amended. |
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U.S. Fish and Wildlife Department

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| 2020 | National Wetlands Inventory Program. https://www.fws.gov/wetlands/ . Accessed January 20, 2020. |
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Washington State Department of Archaeology and Historic Preservation

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| 2019 | Accessed publicly available information about historic resources in the planning area, accessed July 2019. |
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Washington State Department of Fish and Wildlife

- 2019 Priority Habitats and Species Reports for the nine sites studied: Evans, Marcus Island, Kettle Falls, Gifford, Hunters, Fort Spokane, Keller Ferry, Spring Canyon, and Porcupine Bay.
- 2019 State Listed Endangered, Threatened, Sensitive, and Candidate fish and wildlife species list, revised June 2019.

Washington State Department of Natural Resources

- 2018 Washington Vascular Plant Species of Special Concern, Washington Natural Heritage Program.



APPENDIX

Lake Roosevelt National Recreation Area

DRAFT Visitor Use Site Management Plan and Environmental Assessment

APPENDIX A: CONCEPTUAL SITE PLANS AND ILLUSTRATIONS

**DEPICTING PROPOSED IMPROVEMENTS
UNDER ALTERNATIVE B—PREFERRED ALTERNATIVE**



EVANS
SITE 1

ACTIONS COMMON
TO ALL SITES

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CI) Close areas for winter season
- (CK) Implement vegetation management
- (CL) Install water efficient irrigation
- (CN) Remove swim dock
- (CQ) Provide rigging and staging locations

PROPOSED ACTIONS
FOR THIS SITE

- (A) Add boat parking stalls to the day use parking lot
- (B) Stabilize shoreline by using bio-engineering methods to replace the failing seawall
- (C) Add boat tie-ups along the shoreline
- (D) Repurpose boat launch by replacing with non-motorized boat launch and restoring to natural conditions
- (E) Add seasonal, self-contained large RV campsites to day use parking lot





LEGEND

- RV Area
- Walk-In Campsites
- Mixed-Use Area
- Improvement
- Removal

MARCUS ISLAND
SITE 2

ACTIONS COMMON
TO ALL SITES

- CA Make accessibility improvements
- CB Put in RV length spots
- CC Delineate campsites
- CD Create space for tents
- CE Clarify pedestrian circulation
- CF Improve vehicular circulation
- CH Move or add vehicle counters
- CI Close areas for winter season
- CK Implement vegetation management
- CN Remove swim dock

PROPOSED ACTIONS
FOR THIS SITE

- A Replace boat launch with non-motorized boat launch
- B Add walk-in campsites
- C Formalize self-contained RV campsites at "Sturgeon Point"
- D Designate beach access area for non-motorized boating only





KETTLE FALLS
SITE 3

ACTIONS COMMON
TO ALL SITES

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CK) Implement vegetation management
- (CL) Install water efficient irrigation
- (CP) Automate skid docks
- (CQ) Provide rigging and staging locations

PROPOSED ACTIONS
FOR THIS SITE

- (A) Divide and relocate group campsites
- (B) Add stop gates to the canal and fill in the canal with soil over time
- (C) Update circulation to establish a one-way road to boat launch
- (D) Develop deep water boat launch to 1220 - 1218 foot elevation
- (E) Upgrade fish cleaning station





LEGEND

- Group Campsites
- Improvement

KETTLE FALLS
SITE 3

ACTIONS COMMON
TO ALL SITES

- CA Make accessibility improvements
- CC Delineate campsites
- CD Create space for tents
- CE Clarify pedestrian circulation
- CH Move or add vehicle counters
- CK Implement vegetation management
- CL Install water efficient irrigation

PROPOSED ACTIONS
FOR THIS SITE

- A Divide and relocate group campsites
- B Add stop gates to the canal and fill in the canal with soil over time



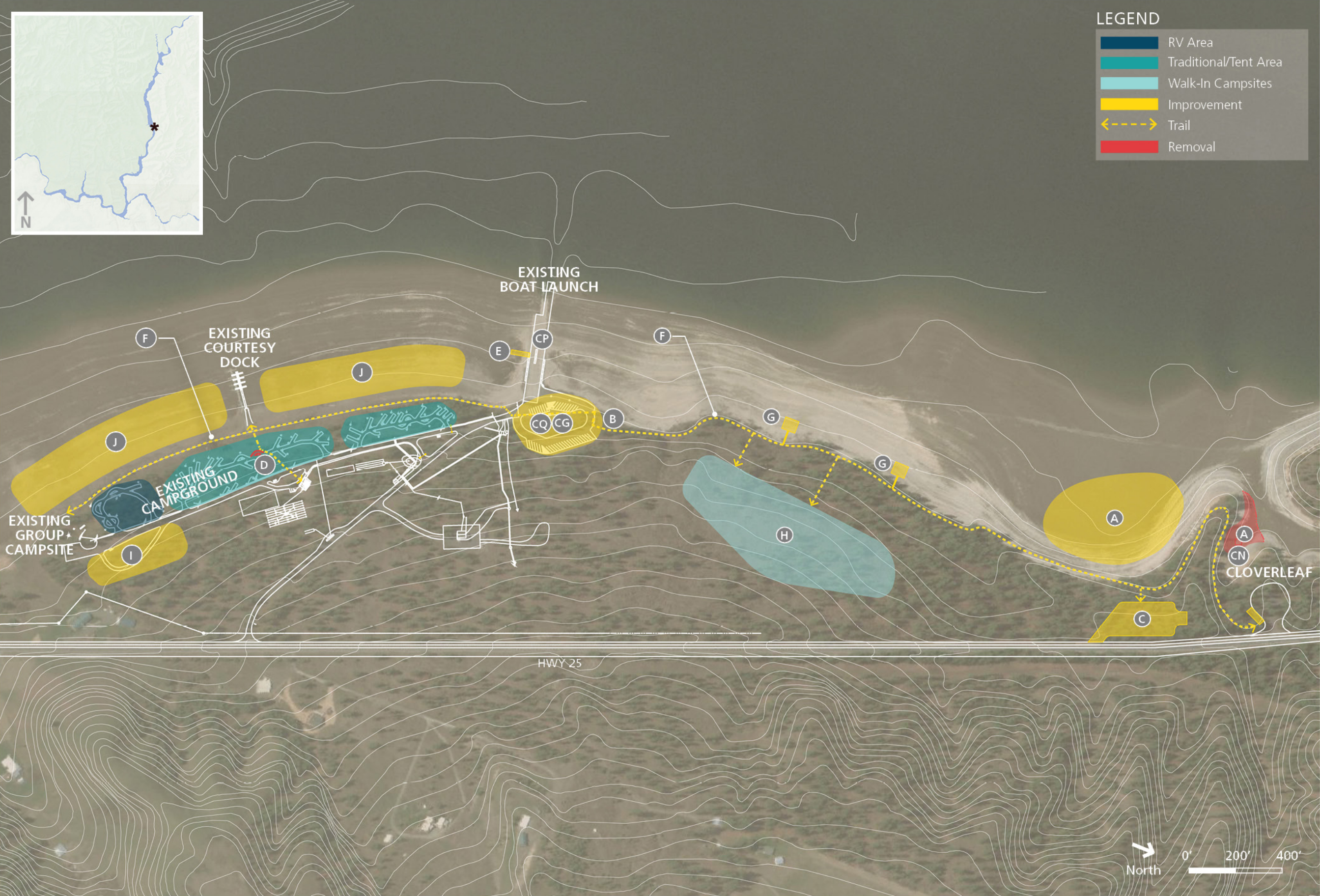
KETTLE FALLS
SITE 3

ACTIONS COMMON
TO ALL SITES

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CK) Implement vegetation management
- (CP) Automate skid docks
- (CQ) Provide rigging and staging locations

PROPOSED ACTIONS
FOR THIS SITE

- (C) Update circulation to establish a one-way road to boat launch
- (D) Develop deep water boat launch to 1220 - 1218 foot elevation
- (E) Upgrade fish cleaning station



GIFFORD
SITE 4

**ACTIONS COMMON
TO ALL SITES**

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CK) Implement vegetation management
- (CL) Install water efficient irrigation
- (CM) Remove amphitheater
- (CN) Remove swim dock
- (CP) Automate skid docks
- (CQ) Provide rigging and staging locations

**PROPOSED ACTIONS
FOR THIS SITE**

- (A) Remove beach access designation from Cloverleaf; designate beach access with wave dissipators along the shoreline trail
- (B) Extend parking lot at boat launch to serve as trailhead parking and for campground overflow parking
- (C) Formalize visitor created parking lot
- (D) Convert campsite into a pull off for loading/unloading gear to/from the courtesy dock; in addition, create a pedestrian path to the restroom
- (E) Add government dock
- (F) Add accessible shoreline trail
- (G) Add accessible lake overlooks along shoreline trail
- (H) Add walk-in campsites along the trail to Cloverleaf
- (I) Add a trailer parking area
- (J) Add boat tie-ups along the shoreline



HUNTERS
SITE 5

**ACTIONS COMMON
TO ALL SITES**

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CI) Close areas for winter season
- (CJ) Gate group sites
- (CL) Install water efficient irrigation
- (CN) Remove swim dock
- (CO) Relocate fish cleaning station
- (CP) Automate skid docks
- (CQ) Provide rigging and staging locations

**PROPOSED ACTIONS
FOR THIS SITE**

- (A) Create trail to/from courtesy dock by removing one campsite
- (B) Add seasonal, self-contained large RV campsites in overflow parking lot
- (C) Add floating dock to the existing boat launch docks to provide a 30 minute docking area
- (D) Create trail from day use parking lot to beach access and courtesy dock
- (E) Add walk-in campsites with parking near existing campground



FORT SPOKANE
SITE 6

ACTIONS COMMON
TO ALL SITES

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CI) Gate group sites
- (CK) Implement vegetation management
- (CL) Install water efficient irrigation
- (CM) Remove amphitheater
- (CN) Remove swim dock
- (CP) Automated skid docks
- (CQ) Provide rigging and staging locations

PROPOSED ACTIONS
FOR THIS SITE

- (A) Convert both group campsites to day use area
- (B) Formalize trail to main day use area; add accessible overlooks along trail
- (C) Create trail from Fort Spokane to Porcupine Bay with trailhead parking
- (D) Add an additional lane to the boat launch
- (E) Add walk-in campsites
- (F) Create three group campsites
- (G) Add seasonal, self-contained large RV campsites in overflow parking lot





**KELLER FERRY
SITE 7**

**ACTIONS COMMON
TO ALL SITES**

- CA Make accessibility improvements
- CB Put in RV length spots
- CC Delineate campsites
- CD Create space for tents
- CE Clarify pedestrian circulation
- CF Improve vehicular circulation
- CG Improve parking
- CH Move or add vehicle counters
- CI Close areas for winter season
- CK Implement vegetation management
- CL Install water efficient irrigation
- CM Remove amphitheater
- CN Remove swim dock
- CQ Provide rigging and staging locations

**PROPOSED ACTIONS
FOR THIS SITE**

- A Add new campground loop with RV double stall and trailer parking
- B Stabilize shoreline by using bio-engineering methods to replace the deteriorating gabion baskets
- C Add walk-in campsites and parking
- D Improve circulation with parking lot turn around; maintain walk-in campsites on north side of lot and convert campsites on south side of lot to day use parking stalls



KELLER FERRY
SITE 7

ACTIONS COMMON
TO ALL SITES

- CA Make accessibility improvements
- CC Delineate campsites
- CG Improve parking
- CH Move or add vehicle counters
- CJ Gate group campsites
- CK Implement vegetation management

PROPOSED ACTIONS
FOR THIS SITE

- E Edge treatment along road to preserve natural landscape
- F Formalize parking for day use area





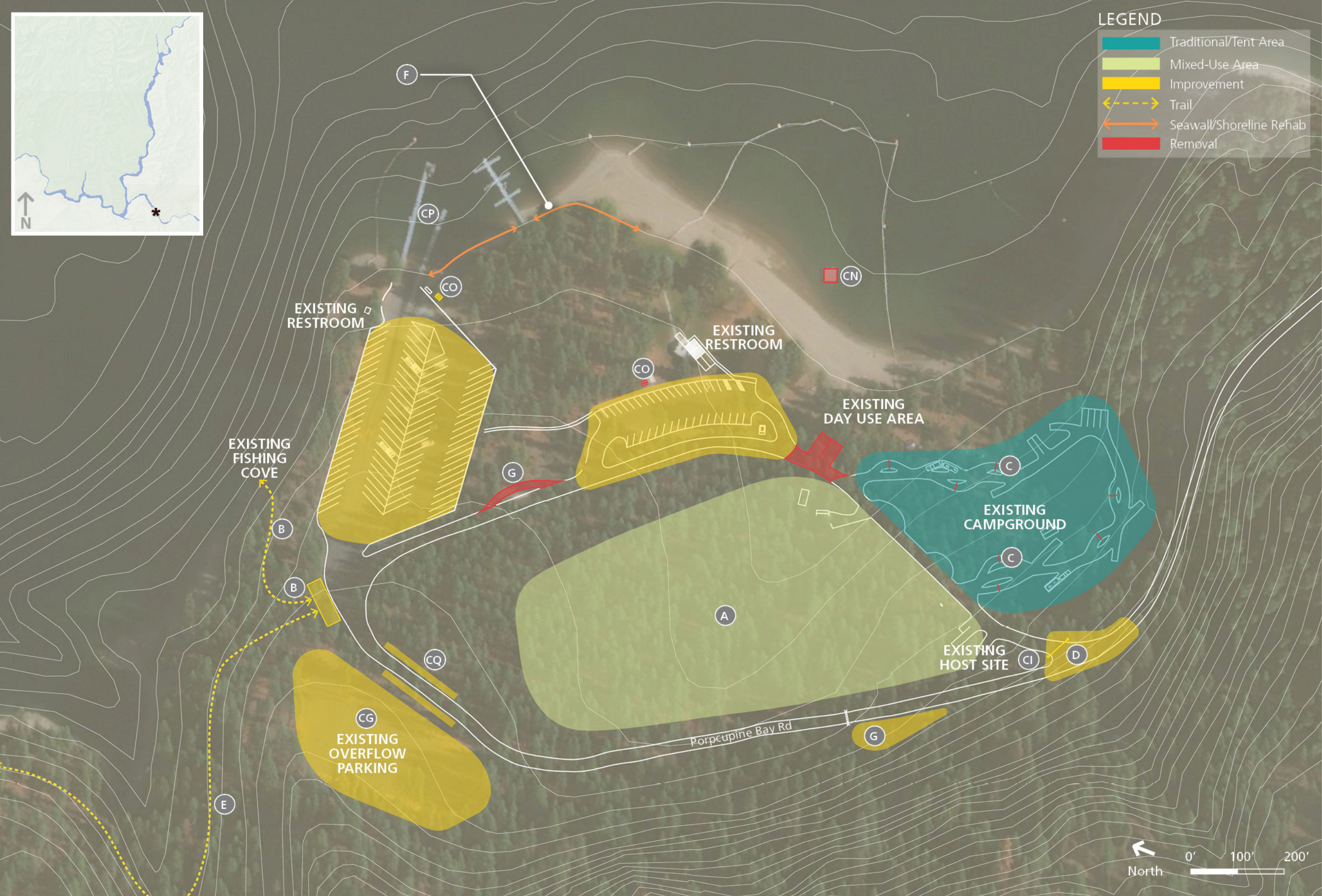
SPRING CANYON
SITE 8

**ACTIONS COMMON
TO ALL SITES**

- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CI) Close areas for winter season
- (CK) Implement vegetation management
- (CL) Install water efficient irrigation
- (CN) Remove swim doc
- (CO) Relocate fish cleaning station
- (CP) Automate skid dock
- (CQ) Provide rigging and staging locations

**PROPOSED ACTIONS
FOR THIS SITE**

- (A) Create multi-use trail from upper campground to day use areas
- (B) Remove canopy shades/shelters at existing campsites
- (C) Remove one comfort station at upper loop
- (D) Add an RV campground loop
- (E) Reduce the number of campsites in the lower loop
- (F) Convert group campsite to host site
- (G) Add group campsite to the area above the day use area
- (H) Repurpose the concession building; potential plaza space for food trucks
- (I) Add non-motorized boat launch adjacent to the existing boat launch
- (J) Create two-way loop to improve circulation at boat launch
- (K) Add NPS admin use only parking
- (L) Create accessible trail to shore with accessible picnic areas



PORCUPINE BAY
SITE 9

**ACTIONS COMMON
TO ALL SITES**

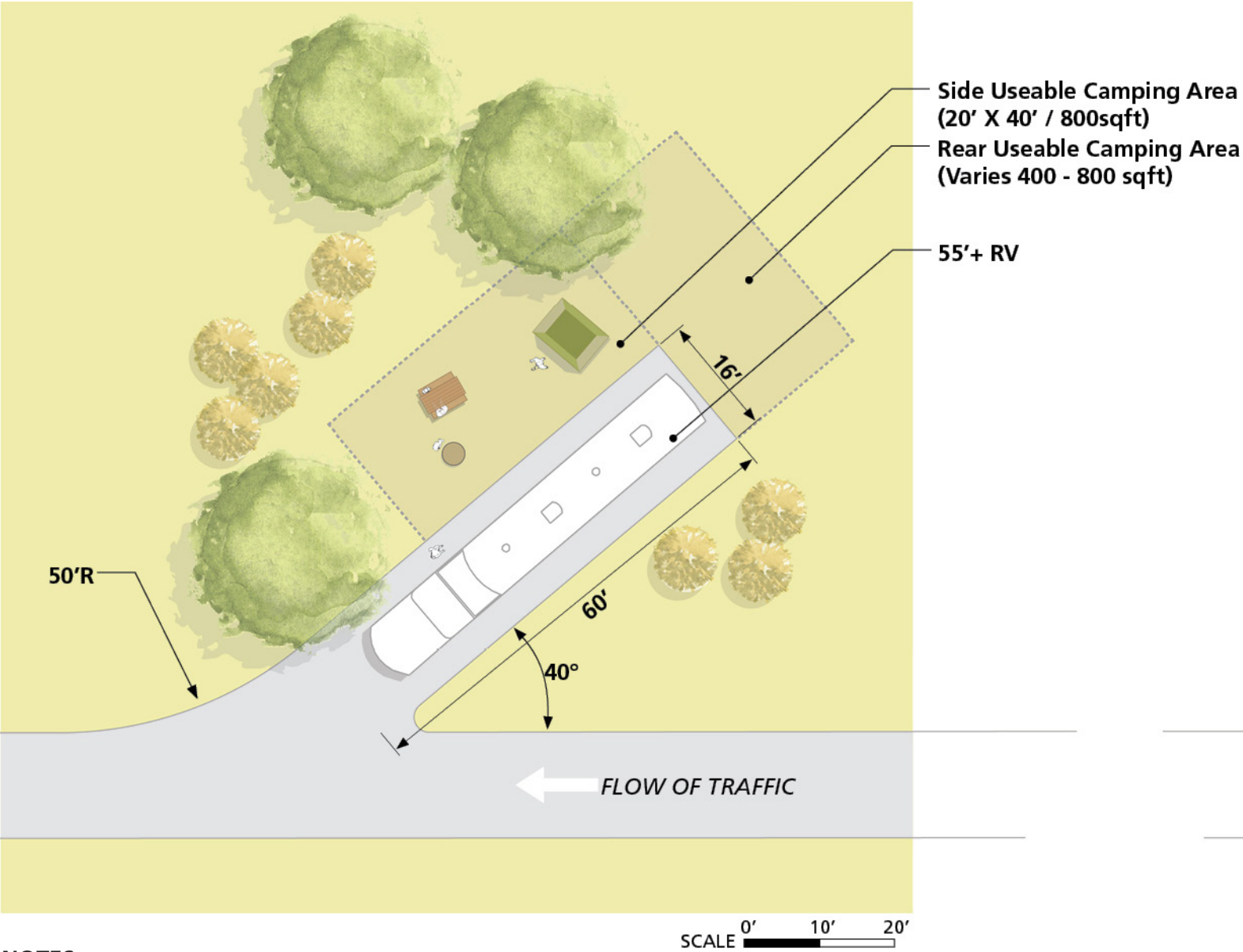
- (CA) Make accessibility improvements
- (CB) Put in RV length spots
- (CC) Delineate campsites
- (CD) Create space for tents
- (CE) Clarify pedestrian circulation
- (CF) Improve vehicular circulation
- (CG) Improve parking
- (CH) Move or add vehicle counters
- (CI) Close areas for winter season
- (CK) Implement vegetation management
- (CN) Remove swim dock
- (CO) Relocate fish cleaning station
- (CP) Automate skid dock
- (CQ) Provide rigging and staging locations

