

2017

RESERVOIR PARKS MASTER PLAN

LARIMER COUNTY DEPARTMENT OF NATURAL RESOURCES

DECEMBER 2017 FINAL DRAFT



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Cover photos clockwise from top: Jeff Andersen, Charlie Johnson, Walt Hubis, Harry Strharsky
This page: Fishing at Flatiron Reservoir. Photo: Sue Burke

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Carter Lake Marina	Larimer County Horseman's Association
Carter Lake Marina Customers	Larimer County Open Lands Advisory Board
Carter Lake Sail Club and Members	Larimer County Planning Commission
Centennial Bass Club	Loveland Open Lands Committee
Colorado Mountain Club	Mountain SUP
Colorado Natural Heritage Program	Northern Colorado Climbing Coalition
Colorado Parks and Wildlife	Northern Colorado Water Conservancy District
Colorado State University Crew Team	Overland Mountain Bike Club
Colorado Walleye Association	Quarter Horse Association
FoCo Trails Advisory Group	Reservoir neighbors
Fort Collins Mountain Bike Association	Stillwater Fishing Advocates
Fort Collins Rowing Association, Inc.	Team BOB (Babes on Bikes)
Horsetooth Sail and Saddle Club / Horsetooth Recreation Corp.	US Forest Service
Inlet Bay Marina	



Horsetooth Reservoir Camping. Photo: Harry Strharsky

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Junior Sailing at Carter Lake. Photo: Dana Chapman

ABBREVIATIONS AND ACRONYMS

ABA	Architectural Barriers Act	MBTA	Migratory Bird Treaty Act
ADA	Americans with Disabilities Act	MOU	Memorandum of Understanding
Admin Building	Natural Resources Administrative Offices	NEPA	National Environmental Policy Act
ANS	Aquatic Nuisance Species	NHPA	National Historic Preservation Act
ARC	American Recreation Coalition	NISP	Northern Integrated Supply Project
ARPA	Archeological Resources Protection Act of 1979	Northern Water	Northern Colorado Water Conservancy District
C-BT Project	Colorado – Big Thompson Project	NRHP	National Register of Historic Places
CIP	Capital Improvement/Replacement Plan	PAB	Larimer County Parks Advisory Board
CNAP	Colorado Natural Areas Program	PCA	Potential Conservation Areas
CNHP	Colorado Natural Heritage Program	PRPA	Paleontological Resources Protection Act
CPW	Colorado Parks & Wildlife	Reclamation	U.S. Department of the Interior Bureau of Reclamation
CR	County Road	RMP	Resource Management Plan
CSFS	Colorado State Forest Service	SCORP	Statewide Comprehensive Outdoor Recreation Plan
CSU	Colorado State University	SHPO	State Historic Preservation Officer
EA	Environmental Assessment	USACE	U.S. Army Corps of Engineers
ECAO	Eastern Colorado Area Office	USFWS	U.S. Fish and Wildlife Service
EO	Executive Order		
GOCO	Great Outdoors Colorado		
IPaC	Information for Planning and Conservation		
Larimer County	Larimer County Department of Natural Resources		



Sailing
on Carter
Lake. Photo:
Larimer
County
Natural
Resources

A photograph of a sailboat on a reservoir with a forested background. The sailboat is white with a yellow stripe and has the number '8' on its sail. Two people are visible on the deck. The water is dark and reflects the surrounding environment. The background is a dense forest of green trees.

CHAPTER 1. INTRODUCTION

For more than 70 years, Larimer County in northern Colorado has served as a regional provider of natural resource-based recreation. In the early 1950s four reservoirs were built, Horsetooth Reservoir, Carter Lake, Pinewood Reservoir, and Flatiron Reservoir, as part of the Colorado-Big Thompson (C-BT Project). Larimer County under an agreement with the U.S. Bureau of Reclamation (Reclamation) has managed recreation at these sites since 1954.

Approximately one million people visit the reservoirs every year, a number expected to grow faster than population growth. These visitors bring tourism and economic opportunities to businesses throughout the county along with sales tax revenues. The beauty and naturalness of the reservoirs enhance an already enviable sense of place, attract regional employers, and support high property values. These benefits do not come by chance but through careful stewardship, deliberate partnerships, and thoughtful planning.

This master plan takes a county-wide look at current and future issues, needs, and opportunities facing Larimer County. It is the result of a joint planning process that focuses on the four Reclamation reservoirs - the original core of the County's recreation program. Given the important role the four reservoirs play in meeting the needs of Larimer County residents as well as other visitors to the area, the four reservoirs receive a substantial degree of emphasis in this master plan. Some of the master plan content is derived from the Resource Management Plan and Environmental Assessment (RMP/EA) that was developed concurrently by Reclamation. However, the Reservoir Parks Master Plan addresses additional needs in the county that are beyond the scope of the RMP/EA including financing issues. The two plans were integrated in order to realize the efficiency of a joint planning and implementation effort.

Key objectives of both plans include protecting wildlife and biodiversity; preserving environmental resources and the cultural values of historical places; providing for outdoor recreation; and protecting the health and safety of visitors. These objectives, as well as management actions, must be met in an environmentally and economically sound manner.



WHAT IS THE ROLE OF THE U.S. BUREAU OF RECLAMATION AT THE FOUR RESERVOIRS?

Reclamation owns the land and infrastructure that the four reservoirs occupy. As such, the reservoirs must comply with a variety of federal mandates and policies, including the need to prepare an updated RMP and EA every 10 years. Reclamation has the primary stewardship responsibility to manage the lands under its jurisdiction in accordance with existing laws, policies, and guidelines.

In cases in which Reclamation lands are directly managed by others, such as through the management agreement with Larimer County, Reclamation exercises oversight responsibility to ensure that the managing agency fulfills its responsibilities pursuant to the terms and conditions of the management agreement between the parties.

PLANNING PROCESS

This chapter describes some of the key factors that influenced the development of the Larimer County Reservoir Parks Master Plan.

A Planning Team was formed to address management strategies, issues, and opportunities. The team included representatives from Reclamation, Larimer County, and the project consultant (Logan Simpson). The Planning Team was responsible for gathering public input and guiding the direction and scope of the RMP/EA as well as the master plan.

A Technical Advisory Committee was also formed to provide input on the development of the RMP/EA/Master Plan. This group primarily consisted of key federal, state, and local agencies, including Colorado Parks and Wildlife (CPW), Northern Colorado Water Conservancy District (Northern Water), Fort Collins Natural Areas, and various other departments in Larimer County.

The Larimer County Parks Advisory Board (PAB), a group appointed by the Board of County Commissioners and organized by Larimer County Department of Natural Resources, is charged with preparation and implementation of the Reservoir Parks Master Plan. Members represent a wide range of park and recreation, natural resource and community interests, and geographic areas. Through regular meetings with the Planning Team, the PAB provided feedback on the alternatives and planning priorities.

These groups met during each phase of the process (Figure 1.1).

Photo: Sue Burke



PHASE 1: FOUNDATION	
What methods should we use to reach you and what is your initial feedback?	Stakeholder Interviews Online Questionnaire #1
PHASE 2: Visioning	
Refine the vision, issues, objectives and opportunities for the plans.	Public Scoping Meetings Online Questionnaire #2
PHASE 3: Alternatives	
Provide input on the preferred opportunities and programs.	Alternatives Public Workshops Online Questionnaire #3
PHASE 4: Draft Plans	
Input on the preferred options, strategies and draft plans.	Draft Plan Public Meetings Public Review Period Online Questionnaire #4
PHASE 5: Final Plans	
Refine the final plans, support the adoption and define the steps for implementation.	Final Plan Presentations Public Hearings

Associated Engagement

Photo: Logan Simpson

Figure 1.1 Planning Process

3,000

PEOPLE HAVE COMMENTED
VIA EVENTS, QUESTIONNAIRES,
OR ONLINE



PUBLIC EVENTS AND TIMELINE

The public was closely involved throughout the process, from early input during issue identification and alternatives development to the review of the draft RMP/EA/Master Plan (Figure 1.1). Outreach across five phases involved multiple meetings with the public along with Technical Advisory Committee and PAB meetings, and meetings with other key stakeholders.

Along with the general public, multiple stakeholder groups were represented during the public process including, but not limited to, neighbors, rowing/boating/fishing clubs, mountain bike/equestrian/climbing groups, and concessionaires.

Two websites hosted by Larimer County (www.onegreatcountytoplay.com) and Reclamation (https://www.usbr.gov/gp/eca/nepa/reservoir_parks_mp.html) provided project updates, meeting notifications, and meeting materials. The public was notified of meetings through both Reclamation and Larimer County press releases and Larimer County's e-newsletter and social media pages.

A complete summary of public input is documented in the Scoping Report and Alternative Concepts Open House/Questionnaire Summary appended to the RMP/EA.

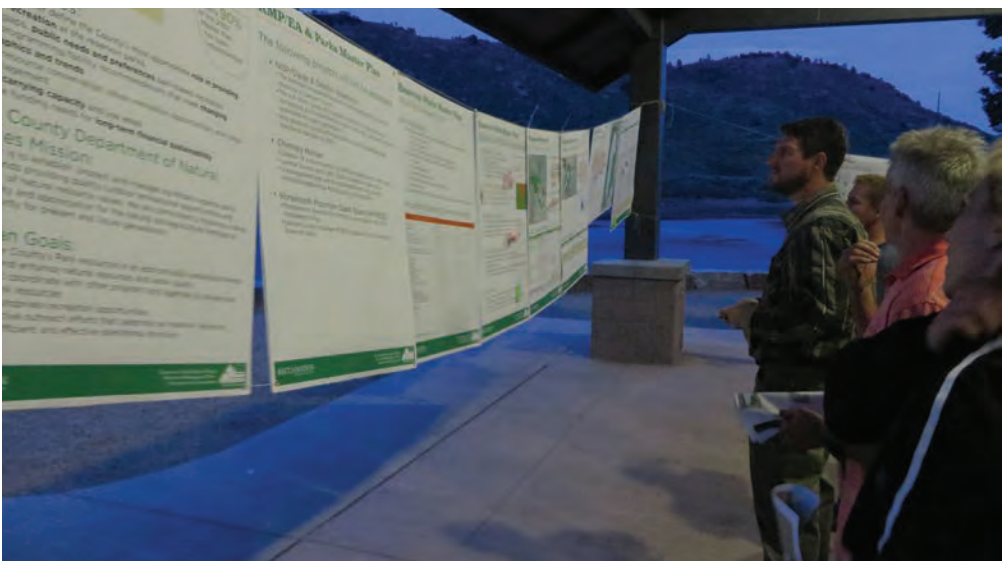
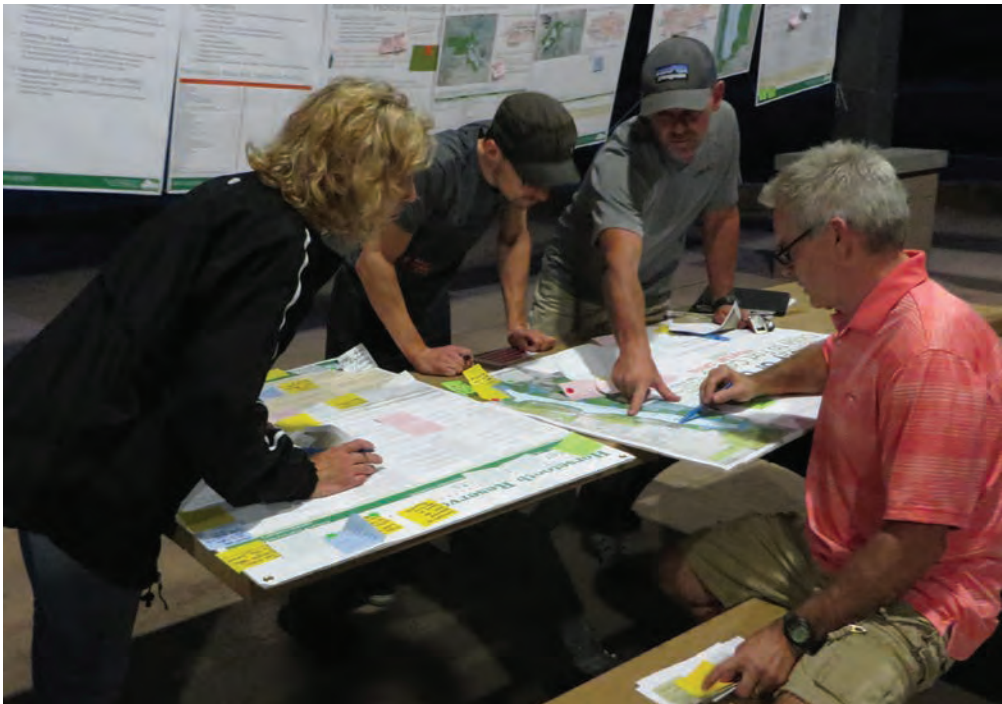


100,000+

PEOPLE HAVE RECEIVED DIRECT NOTIFICATION ABOUT OPPORTUNITIES

ISSUE IDENTIFICATION

Interviews were held with the Technical Advisory Committee and the PAB, concessionaires, user groups, and government organizations to solicit opinions about the management of the reservoirs. Stakeholder interviews included a diversity of user groups including motorized boaters, anglers, climbers, paddle boarders, campers, hikers, and mountain bikers.



Over 140 people attended public meetings during the 45-day scoping process. Photos: Logan Simpson



The scoping process extended over a 45-day period (July 7 - September 9, 2016) and provided an opportunity for the public to identify issues, opportunities, constraints, and ideas for managing resources and recreation use at the four reservoirs. Three meetings were held at Horsetooth Reservoir (South Bay Group Pavilion), near Carter Lake (Larimer County Natural Resources Administration Offices), and at The Ranch Events Complex (near I-25 and Crossroads Boulevard). In total, over 140 people attended the meetings and over 500 people commented online.

Each meeting was conducted in an open-house format that included a series of exhibits about the RMP/EA process, along with a summary of input received to date on each reservoir. Meeting participants were encouraged to discuss their issues and questions with representatives from Reclamation and Larimer County.

Larimer County also administered an online questionnaire during the scoping period. Comments are summarized in the Summary of Public Input in Chapter 2.

ALTERNATIVES DEVELOPMENT AND ANALYSIS

Following initial public and stakeholder input, concepts were developed for improvements to several recreation use areas at the reservoirs. The concepts were reviewed by the public during a 30-day review period (November 4 - December 3, 2016), and public meetings were held in Fort Collins and Loveland. A total of 93 participants attended the public meetings on alternatives. Hard copy and online questionnaires were provided that requested the public to review the alternative concepts and provide feedback on facilities provided, site layouts, and other content. A total of 744 people responded to the questionnaire.

PUBLIC REVIEW OF THE DRAFT RMP/EA

The 60-day public review period including public meetings for the Draft RMP/EA will occur in June and July 2017. Substantive comments received during the review period will be addressed in the final document.

Vessel Type	Standard Needs*
Sailboats	5 acres/boat
Water-skiing Boats	10 acres/boat
Fishing Boats	5 acres/boat
Sailboards	1 acres/boat
Hand-propelled Boats	1 acres/boat
Personal Watercraft	3 acres/boat
Pleasure Craft	5 acres/boat
*Based on National Red Cross Boating Standards and used at Cherry Creek and Chatfield State Recreation Areas	

Figure 1.2 Standard Needs by Vessel Type

Horsetooth Reservoir

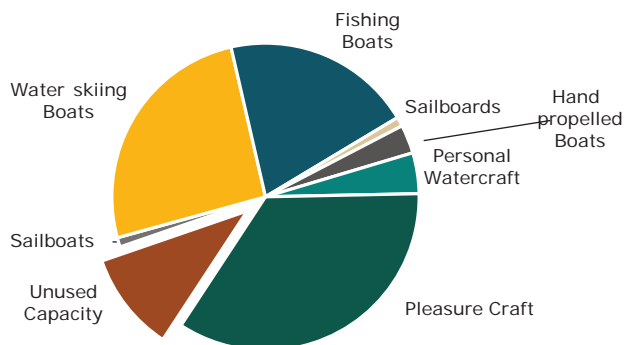


Figure 1.3 Types of Vessels Common to Horsetooth Reservoir

MANAGEMENT CONSTRAINTS

The ability of land management agencies to manage environmental and recreational resources depends on maintaining sufficient personnel and on the ability of the agencies to obtain adequate funding to operate and maintain facilities and programs. The following discussion addresses the legislative, environmental, carrying capacity constraints associated with the project area and management of the reservoir.

LEGISLATIVE CONSTRAINTS

Project planning and/or development on federal land must comply with a variety of rules, laws, and EOs. These include, but are not limited to, the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act, Migratory Bird Treaty Act, Fish and Wildlife Coordination Act, Clean Water Act, Clean Air Act, Americans with Disabilities Act (ADA), and NEPA. These legislative mandates require federal land management agencies to consider the effects of its management decisions on endangered or threatened species, water quality, Indian Trust Assets, recreation, fish and wildlife, and cultural resources.

Recreational use of the reservoirs is secondary to the foremost purpose of water storage: fulfillment of the C-BT Project's purpose of

delivering and storing water from the west slope for agricultural and municipal purposes. Operating the reservoirs for irrigation, power generation, and other downstream purposes limits Reclamation's ability to manage exclusively for recreation and for natural resources. The C-BT Project provides water to the Poudre River drainage to northeast Colorado, and currently over 70% of the water is used for municipal and industrial uses. As a result, reservoir levels will fluctuate to meet demand for water.

ENVIRONMENTAL CONSTRAINTS

Limiting factors, such as steep slopes, and the lack of an adequate land base at some locations, constrains the development of new or expanded recreational use facilities.

Constraints to recreation development include the following:

- Presence of a wetland or riparian vegetation.
- Sensitive habitat for certain wildlife species.
- Poor soils for constructing foundations and installing septic systems.
- Reservoir high water mark and inundation zones (e.g., 100-year flood plain).
- Slopes greater than 10 percent.

Carter Lake

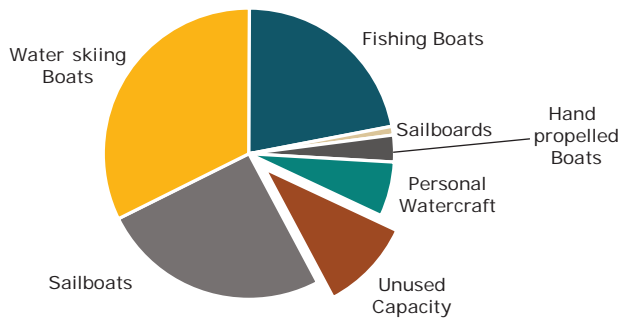


Figure 1.4 Types of Vessels Common to Carter Lake

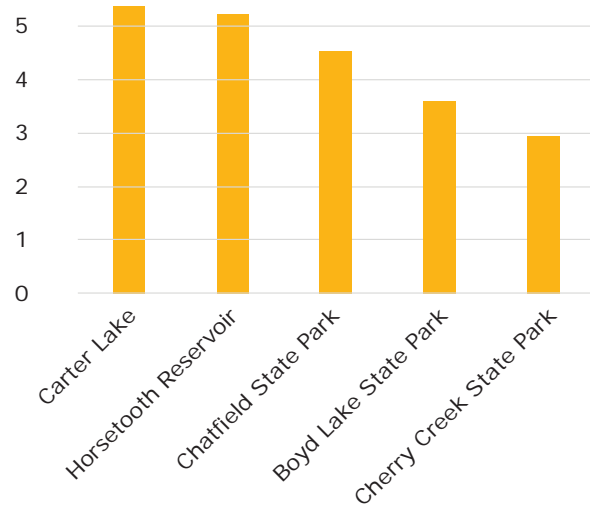


Figure 1.5 Acres of Water Per Vessel at Maximum Capacity

- Shoreline erosion areas, especially cliffs that are undercut by wave action.
- Hazardous geologic conditions.

These and other constraints were considered in the development of the master plan.

CARRYING CAPACITY CONSTRAINTS

Carrying capacity is the ability of a recreational resource to accommodate a user population at a measurable threshold without the number of users negatively affecting the resource or the visitor experience. Carrying capacity applies to both water and land surface acres.

The Vessel Capacity Control Programs for Horsetooth Reservoir and Carter Lake identify a boating carrying capacity system to provide a safe boating environment and enhance the recreational experience (Larimer County 1993). Boating capacity is based on a comprehensive review of prior research, including a consideration of the mix of boat types, seasonal variations in water levels/water surface acres, patterns of boat use, and several others. The number of boating vessels (sailboats, water-skiing boats, fishing boats, hand-propelled boats, pleasure crafts, and personal water craft) allowed on each reservoir varies throughout the

year based on water levels, decreasing as the water levels drop.

The carrying capacity is determined by applying acres per boating vessel standards, which are based on National Red Cross boating standards (see Figure 1.2). Applying these vessel carrying capacities to Horsetooth Reservoir and Carter Lake indicates unused capacity, as shown in Figures 1.3 and 1.4.

Boating capacity limits vary widely and reflect the setting and type of experience the public expects and the managing agency seeks to provide (see Figure 1.5). Capacities at comparable urban, motorized boating reservoirs range from a limit of 1 boat per 2.8 acres (Cherry Creek) to 4.5 acres (Chatfield). This variation demonstrates that boating capacity is not a one size fits all proposition and that limits are set to reflect a number of considerations, including public safety. Horsetooth Reservoir and Carter Lake are located in similar urbanizing settings. The established boating limit of over 5 acres per vessel is less intense than similar reservoirs and still accommodates the strong level of demand that exists on the Front Range for boating of all types.



Yoga at
Horsetooth
Reservoir.
Photo:
Charlie
Johnson

This chapter includes existing conditions and plans, the recreational setting of the reservoirs; key socioeconomic and population trends affecting recreation in Larimer County; and an analysis of water-based recreational trends, both national and statewide. A summary of public input covering the needs and desires of the park users, neighborhoods, and local interests concludes this chapter.

CHAPTER 2. FOUNDATION



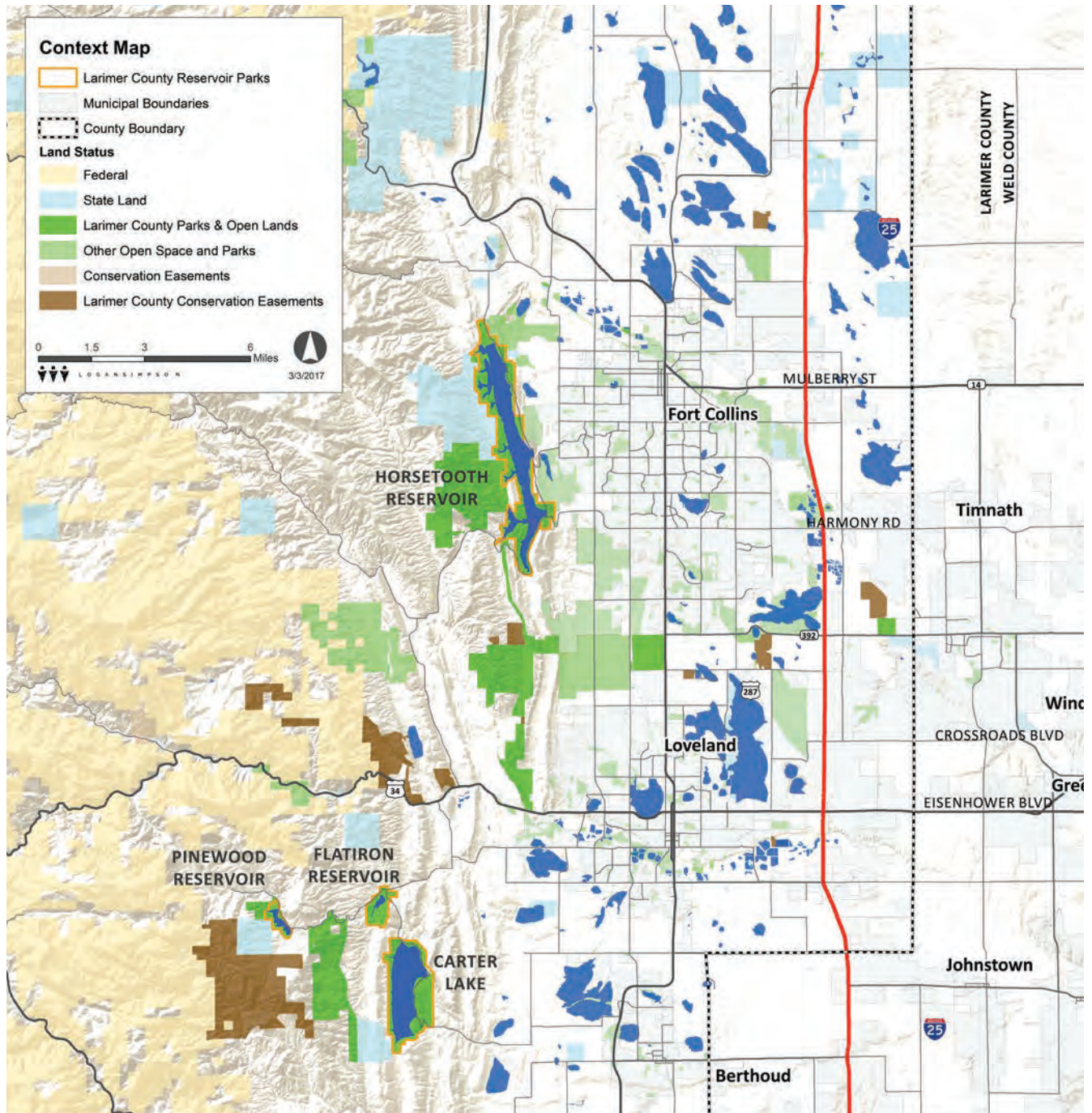
The four Reclamation reservoirs, located in the foothills of Larimer County just west of the Fort Collins-Loveland Metropolitan Area, are a part of one of the highest-quality recreation systems in the Country.

Almost 52 percent of Larimer County is in public ownership and managed by various city, county, state, and federal land management agencies. Municipalities across the county fulfill the responsibility of providing active parks, sports fields, recreation programs, and city natural areas. Federal opportunities include national forests adjacent to Front Range communities such as the Arapaho-Roosevelt National Forest and Rocky Mountain National Park in western Larimer County. CPW manages multiple state wildlife areas and two state parks in Larimer County: Lory State Park, adjacent to Horsetooth Reservoir, and Boyd Lake State Park in eastern Larimer County. An abundance of reservoirs, only some of which are publicly accessible, exist in Larimer County, relative to other parts of the state (Map 2-1).

In the context of these other providers, Larimer County's role in managing the reservoir parks is to provide high quality, natural resource-based outdoor recreation opportunities.

52% of Larimer County is publicly owned and managed

The mission of the **Larimer County Department of Natural Resource** is to establish, protect, and manage significant regional parks and open lands providing quality outdoor recreational opportunities and stewardship of natural resource values. We are committed to fostering a sense of community and appreciation for the natural and agricultural heritage of Larimer County for present and future generations.



Map 2.1 Regional Context Map

LARIMER COUNTY DEPARTMENT OF NATURAL RESOURCES' MISSION

The Department of Natural Resources manages a system of parks and open spaces throughout the county. The mission of the department relative to the reservoir parks is to ensure a reservoir parks system that:

- Supports the County's vision
- Anticipates the future
- Ensures a nationally-recognized park system
- Provides a diversity of recreational experiences
- Celebrates the natural environment
- Integrates with a larger recreational network
- Manages resources in an economically and environmentally sustainable manner

BUREAU OF RECLAMATION'S MISSION

Reclamation maintains primary jurisdiction of the federal lands and water at the four reservoirs and has overall responsibility for environmental resources. Reclamation administers all use authorizations for federal land and water areas at its four reservoirs. In providing proper stewardship of public lands, Reclamation is responsible for implementing and complying with all federal laws, regulations, and executive orders (EOs), such as NEPA;

C-BT Project authorizing legislation (Senate Document 80); the Endangered Species Act; NHPA; Archeological Resource Protection Act; Paleontological Resources Preservation Act; Fish and Wildlife Coordination Act; EOs 11644 and 11989, Off-Road Vehicles; EO 11889, Floodplains; EO 11990, Wetlands Protection; EO 12962, Recreational Fisheries; EO 13007, Sacred Sites; and EO 13186, Conservation of Migratory Birds. As such, Reclamation has ultimate responsibility for protecting and managing most of the resources at the four reservoirs.

Reclamation authorizes and manages concessions on its lands pursuant to Reclamation's manuals and Directives and Standards: Concessions Management by Non-Federal Partners. Reclamation and any managing partners will ensure that concessions are developed and managed to meet public needs, protect natural and cultural resources, and provide stewardship of all lands and waters, as well as to provide a variety of goods and services to the public while being consistent with authorized C-BT Project purposes.

The Northern Colorado Water Conservancy District (Northern Water) operates the water supply and delivery systems throughout the reservoirs, the primary purpose of the four reservoirs.

A separate RMP/EA has been prepared describing the environmental impacts and resource management framework.

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

MANAGEMENT PLANNING

In 1997, the original 1954 recreation agreement between Reclamation and Larimer County was replaced with the Memorandum of Understanding No. 97-AG-60-09220 (MOU). The MOU is for a period of 25 years and is renewable for an additional 25 years upon request by Larimer County. The total length of the MOU will not exceed 50 years, at which time it shall be renegotiated at the consent of both parties.

Larimer County maintains two system master plans for public lands that it manages, the Parks Master Plan and Open Lands Master Plan (Table 2.1).

Site-specific management goals are addressed in individual property management plans or subsequent habitat improvement plans. When a property is acquired by Larimer County Department of Natural Resources, the appropriate uses and stewardship are determined via an adopted management planning process prior to opening to general public access. Adopted plans and reports are available at <http://larimer.org/naturalresources/>.

Table 2.1 Existing Plans

Property	Reservoir Parks Master Plan	Open Lands Master Plan	Property Management or Habitat Improvement Plan
Big Thompson River Parks (Sleepy Hollow, Forks, Narrow, and Glade properties)		●	●
Bingham Hill Park		●	
Carter Lake	●		
Chimney Hollow Open Space		●	●
Devil's Backbone Open Space		●	●
Eagle's Nest Open Space		●	●
Flatiron Reservoir	●		
Fossil Creek Reservoir Natural Area		●	●
Hermit Park Open Space		●	●
Horsetooth Mountain Open Space		●	●
Horsetooth Reservoir	●		
Lions Open Space		●	●
Little Thompson Farm			●
Long View Farm Open Space		●	●
Pinewood Reservoir	●		
Ramsay-Shockey Open Space		●	●
Red-tail Ridge Open Space		●	●
Red Mountain Open Space		●	●
River Bluffs Open Space		●	●



EXISTING CONDITIONS

A wide range of recreational activities, facilities, and visitation are available at each of the four reservoirs. The reservoir parks consist of surface water and the land immediately adjacent, providing motorized and non-motorized water-based recreation, along with fishing, hiking, camping, picnicking, and mountain biking opportunities. The land and water acres are described in Table 2.2.

Table 2.2 Acreage of Larimer County Reservoir Parks

Park	Land Acres	Flatwater Acres	Total Acres
Horsetooth Reservoir	1,725	2,040	3,765
Pinewood Reservoir	141	97	238
Flatiron Reservoir	346	44	390
Carter Lake	1,104	1,114	2,218
Totals	3,316	3,295	6,611

Source: Reclamation Standard Operating Procedures, 2003-2005

Photo: Logan Simpson



RECREATIONAL ACTIVITIES

The primary activity at **Horsetooth Reservoir** is motorized boating, including wake boarding, tubing, water-skiing, fishing, and jet-skiing. Boats can be launched from South Bay, Inlet Bay, or Satanka Bay on the north end of the reservoir. The Inlet Bay Marina has 250 slips and 50 moorings, and there is currently a wait list for slips at the marina. Swimming, fishing, and paddle sports are also popular day-use activities as are picnicking, hiking, and mountain biking. The east side of the reservoir features renowned rock climbing and bouldering opportunities. The west side coves are designated wakeless areas and offer excellent fishing, camping, and paddling opportunities. Two large campgrounds are located at the south end of the reservoir. There are 53 campsites at Inlet Bay and 85 campsites at South Bay for a total of 138 sites.



Motorized boating is also one of the most popular activities at **Carter Lake**; however, the reservoir also provides some of the better opportunities for sail boating that occur along the Front Range. The entire eastern shoreline is designated as a wakeless zone. The north and south ends of the reservoir receive the most intensive use; these use areas consist of boat launches, day use areas, campgrounds, and the marina. The marina has 100 slips and 80 moorings and there are 50 slips available through the Sail Club at North Pines. There are 52 campsites at the South Shore area, 7 at Carter Knolls, 8 at Big Thompson, 8 at North Pines, and 49 campsites at Eagle Campground for a total of 124 campsites.

Horsetooth boating. Photo: Zach Schierl
Carter Lake Day Use. Photo: Dave Marvin

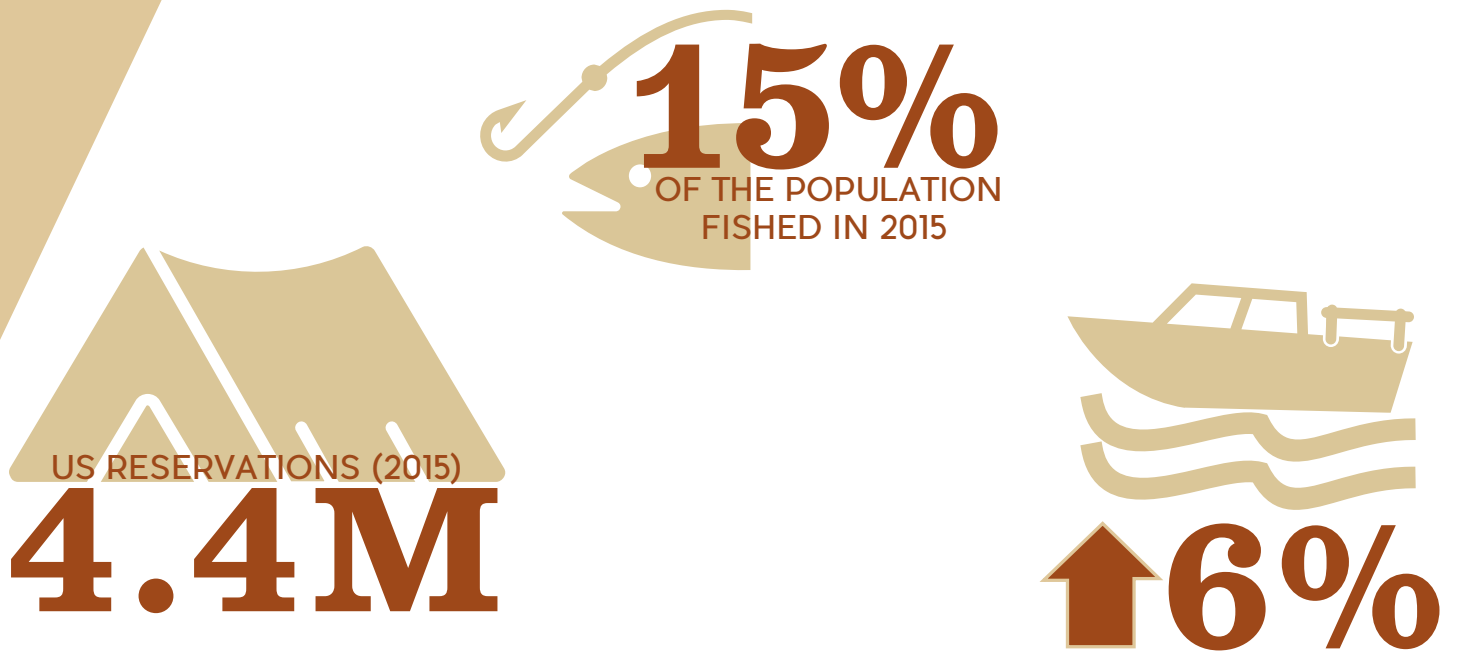
Pinewood Reservoir is open to wakeless boating only. Pinewood Reservoir offers the most natural/passive experience of the four reservoirs. Use and visitation levels are typically less intensive than the other reservoirs, which is primarily a function of the reservoir's location, size, water temperatures, and management policies. The most popular activities are fishing from non-motorized boats, such as kayaks and canoes, and camping. The campground was recently updated, including a new natural play area. Connecting to Ramsay-Shockey Open Space, multiple hiking opportunities exist around the reservoir. Fisherman's Cove at the northwest end of the reservoir is an especially popular fishing spot, and is accessible by foot only. The Pinewood Reservoir dam is open to foot traffic and provides fishing access to the west shoreline. There are a total of 31 campsites at Pinewood.



Flatiron Reservoir is also less intensively used than Horsetooth and Carter Lake. The user population at Flatiron Reservoir is historically comprised of an older population base that prefers RV camping to tent camping. A total of 37 campsites are available, including three tipis. Because of safety concerns relating to water level fluctuations, no boating or swimming is allowed at this site. The most popular recreation activities are fishing from shore, picnicking, and camping. Fishing opportunities are accessible from the campground and from the day use areas on the north side of the reservoir. Another day use area (Cheyenne) is located along the south side of the reservoir and accessible via CR 31.



*Pinewood Reservoir Fishing. Photo: Harry Strharsky
Flatiron Camping. Photo: Kevin Burkhardt*



NATIONAL, STATE, AND LOCAL TRENDS

Socioeconomic and recreational trends are and will continue to have a major impact on the future of the reservoirs. A major challenge for resource managers and planners is to ensure that recreation opportunities remain viable and adapt to a changing population. One only needs to look at how stand up paddle boarding has exploded in popularity to see that recreational trends change rapidly. Paddle boarding was just catching on in the early 2000s and is not mentioned once in the 2007 Parks Master Plan.

NATIONAL TRENDS

Overall, participation in nature-based outdoor recreation has grown in the last decade, continuing a long-term trend. The National Center for Natural Resources Economic Research estimates growth for most recreation activities for 2030. The five outdoor recreation activities projected to have the highest percentage growth in total days of participation are developed skiing, visiting historic sites/nature centers, day hiking, birding, and equestrian. In contrast, the five activities expected to grow the least are hunting, motorized snow activities, and motorized off-road use. Recreation activities that have been dominated by rural residents are also likely to decline, as the American population becomes increasingly more urban (NCNRER 2014).

Visits to public lands continue to increase year after year. Every year the American Recreation Coalition (ARC) produces an Outdoor Recreation Outlook report. It found that Recreation.gov recorded more than 22 million visits, an increase of 31 percent, and a 28 percent increase in users, with nearly 12 million in 2015 (ARC 2016). The 2016 Outlook included an overview of the following recreation trends (American Recreation Coalition 2016) as summarized below.

Motorized Boating. New boat sales continue to steadily recover but still remain below pre-recession highs. With an estimated 6 percent growth expected in 2015 and another potential 6 percent growth in 2016, the industry would be poised to return to near pre-recession levels of 250,000 new boats sold, including power, sail, and personal watercraft. Rentals are also on the rise as it becomes more expensive to own and maintain a boat (ARC 2016).

Paddle Sports. According to the America Outdoors Association, revenues for whitewater rafting, kayaking, and paddle sports are up significantly over 2014, with lower gas prices fueling family travel. This is indicated by a general increase in the number of paddleboard and kayak rental operations and sales (ARC 2016).

22

MILLION VISITS TO PUBLIC LANDS WERE RECORDED IN 2015, AN INCREASE OF 31 PERCENT



380,000

RVS SOLD (2016)

Camping. ACTIVE Network, the organization that manages Recreation.gov – the unified website for making reservations on all federal lands – reports that reservations increased 19 percent. There were 4.4 million reservations in 2015, up from 3.7 million in 2014.

RVs. The market for RVs has remained strong, and sales of new units in 2015 will rise to more than 370,000 units. This will mark a sixth consecutive yearly increase.

Forecasts for 2016 RV sales remain favorable with total shipments expected to surpass this year's estimate to finish at more than 380,000 units (ARC 2016).

Fishing. Fishing remains one of the most popular lures to the great outdoors. According to the 2015 Special Report on Fishing released by the Recreational Boating & Fishing Foundation (RBFF) and the Outdoor Foundation, the sport continues to grow, with 2.4 million newcomers who tried fishing in 2014 alone. Forty-six million Americans, 15 percent of the U.S. population ages six and older, participated in fishing last year. Additionally, over 47 percent of first-time fishing participants are female. Nearly 82 percent of fishing trips involve more than one person, and 81 percent of fishing trips are spontaneous or planned within a week of the trip.

Hispanic fishing participants average 26 days on the water per year, much more than the average for all fishing participants (19 days). Hispanic engagement has also increased. At the mid-point of the fiscal year, RBFF had 800,000 visits to Vamos A Pescar (RBFF's Fishing Program), doubling last year's full year total of 400,000. RBFF expect to hit 1 million by the end of the year (ARC 2016).

COLORADO TRENDS

Recent public polls conducted for the Colorado SCORP indicate that 90 percent of Coloradans participate in some form of outdoor recreation, and 60 percent will either greatly increase or somewhat increase their participation in outdoor recreation (CPW 2014).

A 2013 public survey for the Colorado SCORP found that the North Central Region (including Boulder and Larimer counties) is by far the most popular region for outdoor recreation, seeing almost 140 million days of activity (CPW 2013). Relative to the total number of activity days, the SCORP found that the North Central Region had higher walking, jogging, running, hiking, road biking, mountain biking, power boating, water skiing, kayaking, swimming, fishing, picnicking, rock climbing, waterfowl hunting, and wildlife viewing activity days than anywhere else in the state (CPW 2013). An activity day is defined by one day of participation in an outdoor recreational sport or leisure activity.



Water-based Recreation.

According to an intercept survey of parks and open space visitors, the majority of users live within a 2.5 hour drive of the Larimer County reservoirs (Larimer County 2007). Similarly, in previous surveys of Larimer County residents, users chose county facilities as their favorite place(s) to visit because of their proximity to home, as well as the experiences provided. These responses indicate that the Larimer County reservoirs, located within tolerable driving distance from all points along the growing northern Front Range, can expect increasing demand on their existing facilities. Table 2.3 lists the activity level of various water-based recreation activities in Colorado.



Trails. Consistent with other recent Larimer County studies, trails for hiking, biking, running, and walking continue to consistently be among the highest priorities identified during the public process, accompanied by public demand to acquire appropriate land, easements, and rights-of-way to develop non-motorized regional trail systems. Active recreationists are also seeking a higher level of functionality in trails-related recreation in the region. According to Great Outdoors Colorado (GOCO), 80 percent of Coloradans use an “expansive, accessible, and safe-to-navigate network of trails for outdoor recreation.” (GOCO 2016)

Photos:
Dana
Chapman,
Logan
Simpson



Camping. One notable tourism trend from the Colorado SCORP is the increasing number of Colorado overnight visitors who originate from within the state. About 40 percent of overnight visitors originated from instate in 2011, up from just over 20 percent in 1992 when the indicator was first measured by Longwoods International. For accommodations, tent camping was most preferred (43 percent), followed by hotel/motel (32 percent) stays, then RV camping (18 percent).



Facilities. In terms of services, 50 percent of residents indicated that they preferred basic services, such as toilets, shelters, running water, and picnic areas in outdoor recreational areas as opposed to more developed areas (with concessions and guided tours) and areas that do not offer any services. A trend toward fewer services and away from developed services is seen from 2007 to 2013. At the same time, park managers receive more and more requests for full RV hookups (water, sewer, electric) and, not surprisingly, Wi-Fi.



Natural Play. A dominant trend nationwide and especially in Colorado has been the development of natural play spaces. Natural play spaces encourage free play and the use of “loose parts” such as sticks, rocks, sand, water, and other objects that can be manipulated.

90% of Coloradoans participate in some form of outdoor recreation and 60 percent will either greatly increase or somewhat increase their participation (CPW 2014).

Photos: Dave Marvin, Dave Marvin, Maura Bishop



Table 2.3 Participation in Specific Activities*

Activity	Percent of Population	Rank
Walking	67	1
Hiking/Backpacking	52	2
Picnicking	37	3
Fishing	36	4
Tent Camping	36	5
Swimming (outdoors)	30	8
Mountain Biking	22	11
Wildlife Viewing	19	12
Developed/RV camping	15	18
Power Boating	13	20
Rock Climbing	13	21
Horseback Riding	7	26
Water Skiing	7	27

Activity	Percent of Population	Rank
Kayaking	5	30
Jet Skiing	4	33
Canoeing	4	34
Stand-up Paddleboarding**	3	37
Sailing	1	38

Source: Colorado SCORP (CPW 2014)

*Lists only those activities that commonly occur at the reservoirs.

**Participation in this activity has been growing rapidly and has likely become more popular since the SCORP was completed. Nationally, SUP activity days increased from 1.1 million activity days in 2010 to 2.8 million activity days in 2014.

Photo: Logan Simpson



LARIMER COUNTY TRENDS

Population Growth

As the population grows and changes, the needs of local residents and visitors to the parks will change as well. Since the 2007 Master Plan was adopted, Larimer County added nearly 50,000 residents. By 2040, an estimated 150,000 people – equivalent to the population of Fort Collins today – will be added to Larimer County. Many of these will be the children and grandchildren of Coloradoans.

This population growth means that 5,040 acres of parkland and 2,240 acres of flatwater (another Horsetooth Reservoir) are needed in order to offer similar opportunities in the future. See the future parks section in Chapter 3 for more details.

Health Trends

While Larimer County adults are some of the leanest in the nation, they have not escaped the national obesity epidemic. The county's obesity rate has risen 200% in the last 20 years to 24% of the population (Colorado 2010). This is the second-fastest rate in the nation. More than 22% of Colorado kids are obese or overweight (GOCO 2015). Obesity-related conditions including heart disease, stroke, and Type 2 diabetes are some of the leading causes of preventable death in Larimer County.

One in four adults in the county are obese, with more than half being overweight or obese.

Photo: Dave Marvin

#3

Horsetooth Reservoir ranked as the **#3 best lake** in the United States by Foursquare.com. No other Colorado lake made the top 30. Take *that*, Lake Tahoe (#6)!

Reservoir Parks Visitation & Participation

Both the 2012 Plug Into Nature and 2013 Our Lands, Our Future studies found a desire for more access to natural water bodies for recreation. Figure 2.1 shows that, when allocating a finite amount of resources (in this case, \$100), buying land or acquiring rights to protect water resources and natural habitats is the number one priority; acquisition of more outdoor recreation opportunities is also at the top.

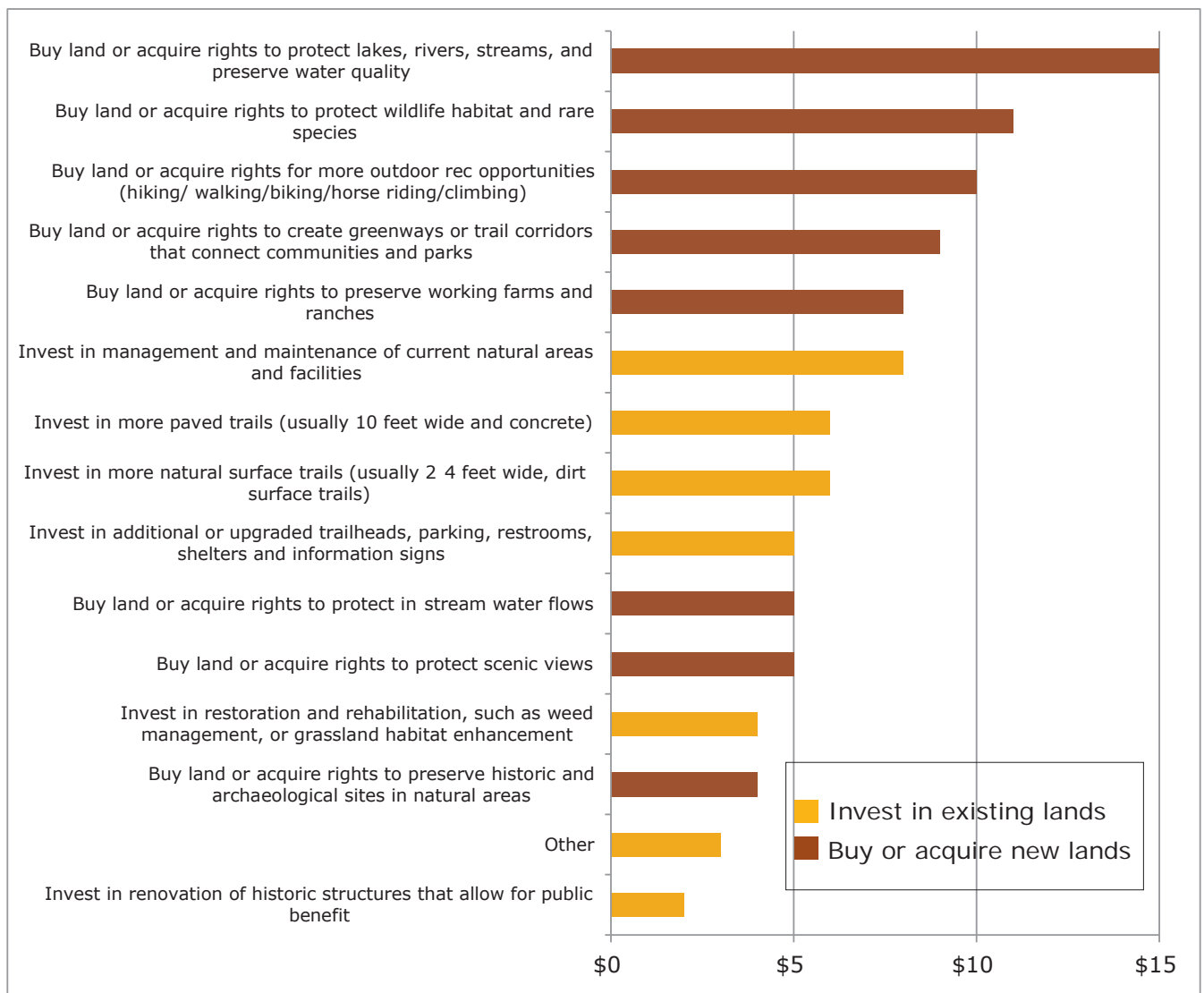


Figure 2.1 How would you allocation \$100 in public funding? (Source: Our Lands, Our Future, 2013)

While no formal visitation studies have recently been completed, annual passes and day use permits are tracked on an annual basis. Total annual visitation for 2016 at all of the reservoirs is estimated to be approximately between 650,000 and 1.4 million. Visitation was estimated by multiplying day use permits by an average group size and annual passes by a typical visitation rate and the average group size. Based on a study from CPW on visitation at state parks, which have similar visitation patterns, the average group size is 2.84 people. From the same study, the range of annual pass visitors to reservoir parks within the Colorado State Parks system includes 10.97 at Boyd Lake State Park to 42.38 visits per year at Chatfield State Park. Boyd Lake is a comparable example based on size, location, and types of uses (CPW 2009). Additional information on visitation is provided in Table 2.4 and Table 2.5 and Figure 2.2 and Figure 2.3.

Table 2.4 *Estimated Visitation for Day Permits*

Day Permits			
	Total Day Permits Sold*	Group Size+	Total Visitors (Day Permits)
2016	140,163	2.84	398,063
2015	135,505	2.84	384,834
2014	120,485	2.84	342,177
2013	106,215	2.84	301,651
2012	85,995	2.84	244,226

Source: *Larimer County 2017, +CPW 2009

Table 2.5 *Estimated Visitation for Annual Passes*

Annual Passes					
	Total Annual Passes Sold*	Annual Visit Times (Low)+	Annual Visit Times (High)+	Group Size+	Total Visitors (Annual Passes)
2016	8,470	10.97	42.38	2.84	263,881 - 1,019,442
2015	7,752	10.97	42.38	2.84	241,512 - 933,025
2014	6,983	10.97	42.38	2.84	217,554 - 840,468
2013	5,108	10.97	42.38	2.84	159,139 - 614,795
2012	8,547	10.97	42.38	2.84	266,280 - 1,028,710

Source: *Larimer County 2017, +CPW 2009

2016 visitation is estimated between
650,000 - 1.4 million

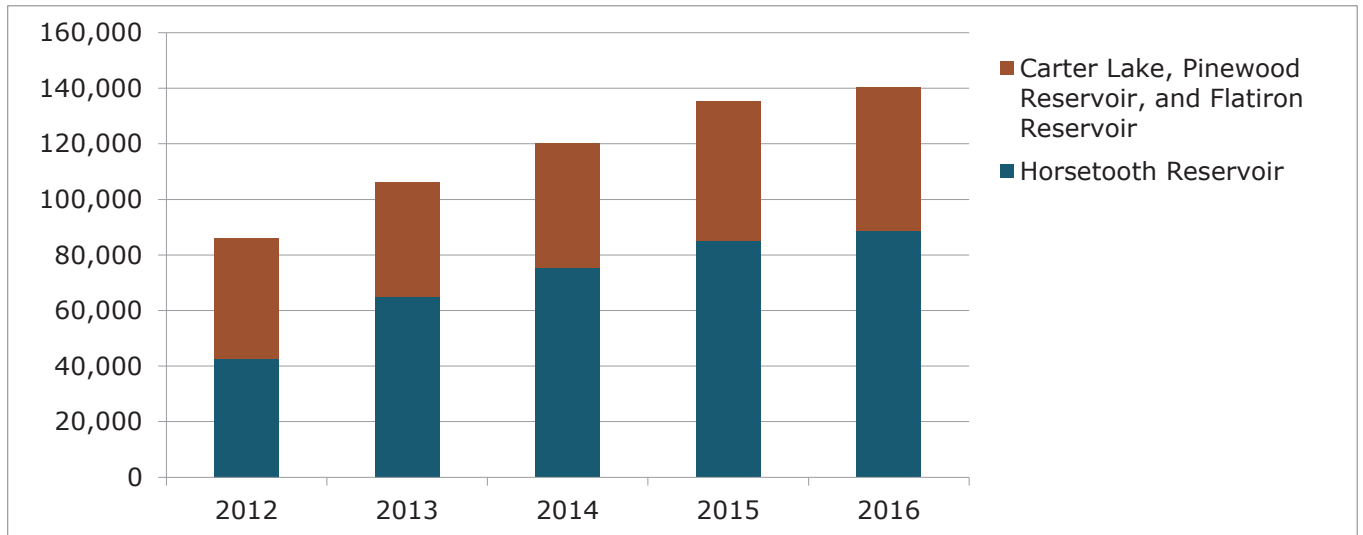


Figure 2.2 Total Day Permits (Larimer County 2017)

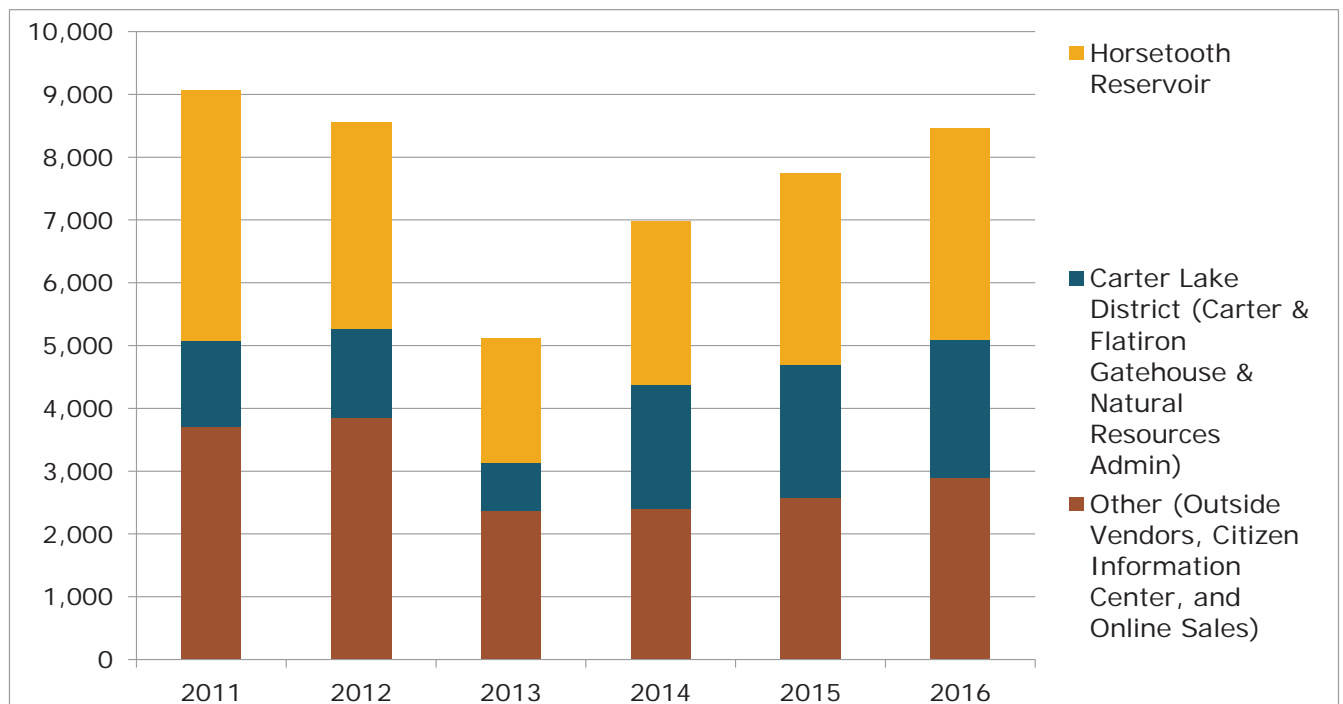


Figure 2.3 Total Annual Passes Sold by Year by Location

Although annual pass sales decreased in 2013, there was a significant increase in day permits sold in 2013. Therefore, there was no decrease in revenue. This could be attributed to a series of factors including an increase in the cost of annual passes, installation of automated pay stations, and change of pass structures. Annual passes are now transferable between vehicles and valid for a year after the purchase date.