**PROPOSED ACTIONS
FOR THIS SITE**

- (A) Connect new campground loop, with RV and tent campsites, to existing campground loop and revise to one-way traffic flow
- (B) Add new trailhead and trail to fishing cove
- (C) Remove curbs splitting campsites in existing loop
- (D) Move entrance gate to allow for turn around
- (E) Create trail to Fort Spokane to provide backpacking opportunity
- (F) Stabilize the shoreline by using bio-engineering methods to replace deteriorating gabion baskets
- (G) Relocate dump station to Porcupine Bay Road

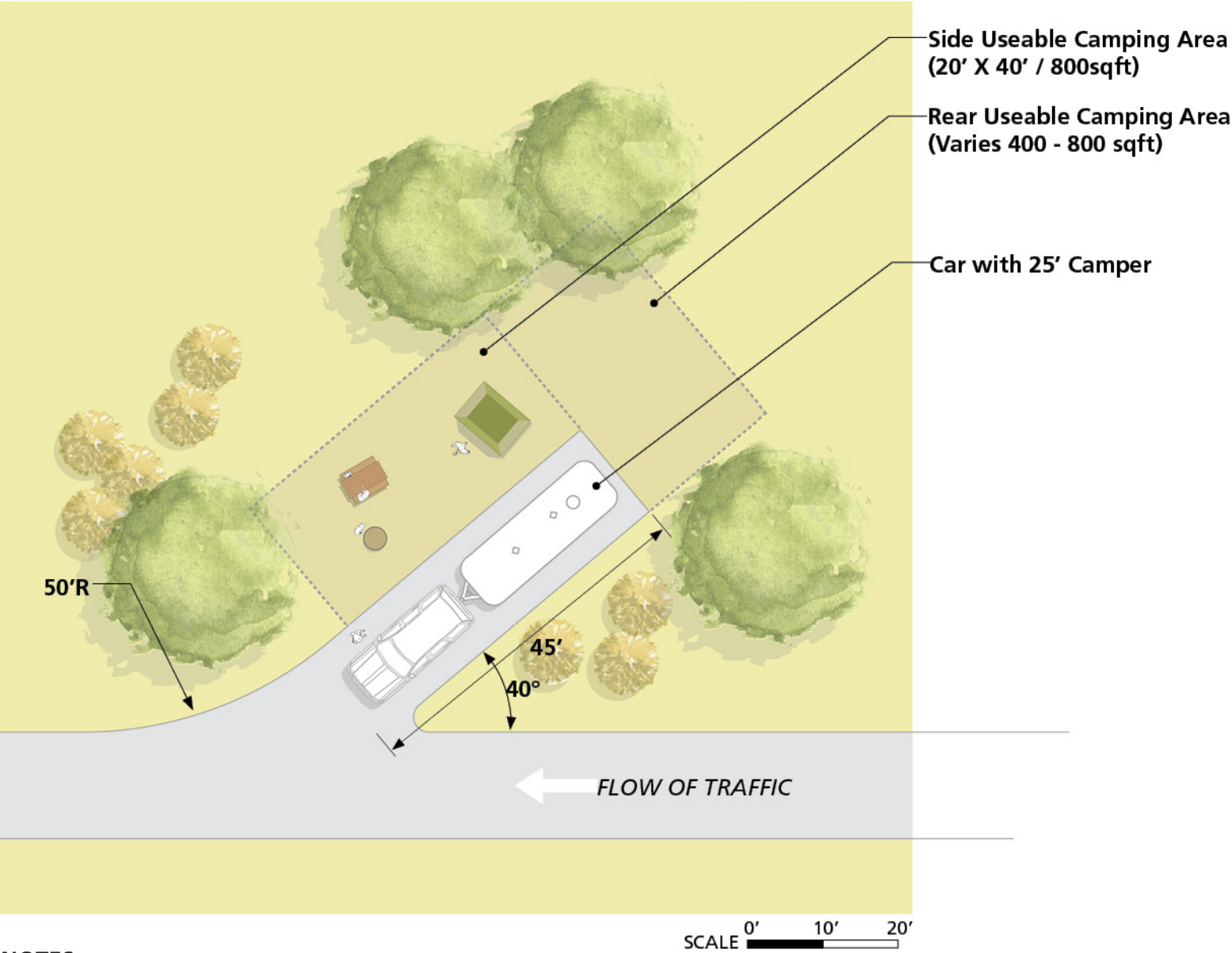


LARGE RV CAMPSITE



- NOTES
- The type of usable camping area present at the site will change from site to site due to differing site conditions
 - Campsites may be located on either side of a one-way road
 - Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
 - Present in RV Areas and Mixed-Use Areas

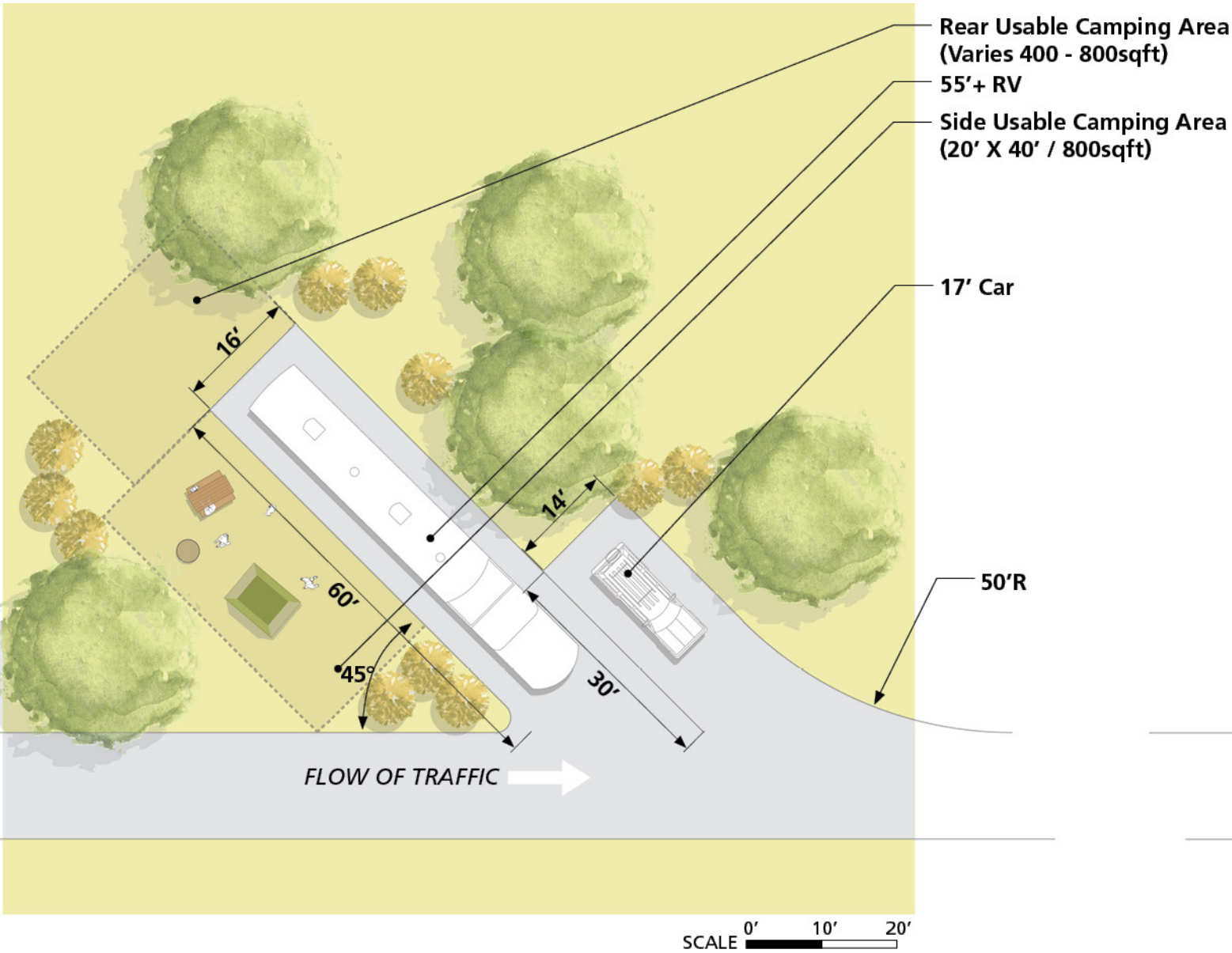
MEDIUM-SMALL TRADITIONAL/TENT CAMPSITE



- NOTES
- The type of useable camping area present at the site will change from site to site due to differing site conditions
 - Campsites may be located on either side of a one-way road
 - Campsites located on the left hand side of the road within a loop will more likely have a rear useable camping area due to space constraints
 - Present in Traditional/Tent Areas and Mixed-Use Areas

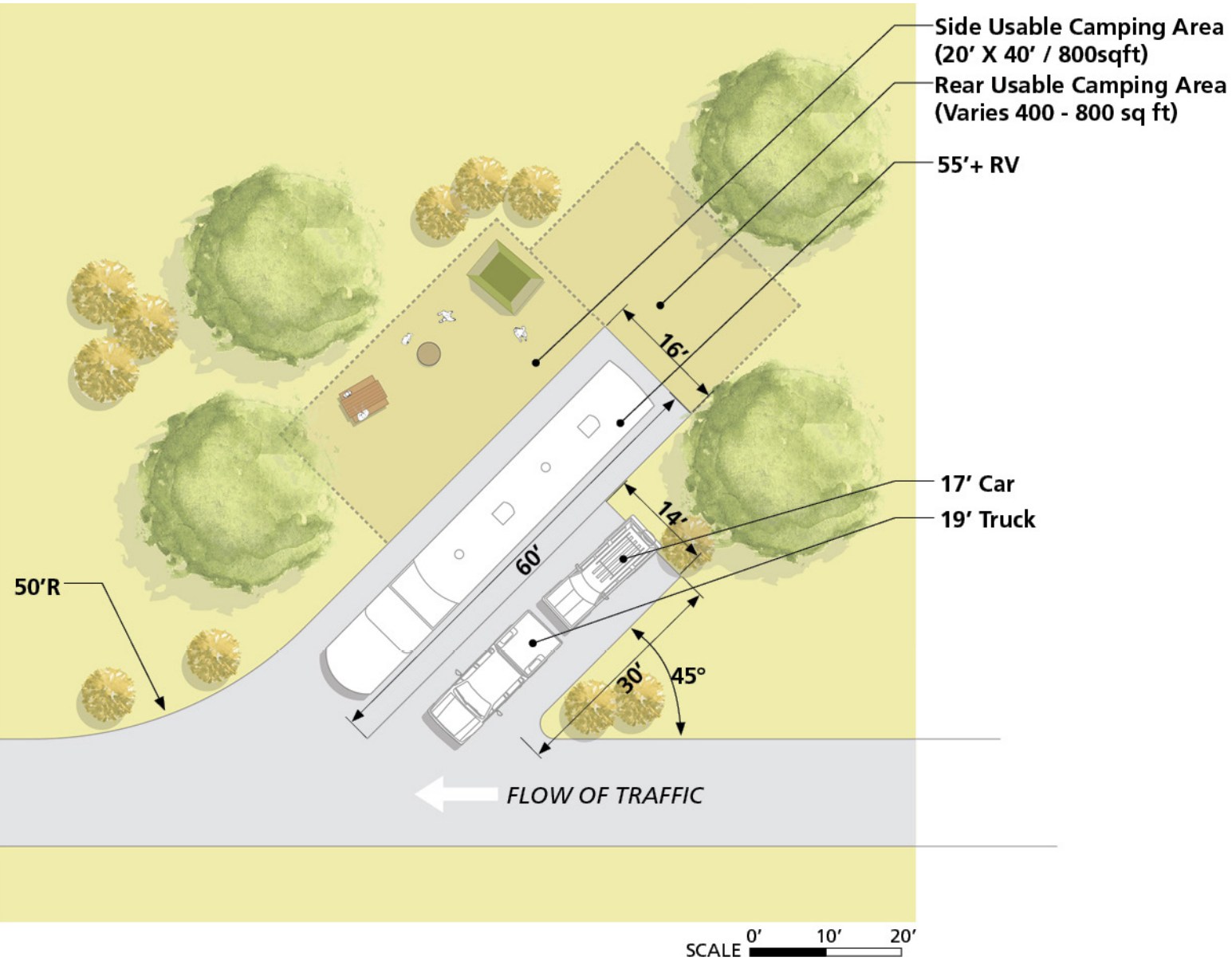


LARGE RV DOUBLE CAMPSITE (LEFT)



- NOTES
- The type of usable camping area present at the site will change from site to site due to differing site conditions
 - Campsites may be located on either side of a one-way road
 - Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
 - Double campsites will always have the 60' stall passenger's side located on the exterior of the two stalls for ease of access to the usable camping area
 - Present in RV Areas and Mixed-Use Areas

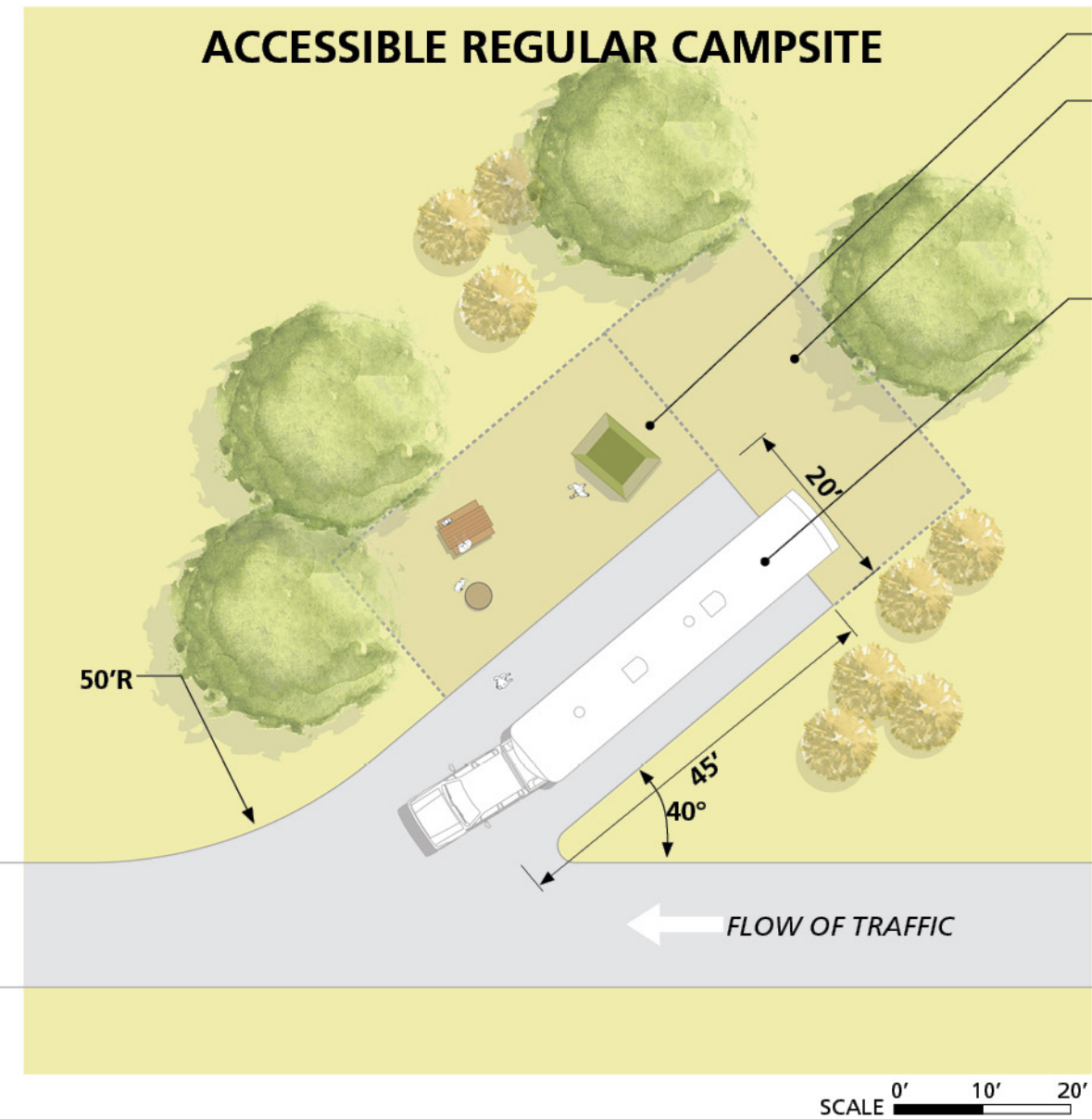
LARGE RV DOUBLE CAMPSITE (RIGHT)



- NOTES
- The type of usable camping area present at the site will change from site to site due to differing site conditions
 - Campsites may be located on either side of a one-way road
 - Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
 - Double campsites will always have the 60' stall passenger's side located on the exterior of the two stalls for ease of access to the usable camping area
 - Present in RV Areas and Mixed-Use Areas