Boating vessel capacities at Horsetooth Reservoir and Carter Lake are influenced by water levels. Currently, boating capacity is limited by the number of parking spots available to boat trailers. The following capacities (boats at one time) have been established by Larimer County for each of the four reservoirs under full water conditions:

- Horsetooth—380 boats
- Carter—189 boats
- Pinewood—16 boats
- Flatiron—no boat access

Whether the boating carrying capacity is being approached is determined by calculating the number of empty boat trailers plus 20 to 40 percent, on average, of the boats that are in moorings or slips. Demand for water stored in Horsetooth and Carter Lake is greatest during the prime recreation season, June through August, when it fluctuates widely. At Horsetooth and Carter Lake, areas near the high water shorelines become isolated from the water edge at lower water levels. For example, at Horsetooth the drawdown nearly dries up the southern end of South Bay and the water recedes several hundred feet in other areas by the end of the summer. A similar pattern in water levels occurs at Carter Lake.

According to the 2014 Colorado Statewide Comprehensive Outdoor Recreation Plan (SCORP), 13 percent of the state's population participate in power boating annually and 36 percent participate in fishing (all types) (State of Colorado 2014). On average 59,000 boats go through Aquatic Nuisance Species (ANS) boat inspections every year at Horsetooth and Carter (Table 2.6). These numbers do not account for the number boats that leave from the marinas.



Table 2.6 Aquatic Nuisance Species Boating Inspections

Year	Total Inspections	Decontaminations
2016	59,500	1,325
2015	59,946	1,256
2014	54,555	258
2013	60,219	212
2012	49,741	217
2011	61,489	271

Source: Larimer County 2017

Carter Lake Marina.
Photo: Sue Burke



Recreational use varies seasonally and throughout the week; however, there is a growing trend of more use during the shoulder seasons and during the week. The heaviest use, approximately 80 percent, continues to occur on the weekends and holidays between late May and early September.

Camping is available at all four of the reservoirs. Camping accommodations range from full RV hook-ups to walk-in tent sites. Horsetooth Reservoir also offers boat-in camping along the western edge of the reservoir and cabins at the South Bay Campground. Flatiron offers a unique camping experience where tipis can be reserved.

Camping reservations are highest during the peak season, between Memorial Day and Labor Day. Occupancy rates continue to rise for all seasons, with the late shoulder season and off seasons showing strong increases in occupancy. Table 2.7 and Figure 2.4 provides occupancy rates for all four reservoirs over the past 5 years.

Photo: Dave Marvin

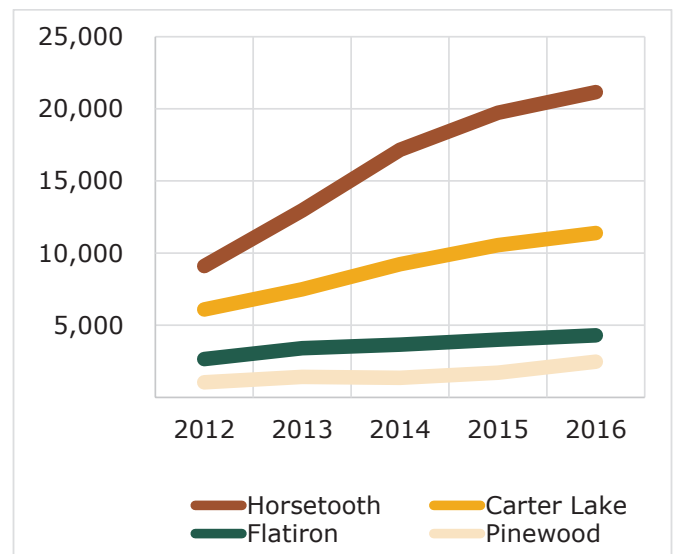


Figure 2.4 Larimer County Camping - Number of Occupied Nights by Location by Year

Table 2.7 Reservable Camping Sites by Reservoir

Year	Reservation Nights					Occupancy Rate				
	Annual Quantity	Peak (Memorial -Labor Day)	Early Shoulder (April 1-Memorial Day)	Late Shoulder (Labor day -Oct 31)	Off Season (Nov 1-Mar 31)	Annual	Peak (Memorial -Labor Day)	Early Shoulder (April 1-Memorial Day)	Late Shoulder (Labor day -Oct 31)	Off Season (Nov 1-Mar 31)
Horsetooth										
2016	21,158	12,621	3,382	3,508	1,647	49%	87%	40%	44%	13%
2015	19,730	12,816	2,652	3,117	1,145	51%	82%	34%	43%	14%
2014	17,156	11,243	2,363	3,072	478	42%	77%	29%	37%	5%
2013	12,961	9,527	1,680	1,563	191	36%	65%	20%	20%	4%
2012	9,099	6,639	1,656	601	203	26%	49%	21%	11%	3%
2011	9,843	7,201	1,214	1,302	126	29%	54%	16%	18%	2%
Carter Lake										
2016	11,391	6,835	2,074	2,000	482	40%	74%	37%	37%	6%
2015	10,547	6,746	1,642	1,772	387	36%	67%	32%	35%	4%
2014	9,232	5,731	1,521	1,691	289	32%	60%	30%	31%	3%
2013	7,492	5,248	1,190	951	103	No Data	No Data	No Data	No Data	No Data
2012	6,095	4,173	1,043	830	49	24%	44%	20%	15%	1%
2011	5,801	4,209	791	797	4	24%	45%	14%	15%	0%
Flatiron										
2016	4,298	2,335	792	863	308	34%	66%	40%	43%	6%
2015	3,997	2,382	526	806	283	33%	63%	32%	43%	6%
2014	3,652	2,025	641	786	200	29%	57%	34%	37%	4%
2013	3,411	2,152	585	539	135	38%	66%	32%	28%	7%
2012	2,650	1,608	532	475	35	22%	50%	29%	25%	1%
2011	2,714	1,750	442	493	29	23%	54%	23%	27%	1%
Pinewood										
2016	2,471	1,523	466	451	31	39%	59%	30%	30%	4%
2015	1,708	1,313	42	349	4	41%	59%	17%	25%	1%
2014	1,353	1,076	256	19	2	No Data	No Data	No Data	No Data	No Data
2013	1,421	1,061	231	127	2	No Data	No Data	No Data	No Data	No Data
2012	1,037	818	159	60	-	No Data	No Data	No Data	No Data	No Data
2011	1,038	841	122	75	-	No Data	No Data	No Data	No Data	No Data

Source: Larimer County 2017



Pavilions continue to grow in popularity, and are reserved for weddings, retreats, and other group activities.

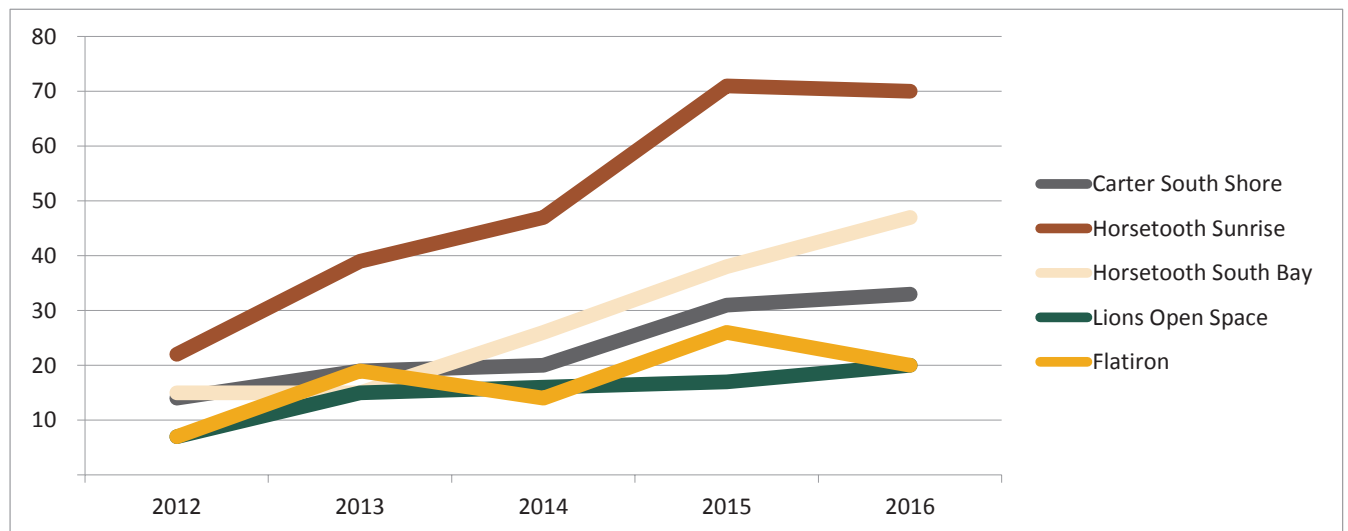


Photo: Logan Simpson

Figure 2.5 Use of Reservable Pavilions

SUMMARY OF PUBLIC INPUT

As part of this planning process, Larimer County conducted an informal, online questionnaire to determine the level of satisfaction, use patterns, issues, and desired experiences (Reclamation 2016). Hiking, mountain biking, swimming, picnicking, motorized boating, and fishing are the most popular activities (Figure 2.77).

Overall, visitors have expressed the need for additional swimming/swim beach areas, mountain biking and hiking, snowshoeing, and additional restaurants/concessionaires at the reservoirs. Additional educational programming for youth was also desired. Figure 2.88 illustrates whether the right amount, too much, or not enough opportunities are offered at the reservoirs collectively.

The questionnaire identified issues, ranging from management issues to new uses and impacts on land and water resources.

The following key resource topics and issues were identified by the public, the Technical Advisory Committee, PAB, and the Planning Team. The key resource topics are grouped into Natural Resources and Visitor Experience categories with corresponding comments and issues summarized below.

VISITOR EXPERIENCE

Recreation & Safety

Maintaining quality recreational experiences is a vital consideration in future management of the reservoirs. Education about on-water safety rules (including paddleboard/boat/rowing etiquette) and a strong ranger presence are essential elements of providing a safe recreational experience for a variety of users. Satisfaction with public safety at the four

10X Visitors to Horsetooth Reservoir often visit more than 10 times per year, while visitors to Carter Lake visit 2 to 5 times per year.

reservoirs of facilities ranks high (4.5 out of 5) from participants in an online questionnaire.

Conflicts between motorized and non-motorized users of the reservoirs are an apparent concern. Most conflicts seem to occur on the water, since paddle sports and power boats share the same areas. The turbulence caused by power boats, interference of non-motorized watercraft in motorized areas, and noise/exhaust complaints are among the most frequent responses. In response to concerns regarding motorized and non-motorized conflicts, the North end of Horsetooth Reservoir has been designated as an

area of patrol emphasis by the boat patrol staff at the park.

Boat ramps are the second-highest area of conflict between these two user groups, mostly due to safety concerns.

Figure 2.6 shows the number of enforcements and citations given

by rangers, as well as verbal warnings. The majority of citations were for personal floatation device violations and cliff jumping.

Visitors to Horsetooth Reservoir often visit more than 10 times per year, while visitors to Carter Lake visit 2 to 5 times per year. Participants noted that if they did not visit the reservoirs, it was because of a lack of free time, a concern that there were too many people, or the reservoir didn't offer the activities in which they are interested.

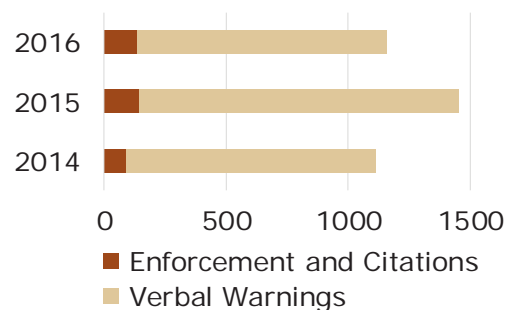


Figure 2.6 Enforcements vs Warnings

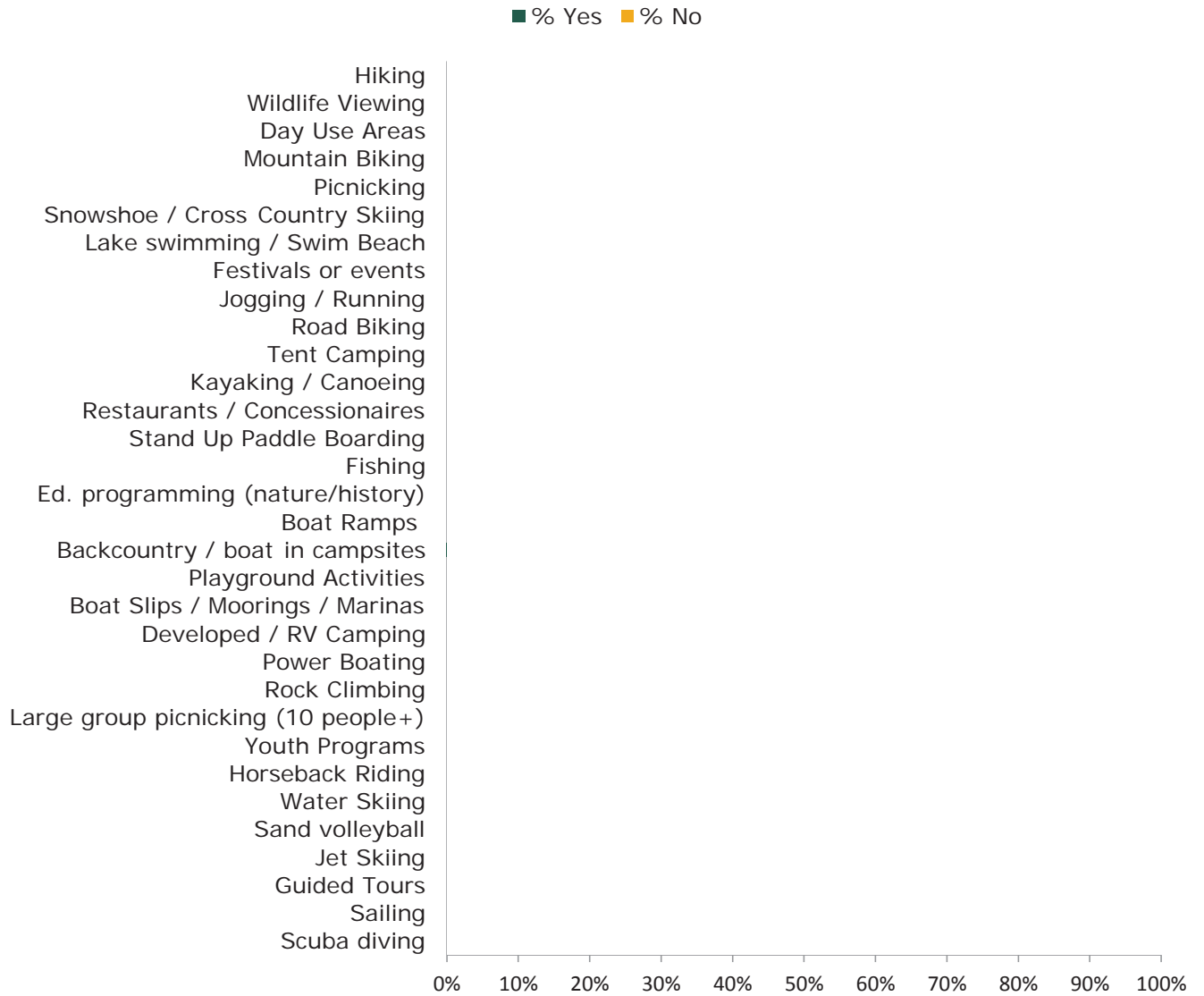


Figure 2.7 Participation Rates

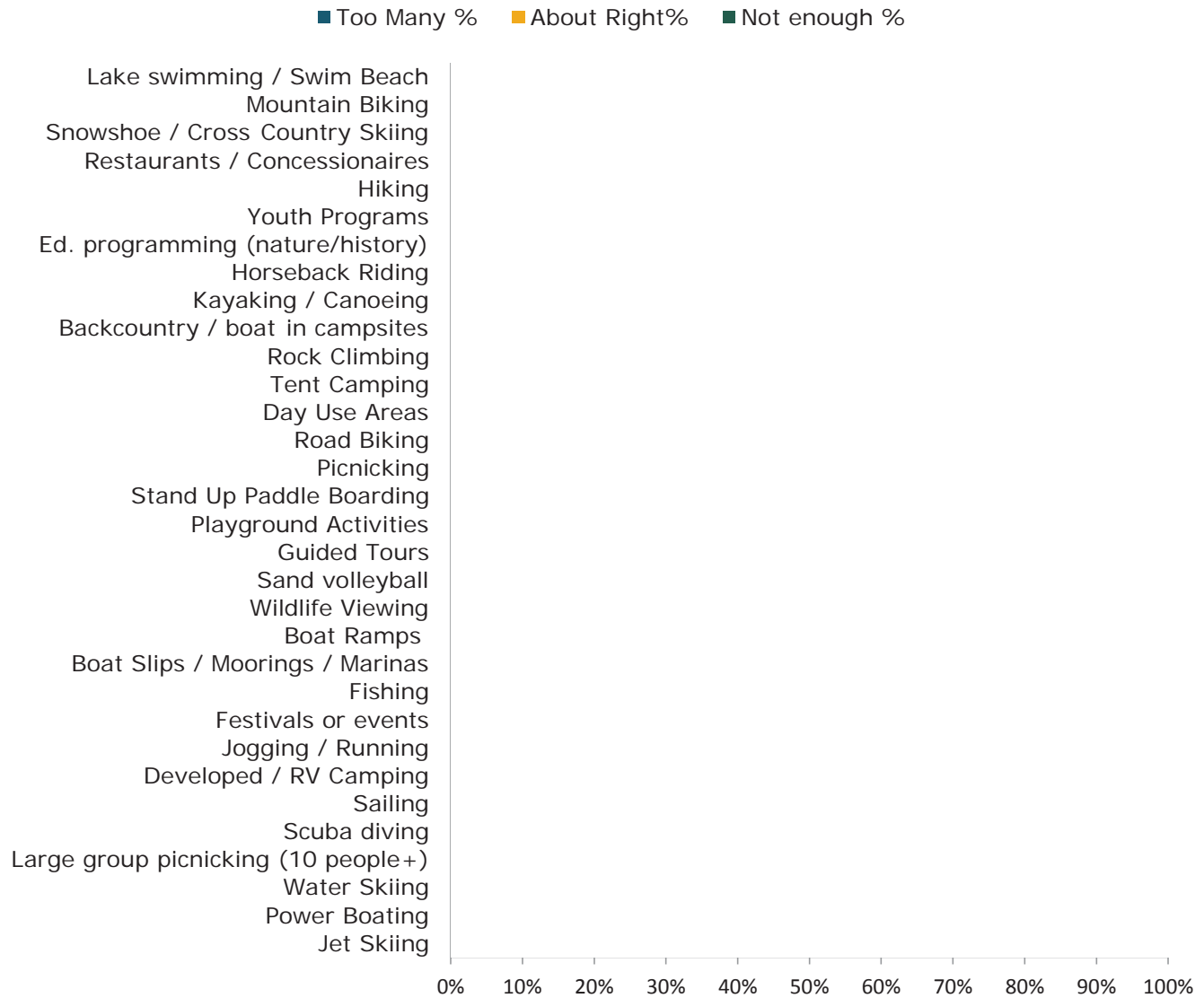


Figure 2.8 Desired Activities at the Reservoirs

Facilities & Maintenance

Overall, visitors are highly satisfied with the cleanliness and maintenance of each of the four reservoirs, ranking these characteristics at a 4 or higher out of 5. The majority of comments regarding facilities referenced specific sites at any one of the four reservoirs. These comments are summarized in the next section, Site Specific Comments by Reservoir. A major challenge is balancing the demand for increased number of trails, campgrounds, and facilities with desires to maintain the natural setting.

Aside from some comments on odors and cleanliness of restrooms, users are generally pleased with the level of cleanliness at the reservoir. Animal owners (of dogs and horses) are called upon to clean up after their pets. Respondents also requested higher priorities for maintaining trails and buildings in the area.

There are many conflicting comments regarding parking availability; these comments range from “build no more” parking lots and concerns about the Horsetooth Reservoir and associated trails being at carrying capacity to the demand for additional parking areas and facilities. Providing incentives for alternative transportation, including carpool, walking, biking, and shuttles, was frequently mentioned.

Increases in population and interest in water-based recreation continue to put pressure on the visitor facilities and desired recreational experiences.

Crowding

Visitor overcrowding and the need for different activity zones is an identified issue. As populations in Larimer County and the region increase, and with most of the recreational areas built out, there will be continued challenges with crowding both on water and land.

The online questionnaire also included a question on how visitors would respond to crowding at the reservoirs. The majority (74 percent) of respondents said that they would choose to visit the reservoirs during off-peak times, while 40 percent would choose to go to other, more remote properties (Figure 2.99). According to the “other” responses, respondents indicated they use less-crowded locations to access the reservoirs or live close enough to walk or bike rather than use a vehicle. Some responses had no issues with parking but noted congestion on the trails.

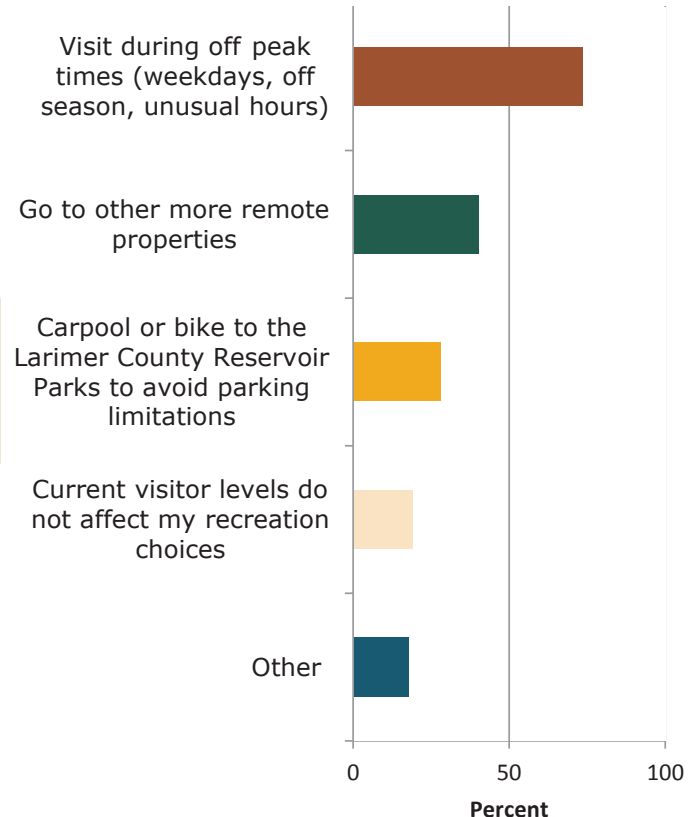


Figure 2.9 How Visitors Respond to Crowding at the Reservoirs

In response to a question on improving the recreational experience, the majority (66 percent) of respondents identified the need for acquiring additional properties in Larimer County in order to expand recreational opportunities. Other top responses were alternative modes of transportation to the reservoirs (40 percent) and online social media posts or web cameras showing parking lot capacity conditions (35 percent). Responses in the “other” category include expanding the soft-surface trail network within recreation areas and providing connections to nearby communities. Other suggestions included considering separating uses on trails; limiting the number of users, including the number of boats on the water; increasing fees; and not building additional camping sites (Figure 2.1010).

Purchasing additional land is the number one priority identified by the public for addressing crowding and improving the recreational experience.

Entrance/Access Fees

Respondents’ opinions varied on the topic of fees and whether they could be employed to manage crowding. Many suggested providing annual passes and combining passes with access to other land management agencies. They also suggested that discounts be given for retirees, students, Larimer County residents, use during off-peak times, use-specific fee schedules, and shuttle/bike/carpool access.

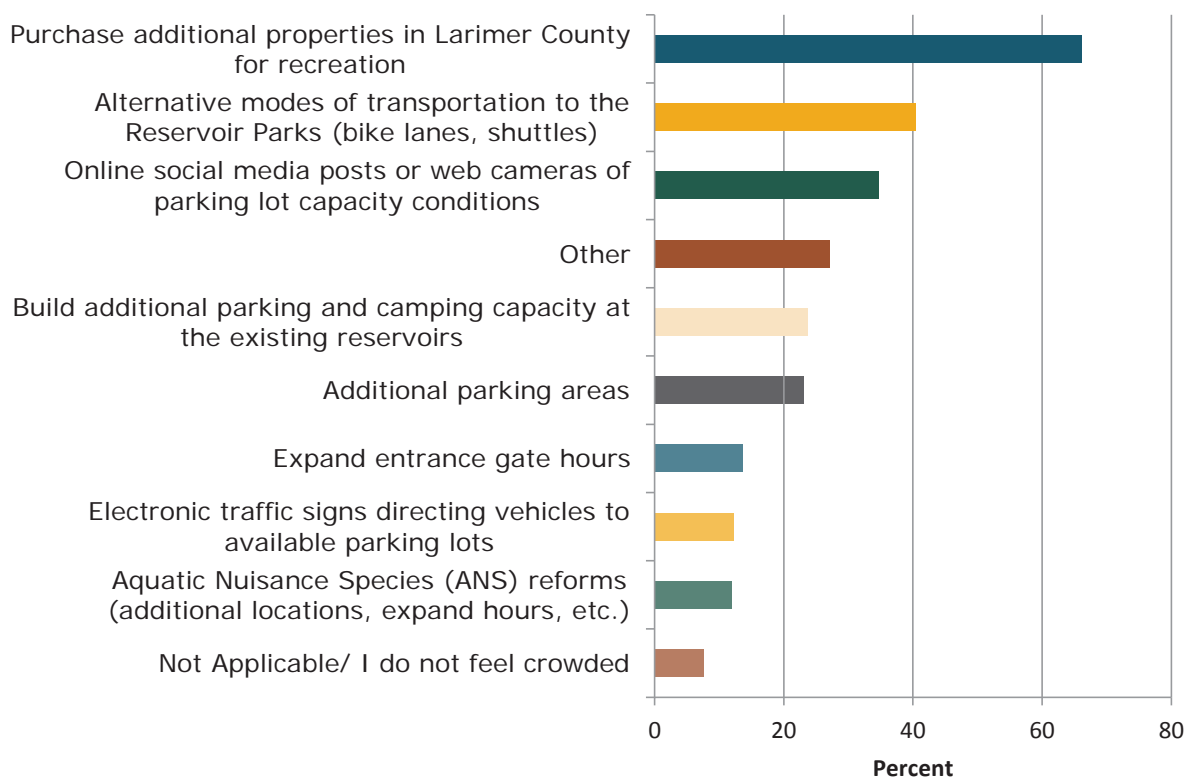


Figure 2.10 Strategies to Improve Recreational Experience



NATURAL RESOURCES

Hydrology and Water Quality

Maintaining suitable water quality while allowing motorized boating and other water-based recreation is critical to supplying and satisfying water customers and supporting healthy fish populations and aquatic habitat.

Quality of the Fishery

The reservoirs provide habitat for a variety of fish species, which creates important recreational opportunities. Maintaining and improving aquatic habitat is key to a healthy fish population. Overuse of the resource and the impacts it has on the fishing experience was an identified concern.

Low water levels in the late summer/early fall are frustrations for users; respondents express preference toward maintaining similar moderate water levels throughout the summer season. Many acknowledge the limited power to change water levels for recreation and understand the primary C-BT Project purposes of the reservoirs.

*ANS check
at Carter
Lake. Photo:
Dave Marvin*

Natural Resource Conditions

The protection and enhancement of vegetation and wildlife health is critical, particularly in light of anticipated increases in the number of visitors to the reservoirs. Concerns about habitat fragmentation and harassment of wildlife were identified along with the need for better trail maintenance.

Weed Control

Among other concerns, weeds can create challenges for recreational users and have negative consequences on native plant communities. Ongoing weed control is an important management tool.

Aquatic Nuisance Species

A number of comments were received concerning improving the efficiency of screening for ANS. In addition, funding provided to CPW through severance tax proceeds was recently terminated. The need for additional funding sources remains acute and is not a topic that can be addressed in this master plan.

SITE SPECIFIC COMMENTS BY RESERVOIR

Table 2.8 through Table 2.10 summarize comments heard concerning each reservoir during the public scoping process. The comments are organized by reservoir and then by the location of the recreational facility.