EXAMPLE ACCESSIBLE CAMPSITE

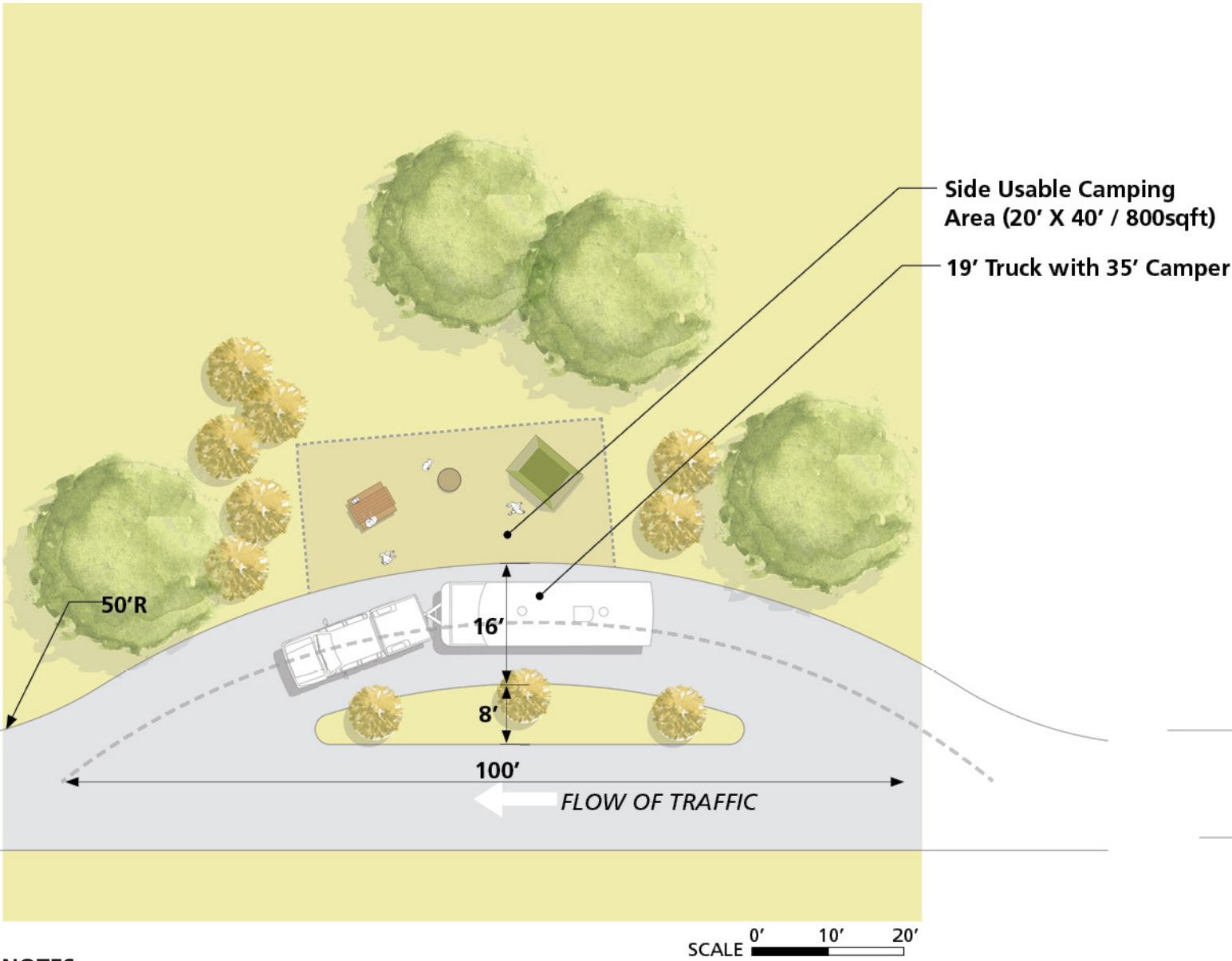


- NOTES**
- The type of usable camping area present at the site will change from site to site due to differing site conditions
 - Campsites may be located on either side of a one-way road
 - Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
 - Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
 - Present in Traditional/Tent Areas and Mixed-Use Areas



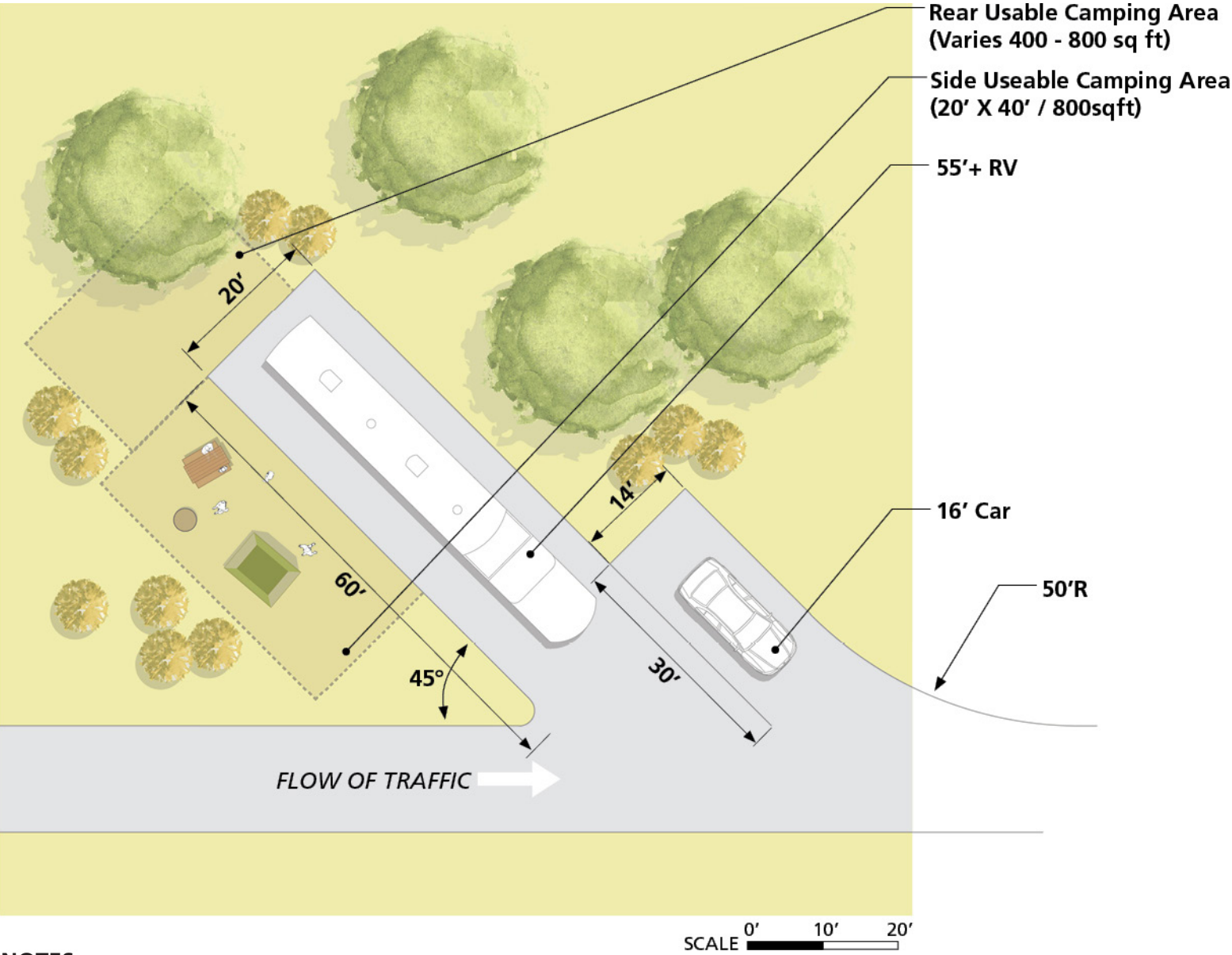


PULL-THROUGH CAMPSITE



- NOTES
- Pull-through campsites will always have a side usable camping area present at the site
 - Pull-through campsites should be located only on the right side of the road as trailer and RV doors open on the right side of the car
 - Present in RV Areas, Mixed-Use Areas, and Traditional/Tent Areas

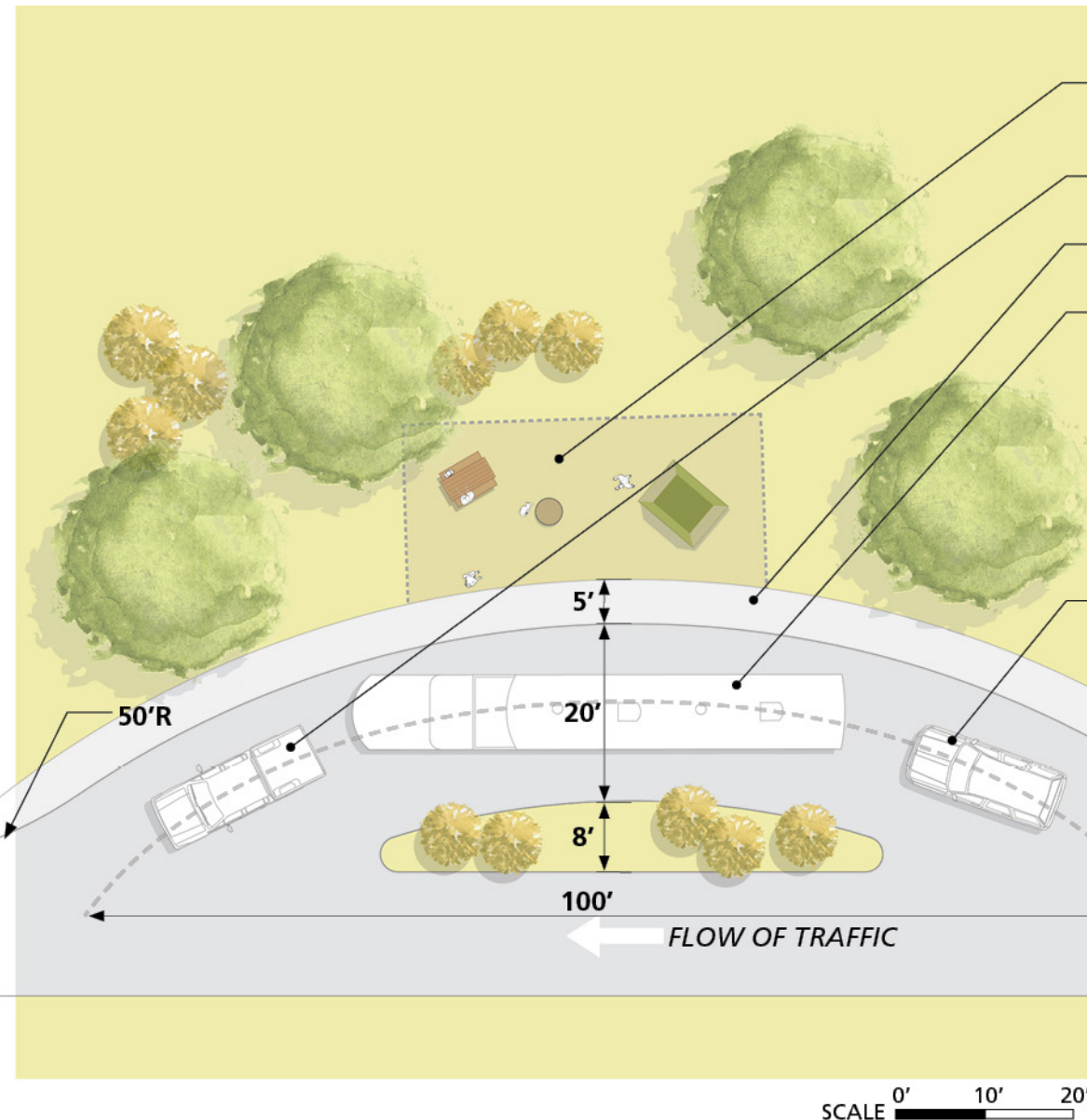
ACCESSIBLE DOUBLE CAMPSITE



- NOTES
- The type of usable camping area present at the site will change from site to site due to differing site conditions
 - Campsites may be located on either side of a one-way road
 - Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
 - Double Campsites will always have the 60' stall passenger's side located on the exterior of the two stalls for ease of access to the usable camping area
 - Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
 - Present in RV Areas and Mixed-Use Areas



EXAMPLE ACCESSIBLE PULL-THROUGH CAMPSITE



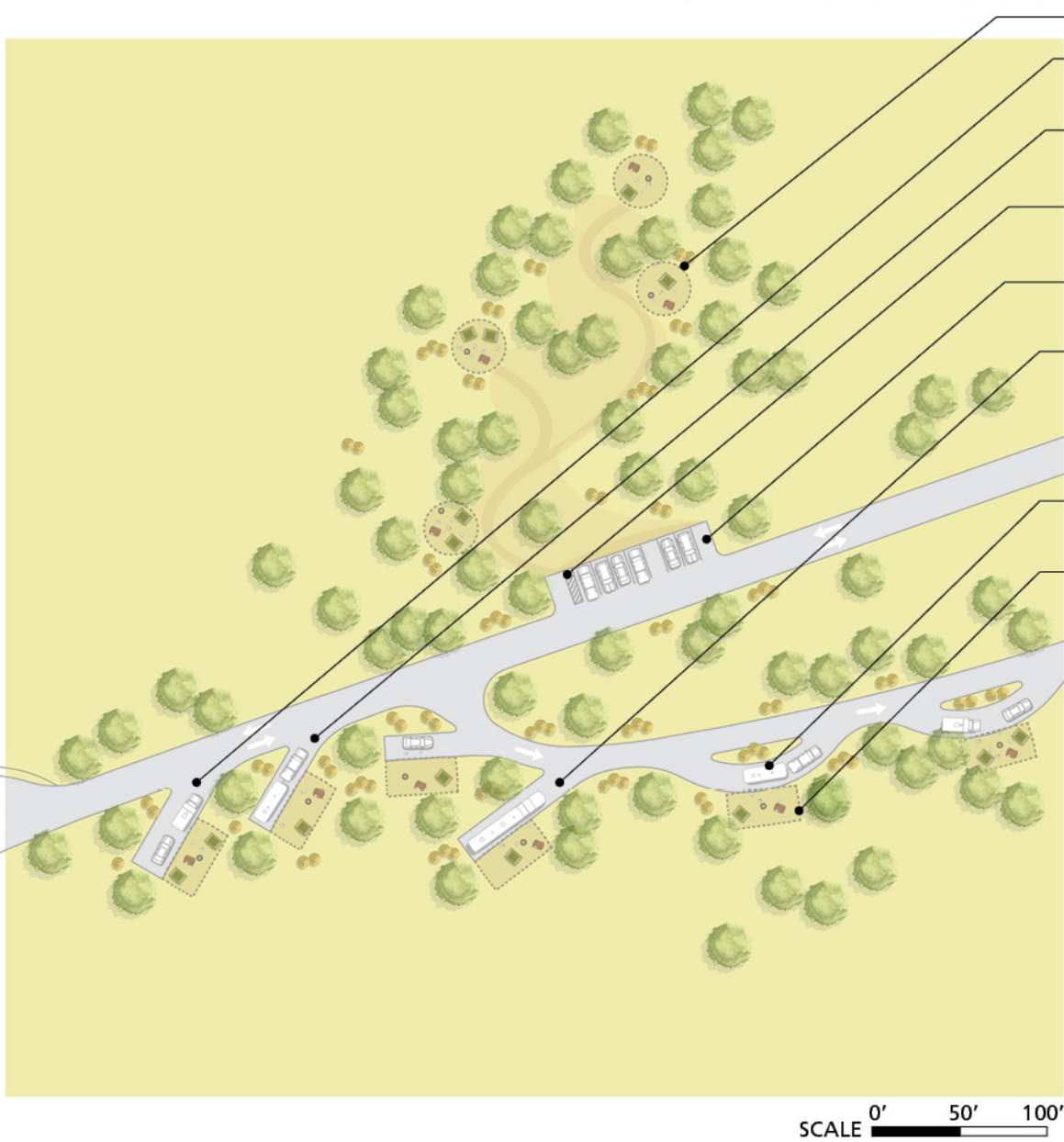
NOTES

- Pull-through campsites will always have a side usable camping area present at the site
- Pull-through campsites should be located only on the right side of the road as trailer and RV doors open on the right side of the car
- Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
- Present in RV Areas, Mixed-Use Areas, and Traditional/Tent Areas





EXAMPLE MIXED-USE AREA

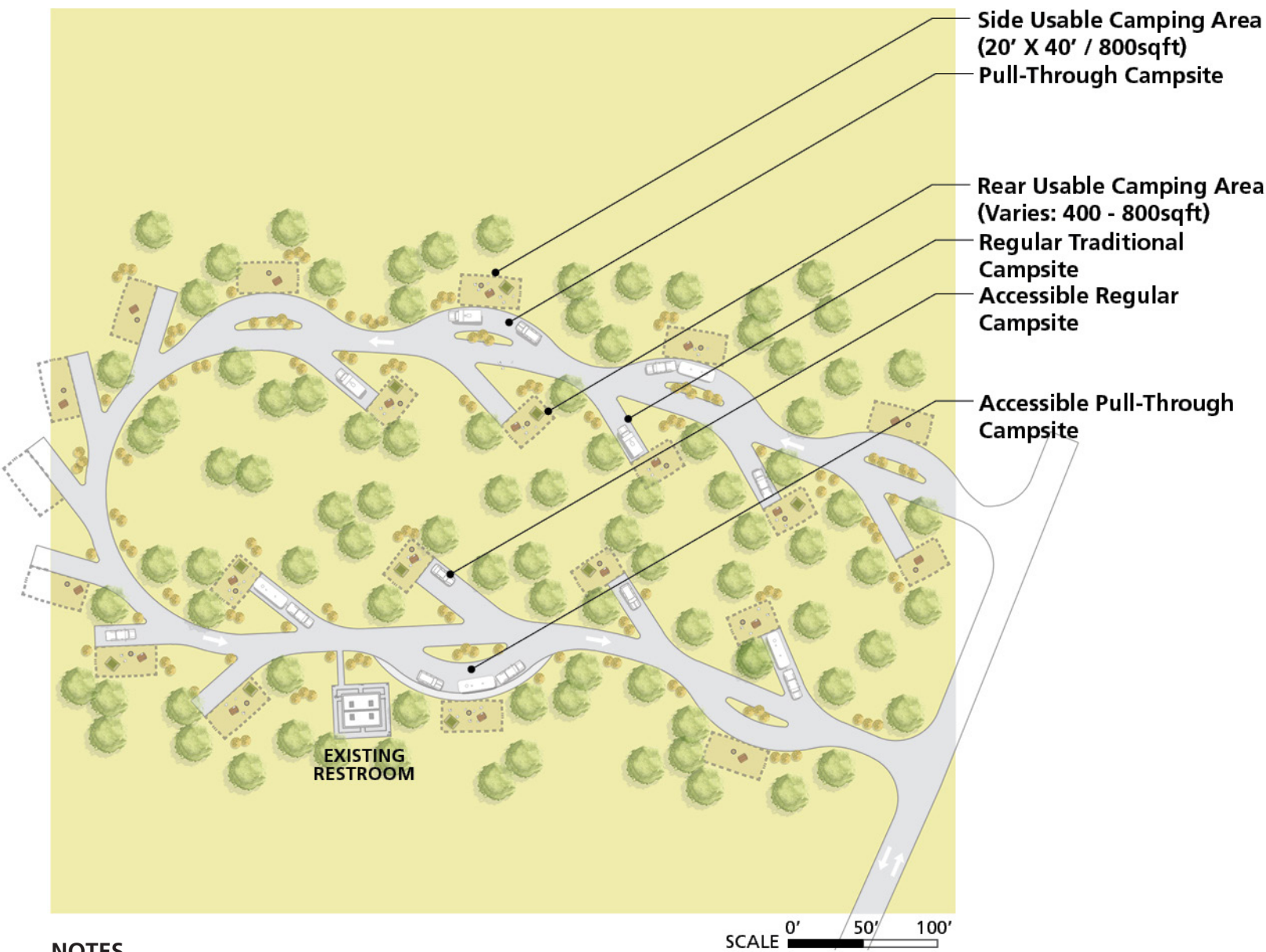


- NOTES**
- All usable camping areas shall have a fire ring, picnic table, and tent pad
 - Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
 - Pull-through campsites should be located only on the right side of the road as trailer and RV doors open on the right side of the car
 - Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
 - Campsite types accommodated: All