Table 2.8 *Horsetooth Reservoir Scoping Meeting Comments*

Locations	Public Meeting and Online Comment Summary
Blue Sky Trailhead and Day Use Area (Field of Dreams)	Add attractions for neighborhood kids, such as a playground, at Blue Sky Trailhead. Plant vegetation to screen views of parking lots.
South Bay Swim Beach and Group Day-Use Improvements	Improve South Bay swim beaches through better sand and swim access all summer long, especially at high water levels.
South Bay Campground	<p>South Bay pit toilets should be better maintained to manage strong odors.</p> <p>No new camping is desired in this area due to the current overuse of the area on weekends.</p> <p>A food truck presence is requested.</p>
Lower Sunrise Swim Beach	An improved beach that would be specifically designed for better high-water access, less rocky beach area, and stand-up paddleboard/kayak access is desired at Lower Sunrise. Stairs were suggested to deal with the varying water levels.
Coves and West Shoreline Boat- In Campsites	Screen the Dixon Cove outhouse by use of natural vegetation. Limit the number of boats parked in Dixon Cove at one time, and prohibit party boats from parking in Dixon Cove.
New Archery Range North of Horsetooth Dam	Interest in an archery range, a nature trail for visitors of all abilities, or stationary exercise equipment. Perceived safety issues and a belief that the facility would be underutilized are common concerns expressed about the potential archery range.
Lower Sunrise Paddling Sports Facility	A permanent, land-based rowing boat house is desired to enhance the area high school programs. The facility would expand membership growth, increase participation in rowing, and assist students with obtaining scholarships for collegiate rowing. Security should be improved at the existing rowing dock, potentially by installing a gate to deter trespassers.
Inlet Bay Campground	<p>Additional campsites were generally opposed by the respondents, due to current overcrowding, excess noise, and air quality concerns.</p> <p>Quality of life in nearby neighborhoods is feared to decline if more campsites are constructed. Additional campsites, including dredging the reservoir for more campsites, are generally opposed by the respondents, due to current overcrowding, excess noise, and air quality concerns.</p> <p>Quality of life in nearby neighborhoods is feared to decline if more campsites are constructed.</p> <p>Purchasing a land easement under the power line (or using the construction road) was suggested as a way to create a soft-surface trail.</p>

Locations	Public Meeting and Online Comment Summary
Improved Circulation at Satanka Bay	<p>Many comments focus on the types of uses in Satanka Bay, ranging from only allowing non-motorized water sports to teaching non-motorized users about proper boating etiquette. More parking (especially trailer parking) is desired, and better parking signage is needed.</p> <p>Illegal parking along residential roads needs to be controlled.</p>
Climbing Access, The Scoop	Create access up/down cliff to complete the social trail that currently exists.
South Bay to Inlet Bay Trail Connection	Soft-surface trail loops around Horsetooth Reservoir, for both hikers and bikers, are desired. Connections to the North and South Bay areas, Lory, and Fort Collins should be added to the network. Nordic track in Inlet Bay could be groomed for winter use. Safer access from Fort Collins to the reservoir via bike is a frequently mentioned concern; suggestions for a separated bike lane, soft-surface trails along CR38E/23, and wider shoulders are all suggested as possible remedies. More soft-surface trail connections should be made around the reservoir, in between the reservoirs, and connecting with adjacent trail systems.

Table 2.9 Carter Lake Scoping Meeting Comments

Locations	Public Meeting and Online Comment Summary
Marina Area	<p>County needs to control fees and other services available at the pump-out dock; there are frustrations with the current marina owner and a steady increase of fees.</p> <p>Users are concerned that high fees would result in illegal discharging directly into the lake.</p> <p>More parking is needed.</p>
Eagle Campground, New Cabins	The north end needs an RV dump station.
Big Thompson Campground	Prefer a day-use area that closes at night instead of camping.
New Swim Beach South of Big Thompson Campground	The existing swim beach is underused due to the lack of shade and an environment that is not appropriate for small children. Another swim area, more shoreline designated areas, and a free day-use area at the quarry are desired. Regulate the limited parking available.
Carter Knolls, New Cabins	Cabins at Carter Knolls would be preferred due to wind.
North Shoreline, New Trail from Sundance Trail to Marina and New Swim Beach	A new lakeside trail is an attractive option for local residents and visitors to enjoy expanded soft-surface trail opportunities in the area. Currently, walking along the road is dangerous. Use this trail to also connect to nearby open space and recreation areas.
West Shore Area Connections to County Open Spaces	Boat-in camp spots with docks on the west side of the lake are desired. Adjacent landowners are interested in selling land to the County for recreation purposes, and some concerns exist about facility development impacting neighbors.

Trail Connections	More trails, including mountain bike trails and multiuse soft-surface trails should circumnavigate Carter Lake and connect to Flatiron and Pinewood. Wider shoulders should be incorporated along roads for bikes and pedestrians.
Overall	Control height of fires in campgrounds so embers do not fly out of safe zone and threaten surrounding development.

Table 2.10 Pinewood Reservoir Scoping Meeting Comments

Locations	Public Meeting and Online Comment Summary
Launch Area Campsites and Parking Area	A safe place to swim at the reservoir is needed, but the wakeless nature of the reservoir is appreciated; users love the quiet kayaking/canoeing/ stand-up paddleboard opportunities here.
Pinewood Campground (Windy Pines)	Cabins could be located closer to other camping. Install a dump station and bear-proof trash bins closer to camping.
Fisherman’s Cove Day-Use Area	Add a self-pay kiosk or a fee station closer to Pinewood Reservoir. Love the improved turnaround access from Pole Hill Road; perhaps add an exit at Ramsay-Shockey trailer pull-through parking lot.
Blue Mountain Area, New Cabins	Consider keeping Blue Mountain as day use or keeping cabins out of the day-use area (Blue Mountain Trailhead). Could be located near Pinewood Campground or at hike-in locations on the west side of the reservoir.
Overall	The recent improvements to the reservoir are being enjoyed by users, especially the new binoculars and interpretive signs on the Besant Point Trail. More multiuse trails are desired in the area; a bike lane should be added to access the reservoir. Trail connections need to be expanded to adjacent recreation attractions. Speed limits need to be enforced along roadways.

Table 2.11 Flatiron Reservoir Scoping Meeting Comments

Locations	Public Meeting and Online Comment Summary
Overall	More multiuse soft-surface connecting trails should be added to this reservoir. Make Flatiron better for fishing by allowing float tubes. Consider adding a disc golf course, swimming, additional restrooms, and more full-hookup RV campgrounds.



*Tipi camping
at Flatiron
Reservoir.
Photo: Jeff
Andersen*



CHAPTER 3. A PLAN FOR THE FUTURE



The Larimer County system of parks will continue to preserve and improve the high quality recreational experiences and natural settings that are cherished by Larimer County residents and the overall region.

The recreational demands and needs facing the park system will continue to grow exponentially over the life of this plan (see Chapter 2). This intense current and projected use presents both an opportunity and challenge. So while the recreational uses, facilities, and developed areas will not substantially differ from what currently exists at the reservoirs, they will be designed to function at a higher capacity with greater emphasis on 1) addressing existing deficiencies, 2) maintaining and/or replacing existing facilities, and 3) constructing needed new facilities where feasible, all with an eye toward offering high quality experiences and opportunities at more locations to disperse demand.



DESIRED VISITOR EXPERIENCES

As described in Chapter 2, Larimer County parks and open spaces fulfill a unique niche in the region. Even within the park system, recreationists seek different levels of challenge and diversity. Carter Lake and Horsetooth Reservoir fulfill a niche for more developed facilities and motorized boating, and they are close to urban areas while providing a natural setting. Flatiron Reservoir provides a rural developed experience. Pinewood Reservoir and the western shores of Horsetooth and Carter reservoirs offer a high degree of naturalness. Within these varied settings, Larimer County Department of Natural Resources will continue to provide nature-based recreation opportunities as well as nature-based learning opportunities.

Master Plan actions are intended to assure that recreation opportunities and facilities would be enhanced, developed, operated, and managed at a level consistent with current standards and equal to or better than those provided at other reservoirs in the region. Proposed new facilities are intended to enhance and expand visitor experience and generate the revenues needed to operate in a sustainable manner. The condition of all facilities would be evaluated, and a capital improvement/replacement plan would maintain/replace facilities on a rotating basis.



*Fishing at Pinewood. Photo: Maura Bishop
Boat-in Camping at Horsetooth. Photo: Harry Strharsky*

Maintenance and enhancement initiatives will ensure the provision of a high quality recreation experience and higher quality facilities.

Public safety will be of the highest importance. Water-based recreation, including both motorized and non-motorized boating, will be maintained and supported except at Flatiron Reservoir.

DESIRED RESOURCE CONDITIONS

A key element of the Master Plan is a continuing focus on protecting the setting through sound stewardship and development practices that are sensitive to recreation needs and natural resources. Larimer County will strive to ensure that natural resources are protected, enhanced, and controlled for their own intrinsic values as well as for the benefit of park users and the citizens of Larimer County. Emphasis will be placed on native vegetation and wildlife habitat in the parks, with invasive species being eradicated as much as practical. Ecological process will be conserved and promoted, including maintaining healthy wildlife populations. Wildfire protection measures including controlled burns will be employed in the interest of park and community safety. Cultural, geological, and paleontological resources will be preserved and promoted, with visitor impacts on resources being controlled as resource conditions warrant. Unique scenic and visual qualities available within a particular recreation setting will be protected to ensure that the public can continue to use and enjoy the surrounding environment and facilitate repeat visitation to the site.



*Flatiron Tipi. Photo: Jeff Andersen
Scuba diving at Carter Lake. Photo: Walt Hubis*



Goals & Objectives

These following goals and objectives help achieve the desired visitor, resource, and management conditions. They apply equally to the overall park system.

Larimer County will add value to the lives of its citizens by:

BEING GOOD STEWARDS OF PUBLIC RESOURCES

- Adhere to existing and future federal, state, and county laws and regulations (in particular, P.L. 105-277).
- Continue to follow the Federal Wildland Fire Management Policy and the Secretary of the Interior’s fire policy letter of January 18, 2001, and preparation of Fire Management Plan.
- Provide bear proof trash cans where necessary.
- Prohibit the taking off or landing of seaplanes/floatplanes on the four reservoirs.
- Continue investigating how to best protect water quality with all involved partners while streamlining the boat inspection process to ensure a pleasurable recreational experience.
- Continue to proactively manage vegetation in designated natural zones to reduce noxious weeds and to encourage native plant populations. Vegetation in developed zones will be well-stewarded as green infrastructure. Landscaping in developed zones, to the extent practicable, will include native plantings.
- Restrict the use of remote control aircraft (drones, model aircraft, or unmanned aerial vehicles) on all of water and land associated with the four reservoirs unless for a specific government project purposes (i.e. grant applications, aerial surveys, etc.) related to the management of the reservoir. Larimer County park regulations restrict operation of “any remote controlled water, surface or air vehicle on Larimer County Natural Resources areas; or to operate any self-powered, water, surface, or air vehicle on Larimer County Natural Resources areas.”

Photo:
Zach Schierl

PROMOTING INNOVATION AND CONTINUOUS IMPROVEMENT

- Continue operation and maintenance (O&M) of Reclamation lands and facilities contingent on the appropriation of funds.
- Improve lighting with fixtures that are consistent with management goals. Dark sky (downcast) light fixtures will be utilized as part of a program of rotating recreation site renovations, which will place priority on camping areas.

PROVIDING QUALITY CUSTOMER SERVICE

- Continue the warning system established by the Coast Guard Auxiliary.
- Meet appropriate Americans with Disabilities Act (ADA) accessibility standards.

EMPOWERING PEOPLE TO TAKE RESPONSIBILITY

- Provide continued outdoor environmental education opportunities. Elements may include nature trails, interpretive panels, or nature- and recreation-based programs for the public.
- Expand use of web cameras and social media notifications and explore electronic signs and emerging technologies to inform visitors of parking lot, boat ramp, and other facility availability.

CULTIVATING PARTNERSHIPS

- Work with CPW to cooperatively manage the reservoir lands for fish and wildlife species.
- Continue existing permitted uses with evaluation of continued use when permits expire.
- Reissue concession contracts pursuant to Reclamation policy.
- Continue to cooperate with local emergency service agencies pursuant to signed agreements, including limiting public access in some areas near the dams and other related infrastructure for security purposes.
- Repair and replace deteriorated signs and facilities, including standardizing all monument signs with Larimer County and Reclamation logo.



PARTNERSHIPS

Goal: Partner and Coordinate with Other Programs and Agencies to Manage Reservoir Resources

Objectives

- Maintain strong partnerships between Reclamation, Northern Water, CPW, and other partnering agencies.
- Ensure that recreational uses and facilities are compatible with reservoir operations.
- Strengthen partnerships to document and communicate the management of water levels for recreation.

Photos:
Patricia
Brennan,
Logan
Simpson,
Logan
Simpson



RECREATION AND VISITOR SERVICES MANAGEMENT

Goal: Provide Safe and Appropriate Recreation Opportunities

Objectives

- Ensure that safe public access to the four reservoirs continues to be available.
- Explore opportunities for additional low-intensity activities.
- Support the Larimer County ranger program and work closely with local emergency services providers.
- Improve and maintain facilities to ensure a high quality and safe recreation experience.



PUBLIC INFORMATION

Goal: Promote Active Outreach Efforts that Celebrate Our Resources

Objectives

- Promote active outreach and communication efforts with stakeholders, community leaders, and the public to successfully implement plan recommendations.
- Promote active outreach efforts that celebrate our reservoir resources.
- Provide educational opportunities that foster stewardship of resources.
- Actively disseminate information about Reclamation and Larimer County programs, conservation, recreation, and the theme of water management.
- Facilitate citizen-led initiatives, volunteers, and other community-based programs to implement the RMP as appropriate.



OPERATIONS

Goal: Ensure an Efficient and Effective Operational Structure

Objectives

- Provide appropriate resources to support department management responsibilities, including funding, staffing, training, and equipment.
- Provide staffing levels that meet visitor needs.
- Provide ongoing maintenance and renovation funding to protect the public investment in recreation sites.



ECONOMIC STEWARDSHIP

Goal: Manage our Resources in an Economically Sustainable Manner

Objectives

- Set realistic fee policies to ensure the operations are mostly self-supporting.
- Leverage resources through partnerships.
- Develop and implement a facility replacement plan and associated funding strategy.



NATURAL RESOURCE STEWARDSHIP

Goal: Conserve and Enhance Natural and Cultural Resources and Water Quality

Objectives

- Control shoreline erosion.
- Continue the long-term water quality program for the reservoirs.
- Improve and avoid fragmenting key wildlife habitats.
- Support Larimer County's efforts to acquire strategic properties adjacent to existing reservoirs to preserve important resource values, for buffering, expanding recreation sites, and creating appropriate trail connections as opportunities arise with willing sellers.
- Monitor the natural environment, including plant and animal diversity.

*Photos:
Charlie
Johnson,
Logan
Simpson,
Logan
Simpson*



NATURAL RESOURCE STEWARDSHIP, CONT.

- Improve ecological connectivity.
- Protect historic and cultural resources within reservoir boundaries.
- Continue to monitor and control aquatic nuisance species (ANS) at the reservoirs.



INNOVATION

Goal: Promote Innovation and Continuous Improvement

Objectives

- Adapt to changing recreation trends as appropriate.
- Maintain a diversity of recreation opportunities consistent with sound resource management.
- Provide a high quality system of recreation sites and experiences.

Photos:
Casey
Cisneros,
Martina
Wilkinson



Existing Reservoir Parks

This section describes the full range of activities and improvements that would be implemented through the Parks Master Plan. It begins with a description of actions that would occur at all four reservoirs and then proceeds to a specific discussion of desired recreation activities and projects at each reservoir.

Proposed new facilities are intended to enhance and expand visitor experience and generate the revenues needed to operate in a sustainable manner. Maintenance and enhancement initiatives ensure the provision of a high quality recreation experience and higher quality facilities. Through the development on new recreation opportunities there will continue to be a focus on protecting the setting through sound stewardship and development practices that are sensitive to recreation settings and natural resources. The RMP further addresses potential impacts and additional mitigation efforts.

Overall, public input favored more opportunities for recreation at and adjacent to the reservoirs. The Master Plan better accommodates more use and a wider range of desired uses, though not all public desires can be physically, socially, or financially accommodated due to each property's carrying capacity constraints, the missions of Reclamation and Larimer County, and management limitations. The desired future conditions outlined below provide the overall framework for each property.

*Carter Lake
Boating.
Photo: Pam
Cramer*



DESIRED FUTURE CONDITIONS AT ALL RESERVOIRS

The following desired future conditions would apply to all four reservoirs.

Desired Facilities and Facility Conditions

- Evaluate the condition of all facilities at all recreation sites. Develop and implement a capital improvement/replacement plan (CIP) to maintain/replace facilities within existing footprints in a properly functioning condition on a rotating basis.
- Per the outcome of the CIP above, renovate existing day use areas (restrooms, picnic tables) and restore social trails.
- As part of the CIP, most parking areas and new roads would be constructed to the appropriate standard to ensure safe access to recreation facilities.
- Pedestrian paths would be constructed in select developed areas to improve visitor experience and safety.

- Nature play areas would be introduced as part of the campground experience where practical at new and existing campgrounds. Elements could include rock, log, and wood structures or other facilities intended to encourage active play without standard playground equipment. An example of this is located at Pinewood Campground.

Desired Interpretation

- Tell the story of water in Colorado, geologic structure of the reservoirs, wildlife habitats, and local history.
- Communicate regulations and expectations for users of public lands.
- Provide information about regional conservation lands and recreational opportunities.
- Provide opportunities for wildlife viewing.
- Provide a setting for interpretive and other presentations (wildlife, recreation, water, geology, history, etc.) where practical and appropriate.

Carter Lake
South Shore.
Photo: Logan
Simpson



Desired Resource Conditions

- **Water Quality:** Maintain water quality and quantity suitable for swimming and healthy fish populations as feasible.
- **Wildlife:** Protect habitat to ensure the presence of wildlife.
- **Vegetation:** Protect rare plants and manage for native vegetation communities.
- **Level of Development:** The majority of the four reservoirs will remain natural with a few highly developed areas.
- **Level of Resource Management:** Natural resource management will ensure a healthy ecosystem for both terrestrial and aquatic wildlife. Management actions will include weed control, forest restoration, limiting fire risk, and minimizing fragmentation of vegetation communities.
- **Cultural resources:** Protect significant cultural resources to ensure their preservation.

Desired Managerial Conditions

- Provide a high level of safety through appropriate staffing and training levels to include ongoing and meaningful visitor education.
- Maintain facilities at a high quality of condition and cleanliness within financial constraints.

*Horsetooth Reservoir.
Photo: Logan Simpson*

MANAGEMENT ZONES

Table 3.1 describes the types of visitor experiences, recreation opportunities, types of facilities, and management strategies applicable to each management zone. Maps showing the application of these management zones to lands at each reservoir are presented at throughout this chapter (Map 3.1 through Map 3.4).

In addition to land-based zoning, areas at Horsetooth Reservoir and Carter Lake are designated for wakeless boating. The maps throughout this chapter show areas designated as wakeless or where other restrictions apply.

Table 3.1 Management Zone Classifications and Characteristics

Zone	Visitor Experience	Recreation Opportunities	Potential Facilities	Management
Highly Developed Recreation	High social interaction. Low opportunity for solitude.	High-density recreation. Emphasis on providing opportunities that rely on motor vehicle access via roads, such as picnicking, RV and tent camping, and shoreline facilities needed to support both motorized and non-motorized boating and swimming.	Typically includes parking areas, paved or high-use roads, boat ramps, marinas, utilities, group picnic areas, visitor services, restrooms, concessions, interpretive facilities and developed camping areas/cabins.	Intense management needs. Manage to provide sustainable recreation and aesthetic qualities. Prevent noxious and, to the extent possible, troublesome weeds through eradication or suppression, and prevent erosion, or other degradation. Revegetate with natives where possible or with non-invasive landscaping. Public use is the dominant management consideration and resource conflicts will generally be resolved in favor of public use needs.
Moderately Developed Recreation	Moderate social interaction/low opportunity for solitude. Moderate degree of interaction with the natural environment.	Medium-density, day use recreation. Emphasis on trail-based activities (hiking, mountain biking, equestrian use etc.) and access for fishing and other trail-based recreation. Some picnicking, watchable wildlife, interpretive opportunities are likely to occur in this zone.	Typically trails and interpretive facilities, restroom, and individual picnic areas. Less typically, this could include dirt roads or light use roads, remote and boat-in camping. Minimize utilities to the extent possible.	Moderate to High management needs. Manage to maintain the natural character and provide sustainable recreation. Actively manage noxious and, to the extent possible, troublesome weeds in order to eradicate or suppress, and prevent erosion or other degradation. Revegetate with native species. Balanced approach, with the dual goals conserving natural resources while allowing for compatible recreation. Protection of resources remains a priority; however, conflicts between public use and resource protection will be resolved on a case by case basis.

Five zoning designations for land area were defined, including:

- Highly Developed Recreation
- Moderately Developed Recreation
- Low Developed Recreation
- Natural
- Restricted

The two zoning designations for water include:

- Motorized Multiple Use
- Wakeless Boating

Zone	Visitor Experience	Recreation Opportunities	Potential Facilities	Management
Low Developed Recreation	<p>Moderate social interaction/ low opportunity for solitude.</p> <p>Moderate-High degree of interaction with the natural environment.</p>	<p>Medium- to low-density recreation.</p> <p>Emphasis on providing low impact, non-motorized and dispersed recreation.</p> <p>All recreation opportunities in the Moderately Developed Recreation Zone are likely to occur here with more of an emphasis on providing non-motorized dispersed recreation.</p>	<p>Limited trails and some interpretive facilities.</p> <p>Minimize utilities to the extent possible.</p>	<p>Moderate to low management needs.</p> <p>Manage to maintain the natural character, the native flora, the wildlife habitat, and the ecological functions.</p> <p>Actively manage noxious and, to the extent possible, troublesome weeds for eradication or suppression, and prevent erosion or other degradation.</p> <p>Revegetate with native species</p> <p>In a low developed area, if a conflict arises between a natural or cultural resource and a competing use, it will be resolved in favor of the protected resource.</p>
Natural	<p>Low-Moderate social interaction with moderate opportunity for solitude.</p> <p>High degree of interaction with the natural environment.</p>	<p>Limited, including wildlife observation and nature study</p>	<p>Few, if any facilities.</p>	<p>Moderate to low management needs.</p> <p>Manage to maintain the natural character, the native flora, the wildlife habitat, and the ecological functions.</p> <p>Actively manage noxious and, to the extent possible, troublesome weeds for eradication or suppression, and prevent erosion or other degradation.</p> <p>Revegetate with native species.</p> <p>Hunting for the management of healthy wildlife populations and habitat.</p> <p>In a resource protection area, if a conflict arises between a natural or cultural resource and a competing use, it will be resolved in favor of the protected resource.</p>

Zone	Visitor Experience	Recreation Opportunities	Potential Facilities	Management
Restricted	Typically applied to areas with dams or other sensitive infrastructure. Sensitive resource protection areas.	None, or heavily restricted.	None.	Least intense management needs, though infrastructure requires ongoing maintenance, including weed control and vegetation management. Preservation of very sensitive resources or restriction of visitor use for legal or safety reasons. Operational and internal uses are primary.
Motorized Multiple Use	High social interaction. Low opportunity for solitude.	High-density recreation for all types of water craft.	Buoys to delineate from wakeless boating area.	Intense management needs. Manage to provide sustainable recreation and aesthetic qualities. Boats must travel in counter clockwise direction. All trailered motorized water craft are subject to inspection for ANS. Managed for a sustainable fishery and water quality.
Wakeless Boating	Typically applied to areas near boat ramps, congested areas, along sensitive shorelines, or in coves.	Paddle sports, hand-powered craft, motorized craft not producing a wake. In designated areas, scuba diving, and swimming.	Buoys to delineate area from Motorized Multiple Use area. Typically paired with developed recreation facilities.	Moderate to High management needs. Manage to maintain the natural character and provide sustainable recreation. Managed for a sustainable fishery and water quality.

HORSETOOTH RESERVOIR

In addition to the principles and actions, the following statements apply to Horsetooth Reservoir:

Desired Recreation Activities (see Map 3.1)

The key recreation activities and experiences provided for at Horsetooth Reservoir include:

- Higher speed motorized boating in open water – primary activity.
- Fishing.
- Highly social and developed full-service camping adjacent to the reservoir, including multiuse campsites, cabins, and dump station.
- Full service marina.
- Primitive boat-in camping in remote shoreline locations.
- Picnicking in scenic locations.
- Swimming at designated and protected natural swim areas.
- Trail use with connections to regional trails and adjacent public lands.
- Group picnics and events.
- Rock climbing.
- Facilities to host weddings, family functions, and events.

Desired Resource Conditions

- Protect paleontological resources.
- Coordinate with CPW and the Fort Collins Natural Areas Department to minimize human disturbance to bald eagles occurring along the eastern portion of the reservoir.
- Control potential pollutants (gasoline, petroleum products) associated with boat activity.
- Develop education materials for distribution at entrances to educate the public about methods to minimize gasoline or petroleum leaks.

- Ensure that the marina are following best management practices for fueling boats and the use of fuel containers.

Desired Managerial Conditions

- Manage for a high level of visitation and revenue.
- Boating capacity thresholds, which are described in Chapter 2, would remain in place and continue to be implemented under current practices.

New Development

- The amount of area that would be needed to accommodate proposed new facility development is shown in Table 3.4. If areas are not listed in this table, no new development will occur beyond the existing developed footprint. Area by area discussion follow, including concept plans for those areas where new or expanded facilities are planned.

Table 3.2 Total Area of New Development by Site: Horsetooth Reservoir (acres have been rounded)

Site	Acres
South Bay-Inlet Bay Day Use Area Trail*	2
North of Horsetooth Dam	31
Satanka Bay and Expanded Parking	14
Total Acres	47

*Assumes one mile trail with 10 feet width of disturbance

Inlet Bay

This area is heavily used and very little usable area remains for facility expansion. Therefore, focuses on several enhancements intended to reduce user conflicts and upgrades to key facilities. These upgrades include improving the efficiency of parking by paving and striping the major lots and upgrading the existing gatehouse with a standard design that provides ADA accessibility and an employee restroom.

Other specific improvements are listed below.

Campground

- Add safety signage and wayfinding to reduce conflicts for Inlet Bay Trail users and vehicles.
- Investigate potential to improve functionality and add up to five campsites without using fill material.
- Convert some existing electric sites to full hookup campsites.
- Replace water line.

Marina

- To improve parking efficiency, pave and stripe the major parking lots.
- Improve entrance road.
- Investigate a potential trailer parking reservation system.
- Add flush toilet and new shelter.
- Replace unhealthy trees and enhance screening near existing docks.
- Reconstruct Inlet Bay Marina Store on land and consolidate with remodeled Maintenance Shop.
- Replace flag pole lighting to reduce glare.
- Construct row boat storage building and dock with partners.

South Bay

Similar to Inlet Bay, this area is limited for facility expansion. Instead, the plan focuses on providing better pedestrian and biking connections to the area and a series of facility upgrades and enhancements. Improvements to existing parking areas are one of the key actions along with replacing the upper boat ramp and upgrading the existing gatehouse with a standard design that provides ADA accessibility and an employee restroom.

Other specific projects are listed below.

Campground

- Investigate opportunities for additional parking at camping areas.
- Investigate potential to improve functionality and add a limited number of campsites without adding fill material below the high water mark.
- Upgrade some existing electric RV sites to full-service hookups.
- Replace existing modular cabins that have exceeded their useful life with high quality camper cabins.

Day Use Area

- Add new hiking and mountain biking trail connecting South Bay to Inlet Bay. Avoid disturbance of sensitive wildlife habitat.
- Replace pit toilets with a vault toilet at ramps.
- Re-surface and stripe parking lot at boat ramp.
- Replace docks.
- Repave/upgrade upper ramps.
- Investigate opportunities for further site and safety improvements at the natural swim area.

Duncan's Ridge/Torture Chamber

- Improve signage and information about the area.
- Work with City of Fort Collins to maintain parking area at Duncan's Ridge.
- Work with climbing community to maintain access and develop a stewardship plan.

Rotary Park

- Address nuisance uses by controlling access or by other means.
- Increase restoration efforts on social trails.

Lower Sunrise

- Add shelters to existing picnic tables.
- Add stairs to help with changing water levels.
- Add signage and enforce no dogs off-leash/in water regulations.

North of Horsetooth Dam (Figure 3.1)

- Develop a static Archery Range near CR 25G. This already was disturbed in the past by motorized recreational use. Allow day use only with safety as a priority (target distance, terrain shielding, etc.)
- Provide 40 parking spaces.
- Add a large group day use area and shelter.
- Provide a locked gate when archery range is closed (sunset to sunrise).
- Fence off riparian and wetland area from archery range to prevent social trails, fragmentation, or disturbance.
- Construct single track trail with 3D targets along trail.
- Design and build archery range in a manner that helps protect public safety.

Satanka Bay and Expanded Parking Area (Figure 3.2)

- Add guard rail path on south side of dike.
- Develop approximately 90 new trailer parking spaces. Construction would be phased in response to observed demand. This parking area would be used primarily during periods of higher demand, such as weekends and holidays.
- Construct 900 foot road access from Satanka boat ramp to parking in the North Dam area.
- Provide 1,200 foot access trail from parking to top of to the day use area with switchbacks up ridge.
- Construct an improved paddle sports launch area. Provide sand, improved access, and other means to reduce bank erosion and improve the visitor experience.

Boat-In Access on West Shoreline Coves

- Plant natural vegetation to screen Dixon Cove outhouse.
- Add composting toilets at South and North Eltuck Coves.
- Add two new mulching toilets in the coves (day use).