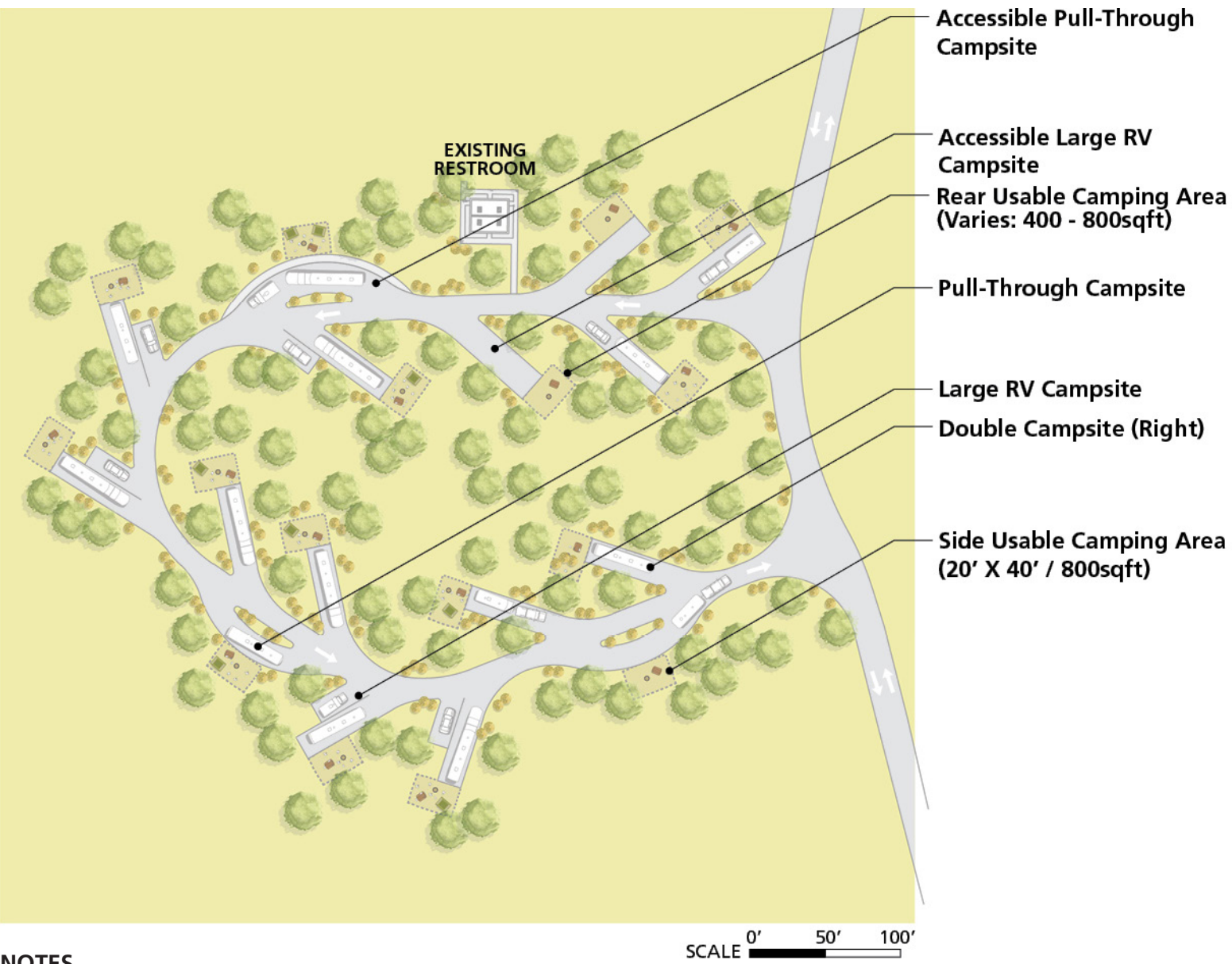
TRADITIONAL/TENT AREA



NOTES

- All usable camping areas shall have a fire ring, picnic table, and tent pad
- Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
- Pull-through campsites should be located only on the right side of the road as trailer and RV doors open on the right side of the car
- Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
- Campsite types accommodated: Medium-Small Traditional/Tent Campsite, Pull-Through Campsite, and Accessible

RV AREA

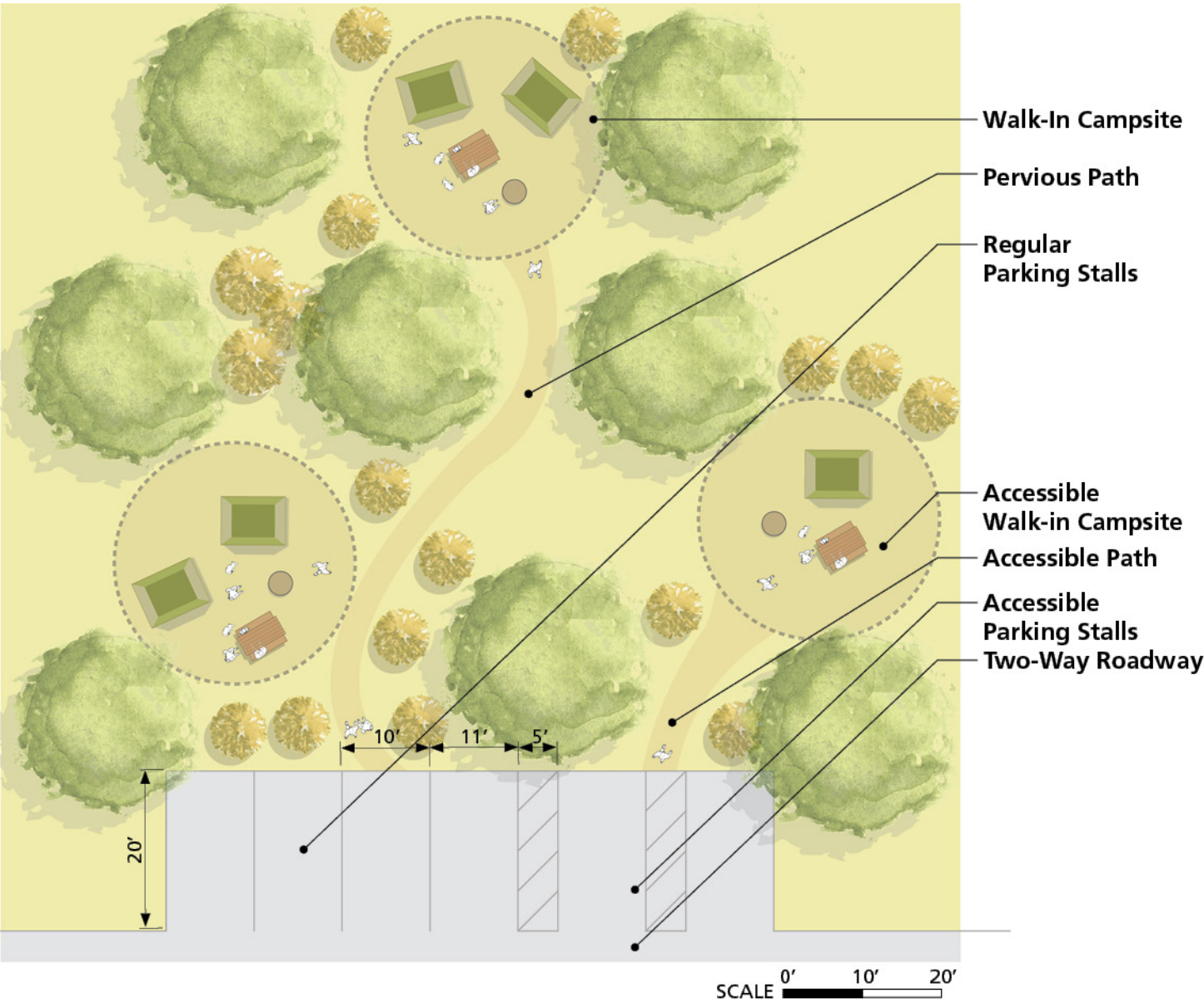


NOTES

- All usable camping areas shall have a fire ring, picnic table, and tent pad
- Campsites located on the left hand side of the road within a loop will more likely have a rear usable camping area due to space constraints
- Pull-through campsites should be located only on the right side of the road as trailer and RV doors open on the right side of the car
- Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
- Campsite types accommodated: Large RV Campsite, Large RV Double Campsite, Pull-Through Campsite, and Accessible

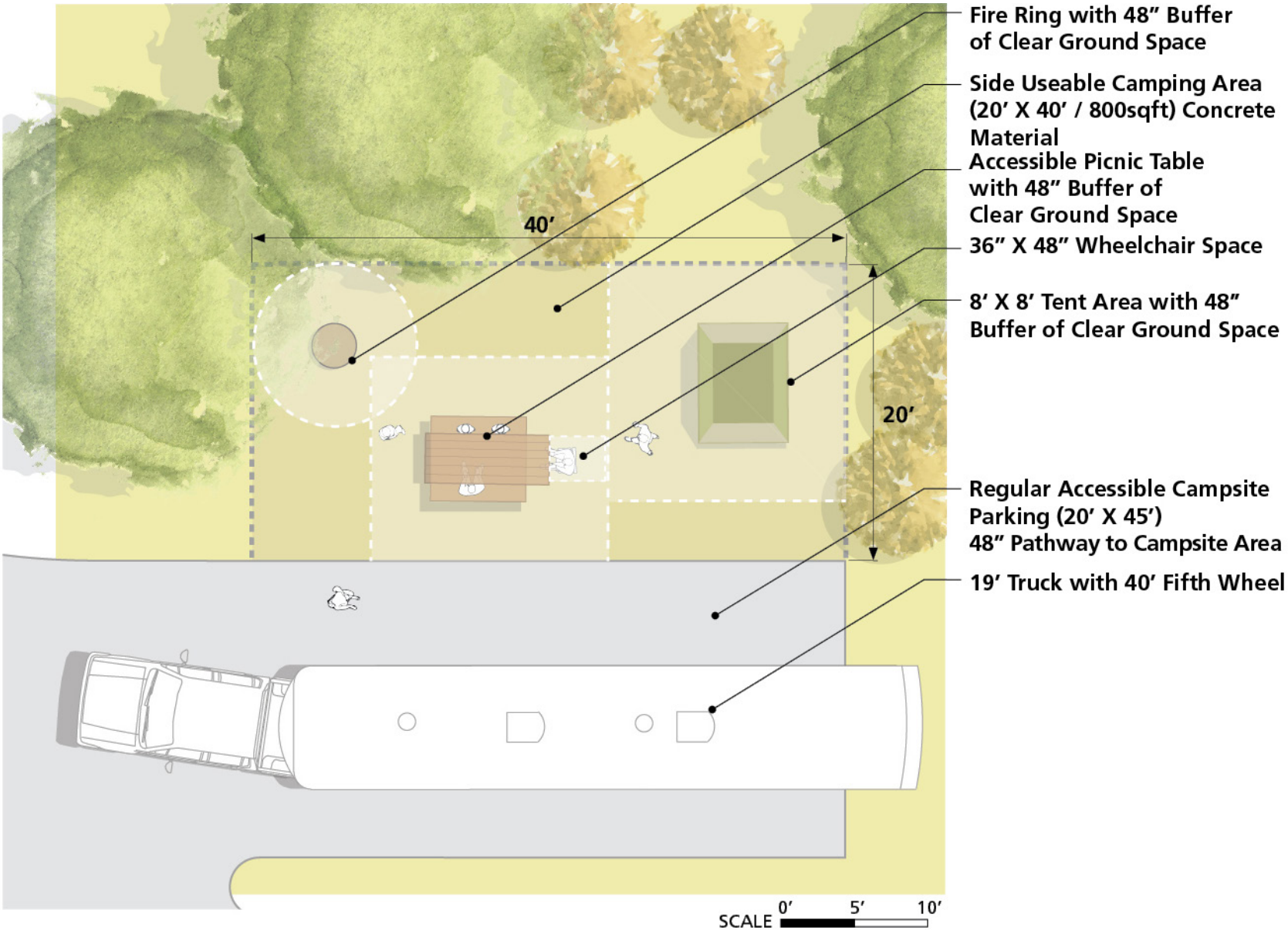


WALK-IN CAMPSITES



- NOTES
- All usable camping areas shall have a fire ring, picnic table, and tent pad
 - Parking shall accommodate for a minimum of one stall per site with one additional accessible stall per area
 - Paths shall be constructed with pervious accessible surface materials
 - Accessible campsites should be easily accessible to and from park facilities (restrooms, accessible parking etc.)
 - Present in Mixed-Use Areas
 - Vehicle types accommodated: Car

ACCESSIBLE USABLE CAMPING AREA



- NOTES
- The type of usable camping area (side or back) present at the site will change from site to site due to differing site conditions
 - Circulation buffers may overlap with one another
 - Accessible campsites should be easily accessible to and from park facilities (restrooms, etc.)
 - Present in Walk-In Campsites, RV Areas, Traditional/Tent Areas, and Mixed-Use Areas

APPENDIX B: MONITORING STRATEGY AND VISITOR CAPACITY

Introduction

This appendix provides additional information about the monitoring strategy as it relates to the LARO VUSMP. For additional resources in the VUM Framework please visit the following web address: <http://visitorusemanagement.nps.gov/> for a full description of the Interagency Visitor Use Management Council and Framework Guidance (IVUMC).

Monitoring is the process of routinely and systematically gathering information or making observations to assess the status of specific resource conditions and visitor experiences. A monitoring strategy is designed and implemented to provide usable data for periodically comparing existing and desired conditions, assessing the need for management actions, and evaluating the efficacy of management actions.

A monitoring strategy includes the selection of indicators, along with establishment of thresholds or objectives, and any needed triggers. It also includes routine, systematic observations or data collection of the indicators over time. And lastly, documentation and analysis of the observations or data in relation to the thresholds, triggers, or objectives.

Indicators translate desired conditions into measurable attributes (e.g., lineal extent of visitor-created trails) that when tracked over time, evaluate change in resource or experiential conditions. Indicators are critical components of monitoring the success of the comprehensive plan and are considered common to all action alternatives. The interdisciplinary planning team considered the central issues and developed related indicators that would help identify when the level of impact becomes cause for concern and management action may be needed. The indicators described below were considered the most critical, given the importance and vulnerability of the resource or visitor experience affected by types of visitor use. The planning team also reviewed the experiences of other park units with similar issues to identify meaningful indicators.

Thresholds represent the minimum acceptable condition for each indicator and were established by considering qualitative descriptions of the desired conditions, data on existing conditions, relevant research studies, professional judgement of staff based on management experience, and public preferences. Although defined as “minimally acceptable,” thresholds still represent acceptable conditions. Establishing thresholds does not imply that no action would be taken prior to reaching the threshold. Thresholds identify when conditions approach unacceptable levels and serve as mechanisms to alert managers and the public that corrective action must be taken to keep conditions acceptable. Indicators and thresholds can be tracked over time and ultimately form the foundation of good monitoring protocols that would allow managers to maintain and achieve desired conditions for resources and visitor experiences.

Indicators, thresholds, monitoring protocols, management strategies, and mitigation measures (see Appendix C) would be implemented as a result of this planning effort and are described below. The planning team arrived at the following indicators that can be tracked over time 1) incidents of damage to natural and cultural resources and visitor experiences and 2) parking availability.

Indicators Related to Incidents of Damage to Natural and Cultural Resources and Visitor Experience

INDICATOR:

Number of Type I and Type II incidents

THRESHOLDS:

No more than 20 Type I incidents a month during the high use season of May through September.

No more than 50 Type II incidents a month during the high use season of May through September.

RATIONALE:

This indicator would measure desired conditions for visitor-caused impacts to natural and cultural resources as well as visitor experience. These incident types are classified by severity where Type I is a high severity incident and Type II is less severe. The threshold is based on past data that indicates around 100 incidents occurred a month during the high use season of May through September over the last few years. It is expected that through implementation of proposed action as well as management strategies and actions, the park could anticipate a 1/3 reduction in incidents totaling a cumulative no more than 70 incidents a month.

- *Type I incidents* are classified as highly severe and could include mandatory tickets, over \$500 in damage to a resource (i.e., natural, cultural, facilities), and highly visible damage. These types of incidents could include reports of impacts caused to resources and visitor-experience that are deemed irreplaceable such as looting, visitor safety, visitor conflicts, off-road driving. Most of these types of incidents are typically more serious types of incidents and are often classified as felonies. Damage to property may include private property or cultural or natural resources or government property. Damage to these resources or sites can occur through both intentional and unintentional means. Both can cause impacts that influence the integrity of resources. Specifically, off-road driving can cause damage to cultural resources during low lake levels. Off road driving in other areas also causes impacts to natural resources including vegetation. In both instances, off-road driving degrades the visitor experience.
- *Type II incidents* are classified as all other types of incidents and could include initials in picnic table, rock stacking, visible damage that is easily repairable damage, a visitor party in the campground. Inappropriate visitor behavior such as nuisance noise, drones, unauthorized use, drunken disorderly, generators after hours, noise complaint would also be included in this indicator. Unendorsed and inappropriate behaviors have become a primary safety concern for visitors and staff and pose noteworthy risks to resources and visitor safety. Inappropriate use can also diminish the quality of the visitor experience due to the effects of disruptive or destructive behavior that interferes with others’ enjoyment of park resources. Decreasing unendorsed behavior would reduce the need for enforcement, allowing park resources (including employees) to be reallocated to handle higher-priority safety situations, such as search and rescue.