Blue Sky Trailhead

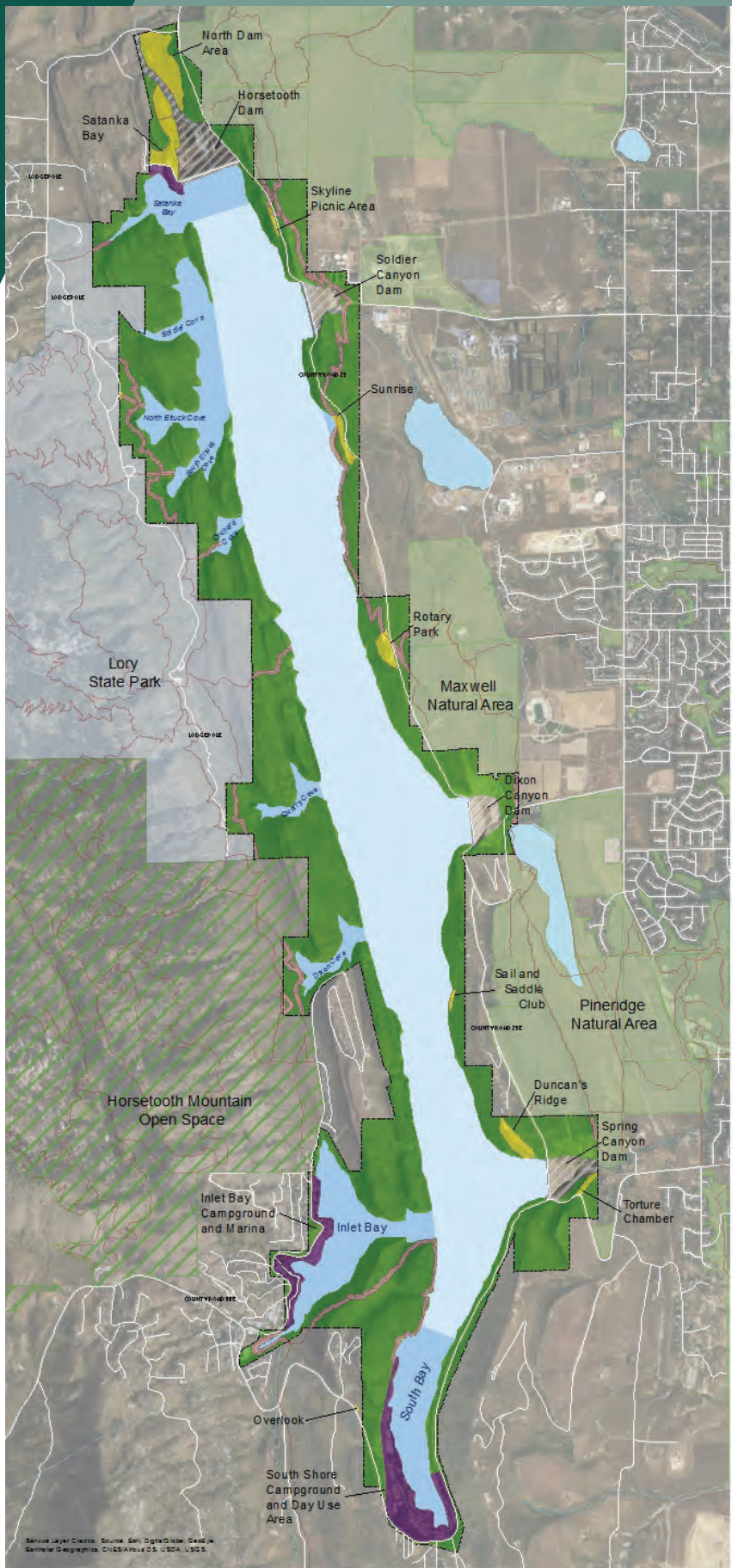
- Plant vegetation to screen parking lot from county road.

Other Trails

- Investigate opportunities to work with other county departments to improve bicycle access and public safety along CR 38E to Horsetooth Reservoir.
- Establish an on-the-water "paddlesport trail" between the Horsetooth Ramp area and Satanka Cove to help facilitate travel between the hand launch beach and Satanka Cove.

Resource Enhancements

- Remove old fences on east side of reservoir to reduce wildlife barriers and mortality.



Horsetooth Reservoir

Management Zones

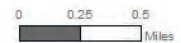
- Highly Developed
- Moderately Developed
- Low Developed
- Natural
- Restricted
- Motorized Multiple Use
(Boats must travel in a Counter Clockwise Direction)
- Wakeless Areas

Land by Manager

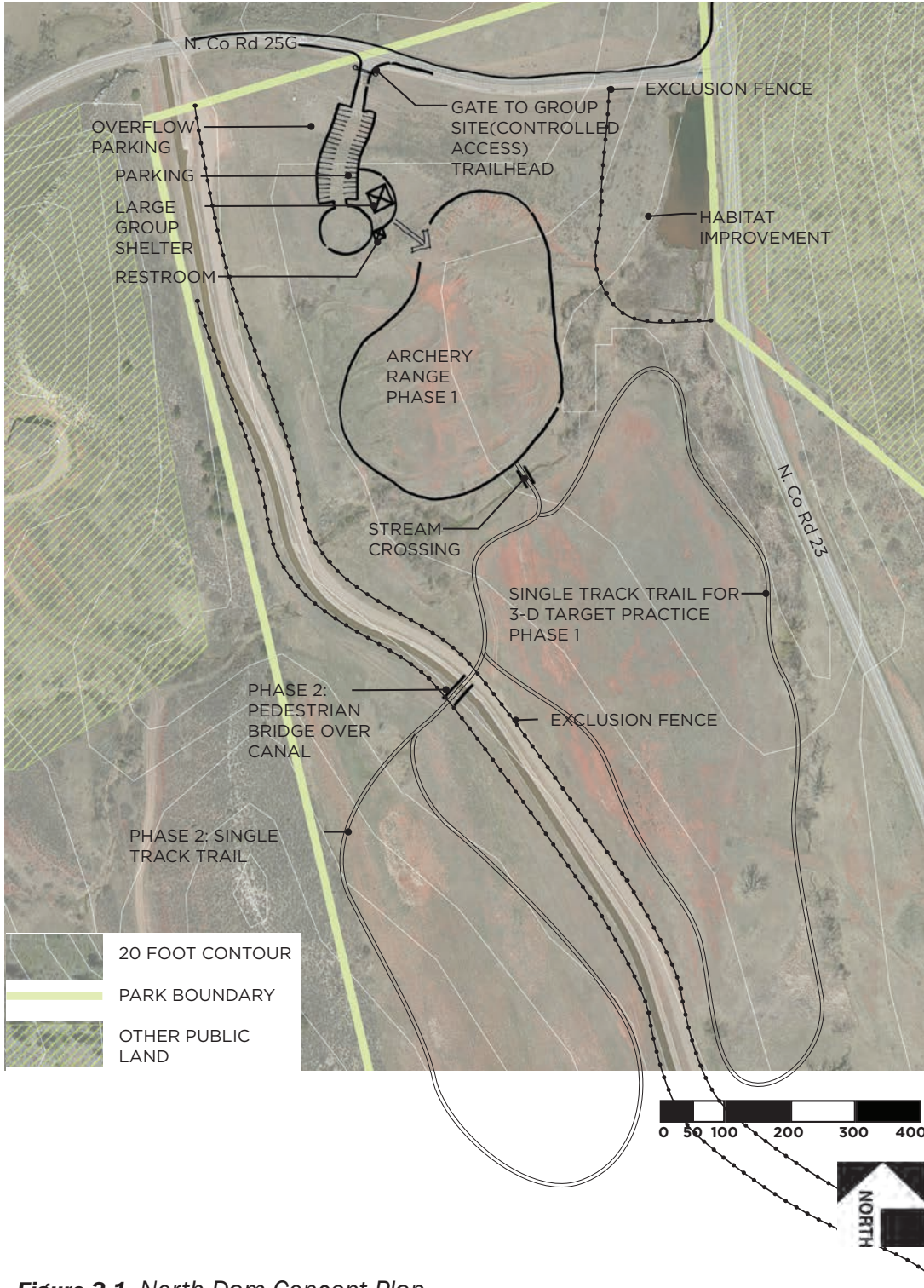
- State Parks
- Larimer Co Parks/Open Space
- City Natural Areas

Transportation Features

- Existing Trails



Map 3.1 Horsetooth Reservoir Management Zones



NORTH DAM

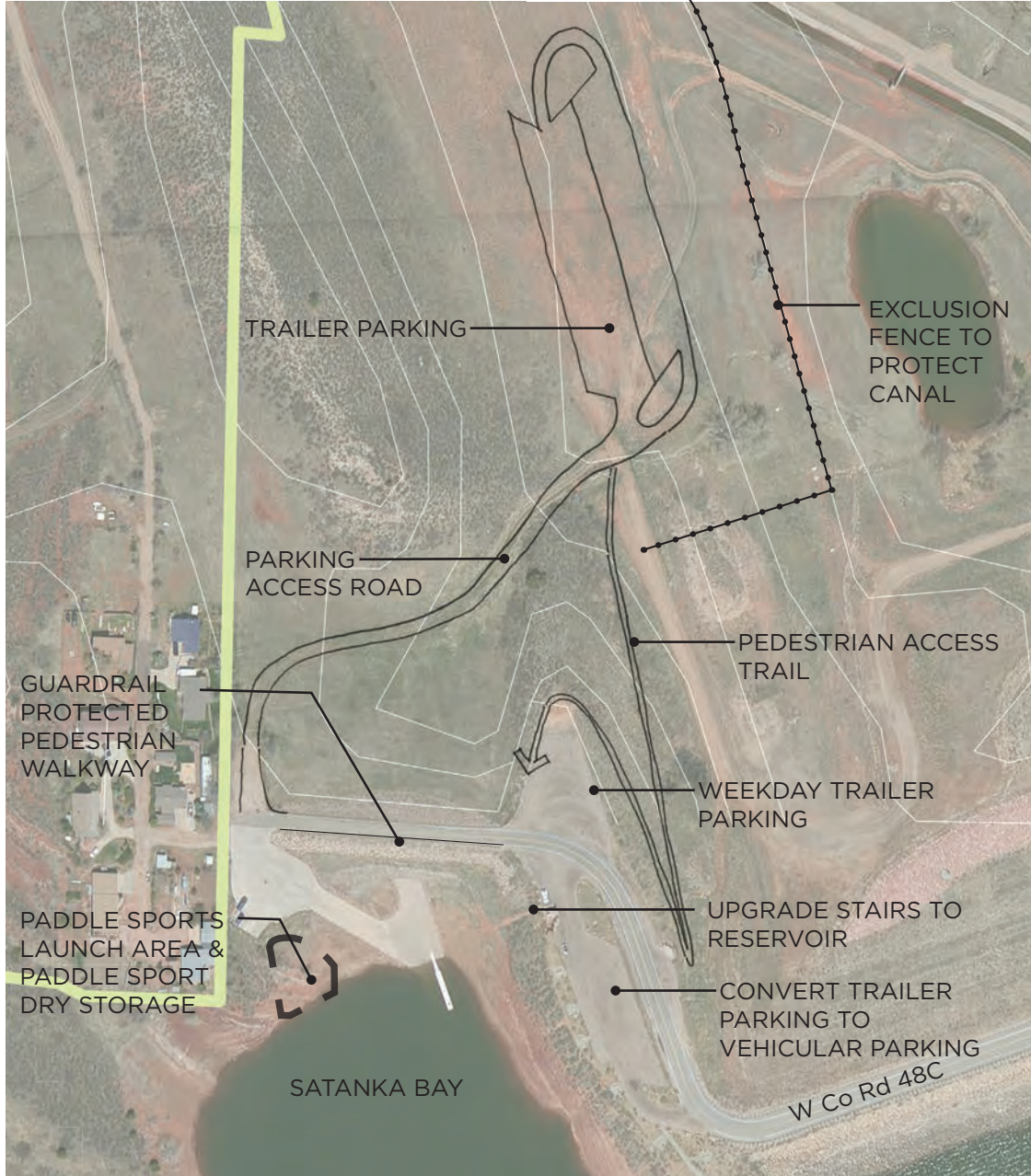
PROGRAM:

- 40-Parking Spaces
- 1-Large Group Use Area & Shelter
- Gate- Locked when archery range closed
- Habitat improvements
- Natural surface trail with 3D targets along trail
- Archery Range would be day use; additional fee for 3D target loop.
- Safety would be a priority in the design (target distance, terrain shielding, etc.)

Phase 2 could include:

- Pedestrian Bridge
- Additional single track trail
- Additional 3D targets

Figure 3.1 North Dam Concept Plan



TRAILER PARKING PROGRAM:

- -90-Trailer Parking Spaces, to be phased based on demand
- 900' Road access from Satanka boat ramp to parking near base of Dam
- 1200' access trail from parking to top of Dam with switchbacks up ridge
- Paddle Board Launch Area
- For peak use during high demand days such as weekends and holidays



Figure 3.2 Satanka Bay Concept Plan

CARTER LAKE

In addition to the principles and actions, the following statements apply to Carter Lake:

Desired Recreation Activities (Map 3.2)

- Motorized boating in open water—primary activity.
- Sail boating and associated events.
- Fishing opportunities.
- Highly social and developed full-service camping adjacent to the reservoir, including multiuse campsites, cabins, and walk-in tent sites.
- Full service marina.
- Picnicking in scenic locations.
- Swimming at designated and protected natural swim areas.
- Trail use with connections to regional trails and adjacent public lands.
- Group picnics, camping, and events.
- Rock climbing.

Desired Resource Conditions

- Control potential pollutants (gasoline, petroleum products) associated with boat activity.
 - Develop education materials for distribution at entrances to educate the public about methods to minimize gasoline or petroleum leaks.
 - Ensure that marinas are following best management practices for fueling boats and the use of fuel containers.

Desired Managerial Conditions

- Manage for a high level of visitation with sustainable revenue sources.
- Boating capacity thresholds, which are described in Chapter 2, would remain in place and continue to be implemented under current practices.

New Development

Several facility upgrades and new use areas are proposed at Carter Lake. The amount of area that would be needed to accommodate proposed new facility development is shown in Table 3.3. If areas are not listed in this table, no new development will occur beyond the existing developed footprint. Area by area discussions follow, including concept plans for those areas where new or expanded facilities are planned.

Table 3.3 Total Acres of New Development by Site: Carter Lake

Site	Acres
North Pines Campground	1
North Shoreline*	.4
Eagle Campground	3.8
Big Thompson & Quarry Area	4
Big Landia	15
South Shore Campground	.25
Total Acres	24.45

*Assumes one mile trail with 10 feet width of disturbance

North Pines Campground (Figure 3.3)

- Add approximately 10 new parking spaces.
- Add approximately 22 new boat trailer parking spaces, including 11 pull through and 11 pull in.
- Replace existing camping sites with day use areas.
- Construct dryland boat storage racks.
- Replace or improve the Sail Clubhouse in partnership with the Sail Club when needed.

North Shoreline

- Connect North Pines and Marina with a trail, potentially with aggregate base course along the shoreline.
- Add wayfinding and interpretive signage and benches.

Eagle Campground

- Construct 3 new cabins.
- Construct a wildlife friendly privacy fence to screen residences.
- Add campsites west of existing sites in the meadow.

Marina Area

- Repave and upgrade boat ramps.
- To improve parking efficiency, pave and stripe the major parking lots.

Big Thompson & Quarry Area (See Figure 3.4)

- Convert the campground to a day use area.
- Provide approximately 90 parking spaces for day use at Big Thompson.
- Designate and delineate up to 3 areas along the shoreline for swimming.
- Construct standing grills, landscaping and trees, and ADA accessible paths at Big Thompson.
- Develop a trail leading south to the existing natural swim area.
- Construct quarry overflow parking area in a future phase. Parking would be a natural surface, used only seasonally during high water, and fenced. It would include approximately 45 vehicle parking spaces and 35 boat trailer parking spaces.
- Provide a floating courtesy dock.
- Construct an enhanced pedestrian crossing and steps to the courtesy dock.
- Construct an overlook along CR 31.

Natural Swim Area (Figure 3.5)

- In concert with implementation of the Big Landia campground, convert the Natural Swim Area to walk-in and bike-in only

access. Close entry road and eliminate parking.

- Provide trail access from Big Thompson area and new use area at Big Landia.

Big Landia (Figure 3.5)

- Construct 1 new restroom.
- Add approximately 20 parking spaces.
- Add 20 tent pads.
- Construct a group campground with large group shelter and fire ring.
- Operate group campground by reservation only, and install a locked gate for use during unreserved periods. Open camping to individual reservations if area is not reserved by groups (2 weeks out).
- Construct trail to existing natural swim area in a manner that protects the dam and install a cross walk to safely channel visitors crossing the county road.
- Add a loop trail extending to south.

Carter Knolls (Figure 3.6)

- Replace existing tent sites with 6 cabins with picnic tables and 6 RV pull through sites (no hookups available).
- Maintain one existing restroom.
- Provide 12 parking spaces.

South Shore Campground

- Several improvements to this area were identified in the 2007 RMP/EA and these projects are already underway.
- Following the opening of Chimney Hollow Open Space to public use, finalize an alignment for and construct a connector trail from Carter Lake.

South Entrance Station

- Upgrade the existing gatehouse with a standard design that provides ADA accessibility and an employee restroom.
- Investigate feasibility of replacing existing dump station with a connection to a sewer line.



Carter Management Zones

- Highly Developed
- Moderately Developed
- Low Developed
- Natural
- Restricted
- Wakeless Area
- Motorized Multiple Use (Boats must travel in a Counter Clockwise Direction)

Transportation Features

- Existing Trails
- Roads

Land by Manager

- Other Public Lands



Map 3.2 Carter Lake Management Zones



North Pines

PROGRAM:

- 9- Additional Parking Spaces
- 11- Pull Through Trailer Parking Spaces
- 2- Restrooms
- 11- Pull In Trailer Parking Spaces
- Day Use Areas
- 1-Dryland Boat Storage
- Replace or improve the Sail Clubhouse in partnership with the Sail Club when needed.



Figure 3.3 North Pines Concept Plan



Big Thompson & Quarry Area

PROGRAM:

- 2-Restrooms
- 88-Parking Spaces at Day Use Area
- Day Use Areas
- Swim Areas
- Trail to Swim Areas
- 1-Overlook
- 1-Reservable Pavilion
- Install landscaping and trees between parking lot and road

Phase 2 Overflow Area:

- 45-Parking Spaces
- 35-Boat Trailer Parking Spaces
- Enhanced Pedestrian Crossing
- 1-Floating Courtesy Dock
- Install fencing along the east side of parking lot

 Park Boundary



Figure 3.4 Big Thompson and Quarry Area Concept Plans

BIG LANDIA

PROGRAM:

- 1-Restroom
- 20-Parking Spaces
- 20-Tent Pads
- 1-Large Group Shelter
- 1-Fire Ring
- 1-Gate
- Group campground by reservation only

SWIM AREA

PROGRAM:

- 1-Restroom
- Day Use Area (Walk and Bike In)
- Swim Area
- Trail to Swim Beach
- No vehicular parking

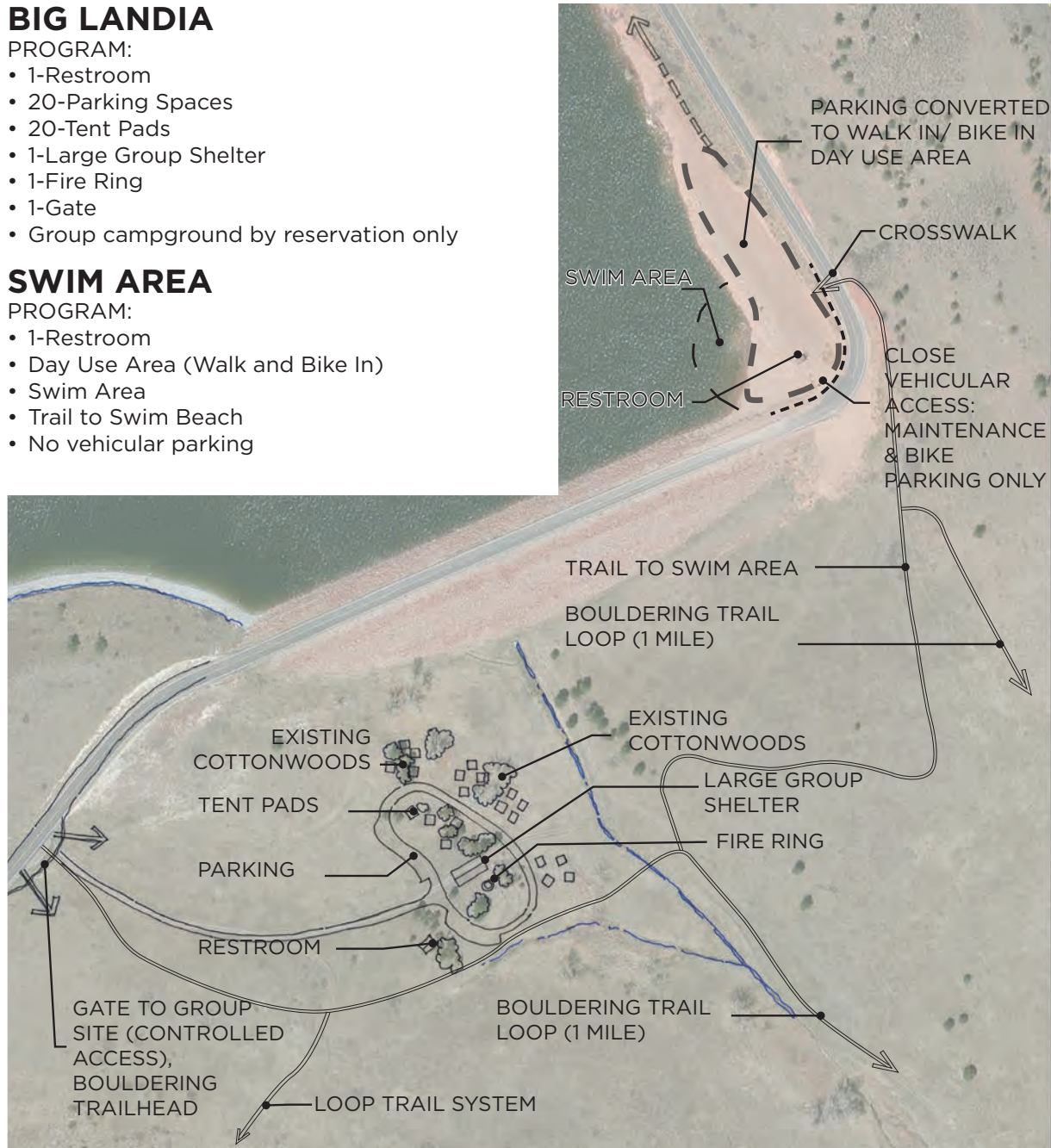
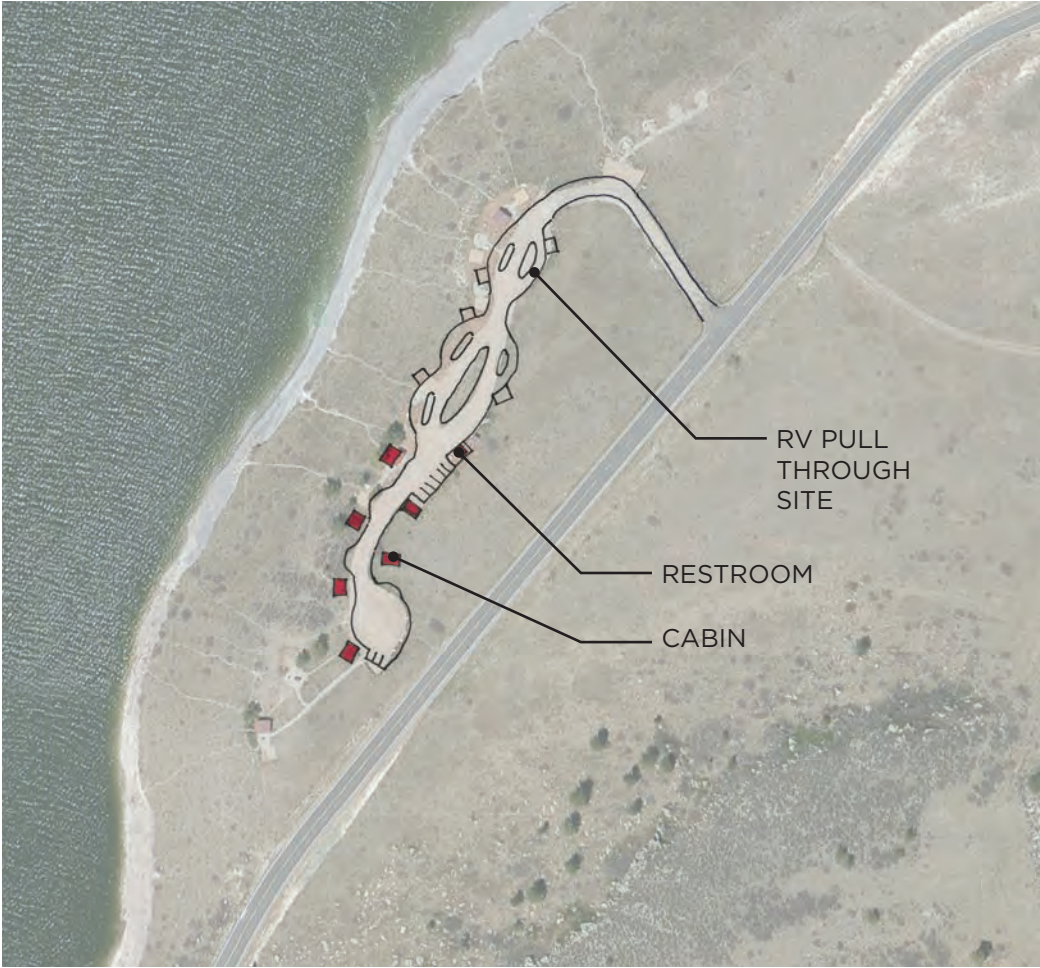


Figure 3.5 Big Landia and Swim Area Concept Plans



CARTER KNOLLS

PROGRAM:

- 6-Cabins With Picnic Area
- 12-Parking Spaces
- 1-Restroom
- 6-RV Pull Through Sites - No hookups



Figure 3.6 Carter Knolls Concept Plan

PINEWOOD RESERVOIR

Aquatic nuisance species regulations apply to this wakeless boating reservoir. All boats must be inspected unless they are preinspected at another ANS facility.

Desired Recreation Activities (Map 3.3)

- Fishing opportunities – primary activity.
- Somewhat social, rustic camping adjacent to the reservoir with multiuse and walk-in campsites.
- Day use and picnicking in a scenic location.
- Trail use with connections to regional trails and adjacent public lands.

Desired Resource Conditions

- Level of Development: Most of the reservoir will remain natural with very little development and no large structures.
- Control potential pollutants (gasoline, petroleum products) associated with boat activity.
- Develop education materials for distribution at entrances to educate the public about methods to minimize gasoline or petroleum leaks.

Desired Managerial Conditions

- Manage for a moderate level of visitation and revenue.

New Development

Pinewood Reservoir’s electrical campsites, a natural playscape/outdoor classroom, new vault restrooms, and other recreational facilities were upgraded in 2015 under the 2007 RMP. Proposed new improvements focus on vehicular circulation and safety improvements within the existing developed areas.

Fisherman’s Cove Day Use Area (Figure 3.7)

- Add exit/entry to parking lot on south side of parking lot.
- If necessary for dam security, add future trailhead below dam and improve trail sustainability to Fisherman’s Cove Parking.
- Add self-service permit kiosks.