MONITORING:

The park would develop a reporting mechanism by using a simple card that can be completed by anyone and one point of contact would collect the incident cards. Once a month the numbers would be tabulated to check on the thresholds. The Incidents of reports would be reviewed after the high use season. The monitoring protocol would also include annual staffing levels.

MANAGEMENT STRATEGIES:

The NPS team identified the following management strategies that would apply to all nine priority sites unless otherwise noted below.

- Develop a visitor education program with consistent messaging on behaviors appropriate to the visitor use and experience at LARO. Information could be shared through additional appropriate signage, park staff and volunteer messaging, the park website, and printed/visual materials available to visitors throughout the unit. Additional efforts could reach visitors prior to their arrival, for example, through the cooperation of commercial operators.
- Target education to groups that are accessing areas with historical sites.
- Provide community and visitor education.
- Increase direct contact and in-person education.
- Increase education oriented towards park regulations (i.e., keeping dogs on leash, authorized uses, and fireworks regulations).
- Immediate abatement of graffiti.
- Consistent assessments of areas would need be conducted.
- As the threshold is approached, additional assessments of key sites would be conducted.
- Install trail counters and continue monitoring and patrolling and have a higher frequency of condition assessments completed in sensitive areas with high visitor use (as recorded by trail counters). Cultural resources site monitoring should be a part of this.
- Implement vegetation control and delineation, such as wall barriers, rocks, to reduce overflow parking (this could also be an adaptive management strategy)
- To the extent possible, add campground reservations to Rec.gov. This would allow the park to track visitation. (This would not apply to Keller Ferry.)
- Prioritize documentation of resources in high visitor use areas.
- Prioritize and increase presence, enforcement and documentation.
- Targeted law enforcement efforts would be implemented with the goal of educating the visiting public about appropriate behaviors.
- Responding to visitor conflicts and incidents using law enforcement protocols. Incidents would be reviewed by safety committees and incident reports generated and dispersed to park staff.
- Implement supporting site and infrastructure improvements described for Alternative B (proposed action and preferred alternative) in Chapter 2: Alternatives.

Adaptive Management Strategies:

In addition to the management strategies identified above, the NPS team identified the following adaptive management strategies that would apply to all nine priority sites unless otherwise noted below. As these strategies are adaptive, they would only be implemented if and when future conditions dictate, they are necessary based on monitoring.

- Adaptive website communications - real-time updates to communication on websites and via social media, adapted to support management activities.
- Area closures would only be considered after a range of management strategies have been implemented and not effective. Use volunteers to staff closures and educate visitors about the closure.

Parking Availability Indicator

INDICATOR:

Number of days per season at full occupancy of parking (85% parking spaces occupied) at day use and boat launching areas at Kettle Falls, Fort Spokane, Porcupine Bay and Spring Canyon.

AND

If full occupancy, THEN the number of overflow spaces occupied by vehicles or boats/trailers.

THRESHOLDS:

No more than 10 days full occupancy per year.

No overflow spaces occupied.

RATIONALE:

Visitors generally expect to easily find and navigate parking for their intended destination. If more vehicles arrive when parking lots approach full occupancy/85th percentile demand (about 85 percent full), resultant congestion may cause lot-based gridlock, back up traffic into roads and affect circulation, and generally degrade experiences as visitors compete for a more limited number of spaces. The 85th percentile demand standard is a common performance measure for parking areas and other transportation facilities. Generally, when parking lots reach 85 percent of capacity, they are full because this is the level of typical optimal operation (with 15 percent available capacity/unoccupied spaces). A parking lot that operates at greater than 85 percent capacity on an ongoing basis would not function efficiently. The 15 percent portion of empty spaces is needed on an ongoing basis to facilitate turn-over in use of the parking area.

Visitors generally cope with full lots by parking in non-designated areas outside of the parking lots, which cause resource impacts, reduce aesthetics of the site, increase a sense of congestion, and increase traffic hazards (people accessing parallel parked vehicles along narrow roads). Visitors may also have to strategize to secure a limited number of spaces (arriving earlier, saving spaces), which add to the stress to visitor logistics and may lead to conflict between competing visitors.

Continual monitoring allows “early warning” capability. The indicator tracks and targets the number of days when full occupancy occurs. Thresholds allow full occupancy conditions to occur on a small proportion of days each year – essentially the highest use days typically associated with holiday weekends. But management actions are needed if this condition were to become a common “average peak” occurrence. The monitoring protocols also measure the extent of non-designated parking in response to full lots, with thresholds defining how much out-of-lot parking is acceptable at a site given its potential for resource damage, congestion, and safety problems.

MONITORING:

Instantaneous counts by a monitor at two times on a sample of target days.

Sampling would be systematic and random. Using the following criteria as guidelines:

- 10 systematic sample days (Fri, Sat, Sun, or other days of the week on three main summer holidays)
- 20 additional sample days (Fri, Sat, and Sun in 158-day season from May 1 – Sep 30), randomly selected
- Thirty total days of counts

- One count on each target day between 1 pm and 3 pm

Designated lots and possible overflow areas are identified by polygons and distinct names on maps for each location. Every potential parking space fits in one and only one polygon (no overlap). Monitors count unoccupied spaces in each polygon and records it on a data sheet. Protocols are developed for how to count spaces that vehicles or trailers make unusable because they encroach too closely or unnecessarily use an RV or vehicle + trailer space.

Following the 85th percentile rule, if either temporal count records a full lot, it counts as a day with “full lots.” If there are overflow spaces occupied, it tracks the number on those days.

MANAGEMENT STRATEGIES:

The NPS team identified the following management strategies that would apply to all nine priority sites unless otherwise noted below.

- Increase education about other less busy park areas to launch areas and lake levels.
- Employ on-site parking management.
 - Increase on site signage for parking organization such as truck and trailer parking only.
 - Improve parking organization such as cars using RV spaces.
- Designate long-term trailer parking further away from boat launching. (This would not apply to Marcus Island.)
- Designate length of stay for long-term parking lots. (This would not apply to Marcus Island.)
- Encourage de-coupled trailers at long-term launch lots.
- Implement differential fees for parking and boat launching. (This would not apply to Keller Ferry).
- Implement permits for sub-set of parking spaces. (This would not apply to Marcus Island or Keller Ferry.)
- Implement permits for all parking spaces. (This would not apply to Marcus Island or Keller Ferry.)
- To the extent possible, add campground reservations to Rec.gov. This would allow the park to track visitation. (This would not apply to Keller Ferry.)
- Develop and implement web-based real-time information about occupancy levels to discourage new arrivals when parking is full.
- Implement supporting site and infrastructure improvements described for Alternative B (proposed action and preferred alternative) in Chapter 2: Alternatives.

Adaptive Management Strategies:

In addition to the management strategies identified above, the NPS team identified the following adaptive management strategies that would apply to all nine priority sites unless otherwise noted below. As these strategies are adaptive, they would only be implemented if and when future conditions dictate, they are necessary based on monitoring.

- Special event management, such as managing the number of entries into tournaments (for example, Governor's Cup).
- Adaptive website communications, such as real-time updates to communication on websites and via social media, adapted to support management activities.
- Charge additional launch fees at specific locations as may be needed.
- Provide parking by reservation program at specific locations as may be needed.
- Area closures would only be considered as an adaptive management strategy after a range of management strategies have been implemented and not effective. Use volunteers to staff closures and educate visitors about the closure.

Visitor Capacity Identification

OVERVIEW:

This section provides additional information about the visitor capacity identification as it relates to the LARO VUSMP. Visitor capacity is the maximum amounts and types of visitor use that an area can accommodate while achieving and maintaining the desired resource conditions and visitor experiences that are consistent with the purposes for which the area was established (IVUMC 2016). Visitor capacities were identified using best practices and examples from other plans and projects across the NPS. Based on these best practices, the NPS planning team used the following guidelines to identify capacity: 1) determine the analysis area, 2) review existing direction and knowledge, 3) identify the limiting attribute, and 4) identify visitor capacity and strategies to manage to the capacity.

Through this planning effort, the park has identified a number of strategies and supporting improvements to directly address the key issues, which are described above and in Chapter 2: Alternatives. These strategies influence and inform the maximum amounts and types of use in this area (visitor capacity). For most sites, current use levels do not appear to be impacting experiences or resources, therefore, the visitor capacity has been identified to be at, near, or above current use and is protective of desired resource conditions and visitor experiences the site. If any monitoring or additional actions are needed to manage to these visitor capacities this information has been included in the indicators and thresholds (this appendix) and in Chapter 2: Alternatives. This appendix documents the considerations and processes used to identify and implement visitor capacity for nine priority sites.

THE ANALYSIS AREA:

The analysis area includes the nine priority sites that are the focus of the VUSMP.

- | | |
|------------------|------------------|
| 1. Evans | 6. Fort Spokane |
| 2. Marcus Island | 7. Keller Ferry |
| 3. Kettle Falls | 8. Spring Canyon |
| 4. Gifford | 9. Porcupine Bay |
| 5. Hunters | |

To fulfill the requirements of the 1978 National Parks and Recreation Act (54 United States Code [USC] 100502), visitor capacity identifications are legally required for all destinations and sites that this planning effort addresses (IVUMC 2016). Together, the above sites comprise all of the visitor use sites within the project planning area. Future monitoring of use levels and indicators would inform the NPS if use levels are at or near visitor capacities. If so, adaptive management strategies as outlined in this plan would be taken (see above and Chapter 2: Alternatives). For each location an overview of the analysis is included below.

REVIEW OF EXISTING DIRECTION AND KNOWLEDGE:

Lake Roosevelt National Recreation Area Context

During this step the planning team developed desired conditions, indicators and thresholds, with particular attention to conditions and values that must be protected and are most related to visitor use levels. Desired Conditions for these sites can be found in Chapter 1:

Purpose and Need. For each key site, relevant indicators are listed. The associated thresholds can also be found in this appendix (above) and in Chapter 2: Alternatives.

The timing and distribution of visitor use at Lake Roosevelt National Recreation Area influence both resource conditions and visitor experiences. The majority of visitor use is concentrated at several key destinations in the park and focused on camping and water-related recreation (i.e., fishing, boating, and swimming). According to recent survey data, about 37 percent of visitors report camping as the primary reason for visiting the park and 54 percent reported using the campgrounds. About 10 percent of campsites are available by reservation. The importance of this activity is driving the need to improve park infrastructure to support visitor demand. Many of the key recreation sites have multiple uses including day use, boating, fishing, hiking, picnicking, and overnight camping.

Confluence Research and Consulting used visitor data from the Public Use Statistical Abstract to identify current use levels at the nine key sites. Data for boat launches per day and total campers per day over the last ten years was taken from each site. An algorithm, developed by Confluence Research and Consulting, which takes average monthly visitation and estimates a peak vs. off peak daily visitation average was applied to the data. This algorithm assumes weekend peaks are two times weekday averages. The data was then used to create graphs to show visitation trends for boat launches per day and campers per day over the last ten years for each of the nine key sites. These graphs can be found below in the analysis of key areas section.

In addition, the action alternatives were assessed for the primary differences related to the amounts, timing, distribution and types of use. The primary difference for visitor use issues between the alternatives would have little impact on the amounts and types of visitor use that can be accommodated in the analysis sites. Therefore, the visitor capacity remains generally consistent across the alternatives. All group campsites, parkwide, would be set at 25 or 50 people per site to be more aligned with best practices across the NPS for group size expectations and experiences at campsites. The action alternative changes the total maximum number of visitors per campsite to six people (from the current allowed maximum per campsite of ten people). Offsetting these changes, additional campsites would be provided, and a more diversified range of camping experiences would be offered, along with other types of visitor use opportunities.

The VUSMP updates previous planning by identifying visitor capacity and strategies necessary to implement the visitor capacity at the nine priority sites. The following is a summary of prior planning and guidance related to visitor capacity. The 2000 GMP included some qualitative descriptions about carrying capacity that was mostly related to on-water use stating that: *carrying capacity at Lake Roosevelt is most often limited by the amount of area required for active water sports. In addition, it stated that, “[T]he number of facilities available on the land would help regulate the number of users on the water” and that “A more active information system would be put in place to provide visitors with more and better information about the availability of facilities on the Spokane Arm and their options for other locations on the lake. Reservations systems may be employed where needed to control crowding, and differential fees may be employed to encourage more use of less popular locations.”* This VUSMP specifically address visitor capacity at the nine priority sites that provide access to the water. Subsequent plans that address on-water use will update the visitor capacity at that time. Additionally, the 2009 LARO Shoreline Management Plan states, *“Physical carrying capacity is limited by facilities such as building or parking lot size. Although parking areas may fill, however, there may still be open beach areas nearby. Even at crowded, existing facilities, visitation can be facilitated through more intensive management, such as a one-in one-out strategy as has occurred recently at Porcupine Bay.”* The LARO VUSMP builds on the qualitative description included in the 2009 Shoreline Plan and identifies visitor capacity based on potential site redesigns and associated strategies needed to manage visitor use.

IDENTIFY THE LIMITING ATTRIBUTE:

This step requires the identification of the limiting attribute(s) that most constrain the analysis area’s ability to accommodate visitor use. The limiting or constraining attribute(s) may vary across the analysis areas and is described under each key analysis site. This is an important step given that an analysis site could experience a variety of needs regarding the best tools for providing quality experiences and protecting resources. In the site descriptions below, the limiting attribute is identified.

IDENTIFY VISITOR CAPACITY:

To identify the appropriate amount of use at key analysis sites, outputs from previous steps were reviewed to understand current conditions compared to desired conditions for the area. Visitation data collected annually by the NPS staff to track levels of visitor use parkwide and by site was used as a data source. The NPS also collects annual data including counts of fees, parking availability, trail counts, and other data.

VISITOR CAPACITY IMPLEMENTATION STRATEGIES COMMON TO ALL SITES

- Website communications - real-time updates to communication on websites and via social media, adapted to support management activities.
- Implement management strategies to educate and inform visitors of less busy launch areas, fluctuations in lake levels, and parking occupancy levels (web-based real-time information).

VISITOR CAPACITY ADAPTIVE MANAGEMENT STRATEGIES COMMON TO ALL SITES

In addition to implementing the preferred alternative, the related indicator and threshold strategies and the above common to all visitor capacity strategies the adaptive management strategies are identified below. These adaptive management strategies would apply to all nine priority sites unless otherwise noted. As these strategies are adaptive, they would only be implemented if and when future conditions dictate, they are necessary based on monitoring.

- Special event management, such as managing the number of entries into tournaments (for example, Governor's Cup).
- Management of the amount of time, or time slots boaters can enter the water.
- Implement on-site parking management strategies such as better delineation of parking areas with striping and signage, parking organization improvements, designated long-term trailer parking spaces, and designated length of stay for trailer parking. Encourage de-coupled trailers at long-term lots.
- Implement differential fees for parking and boat launching.
- Implement a permit system for a subset of parking spaces and/or all parking spaces.
- Area closures would only be considered after a range of management strategies have been implemented and not effective. Use volunteers to staff closures and educate visitors about the closure.

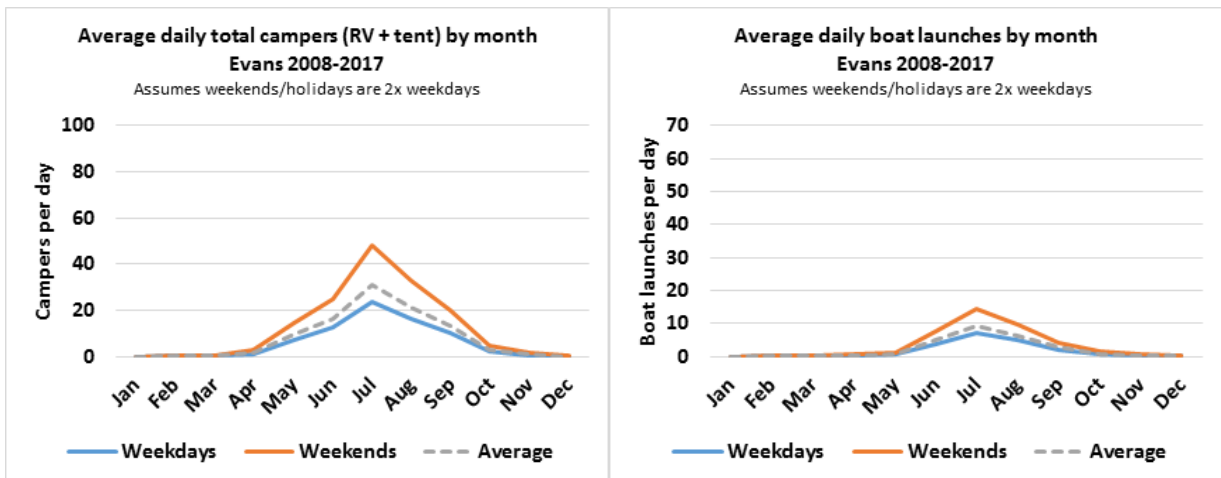
Analysis of Key Attributes and Site-Specific Strategies

SITE 1: EVANS

Review of Existing Conditions

Evans currently provides a campground and general day use with a motorized boat. This area was historically a popular camping area, but in recent years visitation has decreased. There are cobble beaches and a challenging shoreline despite opportunities for access to the water. There is a beach access area that has sand and can have high density of use during peak season. Currently, there are 58 parking spaces in the day use area, 22 vehicle/trailer parking at the boat launch, 34 campsites, and 1 group campsite.

Evans receives moderate visitor use in the summer months between May and October. Evans is also popular during Sturgeon fishing season when RVs are often occupying boat and trailer parking. Typically, the highest peak visitation month for Evans is July, receiving an average of 50 campers per day and 15 boat users per day. These trends can be seen in Figure A.1 and A.2. Using the number of campers per day from the charts below, this means that 5 campsites are occupied during a weekend day in July, on average. Current use levels reach 65 people at Evans on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.1 and A.2 Average daily total campers and boat launches by month at Evans

Limiting Attribute

The most limiting attribute constraining visitor use levels at Evans is the visitor experience. More specifically, congestion at the boat launch reducing water access is the primary limiting attribute. The desired condition to provide visitors with the opportunity to explore publicly accessible shorelines and have a greater variety of boat launch facilities is important at Evans. When water access becomes congested and crowded, the visitor experience is directly impacted. Therefore, water access is the primary attribute constraining visitor use levels at Evans. Both of the identified indicators are important to monitor changes in conditions at Evans and are *incidents of damage to natural and cultural resources and the visitor experience* as well as *parking availability*.