Launch & Parking Area

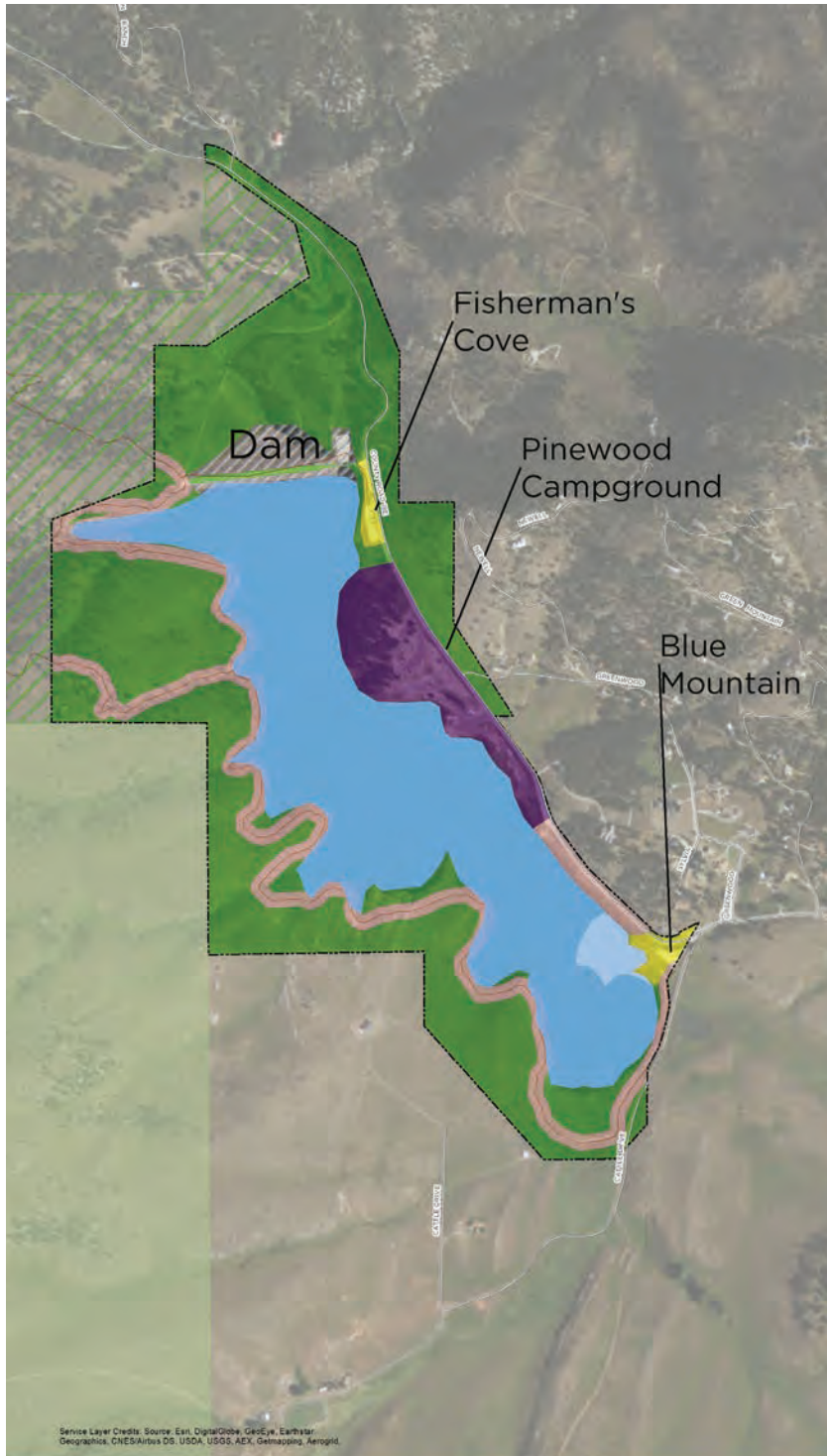
- Improve safety and add signage near dam area stressing that the area is closed to swimming.
- Consider implementing vessel inspections within existing financial constraints.

Pinewood Campground

- Add self-service kiosks.

Blue Mountain Day Use Area

- Upgrade day use area.
- Add no swimming signage near penstocks / siphon area and change safety rope to indicate danger.





Pinewood Reservoir



Management Zones

-  Highly Developed
-  Moderately Developed
-  Low Developed
-  Natural
-  Restricted
-  Wakeless Boating
-  No Boating

Transportation Features

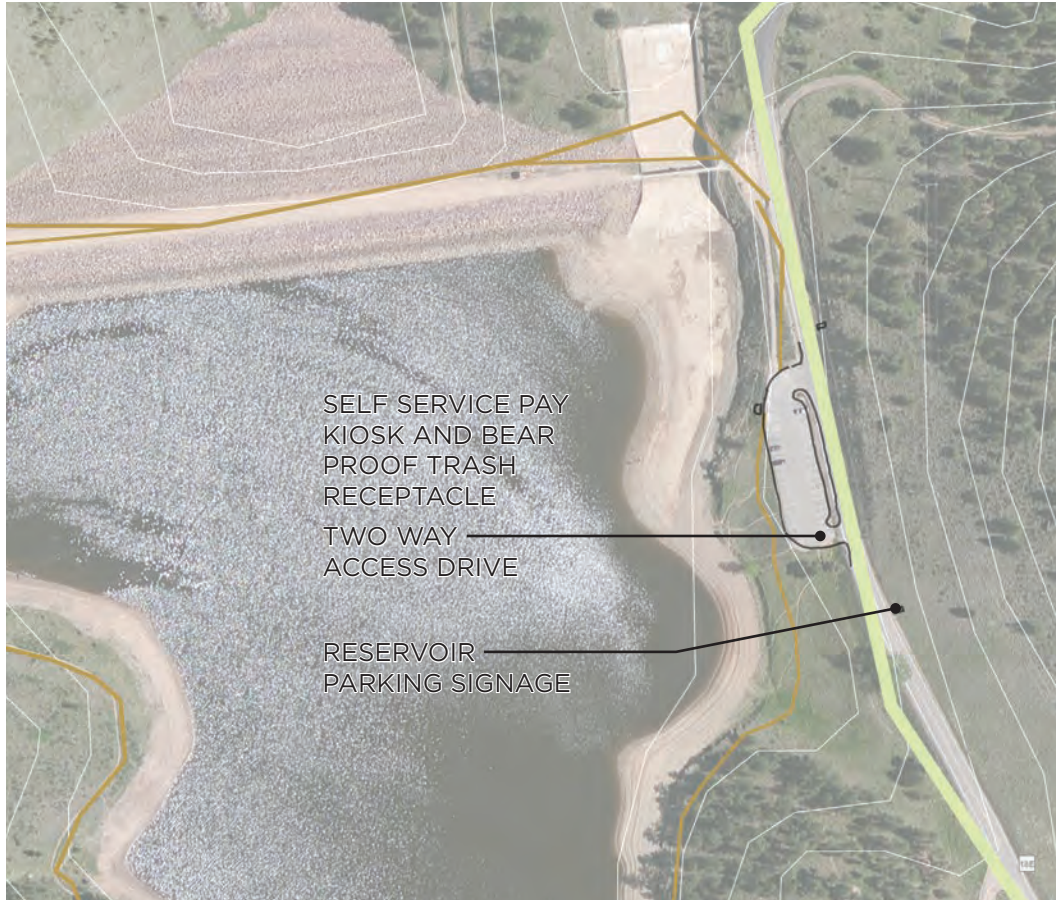
-  Existing Trails
-  Roads

Land by Manager

-  Other Public Land
-  Larimer Co Parks/Oper Space



Map 3.3 Pinewood Reservoir Management Zones



Fisherman's Cove

PROGRAM:

- Access on South End of Parking Lot
- 1-Automated Fee Kiosk
- Bear Proof Trash Receptacle
- Parking Directional Sign
- Neighborhood Traffic Only Sign
- Small Identification Sign

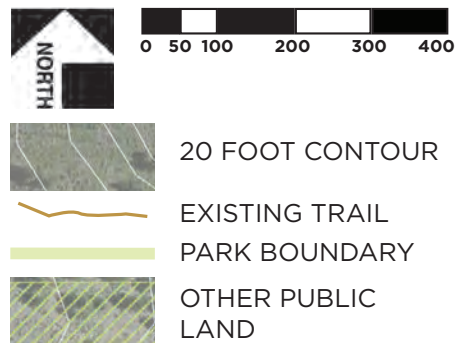


Figure 3.7 Fisherman's Cove Concept Plan

FLATIRON RESERVOIR

Desired Visitor Experience (Map 3.4)

- Highly social and developed full-service camping adjacent to Flatiron Reservoir, including multiuse campsites – primary activity.
- Shoreline fishing opportunities.
- Picnicking in a scenic location.
- Group picnicking.
- Water activities are prohibited.
- Trail use within the property, to the Natural Resource Administration Offices.

Desired Managerial Conditions

- Provide a high level of safety through signage, visitor education, and limited staff presence.
- Manage for a high level of visitation and revenue.

New Development

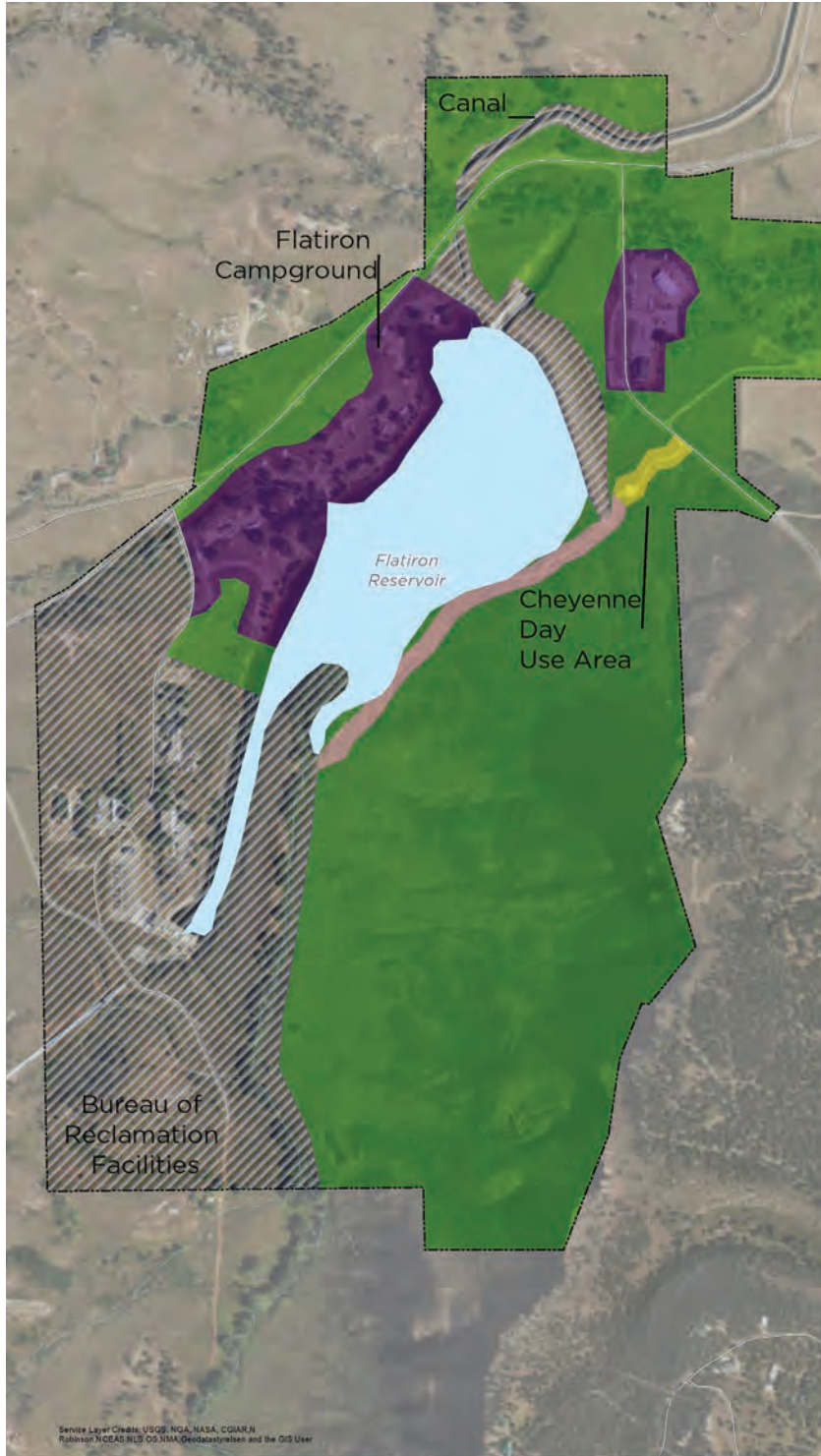
Proposed improvements would upgrade the campground to a level of service similar to Pinewood Reservoir, with a focus on public safety. The improvements occur only within the existing developed area. Currently, Homeland Security issues prohibit recreation access near Reclamation inlet and outlet facilities on the northeast and southwest sides of Flatiron Reservoir, which obstructs establishment of the regional trail connections.

Campground/Day Use Area

- Update identification sign and kiosk area.
- Upgrade campground amenities.
- Improve group use area and campground education facility.
- Address flooding issues by upgrading culverts.
- Add additional signs for safety, explanation of why swimming is not allowed.
- Provide fishing etiquette signs.
- Improve pedestrian connection from Natural Resources Administration Offices to Cheyenne Day Use Area.
- Evaluate ADA compliance and opportunities.

Gatehouse (near Natural Resources Administration Offices)

- Upgrade the existing gatehouse with a standard design that provides ADA accessibility and an employee restroom.



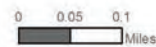
Flatiron Reservoir

Management Zones

- Highly Developed
- Moderately Developed
- Low Developed
- Natural
- Restricted
- No Boating or Swimming Access

Transportation Features

- Existing Trails
- Roads



Map 3.4 Flatiron Reservoir Management Zones

Future Parks

For more than 20 years Larimer County has been successful in working with willing sellers and conservation partners to acquire private properties for public benefit. With a growing population, the importance of conserving these remaining areas increases, the need to link them together becomes ever more critical, and the benefits of proper stewardship and restoration become more essential. At the same time, the number of large contiguous properties across the county continues to decrease due to demand for residential subdivisions.

In addition to regional population growth and pressures, recreation demand continues to increase faster than population growth. Visitors are already experiencing less desirable experiences such as long wait lines at boat launches, feeling crowded at swim areas, or not being able to get into the park at all because the parking is full.

Most of the Larimer County's notable acquisitions have focused on natural landscapes, areas of high ecological value, river corridors, or agricultural priority areas. These acquisitions, from willing landowners, are concentrated beyond municipal Growth Management Areas. The ability of Larimer County Department of Natural Resources to acquire parkland is dependent on long-term funding, such as the sales tax initiative (see Chapter 4). Financial resources are limited, and most transactions will occur with local or state partnerships. As always, all acquisitions will only occur with willing landowners.

Working in concert with municipalities and willing sellers, the County is securing rights for and constructing a regional trails system as described in the 2015 Open Lands Master Plan, and shown for reference on Map 3.5. Three regional trail priorities could significantly

improve connectivity between the four reservoirs, existing open spaces, trailheads, and jurisdictions: the Carter Lake / Horsetooth Foothills Trails Corridor, Little Thompson River Trail Corridor / Colorado Front Range Trail (West), and Rattlesnake Trail. Continuing to implement these non-motorized connections to the reservoir parks would improve recreational access, health, and fitness, while at the same time reducing parking demands and road congestion.

150,000

THOUSANDS OF NEW ACRES NEEDED

By 2040, an estimated 150,000 people - equivalent to the population of Fort Collins today - will be added to Larimer County.

In order to continue to provide a valuable, quality experience to visitors additional acres are needed. Although Larimer County does not have an adopted parkland standard, expressing the acres of parkland per 1,000 population is a common metric used in parks master planning.

With a population (July 2015) of 333,577, Larimer County currently provides 22 acres of parkland/1,000 population. Table 3.4 shows the total land and flatwater acres of all active recreation parks in Larimer County used to calculate the acres per 1,000 population. Less commonly expressed is a metric relating to the amount of water-based recreation area available, or acres of flatwater surface available for public recreational use. Using this metric, Larimer County currently provides its residents with approximately 10 acres of water/1,000 population. Not expressed in the acres per population level of service is that these reservoirs provide a regional service for Northern Colorado and even parts of Wyoming and the rest of the state.

Table 3.4 Existing Highly Developed Park/Open Space Properties

Park	Land Acres	Flatwater Acres	Total Acres
Horsetooth Reservoir	1,725	2,040	3,765
Horsetooth Mountain Open Space	2,711	--	2,711
Bingham Hill Park	3	--	3
Pinewood Reservoir	141	97	238
Flatiron Reservoir	346	44	390
Carter Lake	1,104	1,114	2,218
Big Thompson Canyon Parks	17	--	17
Hermit Park Open Space	1,362	--	1,362
Totals	7,409	3,295	10,704

In order to maintain service levels similar to what it is currently providing, Larimer County will need to add parkland and water surface available for public use in response to a growing population and recreation demand. This is illustrated in Table 3.5, which shows how the current service level drops as population growth occurs and the supply of land and flatwater acres has remained constant since 2007. No further increases in land acreage would drop the level of service from 25.8 acres per thousand population to 15.3 by 2040, a decrease of approximately 40 percent.

Similarly, no expansion in the amount of flatwater area available for recreational use would drop the level of service from 11.5 acres/1,000 to 6.8 acres - again a decrease of approximately 30 percent.

Table 3.5 Future Levels of Service without Increased Parkland and Water Acres

Year	Estimated Population*	Land acres	Land Acres/1,000	Flatwater Acres	Water Acres /1,000
2007+	287,584	7,409	25.8	3,295	11.5
2015	333,577	7,409	22.2	3,295	9.9
2020	360,434	7,409	20.6	3,295	9.1
2030	424,882	7,409	17.4	3,295	7.8
2040	483,322	7,409	15.3	3,295	6.8

+ 2007 Parks Master Plan

*Source: DOLA 2016

In order to maintain service levels similar to those it currently offers, Larimer County will need to acquire additional acres of parkland and flatwater available for public recreational use (Table 3.6). Based on anticipated population growth, preliminary estimates show that Larimer County would need 4,000 additional acres by 2040 of parklands and 1,330 additional acres of flatwater to maintain the current levels of recreation density.

Table 3.6 Additional Acres Needed to Maintain Current Levels of Recreation Acres

Year	Estimated Population*	Land Acres/1,000 without new land acquisition	Additional park acres needed to maintain current service level	Water Acres/1,000 without new flatwater acquisition	Additional flatwater acres needed to maintain current service level
2007+	287,584	25.8	-	11.5	-
2015	333,577	22.2	1,185	9.9	527
2020	360,434	20.6	1,877	9.1	835
2030	424,882	17.4	3,537	7.8	1,573
2040	483,322	15.3	5,043	6.8	2,243

+ 2007 Parks Master Plan
 *Source: DOLA 2016

5,040

To maintain the same opportunities as the 2007 Master Plan, population growth by 2040 would require 5,040 acres of additional parkland, which is equivalent to Horsetooth Mountain Open Space...

To put these needs in perspective, the 2040 parkland need (5,043 acres) is approximately the amount of parkland represented by two Horsetooth Mountain Open Spaces. Some of this deficiency would be made up by the opening of Chimney Hollow Open Space, which includes over 1,847 land acres. However, Chimney Hollow Open Space would address less than half of the future deficit. And as Chimney Hollow Open Space is intended for day use only, parkland for overnight camping facilities would be unmet.

With respect to water surface acres, the 2040 need (2,243 acres) is nearly another Horsetooth Reservoir. Chimney Hollow Open Space would address a portion of the water deficit as well, providing approximately 742 acres of water surface available for recreational use (non-motorized). Again, making Chimney Hollow Open Space available for public use would address only a portion of the deficit, leaving a need for nearly 600 additional water acres.

Without new properties, wait times, crowding on trails, parking demand, and reservations will continue to escalate.

2,250

IT WOULD ALSO REQUIRE 2,250 ACRES OF FLATWATER - THE EQUIVALENT OF ANOTHER HORSETOOTH.



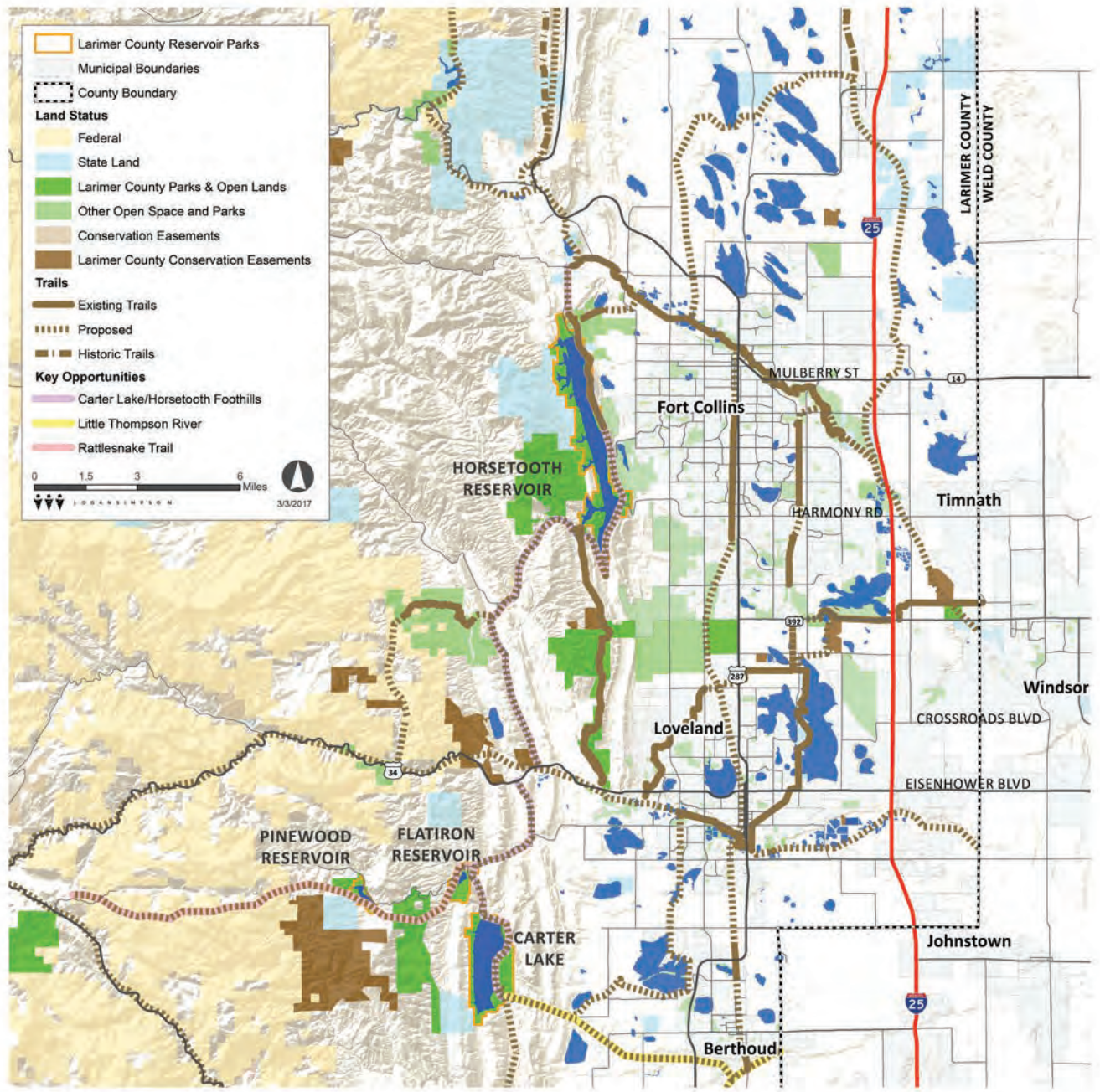
*There are dozens of private water storage reservoirs north of Fort Collins or south of Loveland that could be leased or acquired for public access.
Photo: www.coloradopro.com*

FUTURE PARK STRATEGIES

Several strategies have been identified that would contribute to future parkland and water surface needs. These strategies emphasize creating or opening new opportunities not presently available for recreation, rather than shifting recreational management of private or other agency lands to the County. These include:

Glade Reservoir. This is a proposed reservoir by the Northern Colorado Water Conservancy District located 10 miles northwest of Fort Collins. If constructed, the reservoir would be nearly the size of Horestooth Reservoir (1,635 acres). Larimer County Natural Resources and Colorado Parks and Wildlife are currently discussing with Northern Water the opportunity to manage the public use of the reservoir. The primary purpose of the project will be for water storage, but it will also provide potential opportunities for water-based recreation. It is expected that the environmental review process on this project will be completed by 2018.

Chimney Hollow Open Space. Located west of Carter Lake in Loveland, conservation of this 1,847-acre property occurred in 2004. Chimney Hollow Reservoir is a project proposed by the Municipal Subdistrict of the Northern Colorado Water Conservancy District on adjacent open space lands. If completed, the reservoir would be 730 surface acres. The Subdistrict owns a total of 1,600 acres. Recreation will be managed by Larimer County in conjunction with the open space. This project successfully completed the NEPA process and has been approved by the U.S. Bureau of Reclamation. Final design and construction of Chimney Hollow Reservoir can begin once the U.S. Army Corps of Engineers has issued the 404 wetlands permit. When opened for use, Chimney Hollow will provide opportunities for non-motorized recreation on the future reservoir and natural surface trails within the open space area. More details can be found in the Stewardship Plan for the Chimney Hollow Open Space.



Map 3.5 Key Recreation Opportunities (from Open Lands Master Plan)



Boat-in camping at Horsetooth. Photo: Harry Strharsky

Apart from these specific opportunities, other strategies could be utilized to increase the availability of water-based and natural resource-based parkland.

Private Reservoirs. Larimer County is fortunate to have numerous reservoirs that were constructed as part of a system to support the irrigation of arid lands. This system of reservoirs, ditches, and canals is a part of the area's agricultural heritage, and the system continues to provide important benefits for agricultural users as well as wildlife. Between Fort Collins and Wellington alone, there are nearly twenty of these reservoirs, most of which have at least several hundred surface acres. A similar pattern occurs southwest of Loveland and again north of Timnath east of I-25. Many of these reservoirs are majority owned by irrigation companies, some of which have partial public ownership by cities such as Fort Collins. Recreational use of these reservoirs is compatible with the primary purposes of water supply and storage, as evidenced by the fact that several of the reservoirs are open to

recreational use through lease agreements with private entities, including recreation associations and private businesses.

Larimer County, in association with potential partners, should explore the feasibility of entering into an agreement to provide public access to one or more of these reservoirs. Although the specific nature of any agreement cannot be determined at this point, it is anticipated that a potential agreement could be achieved that provides for limited recreational uses such as fishing, non-motorized boating, and related day uses and trails. Several of the reservoirs are good candidates for joint projects involving the provision of recreational use and access along with opportunities to conserve key wildlife habitats and other sensitive resources. As illustrated in Map 3.5, some of these reservoirs are located adjacent to or in the vicinity of potential regional trails that would link them to Wellington and Fort Collins.

Other Public Reservoirs. Other public agencies manage a number of existing reservoirs close to urban areas. Some of these reservoirs currently support a variety of public uses, including wakeless boating (including paddle sports) fishing, picnicking, nature observation, trail use, and others. Some reservoirs that once were public are now only available to private users. If other public agencies were unable to continue to operate these properties for public use due to budgetary reasons, the County should investigate the feasibility of partnerships to keep the reservoirs open for public use. However, this strategy would not expand the acres available to the public. The true opportunity for Larimer County would be to provide recreation at a reservoir that is currently completely closed to the public and would be additive to the camping, boating, hiking, etc opportunities available to residents and visitors.

Mountain/Foothills Partnerships. In addition to plains reservoirs, the County should consider opportunities for creating an additional active recreation park in the foothills or montane zone, similar to Horsetooth Mountain or Hermit Park. Optimally, the new potential park should be located proximate to population centers. The Open Lands Master Plan addresses the need for acquiring additional open spaces outside of Larimer County's urban areas for the conservation of natural landscapes. Although there are a number of ways to accomplish the creation of a new park, one method that

has been used successfully by other Colorado counties is to explore partnerships with the State Land Board and / or CPW. These two agencies own a number of large foothills and mountain properties in Larimer County.

As one example, the Poudre River State Trust Land (5,762 acres) is a large, contiguous tract north of Fort Collins and west of Highway 287 adjacent to the Poudre River and U.S. Forest Service lands. In addition, portions of the tract are within the footprint of planned water storage projects, including Glade Reservoir and the expansion of Seaman Reservoir. These planned water storage projects would be compatible with potential park use.

A potential strategy for eventually creating parks of this nature would be to work with the State Land Board to designate more properties in Larimer County into the Stewardship Trust (i.e., placing the property in a reserve status while funding and other partnerships and agreements could be worked out). The Stewardship Trust is a "living trust" that was created under the terms of Amendment 16. The Trust always includes between 295,000-300,000 acres, but the State Land Board may choose to add or remove state trust land from the Stewardship Trust. Between 2000 and 2014, about 10 percent of the original designated lands were removed from the Stewardship Trust; in many cases these lands were sold to federal, state, or local jurisdictions and contributed to the creation of national parks, county parks, and federal wildlife areas.

As new flatwater and parkland becomes available, the County will consider purchasing these lands or partnering in their management.

The following criteria will be applied to evaluate each potential reservoir park acquisition/lease/partnership:

- Does the property meet demand for public use and diversify recreation opportunities?
- Can enough revenue be generated at the reservoir park to cover the cost of managing recreation and park resources?
- Does the park have valuable natural or cultural resources?
- Does the purchase make additional recreational capacity possible in proximity to existing parks and staffing resources?
- Is Larimer County the best agency to manage the park?
- Does Larimer County's management increase public access and recreation opportunities or merely divert management from another agency's responsibility?



Photo:
Zach Schierl



CHAPTER 4. IMPLEMENTATION



A key goal of the Reservoir Parks Master Plan is to ensure that park resources are managed in an economically sustainable manner. This chapter highlights the economic benefits the reservoir parks bring to the County and outlines how the Department of Natural Resources manages park revenue and expenses, and identifies key challenges if current financial trends continue. The key challenges are to find funding to refurbish and replace aging assets, match federal and state grants, replace curtailed state ANS funding, and for acquisition and development of new parkland or areas for water-based recreation. The chapter concludes by suggesting some alternative and supplemental sources of revenue such as dynamic and variable pricing.

Given the fact that Larimer County has several partners in managing the reservoirs, including Reclamation, other County departments, Northern Water, and CPW, a coordinated approach will be essential in securing the funding necessary to implement the actions identified in this plan. The Department of Natural Resources will continue to collaborate with appropriate stakeholders on recreation and natural resource issues, concerns, solutions, and funding strategies.

ECONOMIC BENEFITS

The four reservoirs managed by Larimer County for recreation, as well as related open lands and conserved working farms and ranches provide enjoyment, recreation, business and employee attraction, and local revenues. In 2012, the County commissioned Logan Simpson and Trust for Public Land to quantify certain economic benefits provided by all conserved property in the Our Lands – Our Future study. While this study aggregated the four reservoirs with other natural recreation areas across the County, some key findings are transferable to Horsetooth Reservoir, Carter Lake, Pinewood Reservoir, and Flatiron Reservoir and are highlighted below.

ECONOMIC DEVELOPMENT

Larimer County's vast open spaces make the county a unique place to live and work. The high quality of life provided by these open space amenities plays a critical role in the county's economic development. The high quality of life provided by these open space amenities plays a critical role in the county's economic development. Skilled workers are attracted to places like Larimer County where there is open space, clean air and water, and ample opportunities for outdoor recreation. Businesses, in turn, are drawn to these places to recruit the best workers. One survey of high-tech workers showed that a job's attractiveness increases by 33 percent in a community with a high quality of life (APA 2002).

ENHANCED PROPERTY VALUE

While some adjacent property owners to the four reservoirs are confronted at times with trespassing, traffic and noise impacts, they also enjoy increased property values because people like living near park areas and are willing to pay a premium for the privilege. Views of water, mountains, and well-maintained recreational amenities present at the reservoirs add significant value to most if not all adjacent, private properties. While determining an accurate view of every property value next to every reservoir is technically possible but prohibitively time-consuming and costly, several studies offer the same conclusion - that reservoirs have a positive impact on nearby residential property values:

- A 2004 study found that 5 percent is a conservative value nationally for the amount that conserved lands add to the market value of all dwellings within 500 feet of them (Crompton 2004).
- A 2009 report from the National Association of REALTORS® also found that the premium for homes near natural areas, nature-based recreation areas, and conserved working farms and ranches can extend three blocks and starts at 20 percent for those homes directly adjacent.

- Using these two values, the Our Lands – Our Future estimated that an added \$104 to \$414 million in residential property value exists countywide because of proximity to natural areas, nature-based recreation areas, and conserved working farms and ranches in Larimer County. The resulting annual property tax gain to all tax districts from proximity to nature-based recreation areas and open space is estimated to range from \$750,000 to \$3 million (Larimer County 2013). Recognizing that Larimer County's portion is approximately 25% of total property tax district mill levies, Larimer County's benefit would be \$187,500 to \$750,000 annually.
- A Colorado State University study in 2012 found that land conservation in Larimer County can add up to 30 percent to the value of homes in conservation developments. The study found that in Larimer County, a home in a conservation development (an approach to the site design of a development property that combines residential development and land conservation) adds 30 percent to the sales price compared to an otherwise similar subdivision (Haunnum, et al. 2012).

DIRECT USE VALUE BY LOCAL RESIDENTS

Larimer County's natural areas and nature-based recreation areas provide direct recreational value to residents through such activities as walking, hiking, running, horseback riding, biking, and wildlife watching. Local residents save money by using the county's natural areas and nature-based recreation areas at low-cost instead of having to pay to participate in or travel to these activities elsewhere. Economists have calculated the value of a consumer's "willingness to pay" for the recreation experience in the private marketplace. In answer to the question: If reservoir parks were not available in Larimer County, how much would the resident (or "consumer") pay for similar experiences in commercial facilities or venues elsewhere? Considering the County as a whole, a 2012

study found that the economic value of just five outdoor activities available at the reservoirs – boating, fishing, picnicking, camping, walking/running/hiking – amounted to more than \$53 million. This would represent a significant amount of local disposable income leaving Larimer County's tax rolls.

RECREATION TOURISM

Natural areas and nature-based recreation areas play an important role in attracting visitors to the County who spend money at local businesses. In 2010, the top three primary reasons for choosing the Fort Collins area to visit were being on vacation, visiting family and friends, and outdoor recreation (Loomis and McTernan 2010). Approximately one-in-four non-resident visitors come to the Fort Collins area primarily for outdoor recreation according to this survey. A visitor use study prepared for the 2007 Parks Master Plan found that two-thirds of all visitors to the four reservoirs came from outside Larimer County.

The 2017 Parks Master Plan estimates that between 650,000 to 1.4 million recreationists came to the four reservoirs in 2016. The County is currently undertaking a visitor use survey to refine this estimate, as well as document the

number, type, and activities of non-residents who come to the reservoirs. Assuming that two-thirds of these visitors are from outside of Larimer County, the reservoirs attract approximately 429,000 to 924,000 tourists per year (Larimer County 2007). If visitor spending profiles are similar to types of trips and spending patterns of visitors to federal and state natural areas in Larimer County, each non-resident visitor would spend approximately \$82 per trip (White and Stynes 2010). This means that the four reservoirs account for between \$36 to \$78 million in non-resident visitor spending each year in Larimer County.

CONCLUSION

The investments that Larimer County makes to recreation at Horsetooth Reservoir, Carter Lake, Pinewood Reservoir, and Flatiron Reservoir provide significant economic value to the community. This is consistent with study after study on the beneficial impacts of reservoirs to regional economies across the country. Continuing to maintain and enhance these assets will ensure that workers, businesses, and tourists are attracted to Larimer County for years to come.



Horsetooth
Marina.
Photo:
Unknown

PROJECTS SUMMARY

Fourteen recreation use areas were renovated or expanded following completion of the 2007 Parks Master Plan. The projects identified in this master plan continue an effort to implement a community-driven vision. An overall goal is to implement the planned projects within a 10-year planning period; however, implementation depends on, among other things, available funding, cooperation of other involved entities; cost-sharing efforts; results of visitor use surveys; and monitoring of individual recreation areas. Because park operations are primarily user fee funded, many of the capital projects below will require additional funding methods, either through grants, partnerships, or federal programs, which may impact the timing of implementation. Similar to the 2007 Plan, some projects may take more than 10 years to implement. The Parks Advisory Board will act in an advisory role to help the Department of Natural Resources decide which projects should be funded and the source of appropriate funding.

Table 4.1 through Table 4.4 lists the planned projects grouped by reservoir and project location, including the priority, capital cost, lead organization, potential capital sources and partners, and potential operations and maintenance (O&M) funding sources. The Master Plan proposes approximately \$18 million (including design-related costs, studies, and permitting) of capital projects (Figure 4.1). For comparison, over the last ten years (2007 through 2016), \$13,990,045 has been spent on capital replacement/outlay and new capital projects in Larimer County Parks. Priority 1 and 2 projects can be financed with sources and revenue amounts that are consistent with recent historic trends; however, the estimated costs do not include all asset replacement needs that are likely to emerge over the next ten years.

Assumptions utilized in the development of the cost estimates include:

- Project capital costs have been estimated based on the best information available at the time of the design (Concept Plan examples are provided in Chapter 3).
- Some specific items shown in the cost estimate are not illustrated on the Concept Plans but are typical items for the types of projects proposed.
- Preliminary unit quantities are based on area take-offs from the Concept Plans as well as assumptions based on similar project experience.
- Unit costs are based on review and recommendations from Larimer County, current cost estimate data collected from similar types of projects bid in the past few years, and published cost data information. The unit costs reflect several types of costs: in-house construction utilizing Larimer County staff, materials, and/or equipment; and unit costs typically found in a bid and construct project.
- The cost estimates do not include a yearly escalation factor. The costs reflect estimated costs for 2017. Costs will be re-estimated in tandem with more detailed design.
- The cost estimate does not include additional overhead costs that may be accrued if a project is developed in multiple phases.
- Costs for compliance and/or mitigation permitting are not included.
- Contingencies such as, Contractor's General Conditions, Concept Plan Contingency, and Contractor's Bid Bonds, of 25% are included.
- The costs included for utilities are assumptions only as existing and proposed utility plans were not available.
- Construction oversight costs are also not included. Industry standard is generally accepted to be 10% of the total project cost.

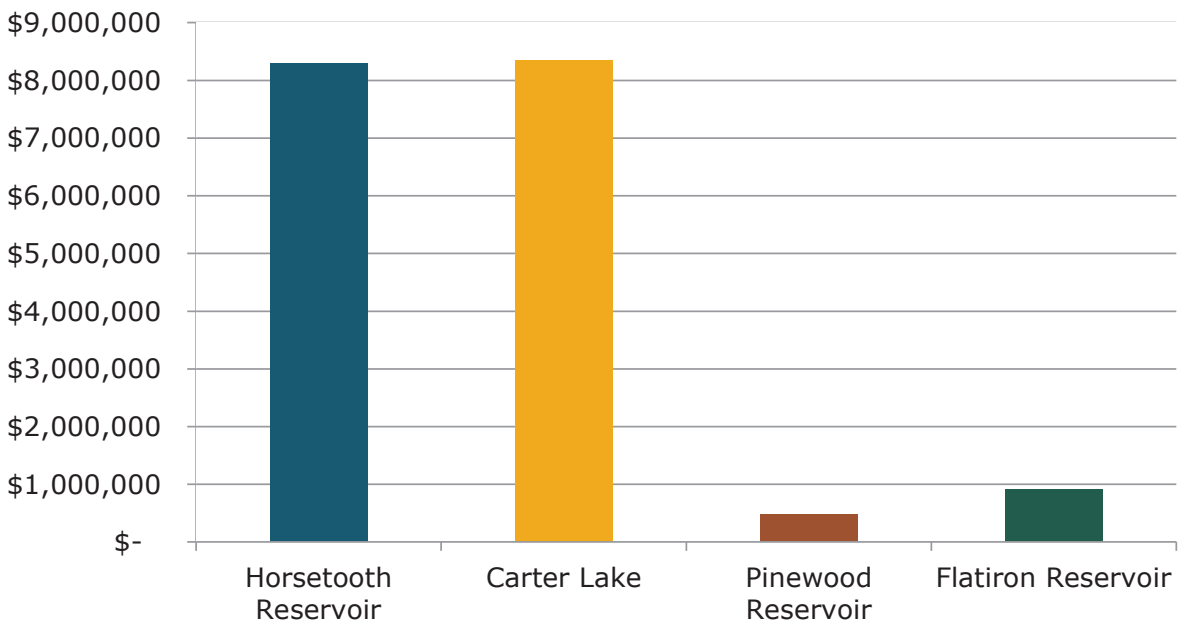


Photo:
Logan
Simpson

Figure 4.1 Proposed Capital Projects by Reservoir

Table 4.1 Horsetooth Reservoir Planned Projects

Project	Priority	Lead Org/ Group	Potential Capital Funding Sources	Potential O&M Funding Sources	Capital Costs
Inlet Bay: Campground	1	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$226,250
Inlet Bay: Marina	1	Larimer County Natural Resources	Fort Collins Rowing Association FLAP Concessionaire Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Row facilities will be funded and maintained by users. Marina will be operated/ maintained by concessionaire. Annual Permits/ User Fees: These upgrades will improve visitor experience and water quality.	\$3,252,000
South Bay: Campground	1	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$693,000
South Bay: Day Use Area	2	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Fishing Groups FLAP Overland Mountain Bike Club	Annual Permits/ User Fees: This facility would generate revenue after construction investment. Overland Mountain Bike Club.	\$688,500
Duncan's Ridge/Torture Chamber	3	Larimer County Natural Resources	City of Fort Collins Climbing Coalition Open Space Sales and Use Tax Revenues	Climbing Coalition City of Fort Collins	\$154,000
Rotary Park	3	Larimer County Natural Resources	Climbing Coalition GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment. Bicycle and hiking clubs.	\$13,750

Project	Priority	Lead Org/ Group	Potential Capital Funding Sources	Potential O&M Funding Sources	Capital Costs
Lower Sunrise	2	Larimer County Natural Resources	Title 28 Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$80,250
North of Horsetooth Dam	2	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Archery Clubs Corporate Sponsorships Annual Permits/ User Fees	Annual Permits/ User Fees Ducks Unlimited The Fort Collins Archery Association	\$792,150
Satanka Bay and Expanded Parking	1	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Paddlesports concessionaire. Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$486,668
Boat-in Access on West Shoreline Coves	3	Larimer County Natural Resources	Boating Grants Annual Permits/ User Fees	Annual Permits/ User Fees: These upgrades will improve visitor experience and water quality.	\$223,000
Blue Sky Trailhead	3	Larimer County Open Lands	Open Space Sales and Use Tax Revenues GOCO grants	Annual Permits/ User Fees	\$14,000
Other Resource Enhancements	2	Larimer County Natural Resources, CPW	GOCO Grants Annual Permits/ User Fees	Larimer County Natural Resources, CPW	\$10,000
Subtotal					\$6,633,568
Contingency, Design, Studies, and Permitting					25%
Total					\$8,291,960

Table 4.2 Carter Lake Planned Projects

Project	Priority	Lead Org/ Group	Potential Capital Funding Sources	Potential O&M Funding Sources	Capital Cost
North Pines Campground	3	Larimer County Natural Resources/Sail Club	Title 28 GOCO grants Annual Permits/ User Fees Open Space Sales and Use Tax Revenues Sail Club	Sail Club; Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$538,250
North Shoreline	2	Larimer County Natural Resources	Title 28 GOCO grants Annual Permits/ User Fees		\$22,600
Eagle Campground	2	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$661,300
Marina Area	2	Larimer County Natural Resources	FLAP Title 28 GOCO grants Tax Revenues Annual Permits/ User Fees		\$906,120
Big Thompson & Quarry Area	1 - Big Thompson 3 - Quarry Area	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$1,998,950
Natural Swim Area	1	Larimer County Natural Resources	GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees		\$332,050
Big Landia	1	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$830,100

Project	Priority	Lead Org/ Group	Potential Capital Funding Sources	Potential O&M Funding Sources	Capital Cost
Carter Knolls	2	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$1,001,350
South Shore Campground	3	Larimer County Natural Resources	GOCO Grants Open Space Sales and Use Tax Revenues	Annual Permits/ User Fees: This facility would generate revenue after construction investment.	\$30,000
South Entrance Station	1	Larimer County Natural Resources	Title 28 Annual Permits/ User Fees		\$356,750
Subtotal					\$6,677,470
Contingency, Design, Studies, and Permitting					25%
Total					\$8,346,838

Table 4.3 Pinewood Reservoir Planned Projects

Project	Priority	Lead Org/ Group	Potential Capital Funding Sources	Potential O&M Funding Sources	Capital Cost
Fisherman's Cove Day Use Area	1	Larimer County Natural Resources	FLAP Annual Permits/ User Fees		\$213,400
Launch & Parking Area	2	Larimer County Natural Resources	Title 28 Annual Permits/ User Fees		\$12,000
Pinewood Campground	2	Larimer County Natural Resources	Open Space Sales and Use Tax Revenues Annual Permits/ User Fees		\$40,000
Blue Mountain Day Use Area	2	Larimer County Natural Resources	Title 28 GOCO grants Open Space Sales and Use Tax Revenues Annual Permits/ User Fees		\$123,250
Subtotal					\$388,650
Contingency, Design, Studies, and Permitting					25%
Total					\$485,813

Table 4.4 Flatiron Reservoir Planned Projects

Project	Priority	Lead Org/ Group	Potential Capital Funding Sources	Potential O&M Funding Sources	Capital Cost
Campground/ Day Use Area	2	Larimer County Natural Resources	FLAP GOCO grants Open Space Sales and Use Tax Revenues Fishing Groups Annual Permits/ User Fees		\$367,750
Gatehouse (near Natural Resources Administration Building)	1	Larimer County Natural Resources	Title 28 Annual Permits/ User Fees		\$363,000
Subtotal					\$730,750
Contingency, Design, Studies, and Permitting					25%
Total					\$ 913,438

FINANCIAL CONTEXT & CONSIDERATIONS

In this chapter, “historical” data refers to audit and budget information from the past decade associated with implementing the 2007 Plan, 2007 through 2016, with comparisons to the period prior to the 2007 Plan.

Larimer County reservoir parks operations and capital projects are currently funded through three funds: the Conservation Trust Fund (#122), Park Operations (#226), and Parks Projects (#228).

The Department of Natural Resources is largely user and sales tax revenue-funded. That is, only a small portion of its overall revenue comes from the County General Fund. The 10-year average was 6% - one of the lowest of any County department and in 2017 is only 2%.

Larimer County open spaces operations and capital projects are funded with two funds. These funds are not the focus of this analysis but transfer of revenue from these funds to one of the three Park funds is allowed under appropriate circumstances.

County staff has several internal financial objectives that they would like to accomplish. These include further reducing dependence on transfers from the General Fund; Using Lottery Fund Revenues only for capital replacement and grant matching money, and; optimizing permit and user fee revenues while keeping the parks accessible to a broad spectrum of the community.

CONSERVATION TRUST FUND

The Conservation Trust Fund also referred to as Lottery Fund is a conduit for revenues from the Colorado Conservation Trust Fund (CTF).

A 1992 State constitutional amendment established a State lottery and set the proportion (40%) of revenues to flow to the statewide CTF. Statewide revenues have fluctuated in recent years due to economic trends and the success of new lottery games. Each county receives funding based on its

population relative to the State total, less the share for municipalities and special districts within the County. Funding may be used for the acquisition, development, and maintenance of new sites; for capital improvements; or for maintenance for recreational purposes on any public site. Funding may not be used for operating expenses or programs.

Over the past decade (2007 through 2016), Larimer County has received an average of \$650,000 per year. The amount Larimer County has received has steadily increased from 2007-2016, reversing a declining trend observed between the years 2001-2006. Revenues are transferred to:

- Park Operations Fund
- Parks Projects Fund
- Pest Control Fund

Since this revenue source is built into the State constitution, it will continue as long as there are lottery revenues. Historically, Larimer County has received less than 2% of total statewide CTF revenues. Its share is expected to remain flat or decline as the population of other eligible participant communities increases more rapidly than the population in unincorporated Larimer County. In the future, County staff wants to use CTF revenues for capital replacement only, or as a match for federal or state grants, with less reliance on it for park operations.

PARK OPERATIONS FUND

The purpose of this fund is to manage park operations, maintenance, and repairs. This is the largest of the three Parks funds.

All park and campground entrance and user fees, rental fees, resale merchandise, special event fees, group use fees, shower house fees, restitution and concessionaire revenues from the four reservoirs go to this fund, constituting approximately 84% on average of total revenues in this fund during the period 2007-2016. Other revenues come primarily from fund transfers from the Larimer County General Fund and CTF, Open Lands funds, and federal funding for integrated pest management.

The largest type of expense component is personnel, including salary adjustments and associated costs of health care and other benefits. Over the past decade, park maintenance and operation costs have increased to \$23,446,856, or an average annual cost of approximately \$2,344,000. In 2016 maintenance and operations costs totaled \$2,696,989. Operations & Maintenance expenses are expected to continue rising with visitation and inflation.

Currently, revenues listed above cover more than 100% of the operating costs of this fund, allowing for transfers to the Parks Projects Fund.

PARKS PROJECTS

This fund is the source for construction of capital improvements that are financed on a pay-as-you-go basis.

Nearly all federal and state grants are deposited into this fund (Table 4.5), including state funding for ANS. ANS funding was curtailed for 2017. From 2001 to 2006, approximately 85% of this fund's revenues are competitively-earned or are formula grants from the federal and state government. This amount has steadily decreased. In the last 5 years, competitive and formula grants have only amounted to 56% of the fund's revenues. In 2016, competitive and formula grants only amounted to 30% of its revenues. This reduction is offset by internal transfers from the General Fund, the Sales Tax Fund, and occasionally from the Parks Existing Operations Fund.

Table 4.5 Parks Projects Funding Sources

Capital Projects Funding Sources	Average Annual Revenue (2007-2016)	% of Total
Transfer from Lottery Fund	\$ 4,269,945	24%
Transfer from Park Operations	\$ 4,215,145	24%
Fed- US Dept of Interior	\$ 2,529,998	14%
Psth CO- Dept of Natural Resources	\$ 2,187,362	13%
Transfer From Sales Tax Fund	\$ 2,171,212	12%
GOCO Grants	\$ 1,176,147	7%
Transfer From General Fund	\$ 563,057	3%
CO Dept Natural Resources Grants	\$ 247,561	1%
Sale of capital outlay assets	\$ 76,470	0%
Donations from Private Sources	\$ 7,230	0%
CO Dept of Public Safety	\$ 15,981	0%
Other	\$ 2,310	0%

Source: Larimer County

Since expenditures are a function of highly variable revenues, there are no typical year expenditures. Purchases of capital items comprise the majority of expenses. Beginning in 2017, this fund also pays for expenditures to cover volunteer support, education programs, trail maintenance and administrative costs attributable to the Reservoir Parks.

The County does not forecast future grant revenues that are not secured, and this Fund requires minimal funding from other County funds to sustain personnel expenditures. Historically, Larimer County has been successful in securing federal and state grants because it has been able to provide a competitive match with local revenues and win grant awards. Federal and state grant revenues are discussed below.

FUNDING SOURCES

Based on review of historic finance trends, a continuation of existing finance practices will not likely generate revenue to fund additional capital projects above historic levels. Funding for an additional level of capital project spending will need to come from new revenue sources, Sales Tax Funds, or changes in fee schedules. Below are the three largest sources of revenue that collectively comprise 87% of all revenues (2007-2016). This percentage increases to 93% when the ANS grant is included. Due to their significance, each is discussed individually (see Figure 4.2).

- Permit and User Fee Revenues (Operations Fund)
- State and Federal Grants: Formula Grants (CTF) and Competitive Grants (US Bureau of Reclamation Title 28 Grant Revenues and Great Outdoors Colorado Grants) and state ANS funding.
- Transfers from the Larimer County General Fund and Sales Tax Fund

PERMITS & USER FEES

The four reservoir parks require entrance permits. There are currently two options -- users can either purchase a daily entrance permit or an annual entrance permit. The County currently offers discounts for annual entrance permits for Larimer County residents, seniors, and disabled persons.

Revenues from annual permits, camping fees, and daily user fees are the largest single source of revenue; they comprise 49% of all revenue to the three Parks funds. Historic revenues from all sources are illustrated in Figure 4.2.

User fees were last reviewed in 2008. Daily permits have only increased one dollar in 15 years. Resident annual passes were increased slightly in 2013, while non-resident passes have occasionally increased over the past 15 years. These figures are not identical to park usage because annual permit holders visit the parks numerous times throughout the year (see Chapter 2). Historically, increases in fee schedules were not followed by a reduction in visitation.

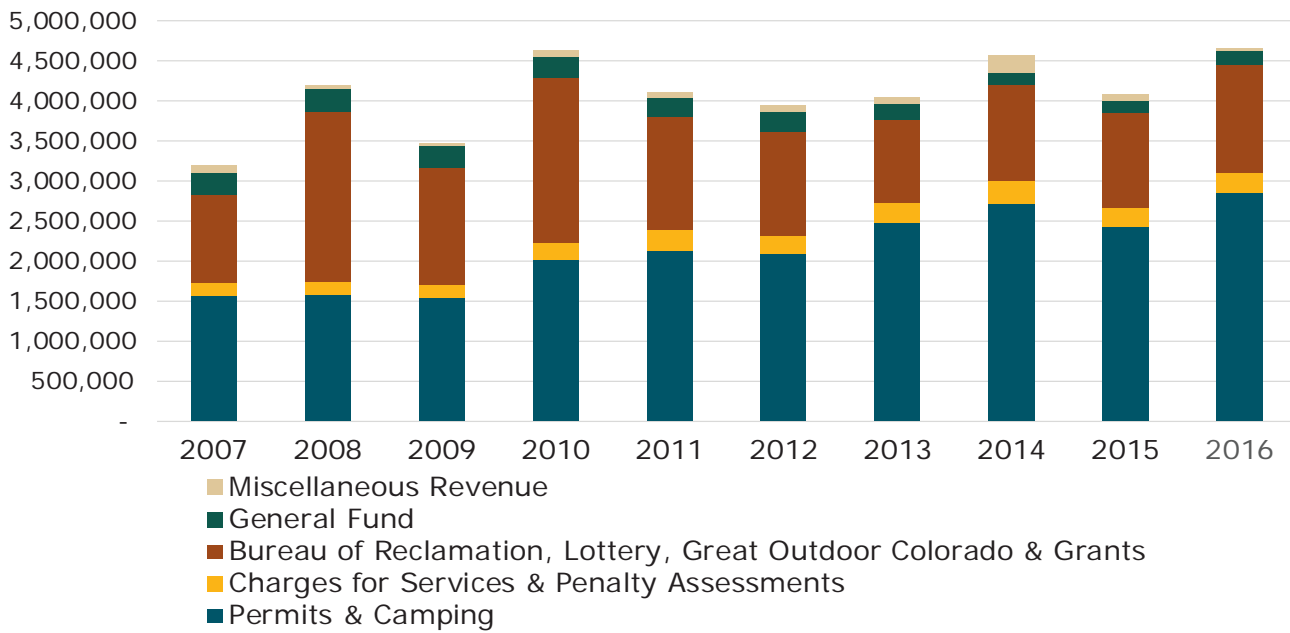


Figure 4.2 Larimer County Natural Resources Reservoir Park Funding Sources

Source: Larimer County

Bolstering these revenues in future years will come from (a) increasing fee schedules; (b) introducing new fees; (c) marketing and quality-of-service initiatives to attract new users; or (d) encouraging daily permit users to visit more frequently.

STATE & FEDERAL GRANTS

Formula (CTF) and competitive grants collectively comprise 27%, not including ANS, and 33% including the ANS grant, of all the reservoir park revenues. Competitive grant programs from Reclamation, Colorado Great Outdoors (GOCO), and the Colorado Department of Natural Resources are unpredictable sources of revenue and have been declining. While the County has been very successful in winning competitive grant awards, it is difficult to plan specific expectations for these revenues in future years. GOCO is scheduled to sunset on June 30, 2024, only seven years from now. Although the program has enjoyed a high level of support among Colorado's citizens, there is no certainty that the program will be extended.

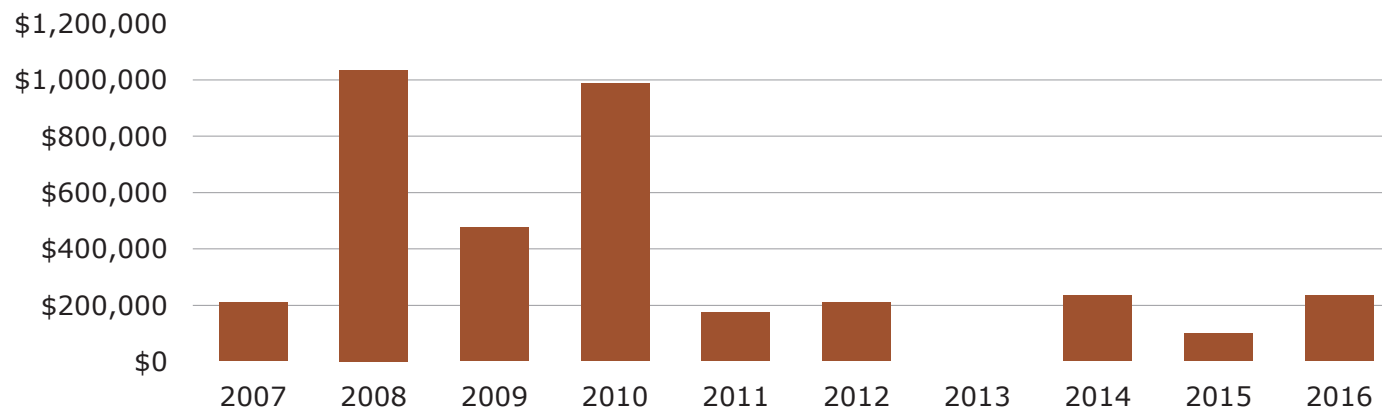


Figure 4.3 Bureau of Reclamation Funding, 2007-2016
 Source: Larimer County

Each federal and state grant program usually requires a local government match, which, for Larimer County, is usually from the General Fund, the Lottery Fund or Sales Tax Fund.

Section 2804 of PL 102-575 (Title 28) allows for Federal cost sharing of up to one-half the costs of recreation facility planning, operations, maintenance, and replacement to manage certain Reclamation-owned reservoirs. All four reservoir parks are eligible for Title 28 Funds, which are matched 50/50 with local revenues.

Reclamation funding varies widely and is project-dependent. The ten-year average is \$367,000, shown in Figure 4.3. Historically, Reclamation has funded Federal initiatives and requirements such as ADA, American Barriers Act, and Homeland Security.

Funding for Reclamation-owned reservoirs in Larimer County is managed from the Eastern Colorado area office, which functions under the Great Plains regional office. Funds are subjected to annual Congressional appropriation as well as a regional office adjustment. Annually, each Reclamation region submits a funding request to Congress. For several years, Federal agencies have operated under Continuing Resolutions, making capital and operations planning difficult. While Reclamation enters into multi-year cost sharing agreements with Larimer County, funding is still subject to annual appropriation. Since 2001, funding from Reclamation for projects has been inconsistent.

Table 4.6 illustrates total funding from Reclamation grants since 2007. These funds are subject to annual Congressional appropriation. While they may comprise up to 50% of the funding for eligible improvements, neither Reclamation nor the County has a specific future funding expectation. Still, they are a substantial potential source of funding for the projects in this Master Plan.