Visitor Capacity and Implementation Strategies

Under the proposed alternative, Evans would continue to provide a campground and general day use, but the motorized boat launch would be replaced by a nonmotorized launch. The nonmotorized boat launching area would be closed in the winter. To achieve desired conditions, the proposed action includes adding more spacing and screening between campsites for increased visitor privacy, rehabilitating the seawall to improve visitor safety, adding boat tie ups or mooring buoys to increase shoreline access, and improving circulation at the boat launch to reduce visitor conflicts and safety hazards.

Park staff identified the opportunity to increase current use levels at Evans while achieving and maintaining the desired conditions. In this case, the identified visitor capacity is 500 people per day, including campers, day users, and boat launchers. Maintaining the number of campsites but changing the number of people per site from six to ten as mentioned previously, would allow the park to achieve desired conditions and increase visitor capacity by reducing visitor conflicts in the campground and impacts to natural resources. In addition to the common to all strategies for visitor capacity noted above at Evans, the park would design and implement of overflow self-contained RV camping sites in day use areas as needed to accommodate and manage to the visitor capacity. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 2: MARCUS ISLAND

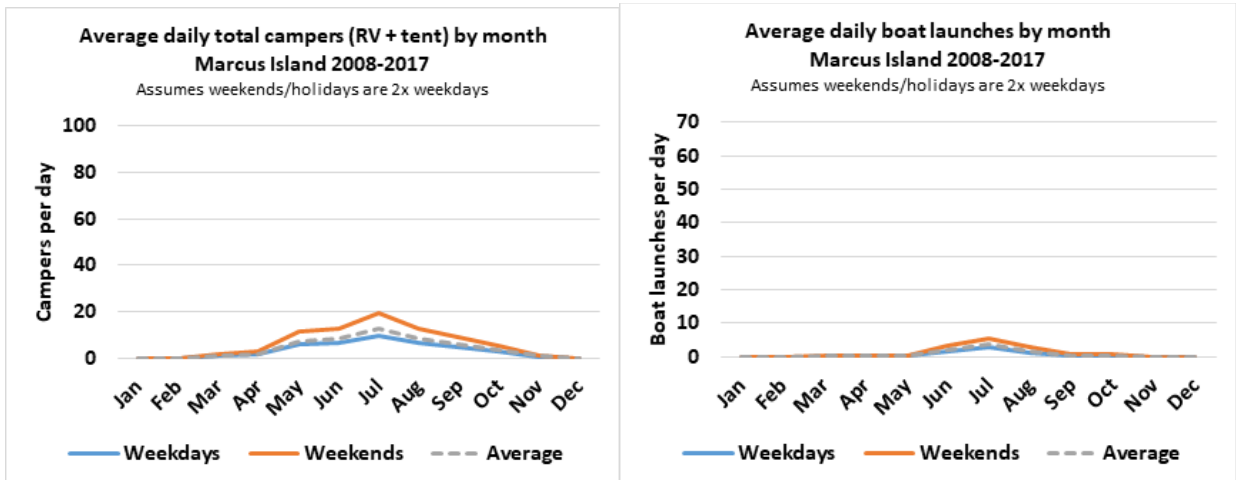
Review of Existing Conditions

Marcus Island provides a campground and general day use area including a motorized boat launch area. The campground is open year-round, but the road is not plowed during winter months, so the access is limited. When lake levels are low, cultural resources, such as the sidewalk of the historic Marcus Island, are visible. Currently, there are 5 parking spaces in the day use area, 3 vehicle/trailer parking at the boat launch, and 25 campsites.

Marcus Island receives moderate visitor use typically in the summer months between May and October. Marcus Island is popular during Sturgeon fishing season when RV's are often occupying boat and trailer parking. The highest peak visitation month for Marcus Island is July, receiving an average of 20 campers per day and 5 boat users per day. These trends can be seen in Figure A.3 and A.4. Using the number of campers per day from the charts below, this means that 2 campsites are occupied during a weekend day in July, on average. Current use levels reach 25 people at Marcus on a busy day. Current use levels are not reaching the capacity that the facility design allows for.

Limiting Attribute

The most limiting attribute constraining visitor use levels at Marcus Island is the visitor experience. More specifically, no motorized boat access to the water is possible when lake levels are low, and this is the primary limiting attribute. Also, the protection of cultural sites located at Marcus that are visible during low lake levels is another consideration for the amount of people that can be accommodated at Marcus Island. Cultural site concerns occur for about two months out of the year and the remainder of the year the cultural resources are underwater. The desired conditions to provide visitors with a greater variety of boat launch facilities and to preserve and protect cultural resources are important at Marcus Island. Therefore, water access is the primary attribute and the protection of cultural sites are also attribute(s) influencing the amount of visitor use at Marcus Island. Both of the identified indicators are important to monitor changes in conditions and are *incidents of damage to natural and cultural resources and the visitor experience* as well as *parking availability*.



Figures A.3 and A.4 Average daily total campers and boat launches by month at Marcus Island

Visitor Capacity and Implementation Strategies

Under the proposed alternative, Marcus Island would continue to provide a campground and general day use area, but the motorized boat launch would be replaced with a nonmotorized boat. The boat launch area would become a general day use area with shoreline access. The removal of the boat launch would reduce visitor conflicts and improve visitor safety, achieving desired conditions. To achieve desired conditions for increased visitor experiences, opportunities for overnight use would be expanded by the addition of new walk-in tent sites and formalized RV campsites at Sturgeon Point in the action alternative.

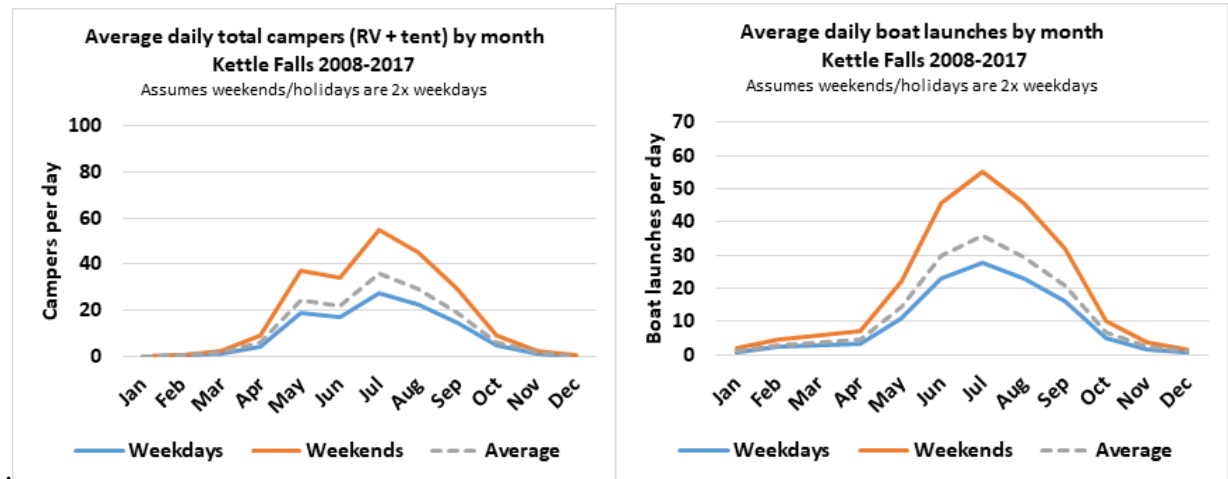
Park staff identified the need to maintain current use levels at Marcus Island. While the proposed action increases the number of campsites at Marcus Island, it also changes the number of visitors per campsite to six instead of ten, as noted previously. In this case for the action alternative, the identified visitor capacity of 175 people per day, including campers, day users, and boat launchers. More spacing and screening between campsites would be added. Overall, increasing the number of campsites and better defining the space for existing campsites would allow the park to achieve desired conditions and maintain current use levels by providing the visitor with more privacy from other visitors in the campground and creating a diversity of visitor experiences. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 3: KETTLE FALLS

Review of Existing Conditions

Kettle Falls includes a campground, group campsites, and general day use including a motorized boat launch. The group campsites are currently located within a historic district and would be moved under the new alternative. In the main campground, campsites are close together, mixing user group types, causing conflicts. The day use beach access area is not used due to mosquito infestations aided by fluctuating lake levels and standing water. Unmarked parking spots, poor circulation, and concession services create congestion at the boat launch. Currently, there are 56 parking spaces in the day use area, 48 vehicle/trailer parking at the boat launch, 61 campsites, and 3 group campsites.

Kettle Falls receives moderate visitor use typically in the summer months between May and October. The campground is never filled, and the boat launch parking lot only reaches capacity during holidays. The highest peak visitation month for Kettle Falls is July, receiving an average of 55 campers per day and 55 boat users per day. These trends can be seen in Figure A.5 and A.6. The park currently allows ten campers per campsite. Using the number of campers per day from the charts below, this means that six campsites are occupied during a weekend day in July, on average. The existing facility design has 61 campsites. Current use levels reach 260 people at Kettle Falls on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.5 and A.6 Average daily total campers and boat launches by month at Kettle Falls

Kettle Falls has concession-run boat moorage, boat fueling station, and small store. The concessioner receives an average of 150 visitors per day during their high peak visitation month of July. See Figure A.7.

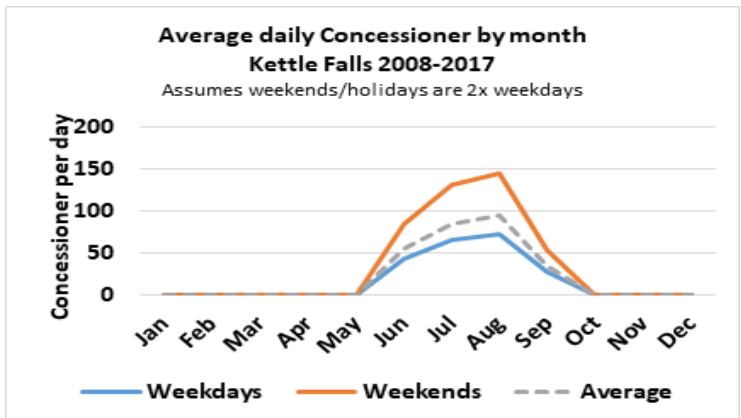


Figure A.7 Average daily total concessioner visits by month at Kettle Falls

Limiting Attribute

The most limiting attribute constraining visitor use levels at Kettle Falls is the visitor experience. More specifically, congestion at the boat launch reducing water access is the primary limiting attribute. When water access becomes congested and crowded the visitor experience is directly impacted. Also, the unmarked parking spots and poor circulation at the boat launch contribute to experiential impacts. This also reduces water access. The desired condition to allow visitors to access sites more safely and efficiently through improved parking, circulation, and access is important at Kettle Falls. Therefore, water access is the primary attribute constraining visitor use levels at Kettle Falls. The identified indicator is important to monitor changes in conditions and is an *incident of damage to natural and cultural resources and the visitor experience* as well as *parking availability*.

Visitor Capacity and Implementation Strategies

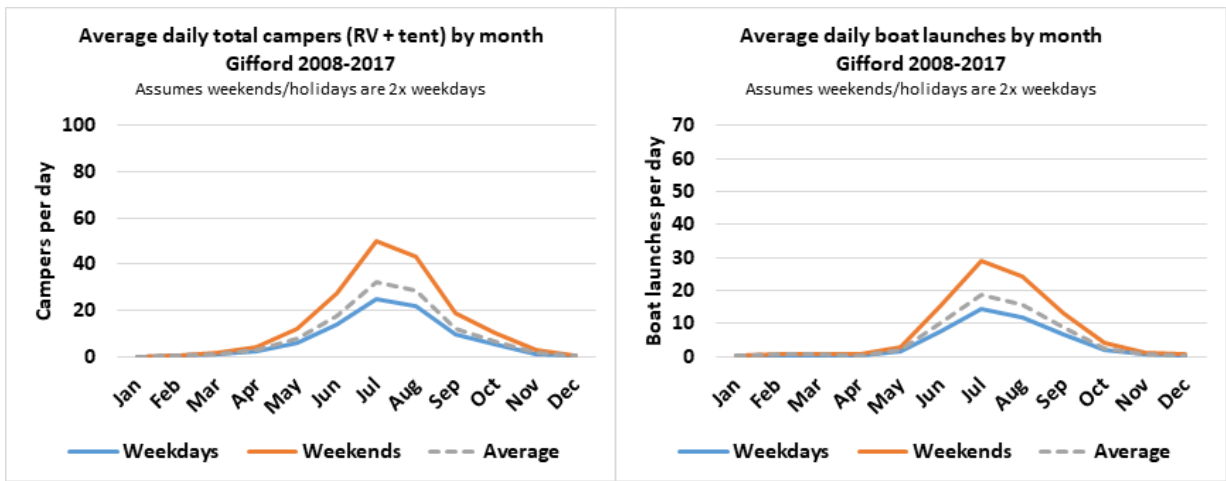
Park staff identified the opportunity to increase the visitor capacity at Kettle Falls. As such, the proposed alternative would increase the number of campsites at Kettle Falls, while also updating the number of visitors per campsite to six instead of ten. To achieve desired conditions, the proposed alternative would add spacing and screening between campsites for increased visitor privacy and improving circulation at the boat launch to reduce visitor conflicts and safety hazards. Overall, the visitor capacity would be increased from 780 to 900 people per day. This includes campers, day users, and boat launchers. Increasing the number of campsites and designating different camping experiences to each of the three loops in the campground would allow the park to achieve desired conditions by providing a diversity of visitor experiences. Relocating the group sites would achieve the desired condition of protecting cultural resources. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 4: GIFFORD

Review of Existing Conditions

Gifford provides a campground and a motorized boat launch. There are conflicts between swimmers and boat launch users because there is no designated beach access area. The campground is open year-round, but the road is not plowed during winter months, so the winter access is limited. Currently, there are 30 vehicle/trailer parking at the boat launch, 36 campsites, and 1 group site.

Gifford receives moderate visitor use typically in the summer months between May and October. The highest peak visitation month for Gifford is July, receiving an average of 50 campers per day and 30 boat users per day. These trends can be seen in Figure A.8 and A.9. The park currently allows 10 campers per campsite. Using the number of campers per day from the charts below, this means that 5 campsites are occupied during a weekend day in July, on average. The existing facility design has 36 campsites. Current use levels reach 80 people at Gifford on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.8 and A.9 Average daily total campers and boat launches by month at Gifford

Limiting Attribute

The most limiting attribute constraining visitor use levels at Gifford is the visitor experience. More specifically, shoreline access is the primary limiting attribute. When water access becomes congested and crowded the visitor experience is directly impacted. Also, space for mooring boats is a limiting attribute. The desired condition to allow visitors to access sites more safely and efficiently through improved parking, circulation, and access is important at Gifford. Therefore, water access is the primary attribute constraining visitor use levels at Gifford. Both of the identified indicators are important to monitor changes in conditions at Gifford and are *incidents of damage to natural and cultural resources and the visitor experience* as well as *parking availability*.

Visitor Capacity and Implementation Strategies

Park staff identified the need to maintain current use levels at Gifford. Therefore, the proposed alternative maintains a similar level of camping experiences at Gifford, while also changing the number of visitors per campsite to six instead of ten. To achieve desired conditions the new alternative proposes to add pedestrian trails for improved circulation and to increase visitor experiences by adding courtesy dock access and a designated beach access area between Gifford and Cloverleaf. The opportunities for overnight use would be expanded by the addition of new walk-in tent sites. Spacing and screening between campsites also would be added. Overall, the visitor capacity for Gifford would be the same as the identified visitor capacity is 500 people per day, including campers, day users, and boat launchers. Maintaining the number of campsites, but reducing the number of people per site, would allow the park to achieve desired conditions by reducing visitor conflicts in the campground and impacts to natural resources. Desired conditions for a diversity of visitor experiences would be achieved in the action alternative’s proposal for providing courtesy docks and access to a new designated beach access area. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

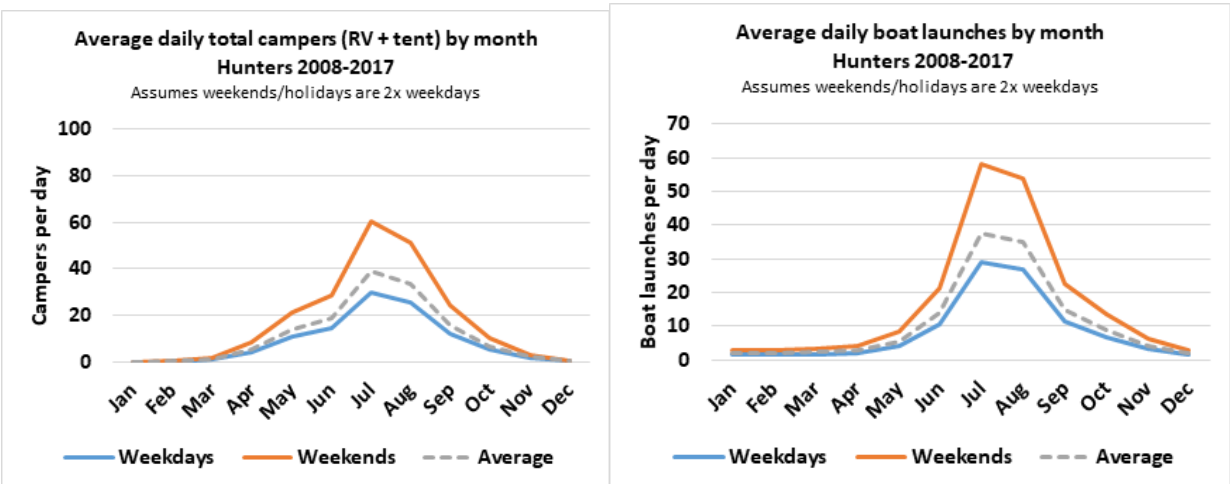
SITE 5: HUNTERS

Review of Existing Conditions

Hunters provides a campground, a day use area, and a motorized boat launch. The boat launch area provides plenty of parking, however, there is limited dock space for overnight boat mooring causing shoreline access conflicts. The campground is open year-round, but the road is not plowed during winter months, so winter access is limited. Currently, there are 57 parking spaces in the day use area, 42 vehicle/trailer parking at the boat launch, 35 campsites, and 3 group campsites. There is an osprey nest and cultural resources at Hunters.

Hunters receives moderate visitor use typically in the summer months between May and October. The highest peak visitation month for Hunters is July, receiving an average of 60 campers per day and 60 boat users per day. These trends can be seen in Figure A.10 and A.11. The park currently allows 10 campers per campsite. Using the number of campers per day from the charts below, this means that 6 campsites are

occupied during a weekend day in July, on average. The existing facility design has 35 campsites. Current use levels reach 120 people at Hunters on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.10 and A.11 Average daily total campers and boat launches by month at Hunters

Limiting Attribute

The most limiting attribute constraining visitor use levels at Hunters is the visitor experience. More specifically, shoreline access is the primary limiting attribute. When water access becomes congested and crowded the visitor experience is directly impacted. Also, the potential for damage to the osprey nest and for disturbance of cultural resources are other limiting attributes. The desired condition to allow visitors to access sites more safely and efficiently through improved parking, circulation, and access is important at Hunters. Therefore, water access and resource impacts at Hunters are both limiting attributes constraining visitor use. Both of the identified indicators are important to monitor changes in conditions at Hunters and are incidents of damage to natural and cultural resources and the visitor experience as well as parking availability.

Visitor Capacity and Implementation Strategies

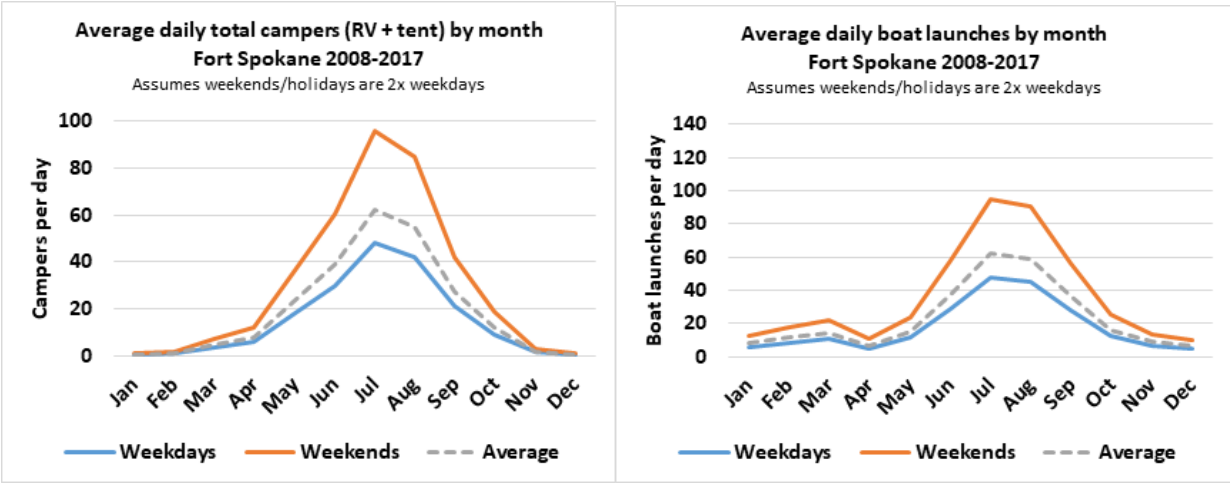
Park staff identified the opportunity to decrease use levels at Hunters. As such, the proposed alternative maintains a similar level of camping opportunities at Hunters, while changing the number of visitors per campsite to six instead of ten. The proposed alternative would close the campground during the winter months and start a RV pilot program in the boat launch overflow parking lot. To achieve desired conditions for increased visitor experiences, opportunities for overnight use would be expanded by the addition of new walk-in tent sites in the action alternative. In addition, spacing and screening between campsites would be provided where feasible to enhance camping experiences. In the action alternative, the identified visitor capacity would be reduced from 600 to 450 people per day, including campers, day users, and boat launchers. Therefore, the visitor capacity for Hunters would be 450 people per day regardless of use type. Maintaining the number of campsites, but reducing the number of people per site, would allow the park to achieve desired conditions by reducing visitor conflicts in the campground and impacts to natural resources. Desired conditions for a diversity of visitor experiences would be achieved in the action alternative’s proposal for implementing the winter RV pilot program as a potential adaptive management strategy over time. In addition to the common to all strategies noted above at Hunters, the park would design and implement of overflow self-contained RV camping sites in day use areas as needed to accommodate and manage to the visitor capacity. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 6: FORT SPOKANE

Review of Existing Conditions

Fort Spokane provides a campground, group campsites, and general day use including a motorized boat launch. Currently, there are 98 parking spaces in the day use area, 92 vehicle/trailer parking at the boat launch, 67 campsites, and 2 group campsites. The group campsites are currently located next to the day use area and this lack of separation causes some user conflicts. In the main campground, the spacing between campsites is good, but there is a lack of privacy due to no vegetation or topography changes. Fort Spokane had high levels of parking conflicts and congestion cited in the 2016 visitor use survey.

Fort Spokane receives heavy visitor use typically in the summer months between May and October. Throughout the year, Fort Spokane sees more visitors on weekends than weekdays. The campground and boat launch parking are typically full on weekends and holidays during the summer months. The highest peak visitation month for Fort Spokane is July, receiving an average of 100 campers and 95 boat users per day. These trends can be seen in Figure A.12 and A.13. The park currently allows 10 campers per campsite. Using the number of campers per day from the charts below, this means that 10 campsites are occupied during a weekend day in July, on average. The existing facility design has 67 campsites. Current use levels reach 195 people at Fort Spokane on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.12 and A.13 Average daily total campers and boat launches by month at Fort Spokane

Limiting Attribute

The most limiting attribute constraining visitor use levels at Fort Spokane is the visitor experience. More specifically, congestion related to parking conflicts that constrain boat launch and water access is the primary limiting attribute. When water access becomes congested and crowded the visitor experience is directly impacted. The desired condition to allow visitors to access sites more safely and efficiently

through improved parking, circulation, and access and to preserve cultural resources is also important at Fort Spokane. Water access is the primary attribute constraining visitor use levels at Fort Spokane, and resource impacts is secondary. Both of the identified indicators are important to monitor changes in conditions at Fort Spokane and are incidents of damage to natural and cultural resources and the visitor experience as well as parking availability.

Visitor Capacity and Implementation Strategies

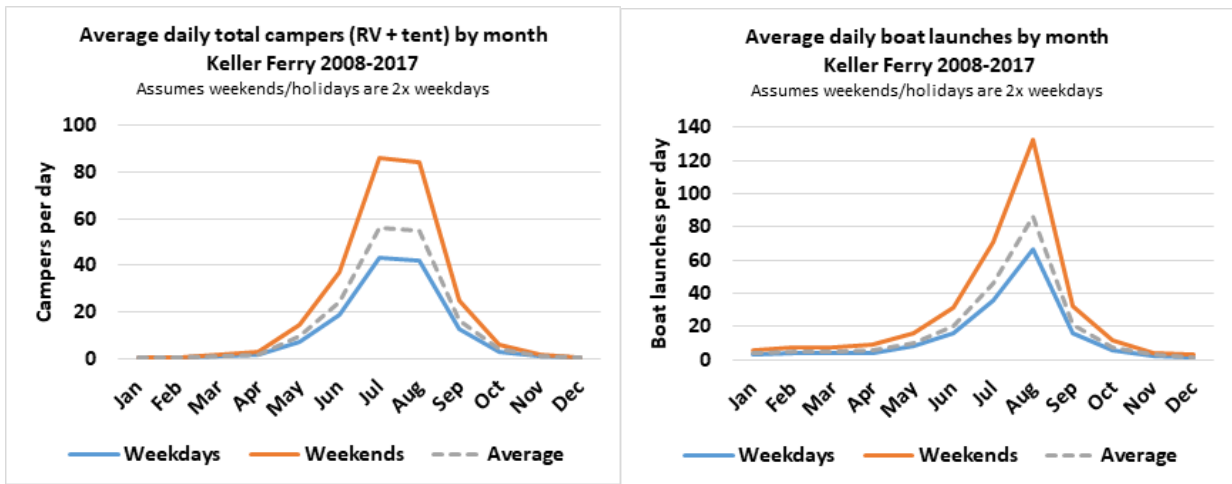
Park staff identified the need to maintain current visitor use levels at Fort Spokane. Therefore, the proposed alternative maintains a similar level of camping experiences, while also changing the number of visitors per campsite to six instead of ten. To achieve desired conditions, the proposed alternative would add spacing and screening between campsites for increased visitor privacy, improve circulation at the boat launch to reduce visitor conflicts and safety hazards, and incorporate universal design strategies to expand visitor access and experience at Fort Spokane. Overall, the proposed alternative would continue to provide visitor capacity, accommodating 1075 people per day, including campers, day users, and boat launchers. Better defined campsites would achieve desired conditions by reducing visitor impacts and encroachments to natural resources. Reducing the number of campsites and designating a generator-free loop in the campground would allow the park to achieve desired conditions by providing the visitor with more privacy from other visitors in the campground and creating a diversity of visitor experiences. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 7: KELLER FERRY

Review of Existing Conditions

Keller Ferry provides a campground, group campsites, and general day use including a motorized boat launch. In the main campground, campsites are located on a lawn with no defined separation between them and poor parking circulation, causing user conflicts. Currently, there are 40 parking spaces in the day use area, 118 vehicle/trailer parking at the boat launch, 60 campsites, and 2 group campsites. Access to the shoreline is limited due to a gabion basket seawall and no courtesy docks.

Keller Ferry receives moderate visitor use typically in the summer months between May and October. The highest peak visitation month for Keller Ferry is August, receiving an average of 85 campers per day and 130 boat users per day. These trends can be seen in Figure A.14 and A.15. The park currently allows 10 campers per campsite. Using the number of campers per day from the charts below, this means that 9 campsites are occupied during a weekend day in July, on average. The existing facility design has 60 campsites. Current use levels reach 325 people at Keller Ferry on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.14 and A.15 Average daily total campers and boat launches by month at Keller Ferry

Keller Ferry is a concession-run campsite which has generated some complaints from visitors about cleanliness. The concessioner receives an average of 110 visitors per day during their high peak visitation month of September, see Figure A.16. The NPS still manages the boat launch.

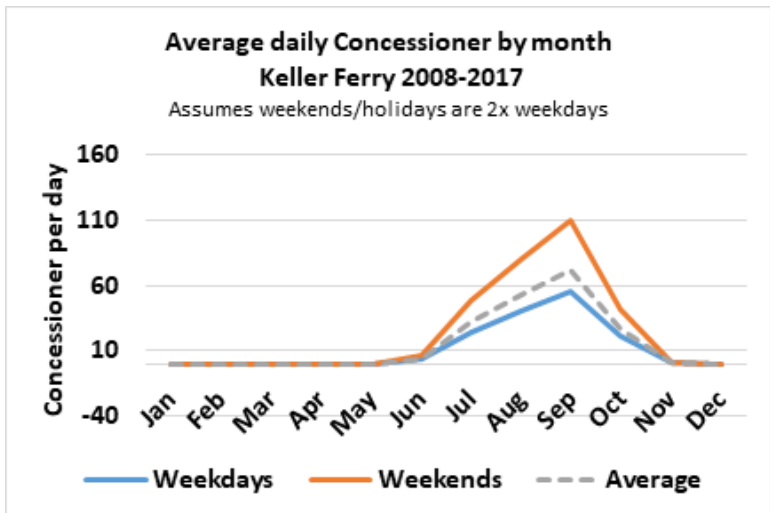


Figure A.16 Average daily total concessioner visits by month at Keller Ferry

Limiting Attribute

The most limiting attribute constraining visitor use levels at Keller Ferry is the visitor experience. More specifically, user conflicts in the campground. The desired condition to provide visitor camping experiences with varied levels of privacy is important at Keller Ferry. When the campground is congested and crowded the visitor experience is directly impacted. Also, the concession-run campground is a limiting attribute. Limited control, by the NPS, on the state of the campground can reduce visitor experience. Therefore, user conflicts in the campground is the primary attribute constraining visitor use levels at Keller Ferry, and the concession-run campground is secondary. Both of the identified indicators are important to monitor changes in conditions at Keller Ferry and are incidents of damage to natural and cultural resources and the visitor experience as well as parking availability.

Visitor Capacity and Implementation Strategies

Park staff identified the need to maintain visitor use levels at Keller Ferry including visitors using the concession managed campground. Therefore, while the proposed action slightly increases the number of campsites at Keller Ferry, the park is also managing the number of visitors per campsite to six instead of ten. To achieve desired conditions for expanding visitor access and experience, the proposed

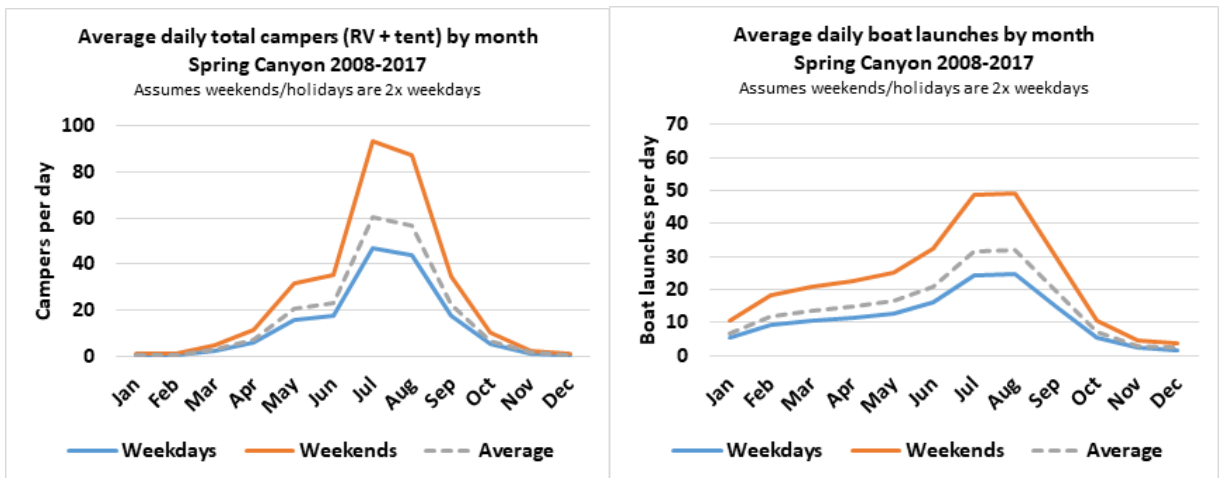
alternative would create more space and provide screening between campsites by reducing the number of sites in the current location and adding a new generator-free campground loop. In the action alternative, the visitor capacity would be maintained at 900 people per day, including campers, day users, and boat launchers. Increasing the number of campsites and better defining the space between the existing campsites, would allow the park to achieve desired conditions by providing the visitor with more privacy from other visitors in the campground and creating a diversity of visitor experiences. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 8: SPRING CANYON

Review of Existing Conditions

Spring Canyon provides campground loops, group campsites, and general day use including a motorized boat launch. In the main campground, campsites are close together with no defined separation between them, causing user conflicts. The upper loop in the campground has short overhangs that cannot accommodate taller vehicles. The boat launch is congested and has a confusing circulation pattern. Currently, there are 143 parking spaces in the day use area, 95 vehicle/trailer parking at the boat launch, 100 campsites, and 2 group campsites. The day use is heavily used by the locals.

Spring Canyon receives heavy visitor use typically in the summer months between March and October. The campsites and parking lots are typically full on weekends and holidays during the summer months. The highest peak visitation month for Spring Canyon is July, receiving an average of 90 campers per day and 50 boat users per day. These trends can be seen in Figure A.17 and A.18. The park currently allows 10 campers per campsite. Using the number of campers per day from the charts below, this means that 9 campsites are occupied during a weekend day in July, on average. The existing facility design has 100 campsites. Current use levels reach 140 people at Spring Canyon on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.17 and A.18 Average daily total campers and boat launches by month at Spring Canyon

Limiting Attribute

The most limiting attribute constraining visitor use levels at Spring Canyon is the visitor experience. More specifically, user conflicts in the campground. When the campground is congested and crowded the visitor experience is directly impacted. Also, parking conflicts that constrain water access is another limiting attribute. Poor circulation and parking layouts cause confusion for users, directly impacting the visitor experience. The desired conditions to provide visitor camping experiences with varied levels of privacy and to allow visitors to access sites more safely and efficiently through improved parking, circulation, and access are important at Spring Canyon. Therefore, user conflicts in the campground and water access are the limiting attributes constraining visitor use levels at Spring Canyon. Both of the identified indicators are important to monitor changes in conditions at Spring Canyon and are *incidents of damage to natural and cultural resources and the visitor experience* as well as *parking availability*.

Visitor Capacity and Implementation Strategies

Park staff identified the need to maintain current use levels at Spring Canyon. The proposed alternative would increase the total number of campsites at the site, while also updating the number of visitors per campsite to six instead of ten. To achieve desired conditions, the proposed alternative would add spacing and screening between campsites for increased visitor privacy and improving circulation at the boat launch to reduce visitor conflicts and safety hazards. In the action alternative, the visitor capacity would be maintained at 1375 people per day, including campers, day users, and boat launchers. Increasing the number of campsites, by adding an RV loop and removing some of the sites in the existing loop, would allow the park to achieve desired conditions by providing visitors with more privacy from other visitors in the campground and creating a diversity of visitor experiences. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

SITE 9: PORCUPINE BAY

Review of Existing Conditions

Porcupine Bay provides a campground and general day use including a motorized boat launch. In the main campground, campsites are extremely close together and mixes user group types causing conflicts. There is limited space to expand visitor use here. Currently, there are 75 parking spaces in the day use area, 86 vehicle/trailer parking at the boat launch, and 38 campsites.

Porcupine Bay is the closest developed site to Spokane and receives heavy visitor use typically in the summer months between May and October. The campground and boat launch parking lots are typically full on weekends and holidays during the summer months. The highest peak visitation month for Porcupine Bay is July, receiving an average of 60 campers per day and 80 boat users per day. These trends can be seen in Figure A.19 and A.20. The park currently allows 10 campers per campsite. Using the number of campers per day from the charts below, this means that 6 campsites are occupied during a weekend day in July, on average. The existing facility design has 38 campsites. Current use levels reach 140 people at Porcupine Bay on a busy day. Current use levels are not reaching the capacity that the facility design allows for.



Figures A.19 and A.20 Average daily total campers and boat launches by month at Porcupine Bay

Limiting Attribute

The most limiting attribute constraining visitor use levels at Porcupine Bay is the visitor experience. More specifically, user conflicts in the campground. The desired condition to provide visitor camping experiences with varied levels of privacy is important at Porcupine Bay. When the campground is congested and over-crowded the visitor experience is directly impacted. Therefore, user conflicts in the campground is the primary attribute constraining visitor use levels at Porcupine Bay. The identified indicator is important to monitor changes in conditions at Porcupine Bay and is an *incident of damage to natural and cultural resources and the visitor experience* as well as *parking availability*.