Table 4.6 Total Grants Received from Bureau of Reclamation 2007-2016

Project	Total Amount Awarded
Blue Sky Trailhead	\$ 66,354
Carter Marina Renovation	\$ 1,015,999
Carter: ADA Retrofit	\$ 135,456
Carter: Eagle Camper Services	\$ 127,689
Carter: Eagle Campground	\$ 617
Flatiron: ADA Retrofit	\$ 22,684
Homeland Security BOR Reservoirs	\$ 53,681
Horsetooth Boundary Fence	\$ 66,329
Horsetooth Forestry	\$ 49,986
Horsetooth Offices	\$ 198,462
Horsetooth: ADA Retrofit	\$ 57,275
Horsetooth: Cottonwood	\$ (30,512)
Horsetooth: Inlet Bay Camper Service	\$ 218,893
Horsetooth: Russian Olive Removal	\$ 12,500
Horsetooth: South Bay Campground Improvements	\$ 210,792
Horsetooth: South Bay Shower Facility	\$ 227,961
Horsetooth: South Bay Swim Beach	\$ 486,360
Horsetooth: Sunrise Swim Beach/Day Use	\$ 137,755
Integrated pest management	\$ 270,211
2007 Parks Master Plan	\$ 22,458
Pinewood Fencing	\$ 25,000
Pinewood Improvements	\$ 267,320
Reservoir Sign Project	\$ 11,966
Rotary Park Trail grant	\$ 19,200
Total	\$ 3,674,527

Source: Larimer County

Colorado Great Outdoors (GOCO) Grants. GOCO funds are derived from a portion of the State Lottery, which was established by a 1992 constitutional amendment. Up to 50% of Lottery proceeds may go to GOCO, subject to a statewide ceiling of \$35 million in 1992 dollars adjusted for inflation. GOCO revenues reached their constitutional ceiling in the 2000s; future statewide GOCO revenues above this baseline will come from inflation adjustments.

The State Constitution requires that GOCO funds be distributed in equal portions to (a) CPW, (b) as competitive matching grants for local governments that are eligible for CTF revenues and (c) as competitive grants available to state departments, local governments, and nonprofit organizations for open space and natural areas. The competitive local government grants are available for park, outdoor recreation and environmental education, planning and capacity building, trails, and open space. Legacy project grants are available for projects that integrate all four of GOCO's constitutionally mandated funding categories.

Larimer County is one of the most successful counties in the state in winning competitive GOCO grant awards. GOCO funding is highly variable and every application is subject to significant competition statewide. Competition is always strong and based on the merits of individual applications. Larimer County Natural Resources Department has applied for and received substantially more in GOCO grants for open space acquisition and development than for reservoir park projects; only reservoir park project revenues are reflected in Figure 4.4 GOCO Funding to Larimer County Reservoir Parks.

SALES TAX FUNDS

Larimer County voters have agreed to tax themselves through the "Help Preserve Open Spaces" sales and use tax of 0.25%. The Sales Tax began in 1996 and was initially extended in 2004 with an expiration date of 2018. More recently, 82% of the voters approved an extension of the sales tax to the year 2043. Revenue from the 1/4-cent Sales Tax is shared among Larimer County and the eight municipalities in the county.

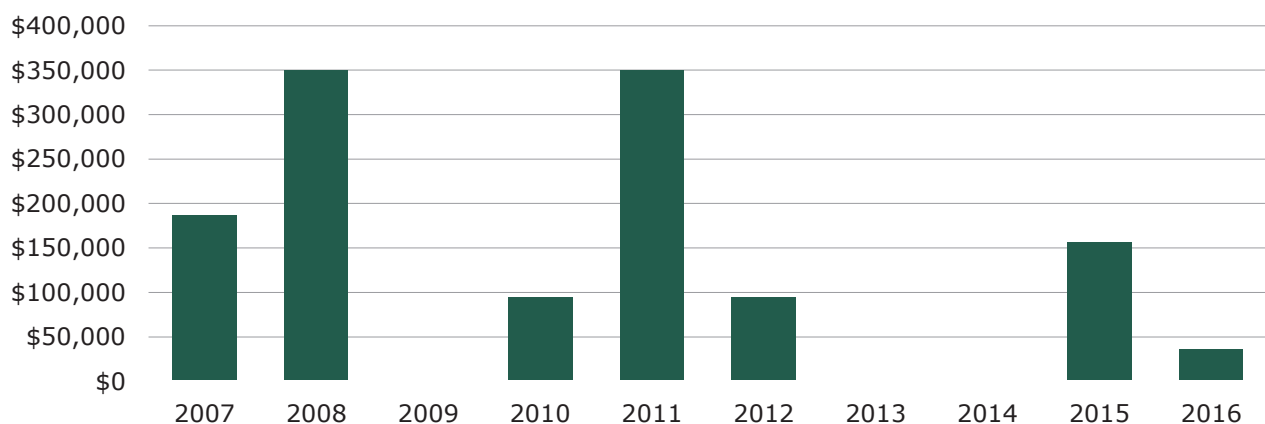


Figure 4.4 GOCO Funding to Larimer County Reservoir Parks
Source: Larimer County

The extended Sales Tax offers two benefits for plan implementation. First, it increases the County’s shareback from 45% to 50% of all revenue collected (expected to be \$5 to 8 million per year over the life of this plan). Second, the extended Sales Tax has a new formula for maintenance and capital projects. Beginning in 2019, it allows “at least 35% of the county funds to be used for land acquisition and conservation; at least 50% for improvement, management, maintenance, and administration of open space, natural areas, wildlife habitats, parks and trails; and at most 15% to be used for either of these county open space program purposes.” According to the new formula, more sales tax revenue (50% to 65%) can be used for operations and capital projects throughout the Department compared to previous formula.

Every project is evaluated against criteria in the ballot language to determine whether it is eligible for Sales Tax dollars. The extended Sales Tax has a new formula for maintenance and capital projects in the new ballot language. The current criteria used to determine eligibility for funding from the Sales Tax will be revised by 2019.

Transfers from the Sales Tax Fund accounted for \$2.17 million in capital projects on the four reservoirs, or 12% of all capital projects. The new formula offers an opportunity to make greater investments in asset replacement and new capital projects.

USE OF GENERAL FUND TRANSFERS

Over the last ten years, the Larimer County General Fund has contributed an average of \$222,000 to the Parks-Operations and Parks-Projects and Grants Fund. This comprised an average of 5% of total Parks Fund revenues (see Figure 4.5). These funds are used to supplement revenues that the reservoir parks generate and to provide a match for state and federal grants. As illustrated in the following graph, General Fund transfers have varied from year to year. There is no guarantee that this revenue stream will continue, as there are many competing demands for County General Fund dollars.

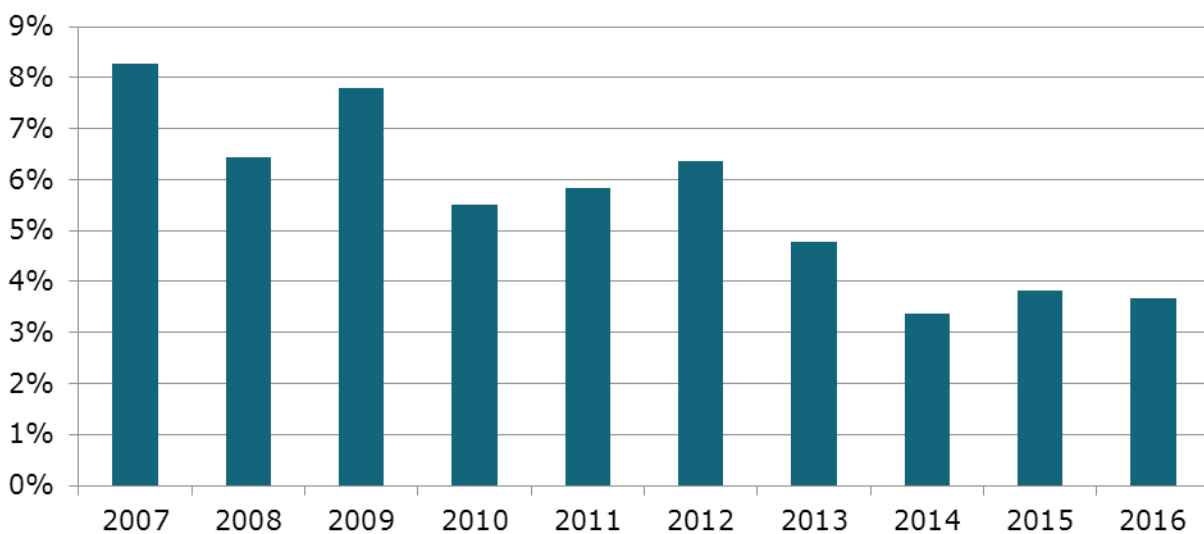


Figure 4.5 Percent Received from the Larimer County General Fund, 2007-2016

Source: Larimer County

SUMMARY OF FINDINGS & RECOMMENDATIONS

From 2007-2016, the three Parks Funds have received approximately \$43.8 million in revenue and expended approximately \$43.1 million. The difference is due to changes in fund balances and accrued revenues. During this time, expenditures have kept pace with revenues. In recent history, reservoir park expenditures have generally tracked with revenues. A continuation of historic finance practices will not likely generate more revenue to fund additional capital projects over recent historic funding levels.

Based on the historic and projected trends, Larimer County faces four key challenges regarding how to finance the Parks Master Plan priority projects.

Securing Reliable Asset Replacement Funding.

Now in the seventh decade of operation, replacing aging facilities at the end of their life cycle is a key challenge. Some assets are 70 years old and support levels of visitation not envisioned in the 1950s.

Capital replacement planning is completed annually as part of a Natural Resource Department-wide capital planning process. The process includes both an evaluation of existing departmental assets valued at \$50,000 or greater and prioritization of future or new capital needs identified in departmental master plans and property management plans. For each existing departmental asset, a lifespan and replacement cost is estimated. The longevity of each asset is determined with the assumption that regular maintenance is performed that assures the facility/infrastructure will last its full lifespan.

The rolling 5-year Natural Resource Department Capital Plan includes all projects \$50,000 or greater that fall into the following categories:

- Replacement of existing infrastructure;
- Protection of existing infrastructure/resources via maintenance;
- New improvements/infrastructure;

- Land restoration;
- Land acquisition; and
- Vehicles/Equipment.

Projects identified in the Capital Plan are prioritized to meet multi-faceted department needs within available funding. Various funding/revenue sources that can be used for capital projects on the Reservoir Parks include Parks Operations/Fees, Lottery, Sales Tax, BOR Title 28 Funds and private competitive grants.

A Competitive Grant Environment. A comparison of the two most recent 5-year periods shows that the amount awarded to Larimer County Parks from GOCO has decreased from \$194,000 (2007 to 2011) to \$56,000 (2012-2016) annually. During the life of this plan, GOCO is scheduled to sunset in 2024. If the legislation is not extended by a legislative or voter-initiative measure, the Natural Resources Department would need to replace a significant source of funding.

Recovering Aquatic Nuisance Species. In 2016, the State announced that funding for ANS inspections would be curtailed in 2017. Previously, Larimer County's ANS program was primarily funded from the State. The unexpected loss of almost \$225,000 in funding is requiring Larimer County to divert funds from existing programs. Current strategies to address the shortfall include focusing on efficiencies in partnerships and operating hours and locations. Even with those efficiencies, however, boaters will likely face longer wait times at fewer locations or fewer weekly hours.

Funding for New Parkland Acquisition. Chapter 3 estimated the demand for new parkland and water-based recreation sites due to population growth. To offer the same opportunities as today (number of social encounters, reservation and parking availability, wait times, etc.), approximately 5,043 acres would need to be created or opened to the public by 2040. At \$15,000 per acre, this equates to more than \$75 million. Lease rates for reservoirs vary widely, so an estimate is not given here.

The Department of Natural Resources has been very effective in land conservation. Over the past decade, conservation efforts have focused on open space lands rather than park-like properties. As demand increases for park experiences, especially water-based activities, conservation efforts will be balanced.

POTENTIAL PRICING STRUCTURE OPTIONS

Currently, Larimer County's daily entrance fees remain constant year-round and day of the week. Similarly, annual passes are consistent year-round and can be used on any day of the week without a surcharge for high use periods, such as holiday weekends.

SEASONAL OR DIFFERENTIAL PRICING

Seasonal or differential pricing has only been applied to camping, with higher prices for more developed sites during the period of April-September and lower prices October-March. The differential is considerable, with prices for electric sites dropping from \$25/night to \$15/night in the colder months and sites with full hookups dropping from \$30/night to \$20/night. Table 4.7 shows the current rental rates at the reservoir parks.

Although differential pricing is reflected in the county's fee structure, its use is very limited compared to some agencies. It should be noted that the 2007 Parks Master Plan identified differential pricing for peak and non-peak seasons as a way to redistribute demand:

"Many of the water-based park facilities are at capacity during weekends in the summer and under capacity at other times. User fees can be used not only to raise money, but also to manage and maximize usage. The County could alter some user fee structures by charging more during peak times and less during off-peak times. If the differentiation in fees is significant to users, then this action would change visitation patterns by encouraging some people to visit during off-peak times. It would enhance the quality of the visitor experience for all users and maximize resource uses. This concept

would need to be counterbalanced against any administrative costs associated with imposing a more complex fee structure" (page 5-11).

Given the on-going challenges facing the reservoir parks, both in terms of crowding and revenue shortages, this section explores the possibility of implementing a fee structure that more fully integrates the concept of variable pricing.

Table 4.7 Larimer County Camping Rates

Type of Site	Time of Year	Nightly Rate
Non-Electric Campsite	January - December	\$15
Electric Campsite	April - September	\$25
Electric Campsite	October - March	\$15
Full Hookups Campsite	April - September	\$30
Full Hookups Campsite	October - March	\$20
Second Campsite	January - December	\$10
Boat-In Camping	May - September	\$20
Camper Cabins	April - September	\$60
Camper Cabins	October - March	\$30
Airstream Trailer	May 15 - September 30	\$99
Tipis	May 1 - October 15	\$35

Source: Larimer County

As shown in Table 4.8, there are a number of recreation providers that have adopted variable pricing strategies that increase entry fees during specific time periods, i.e. weekday vs. weekend or holidays. A survey of more than 20 recreation providers suggest that most agencies do not currently price peak use periods higher, but several examples of those that do are listed in the table below. For those that do charge higher prices on weekends compared to weekdays, the increase ranges from 25% - 100%.

It is possible to estimate the increased revenue potential of charging higher entry fees on weekends by analyzing online reservation data from past years. For illustration purposes, 2015 data on the sale of daily entry fees to the four reservoirs indicates that a total of 135,505 vehicle entry permits were sold, generating approximately \$950,000 in fees at \$7/vehicle. Increasing the daily fee to \$10 on weekends, and assuming that 70% of annual visitation occurs on weekends, results in an annual revenue increase of over \$400,000. Note that this estimate does not account for a potential reduction in visitation resulting from higher fees or the application of higher weekend fees for specific uses, e.g. camping and boating.

Some weekday vs weekend pricing options Larimer County should consider include:

- Increase daily entry fees on weekends.
- Increase weekend fees for specific uses, including camping and cabin rental.
- Add a surcharge for annual pass users during times of peak use. This could be limited to the primary use season holidays, i.e. Memorial Day, July 4 and Labor Day.

Another form of variable pricing is implemented by Pinellas County in Florida. Pinellas County not only varies pricing by season but also by the location of sites within a park. For example, at their Ft. De Soto campground, prices vary depending on location. The lowest priced sites cost approximately \$8 less per night than the best locations on the waterfront. <https://public.co.pinellas.fl.us/parks/ParksMain.jsp>

This master plan recommends that the county consider charging a locational premium for certain facilities. In fact, the 2007 Goal V-5-1 stated: "Manage our County's Park resources in an economically sustainable manner" includes the following policy: "Increase fees for facilities with higher levels of amenities and location factors, such as shoreline access."

Other options:

- Charge higher daily entry fees for non-residents vs residents. Currently done for annual pass only.
- Increase fees for vehicles with higher number of occupants. Some programs charge more for passenger vehicles with higher occupancy. For example, Virginia and Florida State Parks charge more for vehicles with more than 8 passengers and at least one program charges more for any vehicle with more than 4 occupants.

Advantages & Disadvantages of Differential Pricing

Advantages associated with greater use of differential pricing include, but are not limited to:

- Increased revenues, which could be used to improve the park visitor experience.
- If successfully implemented, less dependence on outside funding sources to meet basic park needs.
- An enhanced ability to better manage peak use and crowding, i.e. a pricing structure that encourages visitors to avoid peak use periods and schedule visits at times of lower use.

Disadvantages associated with greater use of differential pricing include, but are not limited to:

- Public perception that pricing is unfair and penalizes visitors who may need to schedule their visits around holidays when they have additional time off from work.
- Potentially higher administrative costs.

Table 4.8 Selected Agencies Using Variable Pricing for Weekday/Weekend and Holidays

Agency	Daily Fees Weekdays	Daily Fees Weekends	Daily Fees Prime Season Weekends & Holidays	Notes
Virginia State Parks*	\$4	\$5	\$7	http://www.dcr.virginia.gov/state-parks/document/feesadmprk.pdf
Connecticut State Parks*	\$6	\$9	Same as other weekends	http://www.ct.gov/deep/cwp/view.asp?a=2716&q=325082
Washtenaw County, MI**	\$8	\$10	Same as other weekends	http://www.ewashtenaw.org/government/departments/parks_recreation/rollinghills/info-pages/rh_hours_rates.html
Frank Newhall Look Memorial Park (Florence, MA)	\$3	\$5	Same as other weekends	Also charge higher rental fees on weekends, e.g. pavilion rentals increase from \$249 to \$449 and picnic tables from \$15 to \$20. http://www.lookpark.org/general-information/general-pricing-information/
Sacramento County Regional Parks	\$5	\$5	\$8	Higher fees apply on Easter Sunday, Memorial Day, July 4 and Labor Day Weekends (3 days). http://www.regionalparks.saccounty.net/Parks/Pages/EntranceFees.aspx
East Bay Regional Park District*	\$3	\$6	Same as other weekends	Weekdays includes Saturday. Higher fees apply on Thursday, Friday, Sunday.

* Varies by park.

** Applies only to a water park they operate.

DYNAMIC PRICING

Dynamic pricing takes the concept of variable pricing to another level. Factors that can impact pricing levels in virtually any industry include both value pricing and dynamic pricing. Value pricing can be based on a variety of factors but is generally described as the setting of a product or service's price based on the benefits it provides to consumers. Value-based pricing is not based on traditional factors, such as material and labor costs, but rather relies on the consumers' perception of the value.

Dynamic pricing, an evolution of value pricing, involves setting the cost of a product or service that is highly flexible and can change at any point in time. Pricing levels are set using analytical data and can be based on real-time market conditions and supply and demand factors. Prices can be based on various factors such as consumer demand, competitor's prices, seasonality, weather conditions, and customer analytics. Depending on the specific business that is implementing this pricing strategy, prices can be set and changed daily, or multiple times each day.

Using dynamic pricing is an economic approach that has been proven by airlines, hotels and sports facilities. This established concept is becoming more prevalent in campgrounds and parks as systems become readily available to implement these new strategies.

Who Uses Dynamic Pricing

Dynamic pricing is constantly evolving as new industries begin to implement the concept. Traditionally, dynamic pricing has been used in the hospitality and transportation industries, and in recent years, is becoming more prevalent in professional sports and retail. As businesses increase their online presence, it is becoming easier to fluctuate prices in real-time as opposed to a traditional setting in which a price may be posted and changed infrequently.

Dynamic Pricing at Campgrounds

Prices for campgrounds are typically set and only fluctuate based on basic factors such time of year or geographic location. However, in recent years, as advanced management systems have come online, it is becoming easier to increase the number of factors that influence a price.

Although there are multiple factors that can affect the pricing at campgrounds and similar facilities, the two most prevalent are the date of booking and occupancy levels. If a customer is making a reservation well in advance of their arrival, they often expect to pay less than someone who is making the same reservation near the date of their arrival. New systems that feature dynamic pricing can take into account current bookings for that same period, interest in bookings during that period (i.e., the number of potential customers that have viewed the site or attempted to make a reservation but have not completed their transaction), as well as historic levels of use and projected demand. The second factor that largely influences dynamic pricing is occupancy level. In a traditional supply and demand sense, as fewer products become available, their value increases to their prospective consumers. As occupancy increases, park/campground operators are able to increase the rate that they charge for the limited number of available spaces.

Rate fluctuation can occur in several ways and at various levels depending on the individual facility. Rates can increase as demand increase or rates can decrease when a high level of supply remains. There are several ways in which operators can increase fees and rates as demand increases. Prices are generally calculated on a sliding scale and can be raised by nominal dollar amounts or as a percentage of the base fee. As an example, some operators will chose to increase all rates by \$5 once a certain level of occupancy is reached, while others chose to increase prices by 10% of the base price.

Perhaps the more lucrative use of fluctuating price is when consumers are offered a discounted rate in order to attract them to the facility during low levels of use. Outdoor facilities, such as parks and campgrounds, typically see a decreased demand during cooler months or those with high levels of precipitation. However, if there is an unusually mild winter, operators now have the opportunity to instantly change their prices in order to attract consumers that would otherwise not consider coming to the facility. Additionally, some parks will offer reduced rates during periods of slow demand in order to attract customers as opposed to leaving cabins and campsites empty.

Another use of dynamic pricing at parks and campgrounds facilities is through the implementation of incentive and upgrade programs. A fully integrating booking and pricing management system incorporates the current available inventory, consumer habits of returning customers, and demand for upgrades. As an example, when standard campsites are nearing their occupancy capacity the price will generally be increased. However, there may be an abundance of available cabins (an upgrade) that the consumer would not have otherwise considered. The system will be able to offer the consumer the opportunity to upgrade from a standard campsite to a cabin and given the current levels of supply and demand, that upgrade may be much cheaper than the base price differential of the two options. If the customer chooses this upgrade, it not only increases the revenue from that customer, but it allows for the standard campsites to remain available for a consumer that might only be interested in that option.

Advantages & Disadvantages of Dynamic Pricing

The implementation of any new system or strategy will have both benefits and negative factors. It is important to consider all of these aspects and weigh them when evaluating the merits of new pricing strategies.

Advantages associated with a dynamic pricing system include, but are not limited to:

- Increased revenue potential through additional bookings, higher rates, and upgrades.
- Occupancy rates can increase as pricing levels fluctuate.
- This system allows for operators to collect additional data on their customer's booking habits and factors that influence their buying decisions. As such, operators could send targeted offers to select customers similar to what hotels and airlines do for 'getaway' deals to sell unused rooms or seats. For instance, on weekends when occupancy is projected to be low, the operator could send out targeted offerings to their repeat customers. This approach could also be beneficial for the operator to target the growing senior segment, whose schedules could allow them to take advantage of special pricing during the weekdays when park occupancy maybe lower.
- The system can automatically offer upgrades at reduced prices due to supply and demand factors that positively impact both available supply and revenue generation.
- A fully integrated system allows for park operators to have more free time to spend with guests and improving the park's offerings.
- Booking and pricing software reduces staffing costs as many tasks that were once done manually are now done electronically and automatically. It should be noted that the County's existing reservation system has the ability to incorporate dynamic pricing strategies, thus allowing its implementation without replacing the current system.



Disadvantages associated with a dynamic pricing system include, but are not limited to:

- Some customers may be upset that they were charged a different rate than other users.
- This can usually be explained by the fact that prices fluctuate due to the window in which the reservation was made.
- Customers may view or be quoted a price and decide not to book at that time but when they return the price may have increased.
- This can be avoided by making it clear that the price the customer is offered is only good if a booking occurs at that time.
- Returning customers may have to initially pay increased prices even though they have come to the same location during the same timeframe for multiple years.
- While this may initially be an issue, as new pricing systems become more common in the industry, consumers become familiar with them over time and will adopt it as the new norm.

Photo:
Charlie
Johnson

How to Implement Dynamic Pricing

- The use of dynamic pricing needs to be approved by the management group or governing body to make sure it complies with all applicable rules and regulations.
- A dynamic pricing system needs to be purchased and implemented. Dynamic pricing is often an included feature in some fully integrated park management systems.
- The customer needs to be made aware that a new pricing structure has been implemented.
- It is often recommended that dynamic pricing be implemented through a phasing process to reduce the negative effects that these changes may have on some customers.
- There are often multiple yield-points (the factor that changes a price) as opposed to one point which creates a more fluid change in price.
- Dynamic pricing generally occurs online which can reduce the negative feedback and customer service needs to combat initial issues with price changes.



In summary, Larimer County should evaluate a more comprehensive approach to seasonal differential pricing, including both day of week and peak use period strategies as well as charging a premium for more desirable locations, e.g. waterfront vs. non waterfront camping sites.

Once more comprehensive differential pricing has been evaluated and potentially implemented; the County should also consider implementing dynamic pricing strategies. Before any decision regarding the implementation of new systems, policies, or procedures is made, both the advantages and disadvantages should be considered. Through the review of industry trends and the case studies presented in this report, it appears a fully-integrated park management system that features dynamic pricing could offer some advantages such as increased revenue generation combined with relatively low costs. Other positive factors include the potential for increased occupancy, a reduction in or repurposing of staffing levels, and the various other benefits offered by a fully integrated park management system. These advantages should be tempered by consumers' reluctance to embrace this pricing strategy and the potential controversy its implementation could generate.

*Photo:
Sue Burke*

REFERENCES

- American Planning Association, 2002. How Cities Use Parks for Economic Development.
- American Recreation Coalition. 2016. Outdoor Recreation Outlook 2016, American Recreation Coalition.
- Census. 2016a. U.S. Census Bureau Fact sheets. Compiled by the Demography Section from U.S. Census Bureau Records. From Census website: <https://www.census.gov/>
- Census. 2016b. US Census Projections of the Population and Components of Change for the United States: 2015 to 2060. From Census website: <https://www.census.gov/>
- Colorado Department of Public Health and Environment. 2010. Colorado Behavior and Risk Factor Surveillance System (BRFSS), National BRFSS data. Centers for Disease Control.
- Colorado Tourism Office. 2016. Colorado Travel Impacts 1996-2015. June 2016.
- CPW. 2009. Colorado State Parks Marketing Assessment, Visitor Intercept Survey, 2008-2009.
- CPW. 2013. 2013 Outdoor Recreation Participation Public Survey Summary Report. September 16, 2013.
- CPW. 2014. Colorado Statewide Comprehensive Outdoor Recreation Plan. Colorado Parks and Wildlife. April 2014.
- Crompton, John L. (2004) The Proximate Principle: The impact of parks, open space and water features on residential property values and the property tax base. Second Edition: Ashburn, Virginia: National Recreation and Park Association. <http://www.rpts.tamu.edu/faculty/crompton.htm>
- DOLA. 2016. Preliminary Population Forecasts by Region and County 2000 - 2050. Colorado Department of Local Affairs. From DOLA's website: <https://demography.dola.colorado.gov/>
- Great Outdoors Colorado. 2015. Strategic Plan
- Great Outdoors Colorado. 2016. GOCO Annual Report
- Haunnum, Christopher, Steven Lapos, Sarah E. Reed, Liba Pejchar, and Lindsay Ex. 2012. Comparative Analysis of Housing in Conservation Developments: Colorado Case Studies. The Journal of Sustainable Real Estate. 4(1): 149-176.
- Larimer County. 2015. Open Lands Master Plan.
- Larimer County. 2013. Our Lands, Our Future: Recreation and Conservation Choices for Northern Colorado.
- Larimer County. 2007. Parks Master Plan.
- Loomis. 2010. Results of a Survey of Summer Non-Resident Visitors to Selected Fort Collins Area Attractions. Loomis, J. and J. McTernan
- National Association of Realtors. 2009. On Common Ground (Winter). <http://www.realtor.org/publications/on-common-ground/winter-2009>.
- Natural Resources Economic Research. 2014. Federal Outdoor Recreation Trends: Effects on Economic Opportunities. Eric M. White, J. M. Bowker, Ashley E. Askew, Linda L. Langner, J. Ross Arnold, Donald B.K. English. National Center for Natural Resources Economic Research. Working Paper Number 1. October 2014.
- Reclamation. 2003-2005. Standard Operating Procedures. Horsetooth Dams and Reservoir, December 2005, Chapters I through IV. Carter Lake Dams and Reservoir, November 2004, Chapters I through IV. Rattlesnake Dam, July 2003, Chapters I through IV. Flatiron Dam, August 2003, Chapters I through IV.
- Reclamation. 2016. Public Scoping Report for the Larimer County Parks Master Plan and Resource Management Plan/Environmental Assessment. October 2016.
- USACE. 2015. Northern Integrated Supply Project Supplemental Draft Environmental Impact Statement. US Army Corps of Engineers, Omaha District. June 19, 2015.
- White, E.M. and D.J. Stynes, 2010. Spending Profiles of National Forest Visitors, NVUM Round 2 Update. See also Corona Research, 2009. Colorado State Parks Marketing Assessment: Visitor Spending Analysis 2008-2009.