Visitor Capacity and Implementation Strategies

Park staff identified the need to maintain the visitor capacity at current use levels at Porcupine Bay. Therefore, the proposed alternative maintains a similar level of camping experiences, while also changing the number of visitors per campsite to six instead of ten. The proposed action maintains the number of campsites at Porcupine Bay while at the same time providing more spacing and screening between sites (and removing the double-unit campsites while at the same time adding a new campground loop). The proposed alternative also would update the number of visitors per campsite to six instead of ten. To achieve desired conditions the proposed alternative would formalize the overflow parking lot and include signage to reduce confusion and conflicts related to parking and day use areas. The proposed alternative would install boat tie rings for overnight boat moorage. This would increase the amount of boats that can be moored and reduce potential damage to infrastructure from environmental conditions such as winter ice. Therefore, visitor capacity would be maintained at 725 people per day, including campers, day users, and boat launchers. Maintaining the number of campsites, but creating more space and screening between them, would allow the park to achieve desired conditions by providing the visitor with more privacy from other visitors in the campground and creating a diversity of visitor experiences. Refer to the common to all and adaptive management strategies above to implement and manage to the visitor capacity.

APPENDIX C: ESTIMATED COSTS ASSOCIATED WITH ALTERNATIVES

NPS decision makers and the public must consider the advantages and costs of the alternatives studied in the VUSMP/EA. These include costs related to Alternative A, the no-action alternative, which would continue current management practices and the costs related to Alternative B, the proposed action and preferred alternative, which would implement VUSMP strategies and supporting improvements.

The purpose of this estimate of costs is to assist managers and the public make a relevant comparison among the alternatives and determine financial feasibility within the planning process. The costs presented in this appendix are conceptual level design estimates for comparison purposes only and are not to be used for budgetary purposes.

Implementation of the approved plan, no matter which alternative, would depend on future NPS funding levels; servicewide priorities; and partnership funds, time, and effort. Although the NPS hopes to secure funding to implement the preferred alternative and would prepare itself accordingly, the approval of this plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the plan could be many years in the future.

The following applies to costs presented in this plan:

- The costs are presented in 2020 dollars and have been developed using NPS and industry standards to the extent available.
- Actual costs will be determined at a later date, considering the design of facilities and identification of detailed resource protection needs, and at that time appropriate escalation factors would need to be added to these costs relevant to the projected date of construction.
- The cost estimates represent the total costs of projects. Potential cost-sharing opportunities with partners could reduce the overall costs.

The cost estimates in this section include annual operating, staffing, and one-time facility costs (related to implementing site improvements). These are further defined as follows:

- **Annual Operating Costs** are the total costs per year for operations and maintenance (O&M) associated with each alternative, including utilities, supplies, staff salaries and benefits, and other materials. Cost and staffing estimates assume that the alternatives are fully implemented as described.
- **Staffing** is the total number of person-years of staff or full-time equivalency (FTE) required to maintain the assets of the park at an acceptable level, provide visitor services, protect resources, and generally support park operations. The number indicates NPS staffing levels, not volunteer positions or positions funded by partners. Staffing salaries and benefits are included in the annual operating costs. A value of 1 FTE is equivalent to 2,080 hours of work in one year.

- **One-Time Facility Costs** include those costs for the design, construction, rehabilitation, and upgrades to campgrounds/campsites, group camps, day use areas, boat launch areas, associated circulation roads and parking areas, and other visitor and support facilities related to the conceptual plans presented in this VUSMP.

Throughout the planning process, the NPS took into consideration the environmental and financial impact of the estimated one-time facility costs (capital investments) to ensure that the plan is likely achievable and sustainable over the life of the proposed capital investments. The proposed actions incorporate internal NPS policy and guidance for facilities management and capital investment.

The planning team analyzed the ability of LARO to undertake the proposed improvements and associated financial responsibilities given current and projected availability of funding and personnel. Funding sources are limited, and as such, it is recognized that improvements likely would need to be phased over several funding cycles. Servicewide funding sources that the park historically has been able to obtain were considered as part of the financial strategy for the proposed capital investments.

The operations and maintenance over the life of the assets as well as the resources required to perform maintenance activities were analyzed and considered. Furthermore, the VUSMP incorporates opportunities to maintain and in some cases reduce the cost of operations and maintenance by renovating and updating landscaping and irrigation, clarifying circulation and parking, providing better signage and wayfinding, and implementing a variety of visitor use management strategies. The proposed actions in the VUSMP would help to address some of the deferred maintenance backlog associated with roads, parking, trails, maintained landscapes, and buildings.

Table B.1 provides a high-level summary of cost estimates and staffing (FTE) levels for Alternative A (No Action)—Continuing Current Management, and Alternative B (Proposed Action and Preferred Alternative)—Implementing the VUSMP. Tables B.2 and B.3 provide a more detailed breakdown of the estimated maintenance and operations costs per alternative. Table B.4 breaks out the estimated site improvement costs (one-time facility/capital investment) by site.

Table B.1 Cost Estimates/Alternatives Cost Comparisons

Costs and Staffing:	ALTERNATIVE A—NO ACTION, CONTINUE CURRENT MANAGEMENT	ALTERNATIVE B—PREFERRED ALTERNATIVE, IMPLEMENT THE VUSMP
Annual Operating Costs	\$3,477,538	\$2,110,564
Lake Roosevelt National Recreation Area Staffing (FTE)	45	45
One-Time Facility Costs (Capital Investments in Site Improvements)	\$0	\$ 64,929,532

**Table B.2 Alternative A- No Action, Continue Current Management
(Effective Requirement O & M Costs)**

SITES:	Facility Operations	Recurring Maintenance	Preventative Maintenance	TOTAL
EVANS	\$88,495	\$23,597	\$21,306	\$133,398
KETTLE FALLS	\$444,270	\$161,581	\$99,155	\$705,006
MARCUS ISLAND	\$48,338	\$44,914	\$19,043	\$112,295
GIFFORD	\$101,352	\$52,377	\$38,881	\$192,610
HUNTERS	\$125,507	\$67,825	\$49,321	\$242,654
FORT SPOKANE	\$422,853	\$220,598	\$101,461	\$744,913
PORCUPINE	\$113,410	\$49,665	\$40,552	\$203,627
KELLER FERRY	\$307,440	\$112,640	\$109,594	\$529,673
SPRING CANYON	\$337,115	\$154,664	\$121,584	\$613,363
				\$3,477,538

**Table B.3 Alternative B—Proposed Action and
Preferred Alternative, Implement VUSMP O & M Costs**

SITES:	Facility Operations	Recurring Maintenance	Preventative Maintenance	TOTAL
EVANS	\$44,513	\$19,942	\$12,162	\$76,617
KETTLE FALLS	\$267,675	\$95,306	\$70,891	\$433,872
MARCUS ISLAND	\$21,360	\$21,367	\$6,319	\$49,046
GIFFORD	\$56,553	\$25,434	\$29,931	\$111,918
HUNTERS	\$71,479	\$38,436	\$38,586	\$148,501
FORT SPOKANE	\$276,151	\$144,491	\$79,879	\$500,522
PORCUPINE	\$68,515	\$33,069	\$35,531	\$137,114
KELLER FERRY	\$155,612	\$54,292	\$73,508	\$283,412
SPRING CANYON	\$195,202	\$91,087	\$83,272	\$369,561
				\$2,110,564

For the cost estimates in Tables B.2 and B.3, Table B.2 represents the industry standard operations and maintenance costs to maintain facilities without any degradation to the assets. Table B.3 represents a preliminary estimation of how operations and maintenance costs could potentially be reduced with implementation of the management strategies and site improvements under the VUSMP. Park individual asset priorities are accounted for and given due weight in Table B.3. (Higher priority funding assets receive more time and funding than lower priority assets.) Tangible direct costs have been factored into these, such as fleet usage, FM support services, and management of such assets, all on a percentage basis.

**Table B.4 Alternative B—Proposed Action and
Preferred Alternative, Implement VUSMP
One-Time Facility/Capital Investment Costs for Site Improvements**

SITES:	TOTAL
EVANS	\$5,157,412
KETTLE FALLS	\$14,490,336
MARCUS ISLAND	\$1,088,748
GIFFORD	\$9,052,976
HUNTERS	\$5,763,563
FORT SPOKANE	\$8,469,758
PORCUPINE	\$8,187,916
KELLER FERRY	\$6,383,671
SPRING CANYON	\$6,335,153
	\$64,929,532

APPENDIX D: MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

The following measures would be implemented as needed to avoid, minimize, or mitigate potential impacts as a result of implementing the Alternative B—Preferred Alternative. The impact analysis presented in Chapter 3 assumes these mitigation measures and best management practices would be implemented.

Visitor Use and Experience

- Consider visitor safety in all planning, design, and construction of projects and with general maintenance and operation. A safety plan would be developed prior to the initiation of construction to ensure the safety of recreation area visitors, workers, neighbors, and park staff.
- Construction and site restoration work should be avoided as much as possible during peak periods of visitation, and in particular during evenings, weekends, and holidays.
- Longer construction delays or total road closures may require approval from the superintendent.
- Press releases would be distributed to local media, signs in the recreation area and ferry information to inform visitors about construction conditions during the projects.
- Consider using the principles of operational leadership in planning safe visitor access to park features.

Monitoring Guidelines Related to Visitor Use and Experience

- Past and ongoing monitoring will inform future mitigation measures to avoid impacts to visitor use and experience, as well as cultural and natural resources of the national recreation area. These include:
 - Monitoring of visitation through various methods such as visitor surveys and transportation and parking utilization data.
 - Periodic visitor surveys and data collection to determine visitor use patterns, visitor characteristics, visitor use conflicts, and visitor preferences and satisfaction with visitor opportunities and other programs, services and facilities.
 - Documenting and monitoring of law enforcement incidents.
 - Resource condition surveys, as needed.
 - Proactive addressing of safety measures using signs, bulletin boards, and sharing of safety information during staff interactions with visitors.
- Future monitoring also will inform mitigation measures to minimize impacts to visitor use and experience, as well as cultural and natural resources. These could include:
 - Enhancing ongoing monitoring programs by park staff and partners.
 - Using feedback from routine patrols and ranger interactions with visitors and results from other resource monitoring programs to analyze and manage current or future recreational activities and opportunities.

Natural Resources

- Consult with an NPS biologist before beginning construction to ensure impacts to vegetation and wildlife are kept to a minimum.
- Construction staging areas would be located where they will minimize new disturbance of area soils and vegetation.
- Ground disturbance would be minimized to the extent possible.
- No construction activities would occur when soils are wet.
- Parking areas and other actions which contribute to soil compaction would be minimized in areas with trees or shrubs and promoting the use of mats or plywood to minimize soil compaction impacts in sensitive areas during restoration activities.
- Prior to site restoration activities using heavy equipment, native plant material would be salvaged and replanted following removal of impervious surfaces and/or structures.
- Topsoil would be salvaged from excavated areas for use in re-covering source area or other project areas.
- Piling of excavated soils would be avoided alongside remaining trees, and carefully using heavy equipment to minimize damage to these trees.
- Windrowing topsoil at a height that would help to preserve soil microorganisms (less than three feet).
- Excavated materials from the project area would be reused (rather than removing). Imported driveway gravels would be removed and not used for fill in excavated foundation and septic tank sites as these change the nature of the soils and substrates.
- Project areas would be revegetated through native seeding and/or planting.
- Use of erosion blankets, hydroseeding, or bio-engineering practices on steeper slopes to minimize erosion prior to plant establishment.
- Weed-free clean fill and topsoil would be imported where needed.
- Clearing limits would be delineated to minimize the amount of vegetation loss.
- Silt fencing or other erosion control methods would be installed, to prevent loss of native soil.
- Construction limits for improvements would be clearly delineated to prevent expansion of impacts into additional undisturbed areas.
- Site restoration plans would be developed for areas of current visitor use that are removed and repurposed or revegetated, and would not only include the removal of all structures and improvements, but would also include re-contouring the site to original landscape conditions and restoration of hydrologic features, along with an intensive effort to plant native vegetation.
- During all construction activities, best practices for weed and erosion management would be used, including:
 - Minimize new ground/soil disturbance to the greatest extent possible and select previously disturbed areas for construction staging and stockpiling.
 - Fence or clearly mark construction limits to protect sensitive areas.
 - Enforce prevention of disturbances to vegetation and soil outside construction limits.
 - Ensure project personnel make daily checks of clothing, boots, laces, and gear to ensure no exotic plant propagates and no off-site soil is transported to the work site.
 - Thoroughly clean and pressure-wash vehicles and equipment to ensure all equipment and machinery are clean and weed free before being brought into the project area (to ensure that invasive weeds are not brought in from previous work sites by construction vehicles and equipment).

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- Cover all haul trucks bringing materials from outside the park to prevent seed transport and dust deposition.
 - Obtain all fill, rock, topsoil, or other earth materials from approved and/or inspected sites.
 - Enact erosion control measures such as siltation control devices to reduce erosion and capture eroding soils.
 - Driving would only take place on established roads and parking areas.
 - Remove of non-native landscaping trees and shrubs that have been found to naturalize and spread.
 - Eurasian water milfoil spread would be prevented by removing plant fragments from boat props, trailers, fishing lines, etc., prior to using or beaching boats.
 - Water quality monitoring data would be used to inform development of mitigation actions
 - To protect water quality during construction, soil erosion and disturbance would be minimized and disturbed areas would be re-seeded or revegetated as soon as practical.
 - Design of improvements would minimize the creation of additional impervious surfaces and consider low impact development treatments, such as permeable pavements and green stormwater infrastructure.
 - After completion of construction activities, the following measures would be applied to maximize vegetation restoration efforts:
 - Salvage available topsoil or several inches of native soil from the project area for reuse during restoration of disturbed areas.
 - Monitor for and treat invasive species within disturbed areas year-round.
 - Revegetate disturbed areas with native species, as necessary, to minimize long-term soil erosion and exotic plant encroachment. An attempt would be made to restore vegetation by using seed of native genotype collected locally. The use of exotic species or genetic materials would be considered only where deemed necessary to maintain a cultural landscape or to prevent severe resource damage.
 - Use erosion-control blankets and wattles to reduce erosion and encourage seedling establishment.
 - Ensure park animal feed provided by the park is weed free.
 - Institute restoration activities immediately after construction is completed. Monitoring would be carried out to ensure that revegetation is successful, plantings maintained, and unsuccessful plant materials replaced.
 - Plan work on facilities in the park to reduce impacts on vegetation. Site-specific surveys would identify areas to be avoided because of terrain or resource concerns.
 - Revegetate so as to reconstruct the natural spacing, abundance, and diversity of native plant species as much as possible. All disturbed areas would be restored as much as possible to pre-construction conditions shortly after work is completed.
 - Monitor vegetation for impacts caused by maintenance of all facilities and infrastructure associated with the implementation of this plan and general park operations.
 - Restoration activities would be scheduled to avoid or minimize impacts during sensitive periods (e.g., bird nesting and breeding seasons, periods of critical mammal use such as fawning periods, squirrel nesting, etc.).
 - Avoid removal/disturbance of possible bat and bird roosting/nesting sites in trees and other locations.
 - All outdoor lighting should be shielded and faced downward and design and placement of lighting would occur in accordance with dark sky best practices.
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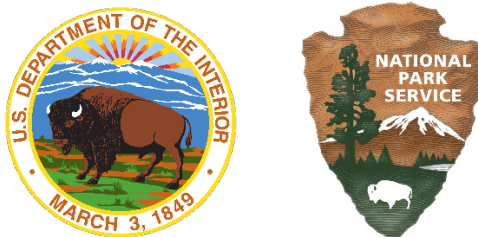
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- Campers/visitors would be encouraged to limit the effects of light and noise on wildlife habitat by directing lighting inward and downward and by minimizing noise.
 - Regulations that prohibit the feeding of wildlife would be enforced.
 - Campers/visitors would be encouraged to maintain proper food storage, disposing of all food waste and food-related waste promptly, in a bear-proof receptacle, if available.
 - Campers/visitors would be required to keep all domesticated animals and pets restrained or on leash.
 - To enhance wildlife habitat, disturbed areas during construction and other repurposed areas would be restored to native vegetation, including with plants that would provide food and shelter.

Cultural Resources

- In consultation with the State Historic Preservation Officer, American Indian Tribes, and other interested parties the NPS would apply the following measures to avoid or minimize impacts on archaeological and ethnographic resources:
 - All activities would comply with The Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation and Director's Order 28: Cultural Resource Management.
 - Archaeological inventory and/or evaluation and historic properties studies would be conducted during project planning and design and prior to construction and any and all ground-disturbing activities where inventories have not been previously conducted. Historic property assessments will determine the significance of sites and structures or buildings and how these should be treated as part of any site improvements.
 - Archaeological resources would be identified and delineated prior to project work. All construction projects would be sited to avoid impacts as much as possible.
 - The NPS would ensure that all contractors, subcontractors, and lessees are informed of the penalties for illegally collecting artifacts or intentionally damaging archaeological sites. Contractors and subcontractors would be instructed on procedures to follow if previously unknown archaeological resources are uncovered during implementation.
 - Mitigation measures would be developed in consultation with the State Historic Preservation Office and the Tribes prior to initiating any project that has a potential effect on cultural resources.
 - Archaeological monitoring would continue during construction in areas where there is potential for buried resources. Ground-disturbing actions would be monitored as appropriate during construction to ascertain presence/absence of archaeological materials within the proposed construction zone. If archaeological resources were suspected or identified, permittees would be required to stop work in the area as directed by the park until the find could be evaluated and action taken to avoid or mitigate the impact. If this is not possible, as much information as possible would be collected about the site in accordance with applicable laws, and regulations and additional consultation with applicable agencies and tribes would occur as specified in the implementing regulations for Section 106 of the NHPA.
 - Equipment and material staging areas used during construction projects would avoid known archaeological resources.
 - Fencing off highly sensitive archaeological and ethnographic sites within the project area would be implemented as needed.
 - If previously undiscovered archaeological resources are uncovered during construction, all work in the immediate vicinity of the discovery would be halted until the resources could be identified
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and documented and an appropriate mitigation strategy developed in consultation with the Washington State Historic Preservation Office and American Indian Tribes. Newly discovered archaeological sites would be assessed for significance and national register eligibility by an NPS-approved archaeologist. The archaeologist would then determine if the area should be excluded from construction activities and how the exclusion would be made. All project personnel would be briefed to stay out of areas of sensitive archaeological resources.

- In the unlikely event that human remains, funerary objects, or objects of cultural patrimony are discovered during construction activities, applicable provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) (Public Law 101-601) and its implementing regulations would be followed. NPS would follow procedures outlined in the NAGPRA in the event that human remains or any objects protected under NAGPRA are exposed. This would include the potential need to stop work for a minimum of 30 calendar days. During that time, work may resume in non-sensitive areas.



As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



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